

ICOMOS

2019

Evaluations of Nominations of Cultural and Mixed Properties

ICOMOS report for the World Heritage Committee
43rd ordinary session, Baku, 30 June - 10 July 2019

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World Heritage Committee

2019

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A Europe – North America

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I Introduction

ICOMOS Analysis of nominations

In 2019, ICOMOS was called on to evaluate 46 nominations.

They consisted of:

29 new nominations
1 extension
2 deferred nominations
3 referred nominations
11 minor modifications/creations of buffer zone

The *geographical spread* is as follows:

Africa

Total: 1 nomination, 1 country
1 new nomination
(1 cultural property)

Arab States

Total: 4 nominations, 4 countries
3 new nominations
1 deferred
(4 cultural properties)

Asia-Pacific

Total: 8 nominations, 8 countries
8 new nominations
(8 cultural properties)

Europe and North America

Total: 26 nominations, 20 countries
15 new nominations
3 referred
1 extension
7 minor modifications/creations of buffer zone
(25 cultural properties, 1 mixed property)

Latin America and the Caribbean

Total: 7 nominations, 6 countries
2 new nominations
1 deferred
4 minor modifications/creations of buffer zone
(6 cultural properties, 1 mixed property)

ICOMOS regrets the underrepresentation of certain Regions in the submissions, particularly Africa, Latin America and the Caribbean.

General remarks

1. Quality and complexity of nomination dossiers

Generally speaking, ICOMOS notes that nominations are increasingly complex, sometimes to the detriment of the dossiers' clarity and coherence.

Certain nominations would benefit if more time were taken in preparation. For example, completing the legal protection process, finalising a management plan or undertaking additional research.

ICOMOS urges applicants to carefully review the Resource Manual *Preparing World Heritage Nominations*. An electronic version is available on its website and on the World Heritage Centre website. The Manual is an invaluable resource in helping States Parties prepare effective nomination dossiers. Thanks to the World Heritage Capacity-Building programme, the manual is available in several languages (Arabic, English, French, Portuguese and Spanish).

When evaluating the Comparative Analysis included in nomination dossiers, ICOMOS examines the methodology used by the State Party and the relevance of the examples against a set of parameters. Comparisons with the nominated property should be drawn with sites expressing the same values, and within a defined geo-cultural area. Therefore, the values need to be clearly defined and the geo-cultural framework should be determined according to those values. Comparisons should be drawn with similar properties already inscribed on the World Heritage List and with other examples at national and international level within the defined geo-cultural area.

On this basis, ICOMOS indicates whether or not the Comparative Analysis is complete; and whether or not, the analysis justifies consideration of the property for the World Heritage List.

If the nomination is considered incomplete or insufficient according to the parameters indicated above, ICOMOS takes several actions. It requests additional information from the State Party; checks relevant ICOMOS thematic studies; examines the wealth of information available about properties already evaluated and/or inscribed on the World Heritage List, and on the Tentative Lists; and,

consults international experts (belonging or not to the ICOMOS network) to improve its understanding of the nomination.

ICOMOS wishes to point out that its role is to evaluate the properties based on the information provided in the nominations (i.e. the dossiers), and on the basis of field visits and assessments by ICOMOS experts as well as additional international studies. Similarly, ICOMOS evaluates the protection, conservation and management of the property **at the time of the nomination** and not at some unspecified time in the future after the adoption of proposed laws and management plans. It is thus the duty of ICOMOS to indicate to the World Heritage Committee if adequate protection and management are in place prior to inscription.

2. ICOMOS evaluations

The objective of ICOMOS is the conservation and long-term protection and presentation of cultural heritage, based on whether or not it is of Outstanding Universal Value. In formulating its recommendations, ICOMOS seeks to be as helpful as possible to States Parties, whatever the final recommendation being proposed.

ICOMOS is well aware that it cannot please everyone. Despite sometimes being under considerable pressure, it must remain rigorous and scientific, and its first duty remains the conservation of properties.

ICOMOS also notes that the dialogue developed with States Parties during the evaluation process is often very helpful to solve issues and difficulties. In many cases, it contributes to the adoption of the final recommendations made by ICOMOS. However the current timeframe does not provide enough time for dialogue when the issues are complex.

3. "Referred back" nominations – "Deferred" nominations

ICOMOS wishes to once again express its concerns about the difficulties raised when a "deferred" recommendation is changed into a "referred back" recommendation. This action does not allow the Advisory Bodies to carry out an appropriate evaluation of nominations which are in many cases "re"submitted as entirely new ones.

In its recommendations, ICOMOS clearly distinguishes between nominations which are recommended to be *referred* back and those which are *deferred*. For *referred* nominations, Criteria have been justified, and conditions of Integrity and Authenticity have been met to the satisfaction of

ICOMOS. Supplementary information must be supplied to satisfy other requirements of the *Operational Guidelines*, but no further technical evaluation mission will be required. For *deferred* nominations, the very nature of the information requested (e.g., a more thorough study, major reconsideration of boundaries, a request for a substantial revision, or serious gaps in regard to management and conservation issues) means that a new mission as well as consideration by the full ICOMOS World Heritage Panel are required. Time is thus needed to reconstitute the nomination, to evaluate that nomination again, and to ensure that it has the consideration needed to advance the nomination further.

4. "Minor" modifications to boundaries

These requests originate either from monitoring, the retrospective inventory or periodic reporting.

ICOMOS notes that all modifications to the boundaries of a property and its buffer zone are proposed as "minor" modifications, even when they constitute, in fact, substantial modifications to the property, or even in some cases an extension of the property.

According to the *Operational Guidelines*, proposals for major modifications, whether extensions or reductions, constitute a new nomination (paragraph 165). ICOMOS recommends to the World Heritage Committee that this provision should be consistently and rigorously applied.

ICOMOS suggests moreover that an extension of the calendar for the evaluation of such requests should be considered, in order to bring it into line with the calendar in force for new nominations, which would open up the possibility of dialogue and exchange of information with the States Parties.

5. Serial nominations and extensions

ICOMOS recalls that the *Operational Guidelines* of November 2011 (paragraph 137) validated a change in the approach to serial properties. Serial nominations should not consist merely of a catalogue of sites, but should instead concern a collection or ensemble of sites with specific cultural, social or functional links over time, in which each site contributes substantially to the Outstanding Universal Value of the serial property as a whole.

ICOMOS wishes to encourage States Parties to give consideration to the implications of this change when preparing serial nominations.

This year, ICOMOS has examined 18 serial nominations, including 387 monuments, ensembles and sites. These nominations require a more substantial investment in terms of human and financial resources at all levels of evaluation of the properties. The increase in the number of serial nominations needs to be taken into account in the budgets and contracts. Furthermore, ICOMOS notes that there are also enormous pressures on keeping the statutory calendar, which arise from the heavier task of evaluating these large and complex serial nominations. ICOMOS wishes to repeat its suggestion, supported by the Jade Tabet¹ review, that the World Heritage Committee give consideration to an extended timeframe for these kinds of nominations.

6. Development projects

ICOMOS points out that its *Guidance on Heritage Impact Assessments for cultural World Heritage properties* can be consulted on its website. This Guidance has been translated into several languages and ICOMOS urges States Parties to make use of it. In addition, research work has been undertaken in order to better understand Heritage Impact Assessments. ICOMOS encourages States Parties to incorporate a Heritage Impact Assessment approach into the management system of their nominated properties. This will ensure that any programme, project or legislation regarding the property be assessed in terms of its consequences on the Outstanding Universal Value and its supporting attributes.

Based on recent experiences where information had not been shared in an adequate manner, ICOMOS reiterates its concerns related to the need of identifying development projects within World Heritage properties during the evaluation cycle, and to bring to ICOMOS' attention any development projects that are planned within the nominated property or in its vicinity, to ensure that comprehensive information is received concerning these potential projects. ICOMOS once again suggests that during the nomination evaluation procedure the World Heritage Committee should apply provisions similar to those stipulated in paragraph 172, inviting the States Parties to inform the Committee of "their intention to undertake or to authorize in an area protected under the *Convention* major restorations or new constructions which may affect the Outstanding Universal Value of the property [...].

¹Tabet J., *Review of ICOMOS' working methods and procedures for the evaluation of cultural and mixed properties nominated for inscription on the UNESCO World Heritage List*, Paris, ICOMOS, 2010.

7. Connecting Practice

ICOMOS and IUCN are currently working on improving the integrated consideration and management of natural and cultural values and attributes. This effort is based on a long term joint project entitled "Connecting Practice", which is now in its third phase (since May 2018). The project aims to explore, learn about and create new methods of recognition and support for the interconnected character of the natural, cultural and social values of World Heritage Sites. This phase focuses specifically on the understanding and integration of cultural and natural concepts into the management of World Heritage sites and how to strengthen their resilience. The reports of phases I and II are available on the ICOMOS website.

8. Transnational serial nominations

ICOMOS wishes to congratulate the States Parties on the efforts made to prepare transnational serial nominations. ICOMOS sees in the themes and challenges considered, a return to the fundamentals of the World Heritage Convention.

The monitoring of the state of conservation of properties of this type is a considerable challenge, which could enable experimentation with specific tools adapted to such properties.

ICOMOS wishes to stress the importance of involving the Advisory Bodies in the upstream processes for the preparation of nominations of this type. ICOMOS is available for upstream involvement at strategic development level for these vast and complex transnational serial nominations.

9. Historic Urban Landscape (HUL)

ICOMOS noted the increasing use of the notion of Historic Urban Landscape (HUL) in the draft statements of Outstanding Universal Value. While acknowledging the importance of the UNESCO Recommendation on Historic Urban Landscapes as being "an additional tool to integrate policies and practices of conservation of the built environment into the wider goals of urban development in respect of the inherited values and traditions of different cultural contexts", there is an agreement that the notion of HUL should be seen as a useful methodological approach that can sustain and strengthen management. But, it ~~but~~ cannot be understood as a category of heritage and should not be mentioned as such in justifications for inscription of nominated properties.

10. Cultural landscapes

ICOMOS notes some new challenges and trends emerging in some recent nominations. One example is what is called an 'evolving landscape' where the idea of an organically 'evolved landscape' has been merged with that of a 'continuing landscape'. This merging is leading to nominations for properties where it is suggested that more or less everything in the property could continue to evolve over time in the future. While it is clearly desirable that continuing cultural landscapes play an active role in contemporary society, in order for this to happen in a way that sustains Outstanding Universal Value, there does need to be a clear understanding of which parts of the evolutionary process may evolve, and how, and what aspects should be maintained as a 'golden thread' linking what is there now to the way the landscape has evolved over time.

11. Buffer zones

In recent years, discussions on properties at the World Heritage Committee as part of the State of Conservation process have focused on many developments within buffer zones. Such discussions bring sharply into focus the nature and specificities of buffer zones and how precisely they are meant to support their properties. In order to ensure there is a clear understanding of the purpose and scope of individual buffer zones, and how they operate, as requested by the Operational Guidelines, ICOMOS through its evaluations has tried to assess in a systematic way the rationale for the boundaries of a buffer zone. This approach includes examining the role of the buffer zone in supporting Outstanding Universal Value and its relationship to attributes of Outstanding Universal Value; how the buffer zone relates to the broader setting and what, if anything, needs protecting in the broader setting as well as how the buffer zone is managed and protected.

12. Upstream process

ICOMOS has been active in extending its collaboration with States Parties on upstream work, advice work and on the development of Tentative Lists.

ICOMOS has extended the length of the ICOMOS World Heritage Panel meeting in order to examine the missions and projects developed by ICOMOS for the purpose of upstream processes.

Furthermore, ICOMOS wishes to draw attention to paragraph 122 of the *Operational Guidelines* which invites States Parties to "contact the Advisory Bodies and the World Heritage Centre at the earliest opportunity in considering nominations to seek

information and guidance", and in particular the relevance of this paragraph in connection with the preparation of the nomination dossier for mixed properties and serial properties.

ICOMOS is prepared to make its expertise available for the development of the upstream process in preparing and following up nomination dossiers, as far as this is possible with the resources available.

ICOMOS notes as a general observation that a preliminary review of State Party Tentative Lists by the Advisory Bodies, as part of the upstream process, is of great assistance in identifying properties that are more likely to be assessed as having Outstanding Universal Value and therefore result in successful nominations. It respectfully suggests to the Committee that States Parties be encouraged to defer proceeding with the preparation of nomination dossiers until after such a preliminary review has been undertaken.

The activities in which ICOMOS has been involved in this respect (advisory missions, meetings, consultations), organised sufficiently in advance, have already had positive outcomes for some nominations.

ICOMOS procedure

The ICOMOS procedure is described in Annex 6 of the *Operational Guidelines for the Implementation of the World Heritage Convention*. It is regulated by the *Policy for the implementation of the ICOMOS World Heritage mandate* (latest revision in October 2015). This document is available on the ICOMOS website: www.international.icomos.org.

This policy makes public the existing procedure, and sets out the fair, transparent and credible approach ICOMOS adopts in fulfilling its world heritage obligations, and the way it avoids conflicts of interest.

The evaluation of nominations, which involves more than 40 to 50 international experts for each nomination dossier, is coordinated by the *World Heritage Evaluation Unit* of the International Secretariat of ICOMOS, in collaboration with the ICOMOS officers responsible for World Heritage and the ICOMOS World Heritage Panel.

The ICOMOS World Heritage Panel, which brings together some thirty persons, is made up of members of the ICOMOS Board, representatives of ICOMOS International Scientific Committees as well as of some other organizations than ICOMOS and other individual experts. The Panel members are selected each year depending on the nature of the properties nominated (e.g., rock art, 20th century heritage, industrial heritage, etc.) and on the basis of geo-cultural balanced representation. TICCIH and DoCoMoMo are also invited to participate in discussions in which their expertise is relevant. In principle all members of the Panel participate by drawing on their own financial resources (pro bono work). The Panel's composition and terms of reference are available on the ICOMOS website. They represent the various professional, geographic and cultural sensibilities present at the international level. The Panel prepares the ICOMOS recommendations for each nomination on a collegial basis.

For each nominated property, ICOMOS assesses whether it bears testimony of an Outstanding Universal Value:

- whether it meets the Criteria of the *Operational Guidelines*;
- whether it meets the conditions of Authenticity and Integrity;
- whether legal protection is adequate; and,
- whether the management processes are satisfactory.

All properties are given equal attention, and ICOMOS also makes every effort to be as objective, scientific and rigorous as possible.

In order to reinforce consistency of the evaluations and recommendations, and to check which additional information requests should be sent to States Parties, ICOMOS uses a check box tool, which is included in this volume.

1. Preparatory work

The preparatory work is done in several stages:

a. Initial study of dossiers. This first stage of the work consists of the creation of an inventory of the nomination dossier documents. They are then studied to identify the various issues relating to the property and the choice of the various experts who will be called on to review the dossier (i.e., ICOMOS advisers, experts for mission, experts for consultations). A compilation of all relevant comparative material (e.g., Tentative Lists, properties already on the World Heritage List, nomination dossiers, "filling the gaps" ICOMOS study, etc.) is prepared in order to assist the work of the advisers on the specific item of comparative analysis.

b. Consultations. International experts are invited to express their opinion through desk reviews about the Comparative Analysis and the *Outstanding Universal Value* of the nominated properties with reference to the ten Criteria set out in the *Operational Guidelines for the Implementation of the World Heritage Convention* (July 2017), paragraph 77. ICOMOS also consults experts on a desktop basis on issues related to cultural tourism and risk preparedness in order to provide recommendations on these issues in a systematic manner through all the nomination dossiers.

For this purpose, ICOMOS calls on the following:

- ICOMOS International Scientific Committees;
- Individual ICOMOS members with special expertise, identified after consultation with International and National Committees;
- Non-ICOMOS members with specific expertise, identified mostly amongst Universities and Research Institutes or partner organisations.

For the nominations to be considered by the World Heritage Committee at its 43rd session, around 170 experts provided desk reviews. Thirty-five percent (35%) of the reports received has been drafted by non-ICOMOS members.

c. Technical evaluation missions. As a rule, ICOMOS calls on a person from the region in which the nominated property is located. In certain exceptional circumstances, often in cases in which the nature of the property is unusual, the expert may not originate from the region concerned. The objective of the missions is to study the Authenticity, Integrity, factors affecting the property, protection, conservation and management (*Operational Guidelines*, paragraph 78).

Experts are sent the nomination dossier (i.e., electronic versions and copy of the maps in colour), a note with key questions based on a preliminary examination of the dossiers, documentation on the Convention and detailed guidelines for evaluation missions.

All experts have a duty of confidentiality. Their opinion about the nomination does not necessarily reflect that of the organisation; it is the ICOMOS World Heritage Panel which, after acquainting itself with all the information, analyses it and determines the organisation's position.

Missions are sent to all the nominated properties except in the case of nominations *referred* back for which the *Operational Guidelines* do not stipulate that a mission is necessary. (Note: The principle is that properties are *referred* back because additional information is necessary, and not because thorough or substantial modifications are needed). The deadlines set out in the *Operational Guidelines* mean moreover that it is not possible to organise missions, desk reviews or consideration by the full ICOMOS World Heritage Panel for properties *referred* back).

In the 2018-2019 cycle, 33 experts representing 23 countries took part in field missions as part of the evaluation of the 32 nominated properties, which in turn represented 30 countries.

In addition, 2 technical evaluation missions were carried out jointly with IUCN for two mixed property nominations.

ICOMOS and IUCN have exchanged desk reviews and information about draft recommendations concerning mixed property nominations and cultural landscapes before and after their respective Panel meetings.

As well, in the 2018-2019 cycle, ICOMOS received comments from the IUCN concerning four cultural landscape nominations. These comments have been taken into account by ICOMOS in its recommendations.

2. Evaluations and recommendations

a. ICOMOS World Heritage Panel. Draft evaluations (in either English or French) were prepared on the basis of the information contained in the nomination dossiers, mission reports, consultations and research. They were examined by the ICOMOS World Heritage Panel at a meeting in Paris from 19 to 28 November 2018. The Panel defined draft recommendations and identified the additional information requests to be sent to the States Parties. Individual meetings were organized with each nominating State Party and Panel members during the Panel meeting.

b. Interim reports. As prescribed by the revised *Operational Guidelines* for the Implementation of the World Heritage Convention (Annex 6), the Advisory Bodies have been requested to submit a short interim report for each nomination by 31 January 2019. These reports provide States Parties with the relevant information outlining issues related to the evaluation process and some include additional information requests. All documents received by 28 February 2019 were examined by the second World Heritage Panel at its meeting from 11 to 13 March 2019.

c. Finalisation of the evaluation volume and its presentation to the World Heritage Committee. Following these meetings, revised evaluations have been prepared in both working languages, printed and dispatched to the UNESCO World Heritage Centre for distribution to members of the World Heritage Committee at its 43rd session in June - July 2019.

Nominated properties and ICOMOS recommendations will be presented to the World Heritage Committee by ICOMOS advisers in PowerPoint form.

As an Advisory Body, ICOMOS makes a recommendation based on an objective, rigorous and scientific analysis. However, decisions are the responsibility of the World Heritage Committee. The process relies on the Committee members and their knowledge of the nominations and the evaluations published by the Advisory Bodies.

3. Referred back nominations and requests for minor modifications

By 1st February of each year, preceding the World Heritage Committee meeting, ICOMOS also receives supplementary information on nominations referred back during previous sessions of the World Heritage Committee. Three nominations which had been *referred* back were assessed during the recent 2018-2019 cycle.

ICOMOS also examines requests for "minor" modifications to boundaries or creation of Buffer Zones, and for changes of Criteria or name for some properties already inscribed on the World Heritage List. Eleven (11) requests of this type were submitted by States Parties before 1st February of this year. At the request of the World Heritage Centre, all requests have been examined and included in the following document: WHC/19/43.COM/INF.8B1.Add.

4. Dialogue with States Parties

ICOMOS makes every effort to maintain dialogue with the States Parties throughout the nomination evaluation process (i.e. following receipt of the nominations, during and after the technical evaluation mission, and following the meeting of the ICOMOS World Heritage Panel).

First, information may be requested to provide details or clarifications. Of the 2018-2019 nominations, 80% received requests for additional information before the ICOMOS November Panel meeting; and 70% of the nominations received such requests through the Interim reports, after the Panel meeting.

The World Heritage Committee decision 38 COM 13.8 called upon the Advisory Bodies to consult and have a dialogue with all concerned States Parties during the course of the evaluation of nominations. Consequently, ICOMOS has strengthened the dialogue and communication in the evaluation process, through discussions organized during its Panel meeting, and through the delivery of the Interim reports.

In most cases, the dialogues with States Parties were fruitful in clarifying issues and elucidating facts.

However, the main point highlighted by these direct dialogues is the fact that, even though the State Party receives advice from ICOMOS earlier than previously, there is still very limited time available for both parties to work together to resolve issues. This is especially true under the current evaluation timetable established to review the dossiers that require reformulation at a wider scale. This is true for all cases even if the State Party expresses a

willingness to do so. This is further exasperated by the fact that this is an ad hoc process and not a regularly anticipated step in the review.

In conclusion, ICOMOS encourages States Parties to request Upstream advice which could be useful for resolving issues prior to the submission of nominations.

ICOMOS recalls working document WHC/14/38.COM/9A which mentions the "*option of extending the evaluation process by 12 months to allow for improved and constructive dialogue between stakeholders, in the light of the outcomes of the Director General's meeting "World Heritage Convention: Thinking ahead"*" and supports an extension of the calendar for the evaluation of nominations by 12 months, which would open up the possibility of dialogue and exchange of information with the States Parties.

As the nomination process is currently being reviewed and discussed in detail, ICOMOS is open to ways of increasing dialogue and adopting new methods that would uphold the credibility of the Convention in the future.

5. Conclusion

All the evaluated cultural properties are remarkable and deserving of protection and conservation. In reaching its recommendations to the World Heritage Committee, ICOMOS relies on the *Operational Guidelines for the Implementation of the World Heritage Convention* and the direction of the World Heritage Committee.

The opinion of ICOMOS is both independent and institutional. The opinion of one of its members is not binding on the organisation, and the evaluation texts are each the work of between 40-50 persons on every nomination, with several stages of in-depth peer review. ICOMOS represents cultural heritage experts throughout the five global regions and is working to protect the entire cultural heritage of the world.

ICOMOS takes a professional and rigorous view of all the dossiers received and reviewed. Protection, conservation and management are key for the transmission of all heritage properties to future generations and ICOMOS remains committed to making recommendations for all nominated properties.

Paris, April 2019

ICOMOS

Check tool recommendations

Comparative analysis	Integrity	Authenticity	Criteria	Selection justified (series)	Boundaries	Protection property	Protection buffer zone	Conservation	Management	Threats addressed	Mission required	Conclusion
√	√	√	√	√	√	√	√	≈	≈	≈	No	Inscription
√	√	√	√	√	≈	X	X	≈	≈	≈	No	Referral
√	√	√	√	√	X	X	X	X	X	X	Yes	Deferral
○	√	√	○	√							Yes	Deferral
○	○	○	○	○							Yes	Deferral
X	X	X	X	X							-	No inscription



OK - Good



Adequate - Can be improved



Not demonstrated at this stage



Not OK - Not adequate

The grid does not give all possible combinations, but only the lowest benchmarks below which a nomination moves to another category.

This tool is to be used jointly with the table summarizing the ICOMOS recommendations.

Cultural and Mixed Properties
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Russian Federation	C 1523	Monuments of Ancient Pskov	307
Saudi Arabia	C 1576	The Historic Village of Rijal Almaa in Asir Region of Saudi Arabia	69
Spain	C 1578	Risco Caído and the Sacred Mountains of Gran Canaria Cultural Landscape	318
Spain	C 1579	Priorat-Montsant-Siurana, Mediterranean mosaic, agrarian cultural landscape	330
Turkey	C 1600	Historic Guild Town of Mudurnu: Testimonies of Akhism	341
United Arab Emirates	C 1566	Sharjah: Gateway to the Trucial States	81

United Kingdom of Great Britain and Northern Ireland	C 1594	Jodrell Bank Observatory	349
United States of America	C 1496rev	The 20th-Century Architecture of Frank Lloyd Wright	Add

Cultural and Mixed Properties

Nominations by category

New nominations (29)

Australia	C 1577	Budj Bim Cultural Landscape
Austria	C 1556	Großglockner High Alpine Road
Austria / Germany / Slovakia / Hungary	C 1608	Frontiers of the Roman Empire – The Danube Limes
Bahrain	C 1542	Dilmun Burial Mounds
Belgium	C 1583	Hoge Kempen Rural-Industrial Transition Landscape
Burkina Faso	C 1602	Ancient ferrous metallurgy sites
Canada	C 1597	Writing-on-Stone / Áísínai'pi
China	C 1592	Archaeological Ruins of Liangzhu City
Czechia	C 1589	Landscape for Breeding and Training of Ceremonial Carriage Horses at Kladruby nad Labem
Czechia / Germany	C 1478	Erzgebirge/Krušnohoří Mining Region
Germany	C 1580	Water Management System of Augsburg
India	C 1605	Jaipur City, Rajasthan
Indonesia	C 1610	Ombilin Coal Mining Heritage of Sawahlunto
Jamaica	C 1595	The Sunken City of Port Royal – A Relict and Continuing Cultural Landscape
Japan	C 1593	Moju-Furuichi Kofun Group: Mounded Tombs of Ancient Japan
Lao People's Democratic Republic	C 1587	Megalithic Jar Sites in Xiengkhuang – Plain of Jars
Myanmar	C 1588	Bagan
Panama	C 1582	The Colonial Transisthmian Route of Panamá
Poland	C 1599	Krzemionki prehistoric striped flint mining region
Portugal	C 1573	Royal Building of Mafra – Palace, Basilica, Convent, Cerco Garden and Hunting Park (Tapada)
Portugal	C 1590	Sanctuary of Bom Jesus do Monte in Braga
Republic of Korea	C 1498	Seowon, Korean Neo-Confucian Academies
Russian Federation	C 1523	Monuments of Ancient Pskov
Saudi Arabia	C 1576	The Historic Village of Rijal Almaa in Asir Region of Saudi Arabia
Spain	C 1578	Risco Caído and the Sacred Mountains of Gran Canaria Cultural Landscape
Spain	C 1579	Priorat-Montsant-Siurana, Mediterranean mosaic, agrarian cultural landscape
Turkey	C 1600	Historic Guild Town of Mudurnu: Testimonies of Akhism
United Arab Emirates	C 1566	Sharjah: Gateway to the Trucial States
United Kingdom of Great Britain and Northern Ireland	C 1594	Jodrell Bank Observatory

Extension (1)

Albania	N/C 99quater	Natural and Cultural Heritage of the Ohrid region [Extension "Natural and Cultural Heritage of the Ohrid region", North Macedonia]
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Deferred nominations (2)

Brazil	N/C 1308rev	Paraty – Culture and Biodiversity
Iraq	C 278rev	Babylon

Referred back nominations (3)

Azerbaijan	C 1549rev	Historic Centre of Sheki with the Khan's Palace
Italy	C 1571rev	<i>Le Colline del Prosecco di Conegliano e Valdobbiadene</i>
United States of America	C 1496rev	The 20th-Century Architecture of Frank Lloyd Wright

Cultural and Mixed Properties

Geographical spread of nominations

Africa			1 State Party, 1 nomination
Burkina Faso	C 1602	Ancient ferrous metallurgy sites	
Arab States			4 States Parties, 4 nominations
Bahrain	C 1542	Dilmun Burial Mounds	
Iraq	C 278rev	Babylon	
Saudi Arabia	C 1576	The Historic Village of Rijal Almaa in Asir Region of Saudi Arabia	
United Arab Emirates	C 1566	Sharjah: Gateway to the Trucial States	
Asia – Pacific			8 States Parties, 8 nominations
Australia	C 1577	Budj Bim Cultural Landscape	
China	C 1592	Archaeological Ruins of Liangzhu City	
India	C 1605	Jaipur City, Rajasthan	
Indonesia	C 1610	Ombilin Coal Mining Heritage of Sawahlunto	
Japan	C 1593	Mozu-Furuichi Kofun Group: Mounded Tombs of Ancient Japan	
Lao People's Democratic Republic	C 1587	Megalithic Jar Sites in Xiengkhuang – Plain of Jars	
Myanmar	C 1588	Bagan	
Republic of Korea	C 1498	Seowon, Korean Neo-Confucian Academies	
Europe – North America			17 States Parties, 19 nominations
Albania	N/C 99quater	Natural and Cultural Heritage of the Ohrid region [Extension "Natural and Cultural Heritage of the Ohrid region", North Macedonia]	
Austria	C 1556	Großglockner High Alpine Road	
Austria / Germany / Hungary / Slovakia	C 1608	Frontiers of the Roman Empire – The Danube Limes	
Azerbaijan	C 1549rev	Historic Centre of Sheki with the Khan's Palace	
Belgium	C 1583	Hoge Kempen Rural-Industrial Transition Landscape	
Canada	C 1597	Writing-on-Stone / Áísina'ípi	
Czechia / Germany	C 1478	Erzgebirge/Krušnohoří Mining Region	
Czechia	C 1589	Landscape for Breeding and Training of Ceremonial Carriage Horses at Kladruby nad Labem	
Germany	C 1580	Water Management System of Augsburg	
Italy	C 1571rev	<i>Le Colline del Prosecco di Conegliano e Valdobbiadene</i>	
Poland	C 1599	Krzemionki prehistoric striped flint mining region	
Portugal	C 1573	Royal Building of Mafra – Palace, Basilica, Convent, Cerco Garden and Hunting Park (Tapada)	
Portugal	C 1590	Sanctuary of Bom Jesus do Monte in Braga	
Russian Federation	C 1523	Monuments of Ancient Pskov	
Spain	C 1578	Risco Caído and the Sacred Mountains of Gran Canaria Cultural Landscape	
Spain	C 1579	Priorat-Montsant-Siurana, Mediterranean mosaic, agrarian cultural landscape	
Turkey	C 1600	Historic Guild Town of Mudurnu: Testimonies of Akhism	
United Kingdom of Great Britain and Northern Ireland	C 1594	Jodrell Bank Observatory	
United States of America	C 1496rev	The 20th-Century Architecture of Frank Lloyd Wright	

Latin America and the Caribbean

3 States Parties, 3 nominations

Brazil	N/C 1308rev	Paraty – Culture and Biodiversity
Jamaica	C 1595	The Sunken City of Port Royal – A Relict and Continuing Cultural Landscape
Panama	C 1582	The Colonial Transisthmian Route of Panamá

Cultural and Mixed Properties
Numerical Index of the evaluations

ID N°	State Party	Proposed World Heritage Property	Page
N/C 99quater	Albania	Natural and Cultural Heritage of the Ohrid region [Extension "Natural and Cultural Heritage of the Ohrid region", North Macedonia]	21
C 278rev	Iraq	Babylon	91
N/C 1308rev	Brazil	Paraty – Culture and Biodiversity	33
C 1478	Czechia / Germany	Erzgebirge/Krušnohoří Mining Region	237
C 1496rev	United States of America	The 20th-Century Architecture of Frank Lloyd Wright	Add
C 1498	Republic of Korea	Seowon, Korean Neo-Confucian Academies	180
C 1523	Russian Federation	Monuments of Ancient Pskov	307
C 1542	Bahrain	Dilmun Burial Mounds	57
C 1549rev	Azerbaijan	Historic Centre of Sheki with the Khan's Palace	Add
C 1556	Austria	Großglockner High Alpine Road	191
C 1566	United Arab Emirates	Sharjah: Gateway to the Trucial States	81
C 1571rev	Italy	<i>Le Colline del Prosecco di Conegliano e Valdobbiadene</i>	Add
C 1573	Portugal	Royal Building of Mafra – Palace, Basilica, Convent, Cerco Garden and Hunting Park (Tapada)	284
C 1576	Saudi Arabia	The Historic Village of Rijal Almaa in Asir Region of Saudi Arabia	69
C 1577	Australia	Budj Bim Cultural Landscape	102
C 1578	Spain	Risco Caído and the Sacred Mountains of Gran Canaria Cultural Landscape	318
C 1579	Spain	Priorat-Montsant-Siurana, Mediterranean mosaic, agrarian cultural landscape	330
C 1580	Germany	Water Management System of Augsburg	262
C 1582	Panama	The Colonial Transisthmian Route of Panamá	314
C 1583	Belgium	Hoge Kempen Rural-Industrial Transition Landscape	217
C 1587	Lao People's Democratic Republic	Megalithic Jar Sites in Xiengkhuang – Plain of Jars	156
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C 1589	Czechia	Landscape for Breeding and Training of Ceremonial Carriage Horses at Kladruby nad Labem	250
C 1590	Portugal	Sanctuary of Bom Jesus do Monte in Braga	297
C 1592	China	Archaeological Ruins of Liangzhu City	112
C 1593	Japan	Moju-Furuichi Kofun Group: Mounded Tombs of Ancient Japan	145
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C 1595	Jamaica	The Sunken City of Port Royal – A Relict and Continuing Cultural Landscape	360
C 1597	Canada	Writing-on-Stone / Áísínai'pi	225
C 1599	Poland	Krzemionki prehistoric striped flint mining region	273
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C 1602	Burkina Faso	Ancient ferrous metallurgy sites	45
C 1605	India	Jaipur City, Rajasthan	122
C 1608	Austria / Germany /Hungary / Slovakia	Frontiers of the Roman Empire – The Danube Limes	200
C 1610	Indonesia	Ombilin Coal Mining Heritage of Sawahlunto	133

Cultural and Mixed properties
Technical evaluation mission experts

State Party	ID number	Name of the property	Field mission	Date
New nominations				
Australia	C 1577	Budj Bim Cultural Landscape	Mary O'Keeffe (New Zealand)	Sept. 2018
Austria	C 1556	Großglockner High Alpine Road	Lynne Di Stefano (Canada / Switzerland)	Sept. 2018
Austria / Germany / Hungary / Slovakia	C 1608	Frontiers of the Roman Empire – The Danube Limes	David Lakin (United Kingdom), Adrian Olivier (United Kingdom)	Sept.-Oct. 2018
Bahrain	C 1542	Dilmun Burial Mounds	Robert Carter (United Kingdom)	Sept. 2018
Belgium	C 1583	Hoge Kempen Rural-Industrial Transition Landscape	Mark Watson (United Kingdom)	Sept. 2018
Burkina Faso	C 1602	Ancient ferrous metallurgy sites	Hamady Bocoum (Senegal)	Aug. 2018
Canada	C 1597	Writing-on-Stone / Áísínai'pi	Serge Lemaitre (Belgium)	Sept. 2018
China	C 1592	Archaeological Ruins of Liangzhu City	Rima Hooja (India)	Sept. 2018
Czechia / Germany	C 1478	Erzgebirge/Krušnohoří Mining Region	Pierre Fluck (France)	June 2018
Czechia	C 1589	Landscape for Breeding and Training of Ceremonial Carriage Horses at Kladruby nad Labem	Monica Luengo (Spain)	Aug.-Sept. 2018
Germany	C 1580	Water Management System of Augsburg	James Douet (Spain)	July 2018
India	C 1605	Jaipur City, Rajasthan	Sharif Shams Imon (Bangladesh)	Sept. 2018
Indonesia	C 1610	Ombilin Coal Mining Heritage of Sawahlunto	Sarah Jane Brazil (Australia)	Sept. 2018
Jamaica	C 1595	The Sunken City of Port Royal – A Relict and Continuing Cultural Landscape	Richard Grant Gilmore (United States of America)	Aug. 2018
Japan	C 1593	Mozu-Furuichi Kofun Group: Mounded Tombs of Ancient Japan	Eric Zerrudo (Philippines)	Sept. 2018
Lao People's Democratic Republic	C 1587	Megalithic Jar Sites in Xiengkhuang – Plain of Jars	Christophe Sand (New Caledonia)	Oct. 2018
Myanmar	C 1588	Bagan	Richard Mackay (Australia)	Sept. 2018
Panama	C 1582	The Colonial Transisthmian Route of Panamá	Mike Taylor (United States of America)	Oct. 2018
Poland	C 1599	Krzemionki prehistoric striped flint mining region	Hélène Collet (Belgium)	Sept. 2018

State Party	ID number	Name of the property	Field mission	Date
Portugal	C 1573	Royal Building of Mafra – Palace, Basilica, Convent, Cerco Garden and Hunting Park (Tapada)	David Jacques (United Kingdom)	Oct. 2018
Portugal	C 1590	Sanctuary of Bom Jesus do Monte in Braga	Alkiviadis Prepis (Greece)	Sept. 2018
Republic of Korea	C 1498	Seowon, Korean Neo-Confucian Academies	Zheng Jun (China)	Sept. 2018
Russian Federation	C 1523	Monuments of Ancient Pskov	Tamas Fejerdy (Hungary)	Sept. 2018
Saudi Arabia	C 1576	The Historic Village of Rijal Almaa in Asir Region of Saudi Arabia	Yüksel Dinçer (Turkey)	Oct. 2018
Spain	C 1578	Risco Caido and the Sacred Mountains of Gran Canaria Cultural Landscape	Liana Müller (South Africa)	Sept. 2018
Spain	C 1579	Priorat-Montsant-Siurana, Mediterranean mosaic, agrarian cultural landscape	Pierre-Marie Tricaud (France)	Oct. 2018
Turkey	C 1600	Historic Guild Town of Mudurnu: Testimonies of Akhism	Bernardt Furrer (Switzerland)	Oct. – Nov. 2018
United Arab Emirates	C 1566	Sharjah: Gateway to the Trucial States	Alaa El-Habashi (Egypt)	Sept. 2018
United Kingdom of Great Britain and Northern Ireland	C 1594	Jodrell Bank Observatory	Leo Schmidt (Germany)	Oct. 2018
Extension				
Albania	N/C 99quater	Natural and Cultural Heritage of the Ohrid region [Extension "Natural and Cultural Heritage of the Ohrid region", North Macedonia]	Cynthia Dunning (Switzerland)	Sept. 2018
Deferred nominations				
Brazil	N/C 1308rev	Paraty – Culture and Biodiversity	Luis María Calvo (Argentina)	Sept. 2018
Iraq	C 278rev	Babylon	Assaad Seif (Lebanon)	Sept.-Oct. 2018
Referred back nominations				
Azerbaijan	C 1549rev	Historic Centre of Sheki with the Khan's Palace	Nato Tsintsabadze (Georgia)	July 2016
Italy	C 1571rev	<i>Le Colline del Prosecco di Conegliano e Valdobbiadene</i>	Urs Steiger (Switzerland)	Oct. 2017
United States of America	C 1496rev	The 20th-Century Architecture of Frank Lloyd Wright	Sheridan Burke (Australia) Wessel de Jonge (Netherlands)	Sept. 2015

III Mixed properties

A Europe – North America
Extension

B Latin America - Caribbean
Nomination deferred by previous session of the
World Heritage Committee

Natural and Cultural Heritage of the Ohrid Region (Albania) No 99quater

Official name as proposed by the State Party

Natural and Cultural Heritage of the Ohrid region

Location

Korça Prefecture, Pogradec Municipality

Albania

Brief description

Lake Ohrid in the Western Balkans straddles the border between the Republic of Albania and the North Macedonia. Part of the lake in North Macedonia, together with its hinterland including the town of Ohrid, is inscribed as the Natural and Cultural Heritage of the Ohrid Region, a mixed property. Its culture reflects outstanding religious architecture from the 7th to 19th centuries, urban structures and vernacular architecture from the 18th and 19th centuries, all in Ohrid, and a concentration of archaeological remains some within Ohrid and others along the coast that attest to persistent settlement since Neolithic times and include the remains of several 6th century Christian basilicas.

The nomination is for a major extension to this property to encompass the Albanian part of Lake Ohrid, including the Drilon springs that feed into the Lake, and to the north-west of the Lake the small Lin Peninsula, together with a strip of shore linking it to the Macedonian border.

On the highpoint of the Lin Peninsula are the remains of a Christian chapel founded in the mid-6th century and along parts of its coast a small settlement. In the shallow margins of the lake, three sites offer evidence of prehistoric pile dwellings.

Category of property

In terms of categories of cultural property set out in Article I of the 1972 World Heritage Convention, this is a *site*.

[Note: the property is nominated as a mixed cultural and natural property. IUCN will assess the natural significances, while ICOMOS assesses the cultural significances.]

1 Basic data

Included in the Tentative List

2011

Background

This is a major trans-boundary modification of the Natural and Cultural Heritage of the Ohrid Region, North Macedonia, inscribed on the World Heritage List in 1979

under natural criterion (iii) (today criterion (vii)) and extended in 1980 under cultural criteria (i), (iii) and (iv), to become a mixed property.

Consultations and Technical Evaluation Mission

Desk reviews have been provided by ICOMOS International Scientific Committees, members and independent experts.

An ICOMOS technical evaluation mission visited the property from 23 to 29 September 2018. This mission was conducted jointly with IUCN.

Additional information received by ICOMOS

Additional information was received from the State Party on 25 June 2018 relating to a project for developing a Waterscape Park around the Drilon and Tushemisht springs. This has been incorporated into the relevant sections of this evaluation report.

An Interim Report was provided to the State Party on 20 December 2018 summarising the issues identified by the ICOMOS World Heritage Panel and requesting further information on the following:

Lin Church:

Further details and a synthesis of published material on its plan, style of mosaics, and existing historical documentation, in order to allow a clearer understanding as to how it might relate to the large ensemble of monastic basilicas and churches on the Macedonian side of Lake Ohrid;

Pile dwelling sites:

A synthesis of what is known of these sites in term of survey, research and any excavations that have been undertaken, and an overview of how they relate to those identified in the Macedonian side of the lake;

Boundaries:

Why the Tushemisht springs have been excluded from the nominated area;

Buffer Zone:

How the cultural landscape of the buffer zone will be protected and managed as a cultural support for the nominated areas;

Proposed developments:

Details of how proposed developments for the Drilon springs and Tushemisht, and for the outskirts of Pogradec relate to the protection in place for the property and the buffer zone;

Details of the railway project between Kičevo and the Lin Peninsula, part of the EU Pan-European Corridor VIII connecting the Black Sea with the Adriatic, including alternative routes that have been considered for the Lin section and what is currently proposed;

Collaboration:

How collaboration will be fostered between cultural and natural heritage agencies and departments, and how formal collaboration with the North Macedonia will be organized to meet the requirements of the *Operational Guidelines* for a trans-national property.

A response was received from the State Party on 28 February 2019 that provided details on all of the above apart from the proposed railway.

Date of ICOMOS approval of this report

13 March 2019

2 Description of the property

Description and history

The Albanian part of Lake Ohrid, with a small area around the Drilon Springs, forms the main part of the proposed extension. The terrestrial part is limited to the Lin Peninsula and an area to its north between it and the Macedonian border.

Although the land area nominated for extension is small, the details provided for it in the nomination dossier are comparatively slight.

Lin Peninsula

On the highest point of the Lin Peninsula are the remains of an Early Christian church discovered in 1967 and excavated until 1972. It was apparently founded in the mid-6th century CE, and is said to have continued in use until the medieval period when it was destroyed by fire. Only the floors have survived. Their seven compartments are paved in mosaics with biblical scenes, and stylistic flowers and animals.

The church is one of a few remaining examples of the architecture of the Late Antiquity period in Albania, the others being the baptistery in Butrint, and the recently identified remains of basilicas in Elbasan and Saranda. It is suggested that similarities exist between the plan of the church of Lin and the basilica church of Studenčišta in North Macedonia.

Recent studies of the mosaics by both Macedonian and Albanian scholars are said to show similarities in style and techniques with the early medieval mosaics in the excavated remains of basilicas in the Lychnidos, Studenčišta, Radolišta, Heraclea, Stobi across the lake in North Macedonia. These similarities are seen to suggest that they may all have come from one Ohrid atelier of mosaic and painting masters operating during the Early Christian period. Similar work can also be seen in the mosaics of the Byllis basilica, south Albania, and in a church at Plaošnik, North Macedonia.

Although the information provided by the State Party on the Lin church is either incomplete (in the field of architectural archaeological analysis), or extremely scarce, sparse, and somewhat generic, the Lin church does appear to provide a link with the religious buildings on the Macedonian side of the lake covering the early development of Christian churches in the mid-6th century. Quite how this link was established remains unclear in the absence of details of the liturgical relationships between the Lin church and other churches in the hinterland of the lake.

Along the coast of the Lin Peninsula is a small settlement originally for fisher people and farmers, some of whose houses have now been modernized and extended. At the tip of the peninsula the remains of a settlement known as Zagrada were investigated in the 1960-70s when fragments of pottery were found that suggested an Iron Age date.

Pile dwellings

Remains of three prehistoric pile dwellings and two mediaeval and modern pile sites have been discovered in the lake, three in the vicinity of Lin and two at Udenisht and Pogradec. Two of the Lin sites are prehistoric and one medieval. The prehistoric pile-dwelling site of Udenisht 1 is known only known through a few core samples. At Pogradec, the pile site appears to relate to a jetty which was destroyed in the 20th century.

Drilon Springs

At the south end of the lake near the town of Pogradec, a small area enclosing the Karstic Drilon Springs has been included in the nominated area. These springs form a series of pools in a verdant landscape that has been popular as a tourist destination since the 19th century. Further springs a short distance to the east that flow through the lakeshore village of Tushemisht have not been included in the nominated area, although the two springs are described as a *'feeder spring complex'* in the nomination dossier, in which the village of Tushemisht is also linked to Byzantine art and architecture.

It was during the period between the 7th and 11th centuries CE that the Lake Ohrid region prospered economically and creatively developing distinctive, religious art and architecture that reflected a fusion between Slavic and Byzantine cultures.

The development during this period of the settlement of Ohrid and its monasteries and churches on what is now the Macedonian side of the lake form the core of the already inscribed property.

By the beginning of the 15th century the whole lake area had come within the purview of the Ottoman Empire whose influence continued until 1912 and this is reflected in the later development of Ohrid and parts of the urban fabric of Pogradec in the proposed buffer zone.

In the 20th century the Lake Ohrid became part of the Kingdom of Yugoslavia. During World War II it was occupied by Bulgaria for a short period and then after the war became part of SFR Yugoslavia. Since 1991, the area is part of North Macedonia.

Boundaries

The proposed extension covers 94,728.6 ha, and the buffer zone 15,944.40 ha.

The proposed boundaries around the Lin peninsula are satisfactory. This uncoordinated development, particularly along the edges of the lake, explains why

almost none of the lake shore has been included in the nominated area.

The inclusion of the Drilon springs, as feeder springs to the lake and as an attractive landscape is justified but the exclusion of the inter-related Tushemisht springs is not fully justified. The village of Tushemisht is a traditional village built alongside the water channels. It is reasonably preserved although some buildings have been restored or rebuilt with inadequate materials. Its inclusion would benefit the extension if it could be the subject of careful conservation. The village would though be completely destroyed if the houses are 're-faced' as currently proposed (see below).

Buffer zone

In contrast to the already inscribed property in North Macedonia, where the property extends beyond the lake and lakeside settlements to encompass the landscape setting, in the proposed extension in Albania, the landscape is in the buffer zone.

The extensive buffer zone includes the flat farmed land, villages, the town of Pogradec and surrounding mountains. The large-scale agriculture and viticulture that prevailed until the 1990s, has been replaced with small scale farming by the local population. The vineyard terraces on the mountain sides have been largely abandoned and these areas are now used for cattle pasture and the provision of firewood and herbs.

The precise function of the buffer zone is currently unclear in terms of how it might support the setting of the enlarged property and particularly the lake, in terms of cultural parameters. Although the supportive value of the ecosystem of the buffer zone is set out, its supportive cultural value is not. As set out below the existing and potential development in the buffer zone is considerable.

State of conservation

Based on the information provided by the State Party and the observations of the ICOMOS technical evaluation mission, ICOMOS considers that the overall state of conservation of the nominated extension and the large buffer zone gives cause for serious concern.

The last restoration of Lin Church was undertaken in (probably) the 1970's when the short upstand of the remaining walls were restored, with a layer of stones and mortar. At the same time, the site was protected with a roof but subsequently this was dismantled, although the upright supports still remain. The mosaics of the church have been recently covered with a 10-15 cm layer of sand for protection, apart from one in rather poor condition, which is open for viewing, and slightly protected with a plastic roof. The atrium, with its deep water cistern and corbelled tombs, is totally unprotected. Overall, there is an absence of active conservation and management and visitors are free to wander around the site.

For the traditional buildings of the Lin coastal settlement, there is currently no controlled conservation. New development on the outskirts has in part been halted since new legislation in 2015 as evidenced by three or four unfinished buildings, but the rebuilding of abandoned houses has continued with the addition of new floors. Although the maximum of two stories has been followed, much stronger controls are needed.

Since 2013, there have been trial excavations on the underwater sites and with carbon 14 dating undertaken. According to the underwater archaeology specialists of the Institute of Archaeology, there are daily controls to protect the sites against illegal excavations and illegal fishing in the area.

A lack of infrastructure and resources has precluded the conservation of perishable archaeological finds from these sites (wood, basketry in the lake-dwellings) and dendrochronology for the dating of sites. The museum in Pogradec can only be visited accompanied by the museum director because there are no showcases (the objects being shown on shelves without protection).

Except for the underwater sites, there is thus no active conservation strategy for the archaeological sites, buildings or landscape in the nominated area.

The archaeological sites appear to have been largely abandoned since exploration or excavations were undertaken in the 1960s-1970s. Villages in the buffer zone suffer from uncontrolled development and some inappropriate improvements. Overall, there appears to be no conservation approach for the cultural elements of the buffer zone landscape.

Factors affecting the property

Based on the information provided by the State Party and the observations of the ICOMOS technical evaluation mission, ICOMOS considers that the nominated terrestrial areas and the buffer zone are facing a wide range of threats.

These threats are clearly acknowledged in the nomination dossier. This states that: "*the relationship between urban buildings and the landscape, is vulnerable to the lack of adequate control of new development*". The Supplement to the Management Plan (see below) adds degradation of cultural heritage through uncontrolled development and loss of landscape character to the list of threats.

In general it is stated that '*Rapid development of the Lake Ohrid Region and the anticipated increase in tourism has the potential to erode the distinctive character of the area, and its rich local customs, crafts and traditions. There is a danger that the area will become a typical, generic coastal resort, and those local traditions, vernacular building styles and distinctive local products will be lost.*'

The Lin Peninsula is seen as one of the few remaining intact areas. But even here there is illegal development around the settlement as well as a lack of control for development of existing houses and their use. The gentrification of houses for holiday use has begun to have an impact, although the character of the settlement is still reasonably strong.

The main threat to the Lin Peninsula is the proposed railway from Kičevohe in North Macedonia. This is one of the two yet to be completed sections of the EU Pan-European Corridor VIII connecting the Black Sea with the Adriatic, through Bulgaria, North Macedonia and Albania. The initial proposal for this section was for it to pass alongside the lake within Albania before connecting into the existing railway structures to the west of the Lin peninsula.

In 2017 a Joint World Heritage Centre/ICOMOS/IUCN Reactive Monitoring Mission visited the inscribed property in the North Macedonia and recommended that the authorities submit to the World Heritage Centre, for review by the Advisory Bodies, a comprehensive comparative study of alternative routes including those that do not pass through the inscribed property or in close vicinity to the lakeshore in Albania. In response to a request by ICOMOS to the State Party of Albanian for more information on assessment of alternative routes that could avoid the Lin Peninsula, no details have been provided.

If the railway were to be constructed along the original line this would threaten the integrity of the Lin peninsula.

The landscape of the Drilon springs, is already used for fish farming and is now under threat from a major tourist development that encompasses both Drilon and Tushemisht. A call for tenders organised by Albanian-American Development fund was launched in May 2018 for the \$5 million project to develop leisure facilities around the Drilon springs, the nearby Tushemisht village and a strip of the lakeshore. The project includes leisure parks, the development of high quality accommodation, re-styling of the facades in Tushemisht village, a new museum, market and concert halls and car parks for cars and buses. The tender was awarded in September 2018. If implemented, the Drilon springs would no longer contribute any cultural value to the proposed property extension.

The buffer zone, as the *'exceptional setting'* is also seen as *'vulnerable to excessive lakeshore development, landscape fragmentation, inappropriate restoration, construction on open hillsides and high-rise buildings. On a finer scale, the quality of land and waterscape is diminished by inappropriate shoreline development, solid waste and air and water pollution. Coastal development is breaking the ecological linkages between the lake and its setting'*.

In the buffer zone, the uncoordinated and in some places illegal development in and around the existing settlements and along the lake shore in the form of tourist resorts and villas, together with major infrastructure projects such as arterial roads that run alongside the lake, has impacted highly adversely on the quality of the landscape and, crucially, on its relationship to the lake. This uncoordinated development, particularly along the edges of the lake, explains why almost none of the lake shore has been included in the nominated area. Work has started, though, to remove illegal buildings along the lake shore and to re-align part of the road away from the lake.

The village of Lin, together with the village of Tushemisht and the town of Pogradec, both in the buffer zone, have been included in a list of 100 villages which can apply for grants to support infrastructural and sustainable tourism development. The potential scale of such development is well illustrated by the current proposals for Drilon.

There is also evidence of illegal interventions to the water springs that feed into the lake which have had an impact on the water quality of the Drilon Springs, and more generally to the inadequate treatment of wastewater and solid waste, as well as water pollution from abandoned mining activities.

3 Proposed justification for inscription

Proposed justification

The existing inscribed World Heritage property has an Outstanding Universal Value for the following reasons:

- The town of Ohrid, built mostly between the 7th and 19th centuries, is one of the oldest human settlements in Europe;
- Ohrid's architecture represents the best preserved and most complete ensemble of ancient urban architecture of this part of Europe; it includes the oldest Slav monastery, remains of seven Christian basilicas with mosaic floors built during the 4th, 5th and early 6th centuries, and well-preserved late-Ottoman urban residential architecture dating from the 18th and 19th centuries;
- Fishing settlement of Struga;
- Great number of archaeological sites from Neolithic period, the Bronze Age, the Macedonian Hellenistic period, the Roman and the early Middle Age period;
- Landscape that reflects the convergence of well-conserved natural values with the quality and diversity of cultural, material and spiritual heritage.

The extension to the property is considered by the State Party to contribute to this Outstanding Universal Value for the following reasons:

- The form and prominent position of the Lin Peninsula projecting into the lake, is considered to provide a *'visual and astonishing experience that visitors can have of the lakescape when descending from Qafe Thanë towards the lake'*. The Lin Church is seen as

evidence that *'the advantages of that location were understood and already exploited since ancient times'*, while the settlement of Lin village, *'completes the visual picture of a settlement pattern that characterizes the entire lake area'* that *'represents a concentration of heritage resources and values that need to be cared of and specifically protected'*.

- The pile dwelling settlements along the coast of the Lake, and the traditional fishermen village of Lin are seen to reflect well preserved traditional architecture.

Comparative analysis

The Comparative Analysis in the nomination dossier encompasses only natural aspects.

As this is a major extension rather than a new nomination, the purpose of the comparative analysis should have been to justify what has been included in the proposed extension in relation to attributes of Outstanding Universal Value of the inscribed property, and what else was considered to support the existing Outstanding Universal Value.

Such an analysis should have been the opportunity to consider in more detail comparisons between the Lin Church and other mid-6th century churches around the Macedonian side of the lake.

The State Party submitted some supplementary information that provides a better understanding of the context for the Lin church and particularly links between its mosaics and other contemporary ones in the existing property. No details have been provided on liturgical links between Lin and other contemporary churches, although the arch-episcopacy of Ohrid established by the Emperor Justinian, extended to all the episcopacies of today's Albania where there is a rich collection of early Christian archives.

Given the wealth of scholarship relating to early Christian churches in this area, it is disappointing that the nomination did not include a comprehensive summary of what is known of the church, its architectural form and mosaics, in relation to contemporary structures around Lake Ohrid.

There is a similar lack of detailed documentation for the pile dwelling sites in relation to those in the inscribed property.

In reaching a conclusion, ICOMOS has relied on wider evidence.

ICOMOS considers that a comparative analysis has justified consideration of this extension to the inscribed property in cultural terms.

Criteria under which inscription is proposed

The extended property is nominated on the basis of cultural criteria (i), (iii) and (iv) (and natural criterion (vii)).

Criterion (i): *represent a masterpiece of human creative genius;*

The justification for criterion (i) for the existing property reflects the way Ohrid is seen as one of the best preserved and complete urban ensembles dating from 7th to 19th centuries in this part of Europe and one that possess outstanding historic, architectural, cultural and artistic values. The standing remains are complemented by archaeological evidence of earlier Christian basilicas and earlier periods back to the Neolithic.

The proposed extension to the property is seen by the State Party to augment this existing justification as the Lin Peninsula appears to have been inhabited since the late Neolithic period and bears witnesses to human activity throughout the Bronze and Iron Ages continuing also through the 4th – 3rd centuries B.C.E. during the First Illyrian Kingdom, while the remains of its early Christian church are considered to be very similar to the religious architecture of the same period in Ohrid.

ICOMOS considers that the Lin church is the relevant focus for criterion (i), with the archaeological sites and overall longevity of settlement of the Lin peninsula being supportive.

As already stated, a strong case has not been provided to justify why the Lin church might be considered to support the ensemble of churches in the existing property. Nonetheless, from available information, ICOMOS considers that the remains of the small church on a high point of the Lin Peninsula do have the potential to complement what is known from excavations of early Byzantine churches on the Macedonian side of the lake dating from the mid-6th century, and evidence for early settlement around the church complements its value.

Criterion (iii): *bear a unique or at least exceptional testimony to a cultural tradition or to a civilization which is living or which has disappeared;*

The justification for criterion (iii) for the existing property relates to the way it is seen as a testimony to Byzantine religious architecture, frescoes and icons that reflect the significance of this region as a religious and cultural centre over several centuries.

The proposed extension to the property is seen by the State Party to augment this justification as it is considered that the layout of the early Christian church of Lin is very similar to Christian basilicas of the same period in the Macedonian side of Ohrid, that the paved mosaic floors depicting biblical scenes and religious symbols are evidence that the same ateliers of mosaic and painting masters operated during the Early Christian period on both sides of the lake.

As indicated above, ICOMOS considers that although similarities between the layout of the Lin church and others in the existing property have not been well substantiated, there is clearer evidence for the church mosaics to be related to those in basilicas on the other side of the Lake and for both to reflect a single cultural tradition.

Criterion (iv): *be an outstanding example of a type of building, architectural or technological ensemble or landscape which illustrates (a) significant stage(s) in human history;*

The justification for criterion (iv) for the existing property relates to the way the exceptional 'sacred and profane' architecture of Ohrid reflects two periods of history: lofty Christian basilicas known from archaeological evidence relate to the 4th to 6th centuries, and sacred and urban Byzantine architecture dates from the 9th to 14th centuries.

The proposed extension to the property is seen by the State Party to augment this justification through the way the remains of lake-shore pile dwellings, together with the sepulchral and religious monuments and traditional villages have together created a unique landscape, which has an harmonious and functional relationship with the natural environment.

ICOMOS considers that this justification is not relevant for the way this criterion was justified for the existing property, as this specifically relates to the way types of buildings reflect specific periods of history.

The Lin church certainly supports an understanding of the important basilicas of the early Christian period but what is nominated in the extension cannot be seen to exemplify the sacred and urban Byzantine architecture between the 9th and 4th centuries.

Nevertheless, ICOMOS consider that the Lin church in its setting on the Lin peninsula makes a sufficient contribution to the justification for this criterion, and that the later development in Lin village and the open landscape around it provides a crucial context for the church.

ICOMOS consider that the nominated extension can be seen to support the justification for cultural criteria in the existing property and thus its overall Outstanding Universal Value.

Integrity and authenticity

Integrity

The statement of integrity that has been provided only relates to the natural criterion.

ICOMOS considers that the boundaries of the small Lin peninsula are adequate to encompass the attributes needed to support the Outstanding Universal Value of an enlarged property.

These attributes are highly vulnerable in terms of the lack of adequate conservation of the church remains and the overall lack of development control of the village and its landscape setting, as acknowledged by the State Party in the nomination dossier: *'Main threats to the integrity of the property include uncoordinated urban development, increasing population, old infrastructure, inadequate treatment of wastewater and solid waste, illegal interventions to the water springs and tourism pressure. In addition, pollution from increased traffic influences the quality of the water, which leads to the depletion of natural resources. The overall coherence of the property, and particularly the relationship between urban buildings and the landscape, is vulnerable to the lack of adequate control of new development.'*

Authenticity

The statement of authenticity does not detail the attributes of Outstanding Universal Value nor how they might reflect their value.

It focuses mainly on the weaknesses in terms of the way uncontrolled incremental interventions in the Lin settlement and the use of new materials present a threat to the authenticity of the property. It also mentions the vulnerability of the buffer zone to major infrastructure projects and other developments, and acknowledges that there is a lack of exploration of the underwater heritage.

ICOMOS considers if the Lin church is to convey its value as part of an ensemble of extremely important early Christian churches around Lake Ohrid, and if that value is to be supported by Lin village and the landscape of the peninsula, then the severe weaknesses that have been identified by the State Party mean that the whole ensemble is under threat.

The buffer zone is meant to provide support to the nominated areas in protecting the cultural landscape context for the Lin peninsula and the Lake, and to complement the landscape that is within the existing property. The current lack of adequate protection and development control means that it will be difficult for the buffer zone to perform that role

ICOMOS considers that the requirements of integrity and authenticity have been met but the attributes are highly vulnerable and can be seen to be under threat.

Evaluation of the proposed justification for inscription of the extended property

The Outstanding Universal Value of the existing property is firmly focused on the town of Ohrid as the best preserved and most complete urban ensemble in this part of Europe, with its 36 churches from the 7th to 19th centuries, extensive collection of frescoes and icons, and 18th and 19th century urban fabric all set within a landscape that includes archaeological evidence of prehistoric, Greek and Roman sites, and for several early Christian basilicas from the mid-6th century.

The issue is how the sites on the Albania side of the lake within the proposed extension could enhance or support this extensive evidence.

ICOMOS considers that a strong case has not been provided to justify why the Lin church might be considered to support the ensemble of churches in the existing property. Nonetheless, from available information, ICOMOS considers that the remains of the small church on a high point of the Lin Peninsula do have the potential to complement what is known from excavations of early Byzantine churches on the Macedonian side of the lake dating from the mid-6th century, and evidence for early settlement around the church complements its value.

Attributes

The Lin Church is the key attribute that has the capacity to elucidate links with early Christian churches in the inscribed property.

This is supported by Lin village and evidence for longevity of settlement of the Lin Peninsula and underwater pile dwelling sites.

ICOMOS considers that the Lin church with Lin village and the Lin peninsula has the potential to support the attributes of Outstanding Universal Value for the inscribed property.

4 Conservation measures and monitoring

Conservation measures

In the Lin Church, no active conservation measures are currently being undertaken.

In terms of Lin village, although the authorities acknowledge the vulnerabilities of the vernacular architecture from insensitive alterations, and from inappropriate development, no active measures are yet in place to address these issues.

There are similarly no active conservation measures in place for vernacular settlements or archaeological sites in the buffer zone. There is a need for a systematic assessment of the state of conservation of the archaeological sites already formally protected. This could then allow priorities to be developed.

Similarly, there are no active measures in place for the conservation of finds from the underwater archaeological sites.

Monitoring

The details of monitoring in the nomination dossier relate only to natural features and issues.

There is a clear need for monitoring of cultural features on the Lin Peninsula but also in the buffer zone, which should provide the setting for the lake and the historical and social context for the nominated cultural sites.

ICOMOS considers that a monitoring regime for the cultural assets needs to be developed for the proposed extension and the buffer zone.

5 Protection and management

Documentation

In the nominated areas, some documentation exists for the Early Christian Lin Church, the built heritage has been inventoried for the village of Lin and the archaeological sites underwater in Lake Ohrid are currently being inventoried by the Archaeological Institute of the University of Tirana. In the buffer zone, an inventory exists for the town of Pogradec but no work has been undertaken to document archaeological sites in the remainder of the buffer zone.

Legal protection

Currently the proposed extension and the buffer zone are both included in the Pogradec Terrestrial/Aquatic Protected Landscape that was designated in 1999 to protect terrestrial and aquatic eco-systems.

Since 2015, the Municipality of Pogradec, which includes the proposed extension and buffer zone, has been actively working on a Municipal Development Plan together with guidelines for the protection and conservation of built heritage. This Regional Plan has not yet been approved by the National Territorial Planning Agency but once it is in place it will provide regional legislation for cultural heritage, which will cover the village of Lin.

The draft Municipal Development Plan has already served as the rationale for some destruction of buildings along the shoreline, which did not conform to building procedures.

Management system

Until recently, the Pogradec Terrestrial/Aquatic Protected Landscape has not been actively managed and as a result change and development have had a marked negative impact on its natural values which are now seen as being either strongly modified or under intense pressure.

In 2014, a Protected Landscape Management Plan was developed and its objectives are to strengthen management, increase habitat protection and conservation, develop touristic and recreational use, and encourage the development of sustainable agriculture and socio-economic activities. This includes a five year Action Plan (2014-2019) that aims to start remedial measures through strengthening management and cooperation and improving the legal framework.

The Plan proposes to exclude the urban areas and the areas where intensive agricultural practices take place around the towns of Pogradec and Buçimas from the zoning of the protected landscape.

To this Management Plan has been added a World Heritage Supplement (2017-2027) that sets out systems to strengthen the management of the extended property and its buffer zone. This supplement covers both cultural and natural heritage in terms of threats and necessary actions. It should be noted that an approved Management Plan for the inscribed property in North Macedonia is still awaited although one is currently under development.

A management committee is proposed for the extension that is a modified version of the Committee for the Protected Areas. This consists of representatives of the key government agencies covering both nature and culture, and includes a representative of a citizen's initiative. It is to be chaired by the Mayor of Pogradec. It appears that this committee is not yet operational and in its absence it is unclear how this supplement is being or will be implemented.

Currently there is little evidence on the ground of direct management. The Lin Church appears to have no active management or regular monitoring and it is unclear who or is ultimately responsible for its management (if it is the museum of Pogradec, then there is insufficient personnel). Although the site is enclosed with a mesh fence and closed barriers, there is no active presence of guards and apparently nothing to stop mosaics being looted if they become better known.

Planning guidelines have been prepared for the Pogradec municipality, which includes the village of Lin and all villages in the buffer zone but these are not yet operational as neither Lin nor the other villages, have yet been listed as protected villages.

As the extension is proposed as a mixed site, there is a need for coordination and cooperation at both national and regional levels between agencies working with nature and those working with culture. Currently such coordination is lacking as evidence by the evaluation missions which were separately organised for culture and nature. Clearly such coordination needs to be made effective before a management committee can hope to achieve integrated management.

There also seems to be apparent difficulties at a national level in promoting coordination between Albania and the North Macedonia in relation to the proposed enlarged property. So far no formal over-arching structure has been elaborated to allow collaboration on management matters for both cultural and natural aspects between the two countries for the proposed trans-national property, although it is reported that invited representatives from the administration of the existing property shall be invited to participate in meetings of the management committee as a non-voting contributor. A Joint Lake Ohrid Management Board was established '*since a long time ago*' with a Memorandum of Understanding between Governments of Macedonia and Albania, to deal with matters related specifically to the lake.

Although a '*Watershed committee*' exists for the management of natural heritage in the two countries, it has not been very active. Trans-national coordination clearly could be a great advantage in sharing research and knowledge on ecclesiastical buildings, vernacular settlements and pile dwellings in order that an holistic approach could be developed for their research and preservation.

A further weakness is the lack of human and financial resources in both the inscribed property and the proposed extension. Although there has been active capacity building over the past few years supported by an EU funded project, and this has led to the development of objectives for the conservation of built heritage and underwater archaeology, there are very limited professional resources to carry out even essential work. In Albania, the personnel of the museum consists of only one person; there are no resources for the conservation of waterlogged material from the pile dwelling sites; and no possibility to undertake dendrochronological analysis. Furthermore there appears to be no designated personnel for the management of Lin Church, Lin village or the Dilion springs.

Interpretation

Interpretation and presentation is currently minimal. Although there is a site panel at the Lin Church, it could be much better presented. A concept needs to be developed for the presentation of this site that sets out what is known of the fabric and how the church relates to other similar early sites in the region. The presentation of the underwater archaeological sites is inexistent, but this is understandable since the zones need to be protected before being rendered accessible to the public.

The local museum, which represents the cultural heritage of the Pogradec and Lake Ohrid region, is not sustainable in its present state. The objects on display are of overall importance and well restored but are exposed on shelves without showcases and are not protected in any way.

In the buffer zone, the archaeological sites of importance such as the castle of Pogradec are not interpreted or well presented, although they are considered to be essential visiting points for local tourism.

Community involvement

Although the mission sensed that part of the community appears to be supportive of the nomination, there appears to have been little active involvement of community groups in its development.

The nomination dossier acknowledges that there is '*low shared knowledge and understanding and recognition of the specificity of this Region*' and clearly greater involvement of local communities would help to address this. Community participation is envisaged in the Management Plan.

Evaluation of the effectiveness of the protection and management of the nominated property

The currently legal protection relates mainly to natural assets and cultural monuments: settlements, and landscape do not benefit from protection. Although a Municipal Development Plan has been drafted together with guidelines for the protection and conservation of built heritage these have not yet been approved.

Currently there is no effective management in place for the proposed extension or the buffer zone. A structure has been set out in the Supplementary Management Plan but so far it appears not to have been implemented. At the same time there appears to be little coordination between Ministries and Departments dealing with nature and culture and limited resources to implement improved conservation, management and monitoring of cultural heritage. Furthermore no arrangements have yet been considered for a trans-national over-arching coordinating mechanism between Albania and North Macedonia, as requested in the *Operational Guidelines*.

The management issues connected with managing the proposed large mixed transnational property are considerable. Although the terrestrial area nominated for cultural criteria is small, the buffer zone that protects the setting of the lake is large and highly vulnerable, and there is a need to integrate approaches to nature and culture and coordinate approaches across international boundaries. Currently the mechanisms are not in place to begin to address any of these challenges.

ICOMOS considers that the legal protection and management currently in place are inadequate to address the major challenges facing the proposed extension and its buffer zone. The idea of collaborative working between ministries and departments dealing with culture and nature appears hardly to have begun and discussions have yet to start with the State Party of North Macedonia to formulate an over-arching transboundary coordinating mechanism.

6 Conclusion

The major boundary modification has been submitted to allow part of Ohrid Lake and its hinterland in Albania to support the part of the lake in Macedonia, which is already inscribed on the World Heritage List along with the town of Ohrid, its early Christian and Ottoman building ensembles, and the surrounding landscape.

The remains of the small early Christian church high on the Lin Peninsula that projects into the west side of Lake Ohrid do, in ICOMOS's view, have the potential to augment understanding of remains of similarly dated early Christian Basilicas within the inscribed property in North Macedonia. And the Lin peninsula with its early archaeological remains and small village provide the essential landscape context for the church.

The slender nomination dossier has not done justice to the value of the church, and although supplementary information has augmented the material to some extent, the opportunity has not been taken to set out all that is known of the church, in terms of its plan, mosaics and liturgical connections on the basis of the extensive research undertaken by Macedonian and Albanian scholars and the rich archives in Albania.

What could and should have been highlighted is how the church at Lin and other the early Byzantine churches in Albania relate to each other and to the larger group of early churches around Lake Ohrid in terms of architectural form, decorative mosaics, and liturgical aspects.

In the existing property, the boundary encompasses the landscape setting of the lake. In the proposed extension all the landscape, apart from the Lin peninsula and one small area surrounding the Drilon springs is in the buffer zone. In order to ensure a degree of coherence of the lake landscape, it is essential that the buffer zone allows an understanding of the convergence between culture and nature that is a key part of the inscribed property, and provide appropriate support for the inscribed areas.

The nominated buffer zone is of a good size and encompasses the forested slopes of mountains and agricultural and horticultural plains that border the lake within which are archaeological sites and settlements that contribute to an understanding of various stages in the history of the area. But the buffer zone as a whole is highly vulnerable as a result of excessive development along the lake, a new road that passes near the lake and unregulated development around towns and some villages, including inappropriate high-rise buildings on open hillside, all of which are severing the links between the lake and its setting. And currently there are few constraints in place to contain development and no management structures to implement the supplementary management plan that covers the nominated area and the buffer zone.

There is also a worrying lack of legal protection and active conservation and management for the nominated areas of the Lin Peninsula and the Drilon springs. The Lin peninsula is under potential threat from a proposed railway from Kičevo in North Macedonia to Albania, while inclusion in the nominated area of the Drilon springs is not preventing them from being transformed by a major tourist development.

The Drilon springs and the nearby springs of Tushemisht (in the buffer zone) are of interest from a cultural perspective as being a focus for early tourism in the area and currently are two of the few places where the natural hinterland of the lake can be appreciated. The springs are inter-related and, in ICOMOS's view, should have both been included in the nominated area. However if the proposed major tourism project is implemented, these small enclaves will lose their cultural value and another part of the lakeshore will have been lost.

The fragile remains of the Lin church, Lin village and the Lin peninsula are under potential threat, while the landscape of the buffer zone is under actual threat as well as under further potential threats.

In view of these serious, specific and acknowledged threats which endanger the cultural attributes that are being nominated to contribute to the Outstanding Universal Value of the existing property, and the need for urgent measures to counter these, ICOMOS considers that the proposed extension should be approved and at the same time be inscribed on the List of World Heritage in Danger.

7 Recommendations

ICOMOS recommends that the World Heritage Committee adopts the following draft decision, noting that this will be harmonized as appropriate with the recommendations of IUCN regarding their evaluation of this mixed site nomination under the natural criteria and included in the working document WHC/19/43.COM/8B.

Recommendations with respect to inscription

ICOMOS recommends that the extension of the Natural and Cultural Heritage of the Ohrid region, Albania to the World Heritage List be **approved** and be simultaneously inscribed on the List of World Heritage in Danger, in relation to the acknowledged threats facing the cultural attributes and setting in Albania.

ICOMOS also recommends that the State Party invites a mission to the property as soon as possible to agree on a Desired State of Conservation for the removal of the property from the List of World Heritage in Danger, based on the cultural attributes of Outstanding Universal Value and to be reached through corrective measures that can then be phased and costed.

Recommended Statement of Outstanding Universal Value

Brief synthesis

Situated on the shores of Lake Ohrid, the town of Ohrid is one of the oldest human settlements in Europe. Built mostly between the 7th and 19th centuries, Ohrid is home to the oldest Slav monastery (dedicated to St. Pantelejmon) and more than 800 Byzantine-style icons of worldwide fame dating from the 11th century to the end of the 14th century. Ohrid's architecture represents the best preserved and most complete ensemble of ancient urban architecture of this part of Europe. Slav culture spread from Ohrid to other parts of Europe. Seven basilicas have thus far been discovered in archaeological excavations in the old part of Ohrid. These basilicas were built during the 4th, 5th and beginning of the 6th centuries and contain architectural and decorative characteristics that indisputably point to a strong ascent and glory of Lychnidos, the former name of the town. The structure of the city nucleus is also enriched by a large number of archaeological sites, with an emphasis on early Christian basilicas, which are also known for their mosaic floors.

Special emphasis regarding Ohrid's old urban architecture must be given to the town's masonry heritage. In particular, Ohrid's traditional local influence can be seen among its well-preserved late-Ottoman urban residential architecture dating from the 18th and 19th centuries. The limited space for construction activities has led to the formation of a very narrow network of streets.

On the Lin Peninsula, in the west of the Lake, the Early Christian Lin church, founded in the mid-6th century, is related to the basilicas of Ohrid town in terms of its architectural form and decorative floor mosaics, and possibly also through liturgical links.

Although the town of Struga is located along the northern shores of Lake Ohrid, town life is concentrated along the banks of the Crn Drim River, which flows out of the lake. The existence of Struga is connected with several fishermen settlements on wooden piles situated along the lake shore. A great number of archaeological sites testify to origins from the Neolithic period, the Bronze Age, the Macedonian Hellenistic period, the Roman and the early Middle Age period. Similar pre-historic pile dwelling sites have also been identified in the western margins of the Lake.

The convergence of well-conserved natural values with the quality and diversity of its cultural, material and spiritual heritage makes this region truly unique.

Criterion (i): The town of Ohrid is one of the oldest human settlements in Europe. As one of the best preserved complete ensembles encompassing archaeological remains from the Bronze Age up to the Middle Ages, Ohrid boasts exemplary religious architecture dating from the 7th to 19th centuries as well as an urban structure showcasing vernacular architecture from the 18th and 19th centuries. All of them possess real historic, architectural, cultural and artistic values. The concentration of the archaeological remains and urban structures within the old urban centre of Ohrid, in the Lin Peninsula, and along the coast of Lake Ohrid as well as the surrounding areas creates an exceptional harmonious ensemble, which is one of the key features that make this region truly unique.

Criterion (iii): The property is a testimony of Byzantine arts, displayed by more than 2,500 square metres of frescoes and more than 800 icons of worldwide fame. The churches of St. Sophia (11th century), Holy Mother of God Perivleptos and St. John Kaneo notably display a high level of artistic achievements in their frescoes and theological representations, executed by local as well as foreign artists. Ancient architects erected immense basilicas, which were to serve as models for other basilicas for centuries. The development of ecclesiastical life along the shores of the lake, along with its own religious architecture, frescoes and icons, testifies to the significance of this region as a religious and cultural centre over the centuries. The similarities between the mosaics of Lin church in the west of the Lake with those

of the early basilicas of Ohrid to the east, reflect a single cultural tradition.

Criterion (iv): The Lake Ohrid region boasts the most ancient Slavonic monastery and the first Slavonic University in the Balkans – the Ohrid literary school that spread writing, education and culture throughout the old Slavonic world. The old town centre of Ohrid is a uniquely preserved, authentic ancient urban entity, adjusted to its coastal lake position and terrain, which is characterised by exceptional sacred and profane architecture. The architectural remains comprising a forum, public buildings, housing and sacred buildings with their infrastructure date back to the ancient town of Lychnidos (the former name of the town). The presence of early Christian architecture from 4th to 6th centuries is attested by the lofty basilicas of Ohrid and the small church of Lin. The Byzantine architecture of Ohrid with a great number of preserved sacred buildings of different types from 9th to 14th centuries, is of paramount importance and contributes to the unity of its urban architecture.

Integrity

Main threats to the integrity of the property include uncoordinated urban development, increasing population, inadequate treatment of wastewater and solid waste, and tourism pressure. In addition, pollution from increased traffic influences the quality of the water, which leads to the depletion of natural resources.

The integrity of the town of Ohrid suffered to some extent, as several houses built at the end of 19th century were demolished in order to exhibit the excavated remains of the Roman Theatre. The overall coherence of the property, and particularly the relationship between urban buildings and the landscape setting of the Lake, is vulnerable to the lack of adequate protection and control of new development.

Authenticity

The town of Ohrid is reasonably well preserved, although uncontrolled incremental interventions have impacted the overall form of the monumental urban ensemble as well as the lakeshore and wider landscape. These are also vulnerable to major infrastructure projects and other developments.

Concerning the religious buildings around Ohrid, important conservation and restoration works have been carried out since the 1990s. Conservation works on the monuments in the region have been thoroughly researched and documented, but some have impacted the property's authenticity. The icons and frescoes are in good condition and kept in the churches. The originally residential function of some buildings has changed over time, as have some of the interior outfitting of residential buildings, which were altered to improve living conditions. While reconstructions often used materials identical to those used at the time of construction, new materials have also been used on occasion, which presents a threat for the authenticity of the property.

The Lin church and its context is vulnerable to lack of protection and, inadequately controlled conservation and development. At the western side of the Lake, the support the buffer zone offers to the Lin peninsula and the landscape setting of the Lake is likely to be ineffective as a result of a lack of adequate protection and development control.

Protection and management requirements

In North Macedonia, the Natural and Cultural Heritage of the Ohrid region has several layers of legal protection. The protection of cultural heritage is regulated by the Law on Cultural Heritage Protection (*Official Gazette* of RM No. 20/04, 115/07), by-laws and a law declaring the old city core of Ohrid as a cultural heritage of particular importance (*Official Gazette* of RM No. 47/11). The protection of natural heritage is regulated by the Law on Nature Protection (*Official Gazette* of RM No. 67/2004, 14/2006 and 84/2007), including within and outside of protected areas. There is also the Law on Managing the World Cultural and Natural Heritage of the Ohrid Region (*Official Gazette* of RM No. 75/10). In Albania, the Pogradec Terrestrial/Aquatic Protected Landscape was designated in 1999 to protect both terrestrial and aquatic eco-systems; there is currently no specific national protection for cultural sites. Legal instruments need to be kept updated and implemented to protect the property.

In North Macedonia, the property is managed and protected through a range of relevant management documents, and an effective overall management plan is a clear long-term requirement. The "Physical Plan of the Republic of Macedonia" of 2004 provides the most successful long-term and integrated document for land management, providing a vision for the purpose, protection, organization and landscape of the country and how to manage it. This plan needs to be maintained and updated regularly, although some deficiencies have been noted in the general implementation of urban planning regulations and plans.

The property is managed by two ministries (the Ministry of Culture and the Ministry of Environment), via three municipalities (Ohrid, Struga and Debrca), although the municipalities legally do not have the authority to protect cultural and natural heritage. The Institute for Protection of Monuments of Culture and Museums in Ohrid has the authority to protect cultural heritage, and the Natural History Museum Dr Nikola Nezlobinski in Struga is responsible for protecting movable heritage. The Galichica National Park is authorized to manage natural heritage within the park as a whole, and part of the cultural heritage located within the territory of the Park. The Institute for Hydrobiology in Ohrid is responsible for the continuous monitoring of the Lake Ohrid ecosystem, the research and care for Lake Ohrid's flora and fauna, as well as the management of the fish hatchery, also to enrich the Lake's fish stocks.

Integrated management of natural and cultural heritage through a joint coordinating body and joint management

planning are urgently needed to ensure that the values of the property are conserved. Given the vulnerabilities of the property related to the development and impacts of tourism, the management requirements for the property need strengthening and new cooperation mechanisms and management practices must be put into place. This may include re-evaluating the existing protected areas, and ensuring adequate financial and human resources for management as well as effective management planning and proper law enforcement.

In Albania, in 2014, a Protected Landscape Management Plan was developed and its objectives are to strengthen management, increase habitat protection and conservation, develop touristic and recreational use, and encourage the development of sustainable agriculture and socio-economic activities. This includes a five year Action Plan (2014-2019) that aims to start remedial measures through strengthening management and cooperation and improving the legal framework. The Plan proposes to exclude the urban areas and the areas where intensive agricultural practices take place around the towns of Pogradec and Buçimas from the zoning of the protected landscape. To this Management Plan has been added a World Heritage Supplement (2017-2027) that sets out systems to strengthen the management of the extended property and its buffer zone. This supplement covers both cultural and natural heritage in terms of threats and necessary actions. A management committee is proposed that is a modified version of the Committee for the Protected Areas. This will consist of representatives of the key government agencies covering both nature and culture, and a representative of a citizen's initiative. It will be chaired by the Mayor of Pogradec.

Currently no formal over-arching structure has been elaborated to allow collaboration on management matters for both cultural and natural aspects between the two States Parties for the proposed trans-national property. A Joint Lake Ohrid Management Board exists, to deal with matters related specifically to the lake. The complexity of Lake Ohrid's shared natural and cultural heritage requires innovative governance models able to deal with a multitude of management objectives in the broader transboundary Lake Ohrid region. Cooperation between the cultural and natural sectors is essential, and the capacities of site management must be strengthened in order to effectively protect both the cultural and natural values of the property. Effective integration and implementation of planning processes at various levels, cross-sectorial cooperation, community participation and transboundary conservation are all preconditions for the successful long-term management of Lake Ohrid.

Additional recommendations

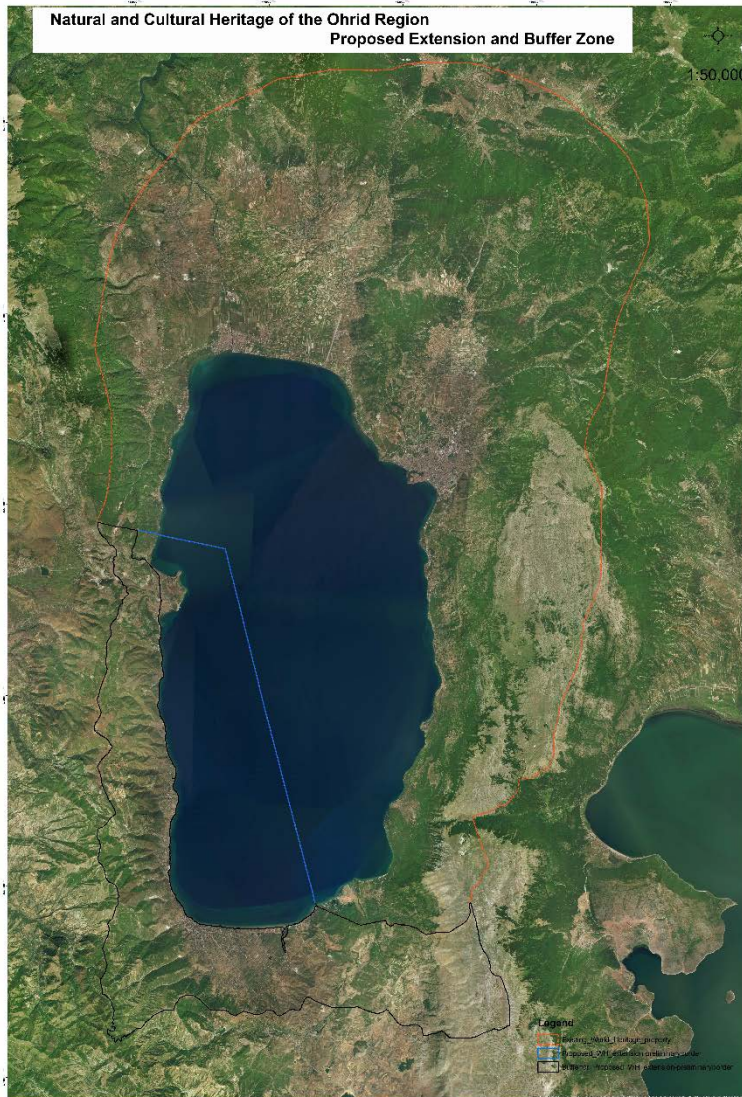
ICOMOS further recommends that the State Party give urgent consideration to the following:

- a) Inviting an ICOMOS mission to the property to discuss the identification of Corrective Measures that will need to address the following:

- o Introduce a formal structure to allow collaboration between the two participating States Parties for the trans-boundary property,
- o Strengthen legal protection,
- o Approve and operationalise the Municipal Development Plan,
- o Operationalise planning guidelines,
- o Introduce an effective management system,
- o Increase human and financial resources to support them management of the property,
- o Strengthen collaborative working between cultural and natural agencies and departments at both national and regional levels,
- o Fully implement the Management Plan,
- o Increase community participation,
- o Introduce a monitoring regime for cultural assets,
- o Strengthen protection at Lin church as a matter of urgency,
- o Appoint designated personnel for the management of Lin church, Lin village and Lin peninsula,
- o Improve collection facilities at Pogradec museum and the conservation of waterlogged material from the pile dwelling sites,
- o Continue to remove illegal buildings along the lake shore and re-align part of the road away from the lake,
- o Prepare an inventory of the cultural sites in the buffer zone and introduce a conservation approach for these and the buffer zone landscape,

- b) Providing a comprehensive comparative study of alternative routes for the proposed railway from Kičevohe in North Macedonia to Albania including those that do not pass through the inscribed property or in close vicinity to the lakeshore in Albania,

- c) Submitting to the World Heritage Centre by 1st December 2019 a report on the implementation of the recommendations set out above for examination by the World Heritage Committee at its 44th session in 2020;



Map showing the boundaries of the proposed extension of the property



Ohrid Lake landscape



Panoramic view of the Lin village



Partial view of the Lin Church's mosaic floors



Underwater pile dwelling site on the shores of the lake

III Mixed properties

A Europe – North America
Extension

B Latin America - Caribbean
Nomination deferred by previous session of the
World Heritage Committee

Paraty (Brazil) No 1308rev

Official name as proposed by the State Party

Paraty – Culture and Biodiversity

Location

States of Rio de Janeiro and São Paulo
Brazil

Brief description

The Paraty – Culture and Biodiversity mixed serial nomination consists of five components, located in the states of Rio de Janeiro and São Paulo and between the Serra da Bocaina mountain range and the Atlantic Ocean. Four components are protected natural areas, representing the biodiversity of this particular region and containing cultural assets that testify to the occupation of the area by indigenous inhabitants and, from the 16th century onwards, by European settlers and enslaved Africans. The fifth component includes the historic centre of Paraty, one of the best preserved colonial coastal towns in Brazil. It was the terminus point of the *Caminho do Ouro* (Gold Route), along which gold from Minas Gerais was brought to Paraty for shipping to Europe.

Category of property

In terms of categories of cultural property set out in Article I of the 1972 World Heritage Convention, this is a serial nomination of five *sites*.

In terms of the *Operational Guidelines for the Implementation of the World Heritage Convention* (July 2017) paragraph 47, it has been nominated as a *cultural landscape*.

[Note: the property is nominated as a mixed cultural and natural site. IUCN will assess the natural significance, while ICOMOS assesses the cultural significance.]

1 Basic data

Included in the Tentative List

8 January 2004 as “Gold Route in Paraty and its Landscape”

Background

The World Heritage Committee examined the nomination of Gold Route in Paraty and its Landscape, Brazil, at its 33rd Session (Seville, 2009). In its evaluation report dated April 2009, ICOMOS recommended that the examination of the property, nominated under criteria (ii), (iv) and (v), be deferred in order to allow the State Party to explore the possibility of a wider nomination to reflect the overall Gold Route and its associated settlements, buildings, mines and

landscape and the profound impact this route had on the culture, economics and politics of South America and Europe.

The World Heritage Committee adopted the following decision (33 COM 8B.37):

The World Heritage Committee,

1. *Having examined Documents WHC-09/33.COM/8B and WHC-09/33.COM/INF.8B1,*

2. *Defers the examination of the nomination of the Gold Route in Paraty and its landscape, Brazil, to the World Heritage List in order to allow the State Party to revise its dimension and denomination as a mixed property, highlighting its exceptional natural and cultural values;*

3. *Considers that any revised nomination with revised boundaries would need to be considered by a mission to the site.*

Consultations and Technical Evaluation Mission

Desk reviews have been provided by ICOMOS International Scientific Committees, members and independent experts.

An ICOMOS technical evaluation mission visited the property from 9 to 16 September 2018. This mission was conducted jointly with IUCN.

Additional information received by ICOMOS

A letter from ICOMOS and IUCN was sent to the State Party on 17 October 2018 requesting further information about the rationale for the boundaries of the nominated property, rectification of boundaries in component 5, and clarification about the inclusion of the Ilha Grande Bay in the buffer zone. Additional information was received from the State Party on 13 November 2018 and has been incorporated into the relevant sections of this report.

A joint ICOMOS-IUCN Interim Report was provided to the State Party on 21 December 2018, summarizing the issues identified by the ICOMOS and IUCN World Heritage panels. Further information was requested in the Interim Report, including the description of the nominated property, selection of component parts, boundaries and ecological connectivity between component parts, legal protection, conservation measures, management systems and community involvement.

Additional information was received from the State Party on 28 February 2019 and has been incorporated into the relevant sections of this report.

Date of ICOMOS approval of this report

13 March 2019

2 Description of the property

Note: The nomination dossier and additional information contain detailed descriptions of this property, its history and its state of conservation. Due to limitations on the length of evaluation reports, this report only provides a short summary of the most relevant aspects.

Description and history

The nominated mixed serial property is located in the states of Rio de Janeiro and São Paulo, Brazil, in the coastal area of Ilha Grande Bay, encompassing a territory located between the Serra da Bocaina mountain range and the Atlantic Ocean. It includes part of the continental and maritime areas and some islands, amongst them Ilha Grande.

The nominated property is made up of five components, which initially were Serra da Bocaina National Park, Ilha Grande State Park, Praia do Sul Biological Reserve, Juatinga Ecological Reserve and the historic centre of Paraty. In November 2018, in response to a request for additional information from ICOMOS and IUCN, the State Party proposed replacing component 4, Juatinga Ecological Reserve, with the continental portion of the Environmental Protection Area of Cairuçu. Additional information dated November 2018 also includes a modification to the boundaries of component 5, the historic centre of Paraty, in order to encompass cultural assets originally situated in the proposed buffer zone.

The first four components, as modified in November 2018, are protected natural areas while the fifth, the historic centre of Paraty, corresponds to the colonial town and its immediate surroundings. Nevertheless, within the protected natural areas there is a wide array of cultural assets, from archaeological sites to living traditional communities that, as a whole, form what has been described by the State Party as a 'cultural system'. As explained in the additional information submitted by the State Party in February 2019, this means a multi-layered network of cultural assets that testifies to the relationship between people and nature over time, producing a range of tangible and intangible heritage. Although in some cases the natural and cultural components are intimately linked, the following description of each of the components of the serial nomination focuses on the cultural aspects:

Serra da Bocaina National Park (Component 1)

Within this component, the main cultural asset is a portion of the *Caminho do Ouro* (Gold Route) historic trail, which in colonial times linked the mining region of Minas Gerais to the port of Paraty, where gold was shipped to Europe. The portion included within the boundaries of the National Park is considered the best-preserved section of the paved road and surrounding ruins, amongst them the *Casa do Registro*, where raw gold from the mines was weighed and taxed.

Ilha Grande State Park (Component 2)

Ilha Grande State Park protects an important area of the Atlantic Forest. The cultural heritage within this component consists of seafront rocks with polishing and sharpening tools dated to 3,000 years BCE, *sambaquis* (shell middens), graveyards, ancient paths, an old lighthouse, the aqueduct of the Lazareto, a dam and hydroelectric power plant, and two ruins of prisons, along with cobblestone paths from colonial times and several ruins of estates.

Praia do Sul Biological Reserve (Component 3)

Several sites related to the occupation of the island by hunter-gatherers in prehistoric times (referred to in the additional information submitted in February 2019 as 'Layer 1') are located within the boundaries of the biological reserve, as is the Caiçara Aventureiro cultural group.

Environmental Protection Area of Cairuçu (continental portion) (Component 4)

The landscape of this area includes sea, rocky coastlines, beaches, estuaries, mangroves, water bodies, the Cairuçu massif and an abundance of the Atlantic Forest in different levels of preservation. Amongst the cultural assets located within the boundaries of this component is the archaeological complex of Paraty-Mirim, which played an important role in the 17th century as a port for the exchange and trade of goods and slaves. Currently, the site encompasses the ruins of several houses and the church of Nossa Senhora da Conceição.

Several traditional communities whose cultural expressions and ways of life are based on a balanced and respectful relationship with the surrounding natural environment are located within the boundaries of this component, amongst them two indigenous settlements, two Quilombola territories (*quilombos* are small villages formed by enslaved Africans who escaped from plantations or farms), 30 Caiçara traditional communities (whose inhabitants are the result of intermarriages amongst indigenous inhabitants, Europeans and Africans), and more than 30 traditional rural communities. Traditional communities have been responsible for the conservation and shaping of the local ecosystems over time.

Historic Centre of Paraty (Component 5)

After the modification of the boundaries of the historic centre of Paraty proposed by the State Party in November 2018, this component is composed of two non-contiguous areas: the historic centre of Paraty (5a); and the Morro da Vila Velha (5b).

The historic centre of Paraty (5a) is located in the lower part of the Serra da Bocaina, in a fluvial-marine plain. The urban layout is based on a reticulated scheme adapted to the functions of the port and commercial station. The constant flows of the tides penetrate into the town, transforming the stone paved streets into a network of conduits. Most of the colonial buildings date from the second half of the 18th century and the early 19th century.

The historic centre houses four squares, located peripherally and facing either the sea or the river. The main one is Praça da Matriz, which constituted the colonial civic centre with its concentration of government buildings and churches.

Component 5b is the Morro da Vila Velha, a hill some 56m high, considered an important element in the nominated property's cultural system since it testifies to different periods of occupation. It includes archaeological sites, *sambaquis* (middens), the location of the first settlement in the mid-16th century, and the Defensor Perpétuo Fort, built in the 18th century on top of the hill, nowadays with some remnants of barracks, trenches, cannons and a gunpowder house.

The five components are surrounded by a single buffer zone whose boundaries align with the existing buffer zones of these protected areas.

The following paragraphs summarize the human occupation of the property over time, based on information provided in the nomination dossier and additional information submitted by the State Party in November 2018 and February 2019.

The first human settlers to inhabit the area of the Ilha Grande Bay were hunter-gatherers; the archaeological findings, amongst them worked lithic material and *sambaquis*, are estimated to date from between 3,000 and 2,500 years BCE to 4,000 years BCE. These peoples were succeeded by Tupi-Guarani-speaking ceramist peoples coming from the central Amazonian region. These Tupi-Guarani groups were extremely ethnically diverse; there were no political units larger than the village, but the groups maintained close relations through exchanges, alliances and hostilities.

The State Party provided in the additional information of February 2019 a clear sequence of the history of human occupation and the patterns of organization and settlement of indigenous communities since before the arrival of Europeans. It refers to the different types of existing archaeological record that reflects this process. It also explains the close relationship of the Tupi-Guarani language communities with the Atlantic Forest, and the way in which the human action of these groups has contributed to the formation of the ecosystems. Since the mid-twentieth century and especially after the 1988 Constitution, some Guarani communities have returned to some areas of the Atlantic Forest of Ilha Grande Bay which are currently nominated. It also makes reference to the patterns of settlement and organization forms of other traditional groups that inhabit those areas: the Caiçaras, the heirs of the indigenous culture with specific organization forms and cultural dynamics closely related to the use of land and artisanal fishing; and the Quilombolas groups, the descendants of the Africans enslaved during the Colonial period, which have created their own cultural patterns in the context of the Atlantic Forest's landscape.

The Guarani territory, both in its current and historical configurations, coincides with the boundaries of the Atlantic Forest Biome. In other areas of Brazil, the devastation of the Atlantic Forest due to colonization processes has coincided with the deterioration of the quality of life of the Guarani, who depend on their resources to maintain their way of life and for the transmission of their ancestral knowledge. The way in which the Guarani currently occupy the Atlantic Forest implies a high level of management, also great knowledge and mastery of the different ecosystems and Forest formations. Likewise, as demonstrated in the Amazon Basin, the formation of ecosystems owes much to the human action of indigenous groups. The installation of the Guarani groups along the coast is closely linked to the prophetic vision of their shamans who seek the "Earth without Evil". Most of the Guarani villages are found today in the Serra da Bocaina mountain range, since it is the region in which the largest continuous strips of Atlantic Forest in Brazil are still preserved.

During the first years of the Portuguese colonization of Brazil, Ilha Grande Bay was an important coastal hub, providing a connection with the interior of the continent. The first Portuguese settlement was located at the top of Morro da Vila Velha, although the present town started to develop in 1646 on the plains between the Perequê-Açu and Patitiba rivers. Throughout the 17th century, adventurers in search of indigenous slaves penetrated, populated and transformed this territory.

With the discovery of gold in the region later known as Minas Gerais, the network of indigenous tracks linking this region with the Ilha Grande Bay became extremely important. The old indigenous trail was the first track adopted by thousands of Portuguese and Brazilians seeking the newly discovered mines, making Paraty, in the early 18th century, an obligatory passage for the arrival of goods and enslaved persons to meet the demands of the miners. The extracted gold was transported down the same track, and the first shipment of gold to Portugal took place in 1697.

The small town of Paraty was transformed into an important warehousing and exportation port, favoured by its isolation and the numerous inlets and hidden harbours (such as Paraty-Mirim). Although the 'New Way' connecting Rio de Janeiro to Ouro Preto was built in the early 18th century, the Guaianá trail remained the most accessible route to the mines. With the aim of increasing control over the circulation of gold, in 1702 the Crown made the former trail the sole route for the flow of gold from Minas Gerais; in 1704 the smelting house was transferred to Paraty. In 1710, however, with the completion of the New Way, the Paraty smelting house and the trail were closed.

Despite this fact, Paraty had become an important port for goods that were sent to Minas Gerais. However, as the New Way was still somewhat hazardous, the 'Old Way' was reopened in 1715 to transport goods. This reopening

meant the start of urban development in Paraty that would last for the next 150 years.

In contrast to the development of agricultural and industrial society in Brazil in the mid-19th century, Paraty experienced economic stagnation and relative isolation; its economic activities centred on agriculture and some commercial exchanges, mainly of its *cachaça* production and its banana cultivation. The town's population fell drastically and financial resources migrated to other regions and better prospects, leaving its single-storey houses and townhouses to a process of decay. Contingents of slaves and marginal populations of the old regime occupied the decaying and abandoned farms, forming the matrix of the former slave families' nuclei, the Quilombolas, who complete the cultural wealth of the region.

The economic stagnation of the 19th and 20th centuries was crucial to the survival of Paraty's urban and architectural features. In the mid-20th century, the process of protecting and conserving the area as cultural heritage was begun, first by a state decree, second by a federal decree of recognition as a National Monument, and finally by the National Institute of Historic and Artistic Heritage (IPHAN), which listed the site as Historic Heritage. The creation of several environmental protection areas, such as the Serra da Bocaina National Park (1971), Cairuçu Environmental Protection Area (1992) and Juatinga Ecological Reserve (1983), amongst others, contributes to the maintenance of the boundaries between nature and human activities, thus preserving Paraty's landscape.

Boundaries

After the reconfiguration of the boundaries proposed by the State Party in November 2018 at the request of ICOMOS, the area of the five components of the serial nomination totals 204,634 ha, with a single buffer zone totalling 258,921 ha.

The boundaries of the components of the serial nomination have been established according to existing protective instruments for each of them. In November 2018, the State Party proposed to include in component 5 two non-contiguous sub-components: the historic centre of Paraty (5a) and Morro da Vila Velha (5b). The boundaries of the historic centre (5a) have been modified in relation to the original nomination dossier in order to ensure concordance with the existing streets and to include other items related to the component's landscape: a small preserved mangrove, part of the Perequê-Açu River, and a marine area. The boundaries of Morro da Vila Velha (5b) have been drawn to encompass the hill where the Defensor Perpétuo Fort and part of the landscape that surrounds the historic centre are located.

The replacement of the original component 4 (Juatinga Ecological Reserve) with the continental portion of Cairuçu Environmental Protected Area, as proposed in November 2018, allows the archaeological site of Paraty-Mirim to be included within the nominated property, together with traditional indigenous, Quilombola and

Caiçara communities. The nominated property now includes several traditional communities – indigenous communities, quilombolas and caiçaras – whose cultural expressions and traditional ways of life based on a balanced and respectful relationship with the surrounding natural environment are an important attribute contributing to the Outstanding Universal Value of the mixed property. Within this protected area's continental portion there are 28 Caiçaras communities, 2 Quilombola Territories, 2 Indigenous Lands and more than 20 traditional rural communities. These communities are guardians of ways of life that have a direct relationship with natural resources, and traditional communities have been responsible for the conservation and the actual shaping of ecosystems for hundreds of years. They are true guardians of the forest. It reinforces the rationale for the boundaries of the nominated property in relation to its cultural dimension.

Another important item of the cultural system, a portion of the Gold Route, is encompassed within the boundaries of Serra da Bocaina National Park. Archaeological sites and traditional communities are also included within the boundaries of the other components.

Since the five components are quite close together, a single buffer zone encompassing them all has been proposed. Its boundaries correspond to the existing buffer zones legally established for the protected areas. According to the State Party, this ensures a high level of legal protection for the buffer zone.

ICOMOS considers that the reconfiguration of the boundaries of the nominated components proposed in November 2018, especially concerning components 4 and 5, allows a more appropriate inclusion of cultural attributes that could contribute to the proposed Outstanding Universal Value of the nominated property. ICOMOS considers that the boundaries of the components of the mixed serial nomination and of the buffer zone are adequate.

State of conservation

The historic centre of Paraty is an early example of conservation at the national level in the Brazilian context, since it was declared a Historic Monument of the State of Rio de Janeiro in 1945 and similarly declared by IPHAN in 1958. Ever since, conservation measures and actions have been carried out.

Based on the information provided by the State Party and the observations of the ICOMOS technical evaluation mission, ICOMOS considers that the state of conservation of the historic centre of Paraty, the portion of the Gold Route included in Serra da Bocaina National Park, and the Defensor Perpétuo Fort is very good. The actions carried out by IPHAN in the historic centre of Paraty for more than half a century are evident in the good state of conservation of the public spaces and buildings. Conservation and restoration works have been completed according to appropriate principles, with respect for the historic centre's urban and architectural values.

The archaeological site of Paraty-Mirim is the object of a specific project and still offers huge potential for research. In relation to the traditional communities in the nominated property, ICOMOS observes that they are highly determined to preserve their traditional lifestyles by using nature sustainably, retaining their language in the case of the Guaranis, producing their crafts and work elements (such as canoes and traditional paddles in the case of Caiçaras), maintaining their gastronomy and traditional milling methods, and celebrating their festivals, music and dance. They also keep their traditional subsistence practices such as small-scale fishing, and continue their close and respectful relationship with nature, innovating in agroforestry.

Factors affecting the property

Based on the information provided by the State Party and the observations of the ICOMOS technical evaluation mission, ICOMOS considers that the main factors affecting the nominated property are development pressures including tourism, environmental pressures and natural disasters.

Amongst the development pressures, the construction of Highway BR-101 has changed the economy of the area by introducing real-estate speculation and predatory tourism, demand for the creation of new developments and growth of urban infrastructure. These factors exert pressure on the cultural and natural landscape and on traditional communities. The intensification of tourism has produced an increase in the non-resident population. A set of corrective measures aims at controlling these pressures.

The rural population's attraction to the town of Paraty is a factor affecting the continuity of knowledge and practice in the traditional communities, especially when young people find few incentives to remain in their settlements. Another factor that might affect the nominated property negatively is the possibility of the airfield at Paraty being released for redevelopment. Studies on this issue are being carried out by relevant local agencies. ICOMOS recommends that the State Party carefully analyse the potential impact that the assignment of new uses for the current airfield in Paraty could have in case the land is released.

Regarding environmental pressures, global climate change and the increasing climatic instability make natural and human systems more vulnerable; Paraty is one of the Brazilian municipalities with a high degree of environmental vulnerability.

Wastewater and sewage systems are amongst the nominated property's main challenges. Water pollution can be observed at the mangrove area next to the historic centre of Paraty, entering the streets during high tides. The local government has started implementing a sewage remediation project for the whole area, including urban, coastal and rural areas, as well as some islands. Another factor affecting the nominated property is garbage collection, mainly on islands such as Ilha Grande. The

local governments of Paraty and Angra dos Reis are developing suitable collection and treatment systems.

The activities of the port of Angra dos Reis and the Verolme shipyard generate a constant marine traffic. Such traffic is rigorously controlled, with authorized lanes and systems of environmental control and disaster prevention. Nevertheless, the presence of large vessels, anchored or in transit, alters the environmental quality and the aesthetics of the landscape. Industrial fishing is another factor with negative consequences for fish species and the small-scale fishing practiced by Caiçara communities. This industrial-scale fishing is forbidden in the management plans of the protected areas, and authorities enforce strict controls.

Regarding natural disasters, as is the situation with other municipalities located in the mountainous sector of the State of Rio de Janeiro, the nominated property is vulnerable to landslides, especially during rainy seasons. To prevent these disasters, a National Policy for Civil Protection and Defense was established in 2012, providing principles and instruments for the implementation of disaster risk management.

3 Proposed justification for inscription

Proposed justification

The nominated property is considered by the State Party to be of Outstanding Universal Value as a cultural property for the following reasons:

- The geographical conditions of the area, between the tall mountains and the sea, covered with tropical forests, offering fruit, firewood and animal protein, encouraged its occupation by indigenous peoples, whose testimonies are represented by numerous archaeological sites and material remains.
- After the European occupation, the area became a safe refuge for ships and the main point of entry into the hinterland. Paraty became the most important export route of the newly discovered gold at the end of the 17th century and served as a gateway for the entry of tools, as well as enslaved Africans to work in the mines.
- The historic centre of Paraty constitutes an exceptional colonial urban settlement, presenting an architectural complex predominantly from the second half of the 18th century and early 19th century, with several other elements around it that contribute to understanding the built heritage of the territory, such as farms, mills, fortifications, pavements, *sambaquis*, caves and underground or submerged structures.
- The need to defend the Gold Route and the port led to the implementation of a sophisticated fortification system; the Defensor Perpétuo Fort is the last preserved remnant of this period.
- The property retains traditional Quilombola, Guaraní and Caiçara communities that maintain their ways of life and the production systems of their ancestors, as

well as most of their relationships, rites and festivals, whose tangible and intangible elements contribute to the characteristics of the cultural system.

- The property constitutes a landscape that European scientists of the 19th century valued and praised for its myriad unique species of flora and fauna that they began to classify.

Comparative analysis

The comments below focus on the cultural aspects of the nominated mixed serial property, although some mentions of the natural features are included. The comparative analysis is presented by the State Party in several sections: comparisons with other World Heritage properties on the basis of the natural attributes; comparisons with other World Heritage mixed properties in Latin America and the Caribbean; comparisons with other World Heritage properties in the same region on the basis of the proposed criteria for inscription; and a mention of other World Heritage mixed properties in other regions.

No comparisons are provided with properties bearing similar attributes and values but not inscribed on the World Heritage List, or with properties on the Tentative lists.

The nominated property is compared with five mixed World Heritage properties located in Latin America and the Caribbean, including Blue and John Crow Mountains (Jamaica, 2015, criteria (iii), (vi) and (x)).

The State Party considers that there are some similarities with Blue and John Crow Mountains, since it is a mixed property where there is currently a Quilombola population living within its boundaries. However, the nominated property has indigenous populations and Caiçaras in addition to traditional populations of Quilombolas, all three guarding a culture strongly related to nature.

A third section of the comparative analysis focuses on the proposed criteria for inscription, highlighting human coexistence with the land and the natural surroundings, human interactions, and cultural coexistence, spirituality and creative expression as expressed through the traditional communities' ways of doing and living, as well as through rituals, processions and religious festivals.

In a fourth section, the State Party compares the nominated property with other World Heritage port cities and trading posts located in Latin America and the Caribbean. All were settled in strategic locations and served as entrepôts for European trade routes connecting to the interior of the colonies. Only in Paraty is a large portion of this route preserved.

In a final part of the comparative analysis, the State Party makes reference to the other 30 mixed properties inscribed on the World Heritage List as of 2017. The State Party considers that no other inscribed property includes three different traditional ethnicities, high biological diversity with a high degree of endemism, a lush

landscape, inclusion of a mountain range and coastal and marine areas, and the presence of an occupied historic town. It further observes that Paraty – Culture and Biodiversity would be the first mixed property in Latin America and the Caribbean.

ICOMOS considers that, in general, the methodology for the comparative analysis is adequate, although the comparisons with some mixed properties in Latin America and the Caribbean do not seem relevant on the basis of substantial differences in their cultural components. ICOMOS also notes that the comparative analysis is, unfortunately, limited to properties inscribed on the World Heritage List. Nevertheless, the comparisons with the nominated property are, from a cultural point of view, adequate and contribute to the determination of its exceptionality.

ICOMOS considers that the comparative analysis justifies consideration of this serial property for the World Heritage List.

Criteria under which inscription is proposed

The mixed serial property is nominated under cultural criteria (ii), (v) and (vi) and under natural criteria (vii) and (x). The comments below relate to the justification of the cultural criteria.

Criterion (ii): *exhibit an important interchange of human values, over a span of time or within a cultural area of the world, on developments in architecture or technology, monumental arts, town-planning or landscape design;*

This criterion is justified by the State Party on the grounds that this is a territory where intense human and commercial exchanges were performed over time; the nominated property remains today as a representative example of the history of occupation, exploitation and development within the pre- and post-colonial history of the Americas. The interactions amongst the indigenous, European and African peoples have been perpetuated, with both tangible and intangible expressions.

ICOMOS considers that, although the territory of the nominated serial property has been inhabited by indigenous peoples and, later, by Europeans and Africans, and that the present landscape is the result of the interactions amongst those communities, an interchange of human values is not evident in developments in architecture or technology, monumental arts, town-planning or landscape design. In addition, the interchange of human values outside the boundaries of the nominated property itself has not been fully demonstrated.

ICOMOS considers that criterion (ii) has not been justified.

Criterion (v): *be an outstanding example of a traditional human settlement, land-use, or sea-use, which is representative of a culture (or cultures), or human interaction with the environment especially when it has become vulnerable under the impact of irreversible change;*

This criterion is justified by the State Party on the grounds that human groups have lived in interaction with the landscape and have exploited the natural land and water resources that characterize the region and frame the built territory. The traditional communities of Paraty based their cultures on activities related to the use of the land and the sea; traditional fishing activity is still intense, especially in the Caiçara communities and around the historic centre of Paraty. Traditional practices for producing cassava flour and *cachaça* from sugar cane remain in existing flour mills in some Caiçara and Quilombola communities and in the preserved alembics in the remaining estates, whose products are recognized internationally for their quality.

About five centuries of human occupation and interaction with the natural resources have shaped this landscape, producing settlements and giving cultural significance to natural features, evolving but keeping the most important natural elements. The Serra da Bocaina and most of the islands of the Bay are still covered with rainforest, and traditional communities are situated for the most part in harmony with the environment. Global climate change, tourism development and the recurrence and severity of natural disasters make Paraty and its surroundings an area of high vulnerability.

ICOMOS considers that the State Party has provided sufficient information in the additional documentation on the relationship between people and nature in the nominated property and how traditional land and sea uses have survived. It has explained the close relationship of the Tupi-Guarani language communities with the Atlantic Forest, and the way in which the human action of these groups has contributed to the formation of the ecosystems. It also made reference to the patterns of settlement and organization forms of other traditional groups that inhabit those areas: the Caiçaras, the heirs of the indigenous culture with specific organization forms and cultural dynamics closely related to the use of land and artisanal fishing; and the Quilombolas groups, the descendants of the Africans enslaved during the Colonial period, which have created their own cultural patterns in the context of the Atlantic Forest's landscape.

ICOMOS considers that criterion (v) has been demonstrated.

Criterion (vi): *be directly or tangibly associated with events or living traditions, with ideas, or with beliefs, with artistic and literary works of outstanding universal significance;*

This criterion is justified by the State Party on the grounds that the nominated property has been a source of inspiration for writers, scientists and artists. Contacts between Europeans and indigenous peoples have

influenced European thought, the evidence of which is present in several Brazilian and foreign publications, and could have contributed to the concept of the 'noble savage' in European – especially French – thinking.

ICOMOS considers that the occupation of the Americas by Europeans since the end of the 15th century has resulted in their exposure to completely different natural environments and local populations. This contact contributed to their study and knowledge of nature, to their discovery of hitherto unknown products, and to their development of a collective image that fed literature, science and art. What remains undemonstrated in the justification proposed by the State Party is, with some very specific exceptions, the extent to which the literary and artistic works mentioned are focused on or specific to the nominated property.

ICOMOS thus considers that criterion (vi) has not been demonstrated.

ICOMOS considers that the nominated property meets criterion (v), but that criteria (ii) and (vi) have not been demonstrated.

Integrity and authenticity

Integrity

Integrity is a measure of the completeness or intactness of the attributes needed to demonstrate the Outstanding Universal Value proposed by the State Party. For each individual component in a serial nomination, integrity also relates to their completeness and coherence in relation to their ability to contribute to the proposed Outstanding Universal Value. In the case of a cultural landscape, the processes, relationships and dynamic functions essential to its distinctive character must also be maintained and in a robust state. And finally, the nominated property must not suffer from the adverse effects of development or neglect.

This is a complex nomination of a mixed property where four of its five components are predominantly natural areas, although containing some cultural assets within their boundaries. With specific regard to the cultural component, ICOMOS notes that the revised composition of component 5 proposed in November 2018 ensures that both the historic centre of Paraty (5a) and the Morro da Vila Velha (5b) are included in the nomination. ICOMOS also notes that the archaeological site of Paraty-Mirim is also included in the nomination as it was amended by the State Party in November 2018, included in component 4 (the continental portion of the Environmental Protection Area of Cairuçu).

Other important components, such as the portion of the Gold Route, archaeological sites testifying to different stages of occupation of the region and traditional indigenous, Caiçara and Quilombola communities, are included within the boundaries of the four primarily natural components.

ICOMOS requested in its Interim Report clarification as regards the rationale for the selection of individual component parts in relation to cultural elements. Additional information provided by the State Party in February 2019 explains that protected areas have been used as a territorial basis for the delineation of the boundaries of the nominated property associated with elements of the cultural system that reflect the different periods of occupation of the land. The replacement of the original component 4 (Juatinga Ecological Reserve) with the continental portion of Cairucu Environmental Protected Area, allows the archaeological site of Paraty-Mirim to be included within the nominated property, together with traditional indigenous, Quilombola and Caiçara communities, which were previously located in the buffer zone.

ICOMOS considers that the cultural elements contained in the nominated components represent the cultural system of the Ilha Grande Bay. As for the specifically cultural component, ICOMOS considers that the historic centre of Paraty (5a) and the Morro da Vila Velha (5b) include the necessary attributes to convey their contribution to the proposed Outstanding Universal Value of the nominated property, and are adequately protected.

ICOMOS considers that, from a cultural heritage perspective, the requirements of integrity have been met.

ICOMOS considers that the integrity of the whole series has been demonstrated; and that the integrity of the individual components that comprise the series has been demonstrated.

Authenticity

In the framework of the serial property, the historic centre of Paraty (5a) and the Morro da Vila Velha (5b) are primarily cultural elements, which preserve a high degree of authenticity.

The historic centre of Paraty has kept its original layout and, in general, exhibits a high degree of authenticity of form, design, materials and substance. Although the town has experienced expansion over time, the authenticity of its setting can also be considered acceptable, especially in relation to the sea and the surrounding mountainous landscape. The authenticity of functions is also acceptable: the town continues to be the 'living centre' for local communities, although some buildings currently have tourism-related uses.

Other cultural assets, such as the Defensor Perpétuo Fort and the portion of the Gold Route, also have a high degree of authenticity of form, design, materials, substance and setting. The current use of the fort as a museum is logical, since its original function has long since disappeared.

The authenticity of the traditional communities' settlements is quite remarkable, where indigenous, Caiçara and Quilombola groups maintain their traditional practices and ways of life.

ICOMOS considers that the conditions of authenticity of the cultural components of the serial property have been met. Tourism could have an impact that would require appropriate control through protection and management mechanisms.

ICOMOS considers that the authenticity of the whole series has been demonstrated; and that the authenticity of the individual components that comprise the series has been demonstrated.

In conclusion, ICOMOS considers that, as regards the cultural components of the serial nomination, the integrity of the whole series has been demonstrated, and that the integrity of the individual components that comprise the series has been demonstrated; and that the authenticity of the whole series and of the individual components has been demonstrated.

Evaluation of the proposed justification for inscription

ICOMOS considers that, with regard to this nominated mixed serial property's cultural aspects, the comparative analysis justifies consideration for the World Heritage List. In terms of cultural criteria, the nominated property meets criterion (v), but criteria (ii) and (vi) have not been demonstrated.

The requirements of integrity with regard to the cultural components and elements have been met. The requirements of authenticity have been met.

Attributes

The main cultural attributes of the nominated serial property include the historic centre of Paraty; the Morro da Vila Velha, including the Defensor Perpétuo Fort; the archaeological site of Paraty-Mirim; the portion of the Gold Route included in Serra da Bocaina National Park; the archaeological sites included in several components of the nominated property that testify to various stages of the occupation of the territory by indigenous groups; the traditional communities of indigenous, Caiçara and Quilombola groups that testify to their occupation of the region, to the preservation of their relationships with nature and to their traditional practices; and the intangible cultural heritage corresponding to those groups represented by, amongst other expressions, traditional practices, music and other artistic manifestations, and gastronomy.

ICOMOS considers that the cultural attributes, and the relationship between them constituting a cultural system, contribute to the proposed Outstanding Universal Value of the nominated property.

4 Conservation measures and monitoring

Conservation measures

Active conservation measures regarding the cultural components and elements of the nominated property have, in general, been carried out or supervised by the National Institute of Historic and Artistic Heritage (IPHAN). The good state of conservation of the historic centre of Paraty, the Defensor Perpétuo Fort and the surviving portion of the Gold Route confirms that appropriate conservation and maintenance measures are being implemented.

One of the main problems in the historic centre of Paraty is related to the wastewater treatment and sewage system. Additional information provided by the State Party in February 2019 reports that the Municipality of Paraty has drafted an executive project for basic sanitation and the treatment of sewage. The installation of the sewage system includes investigative archaeological projects and will be integrated into an urban renewal project for the centre; completion of the system is expected by 2022. All works will be carried out according to guidelines prepared by IPHAN. In addition, according to the additional information submitted in February 2019, a risk management plan will be included in the Management plan of the property.

Monitoring

The State Party has proposed a series of key conservation indicators to monitor the cultural components of the nominated property. These include the condition of the buildings and public sidewalks in the historic centre; the condition of the Gold Route and the fortification system; and the maintenance and appreciation of the traditional cultural expressions. For each of the cultural elements, the State Party identifies indicators for their state of conservation, periodicity of inspection and location of records. Monitoring activities will be carried out primarily by IPHAN. The State Party adequately reports on monitoring procedures, administrative arrangements and previous monitoring exercises.

ICOMOS considers that the key indicators are clearly related to the attributes that, from a cultural perspective, contribute to the proposed Outstanding Universal Value of the nominated mixed serial property, and that the proposed administrative arrangements are adequate. Other indicators related to the potential threats identified in the relevant section of this report could be added for a more comprehensive monitoring of the nominated property.

ICOMOS considers that the monitoring system proposed by the State Party is adequate but additional key indicators related to potential threats to the nominated property could be added.

5 Protection and management

Documentation

The nomination dossier includes an extensive list of documents and inventories related to the nominated property. These records are kept at the headquarters of IPHAN in the Ministry of Culture, Brasília, and in the Municipality of Paraty government offices.

Legal protection

The cultural components and elements of the nominated mixed serial property are protected by a set of legal instruments from the three levels of government. The first legal protection for the historic centre of Paraty was State Law-Decree n° 1.450, dated 18 September 1945, which designated Paraty a Historic Monument of the State of Rio de Janeiro. The decree placed the traditional urban and architectonic ensemble of Paraty under the supervision of IPHAN. A large number of legal instruments related to archaeological and prehistoric monuments (including the Paraty-Mirim archaeological site), environmental protection areas, indigenous reserves, traditional population protected areas, state decrees and municipal laws have been put in place.

The nomination dossier includes detailed information on these norms and other instruments, which verify that the legal protection for the cultural components of the serial nomination is adequate.

Management system

The primary organization responsible for the conservation and management of the cultural components of the mixed serial nomination is IPHAN, which has a local office in Paraty.

Each component part of the serial property has its own management system. In addition, the nomination dossier includes a proposed management plan for the entire nominated property whose objectives, mission, vision and management structure can be considered adequate. However, the plan is in the process of elaboration and is not yet operational.

Additional information provided by the State Party in February 2019 provides details on the elaboration of the management plan: it will contain the programs, plans, projects and actions necessary to preserve the proposed Outstanding Universal Value and the attributes that assure the integrity, authenticity and sustainable development of the nominated property, and of the communities involved. The State Party began preparing the plan in March 2018. Different steps have since been undertaken, and the 'Management Plan and Responsibilities Matrix' is expected to be completed by May 2019. ICOMOS recommends that the 'Management Plan and Responsibilities Matrix' be submitted to the World Heritage Centre and ICOMOS when finalized.

Visitor management

The nominated property is located in the region known as Costa Verde, one of the main tourist destinations in the State of Rio de Janeiro. Beaches, islands and waterfalls, as well as ecotourism and water sports, are the main tourist attractions, attracting thousands of visitors each year. In addition to these nature-based attractions, historic and architectural elements and cultural events also draw a large number of visitors to the region, especially to Paraty. The tourism infrastructure in the area – and in Paraty in particular – is adequate. Several programmes and plans exist to deal with the promotion and management of tourism in the area.

Paraty's Touristic Inventory was developed in 2010 by the Ministry of Tourism with the support of the local government, the Tourism Municipal Council and other organizations. Its goal is to assist with appropriate legislation and to gather tourism information for Paraty in an inventory that will serve as a basis for investment in, and planning for, the development of tourism activities in the region.

The management plan included in the nomination dossier envisages, amongst its goals, establishing strategies and guidelines for the sustainable conservation of the mixed serial property. Public use is included amongst the envisaged sectorial plans. However, this plan is currently under elaboration and is not yet operational.

Taking into account that tourism pressure could increase after an inscription on the World Heritage List, ICOMOS considers that a specific tourism strategy oriented to conserving the attributes that convey the proposed Outstanding Universal Value, authenticity and integrity of the nominated property, while also guaranteeing its sustainability, should be elaborated and implemented within the framework of the managerial provisions.

Community involvement

Traditional communities, including the indigenous, Caiçara and Quilombola groups, are a fundamental and distinctive part of the population of the nominated property, and their settlements, traditional practices and tangible and intangible cultural heritage are mentioned amongst the cultural assets that make up the nomination.

Nonetheless, the nomination dossier includes little information on their participation in the process of elaborating the nomination dossier, including their informed and prior consent, nor are clear benefits from an inscription on the World Heritage List proposed. Little information is also provided in the nomination dossier on their participation in the management system. Additional information provided by the State Party in February 2019 states that the participation of the traditional communities - all three ethnic groups (indigenous, caiçara and quilombola people) - in the process of construction of the nomination and in the elaboration of the Management Plan is achieved by the representativeness of leaderships constituted and chosen by the specific groups. Another result of participatory management is the elaboration of

the free prior informed consent for the Itaxi Mirim (Parati Mirim) Indigenous Village, published in December 2018. It mentions as well that the Forum of Traditional Communities (Guaranis, Quilombolas and Caiçaras) participates at the Technical Committee level in the elaboration of the management plan, and will integrate with the Advisory Council for the management of the nominated property.

Evaluation of the effectiveness of the protection and management of the nominated property

The protection system can be considered adequate, since it encompasses a set of legal provisions at the federal, state and local levels. The norms established and implemented by IPHAN guarantee the adequate conservation of the tangible cultural heritage.

A management plan, especially directed at cultural components of the serial property, is under elaboration, and its completion is expected by May 2019. Although the general framework of the plan appears adequate, more specific provisions on tourism and risk management should be incorporated.

Although the participation of traditional communities, through the forum that brings together the relevant groups, is envisaged for the elaboration of the management plan and for the management of the property, their participation during the nomination process has apparently been weak, and no clear benefits to them from an inscription on the World Heritage List have been specified.

ICOMOS considers that the management system for the overall serial property is adequate. The management plan, including visitor and risk management strategies, should be completed and implemented, and the effective participation of the traditional population in the management of the property should be confirmed.

6 Conclusion

The mixed serial nomination includes five components, four of which are protected natural areas that encompass part of the Atlantic Forest as well as some cultural assets, and a cultural component that includes the historic centre of the town of Paraty and the Morro da Vila Velha. The region has been inhabited since prehistoric times by indigenous groups who established close links with the natural environment and resources; several archaeological sites testify to this long period of occupation.

The nominated mixed serial property, as a whole, can be understood as illustrating an exceptional interaction between people and nature over a long period of time, where cultural testimonies include a well-preserved historic centre and fortification, a range of archaeological sites, a portion of the ancient Gold Route, and living communities that keep their ancestral relationship with the

landscape, all forming a cultural system with a close relationship to the environment. In this framework, the nominated property has the capacity to demonstrate an exceptional example of land and sea use and human interaction with the environment.

The requirements of integrity have been met. The requirements of authenticity of the cultural components are acceptable, and their state of conservation is good. Protection and conservation of cultural elements are conducted mainly by the National Institute of Historic and Artistic Heritage (IPHAN).

Although each of the components has its own management plan, there are some weaknesses related to the overall management of the cultural components and assets. The State Party has started the elaboration of an overall management plan for the nominated property, the first results of which are expected by May 2019. ICOMOS considers that the outline and methodology for this management plan are adequate, but more attention needs to be paid to risk and tourism management. Tourism could become a stronger pressure and therefore an increased risk amongst those produced by natural and human causes, and while tourism has been adequately identified and partially dealt with by the State Party, the management plan should include a section devoted to this important factor.

ICOMOS finds some gaps in relation to the active participation of traditional communities in the management of the nominated property. Although the management plan envisages their participation through the Forum of Traditional Communities, it is not yet evident how the traditional communities will participate in the management system and procedures, nor how they will benefit from the nominated property's inscription on the World Heritage List.

7 Recommendations

ICOMOS recommends that the World Heritage Committee adopts the following draft decision, noting that this will be harmonized as appropriate with the recommendations of IUCN regarding their evaluation of this mixed site nomination under the natural criteria and included in the working document WHC/19/43.COM/8B.

Recommendations with respect to inscription

ICOMOS recommends that Paraty – Culture and Biodiversity, Brazil, be inscribed as a cultural landscape on the World Heritage List on the basis of **criterion (v)**.

Recommended Statement of Outstanding Universal Value

Brief synthesis

The mixed serial property Paraty – Culture and Biodiversity consists of five components, surrounded by a single buffer zone, located in the states of Rio de Janeiro and São Paulo and between the Serra da Bocaina mountain range and the Atlantic Ocean. The four

components consisting of protected natural areas represent the biodiversity of this particular region, and also contain cultural assets that testify to the occupation of the area by indigenous inhabitants and, from the 16th century onwards, by European settlers and enslaved Africans. The main cultural components are the historic centre of Paraty, one of the best preserved colonial coastal towns in Brazil; Morro da Vila Velha, where the archaeological remains of Defensor Perpétuo Fort are found; a portion of the *Caminho do Ouro* (Gold Route) located within the boundaries of Serra da Bocaina National Park; and several archaeological sites that testify to the long occupation of the region by indigenous populations. The property also houses traditional Quilombola, Guarani and Caiçara communities that maintain the ways of life and the production systems of their ancestors, as well as most of their relationships, rites and festivals, whose tangible and intangible elements contribute to the cultural system.

The property is located between the Serra da Bocaina mountain range, which is covered by the Atlantic Forest, and the calm waters of Ilha Grande Bay. The geographical circumstances of the area – a coastal plain abundant in food and natural shelter surrounded by mountains covered by forests, and the sea – have supported its occupation by indigenous populations since prehistoric times, first by hunter-gatherers, followed by the Guaranis.

Europeans arrived in the region in the 16th century and chose this location because it was a safe refuge for ships and was one of the main points of entry into the interior of the continent. The discovery of gold at Minas Gerais resulted in the consolidation of the Gold Route to link this mining region with the town of Paraty, where the gold, together with agricultural products, were shipped to Europe. Paraty was also the entrance point for enslaved Africans. A defence system was designed and constructed to protect the rich port and town. The historic centre of Paraty has preserved its 18th century urban layout and much of the colonial architecture of the 18th and early 19th centuries. The relationship between the town and its spectacular natural setting has also been preserved.

Criterion (v): The Cultural Landscape of Paraty is an outstanding testimony of human interaction with the environment. Since prehistoric times, human groups have lived in interaction with the landscape and have exploited the natural land and water resources that characterize the region and frame the built territory, producing settlements and giving cultural significance to natural features, evolving but keeping the most important natural elements. The Tupi-Guarani language communities have a close relationship with the Atlantic Forest which implies a high level of management and deep knowledge and mastery of the different ecosystems and Forest formations. The traditional communities of Paraty based their cultures on activities related to the use of the land and the sea; traditional fishing activity is still intense, especially in the Caiçara communities and around the historic centre of Paraty. The Quilombolas groups, the descendants of the

Africans enslaved during the Colonial period, have created their own cultural patterns in the context of the Atlantic Forest's landscape. Global climate change and the recurrence and severity of natural disasters make Paraty cultural landscape an area of high vulnerability.

Integrity

With regard to the cultural elements of the mixed serial property, the historic centre of Paraty and the Morro da Vila Velha constitute the main components; their boundaries include the necessary attributes to convey their contribution to the Outstanding Universal Value of the property and they are adequately protected. Other cultural elements, such as the archaeological site of Paraty-Mirim, the portion of the Gold Route located in Serra da Bocaina National Park, archaeological sites testifying to different stages of occupation of the region, and traditional indigenous, Caiçara and Quilombola communities, are included within the boundaries of the four primarily natural components. The cultural attributes necessary to convey the Outstanding Universal Value of the property are included and are adequately protected.

Authenticity

In the framework of the serial property, the historic centre of Paraty (component 5a) and the Morro da Vila Velha (component 5b) preserve a high degree of authenticity. The historic centre of Paraty has kept its original layout and exhibits a high degree of authenticity of form, design, materials and substance. Although the town has experienced expansion over time, the authenticity of its setting can also be considered acceptable, especially in relation to the sea and the surrounding mountainous landscape. The authenticity of functions is also acceptable since it continues to be the 'living centre' for local communities, although some buildings currently have tourism-related uses. Other cultural assets, such as the Defensor Perpétuo Fort and the portion of the Gold Route, also have a high degree of authenticity of form, design, materials, substance and setting; the current use of the fort as a museum is logical, since its original function has long since disappeared. The authenticity of the traditional communities' settlements is quite remarkable, where indigenous, Caiçara and Quilombola groups maintain their traditional practices and ways of life. Tourism could have an impact that would require appropriate control through protection and management mechanisms.

Management and protection requirements

The cultural components and elements of the mixed serial property are protected by a set of legal instruments from the three levels of government. The first legal protection for the historic centre of Paraty was State Law-Decree 1.450 (1945), which designated Paraty a Historic Monument of the State of Rio de Janeiro. The decree placed the traditional urban and architectonic ensemble of Paraty under the supervision of the National Institute of Historic and Artistic Heritage (IPHAN). Since then, a large number of legal instruments has strengthened the

protection of the historic centre as well as other cultural elements within the serial property. The state of conservation of the historic centre of Paraty and other cultural elements is good, and active conservation measures are carried out by or under the supervision of IPHAN.

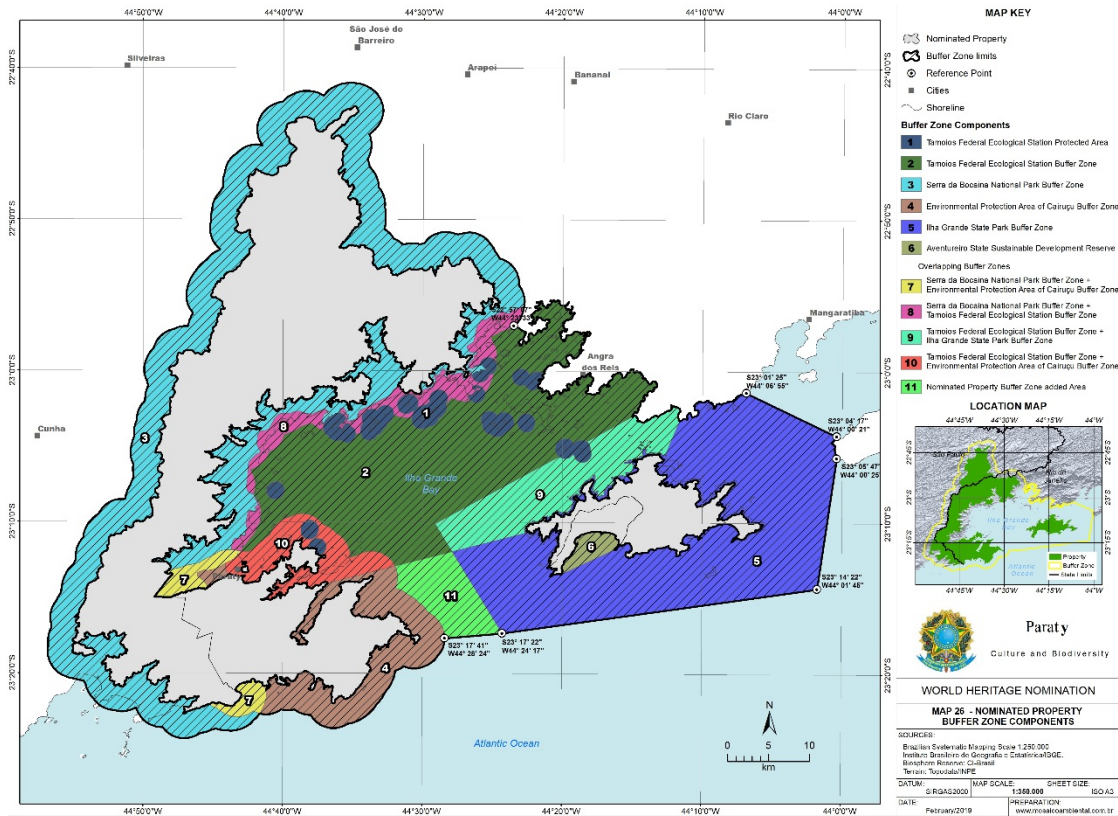
Each of the components of the serial nomination has its own management plan; the primary organization responsible for the conservation and management of the cultural components of the series is IPHAN, which has a local office in Paraty. An overall management plan, in process of elaboration, has adequate objectives, mission, vision and management structure proposed; different steps to complete the plan have been undertaken and the 'Management Plan and Responsibilities Matrix' is expected to be completed by May 2019. Although public use is included amongst the envisaged sectorial plans, a specific tourism strategy oriented to conserving the attributes that convey the Outstanding Universal Value, authenticity and integrity of the property, while ensuring its sustainability, should be elaborated and implemented. Risk preparedness management in particular should also be incorporated.

Although traditional communities have participated in the elaboration of the nomination and the management processes, their role must be strengthened in order to ensure that inscription of the property on the World Heritage List will be a source of sustainable development within the framework of preserving their traditional ways of life and their relationships with the natural environment.

Additional recommendations

ICOMOS further recommends that the State Party give consideration to the following:

- a) Carefully analysing the potential impact that the assignment of new uses for the current airfield in Paraty could have in case the land is released,
- b) Completing the elaboration and implementation of the overall management plan, and submitting the final version to the World Heritage Centre and ICOMOS when available,
- c) Including specific provisions for visitor management and risk management in the management plan,
- d) Strengthening the participation of the local communities in the management process, and ensuring that inscription of the property on the World Heritage List contributes to their sustainable development while preserving their traditional ways of life and their relationships with the natural environment;



Revised map showing the boundaries of the nominated property (February 2019)



Panorama of Paraty



Historical centre of Paraty



The Quilombola community



Caminho do Ouro (Gold Route)

IV Cultural properties

- A Africa**
New nomination

- B Arab States**
New nominations
Nomination deferred by previous session of
the World Heritage Committee

- C Asia – Pacific**
New nominations

- D Europe – North America**
New nominations

- E Latin America – Caribbean**
New nominations

Ancient ferrous metallurgy sites (Burkina Faso) No 1602

Official name as proposed by the State Party

Ancient ferrous metallurgy sites

Location

Commune of Kaya, Sanmatenga province
Commune of Zitenga, Ouhimbé province
Commune of Tougo, Zoundma province
Commune of Békuy, Tuy province
Commune of Douroula, Mouhoun province
Burkina Faso

Brief description

The five component parts of this serial nomination (Tiwêga, Yamané, Kindibo, Békuy, Douroula) include some fifteen furnaces still standing, several furnace bases, assemblages of slag, mines and some traces of dwellings. From the first millennium BCE, when ferrous metallurgy first appeared, there is tangible evidence of its importance across the whole of present-day Burkina Faso. Although iron smelting is no longer practised today, the blacksmiths in nearby villages still play an important role by supplying and maintaining the tools and instruments that are needed for everyday purposes and for numerous rituals.

Category of property

In terms of categories of cultural property set out in Article I of the 1972 World Heritage Convention, this is a serial property comprising five *sites*.

1 Basic data

Included in the Tentative List

24 January 2012

Background

This is a new nomination.

Consultations and Technical Evaluation Mission

Desk reviews have been provided by ICOMOS International Scientific Committees members and independent experts.

An ICOMOS technical evaluation mission visited the property from 24 to 31 August 2018.

Additional information received by ICOMOS

A letter was sent to the State Party on 8 October 2018 to request additional information concerning documentation, the comparative analysis, the justification of the serial property approach, the boundaries of the components

and their buffer zones, factors affecting the serial property, conservation, protection and management. Additional information was received on 9 November 2018, and has been incorporated into this report.

An Interim report was provided to the State Party in December 2018, summing up the questions identified by the ICOMOS World Heritage Panel. Further information was requested in the Interim report about documentation, criterion (vi), conservation, management and tourism.

Additional information was received from the State Party on 27 February 2019 and has been incorporated into the relevant sections of this evaluation report.

Date of ICOMOS approval of this report

13 March 2019

2 Description of the property

Description and history

The five component parts of this serial nomination (Tiwêga, Yamané, Kindibo, Békuy, Douroula) include some fifteen furnaces still standing, several furnace bases, assemblages of slag, mines and some traces of dwellings.

The site of Tiwêga consists of three induced draft furnaces that are still standing, and fragments of slag and tuyères. The furnaces are of the natural air draft type. Some 2.6 metres high, the two best conserved furnaces are conical in shape, with a lower part built out of tuyère fragments and lined with clay, and an upper part made of slag fragments.

The site of Yamané has two main induced draft furnaces, that are still standing to a height of 2.1 metres. They are built on the same principle, with alternating layers of laterite soil, and fragments of tuyères and/or slag laid horizontally. Numerous bases for various types of furnace are visible, with scattered slag, mines and anthropogenic mounds. As indicated by the State Party in the documentation received on 9 November 2018, excavations on nearby furnaces have led to datings ranging between the 13th and 14th centuries AD. The furnaces were abandoned during the colonial period. Present-day traditions attribute the furnaces to blacksmiths of the Moosé community, who are still present in the village and continue to produce iron tools, now made from scrap metal.

The site of Kindibo includes three induced draft furnaces still standing, that are conical in shape, and up to 2.3 metres high. They are built out of successive circles consisting of rolls of earth laid obliquely. These furnaces, believed to date from the 10th and 11th centuries AD, were built by Prédagomba groups who predated the Moosé. Bases of furnaces of a later type, attributed to the Moosé and dated as post-15th century AD, have been identified, and also extraction mines, with ten access pits, and a former dwelling site characterised by mounds covered by

potsherds. Close to the site, a family of blacksmiths is continuing to perpetuate smithing skills.

Békuy is different from the other components in terms of its highly structured spatial organisation, and the quantity of slag heaps. The five furnaces are of the underground or semi-underground type, and are surrounded by a line of slag several metres long, inside which stand other dividing walls, also made of slag. The furnaces are built of blocks of slag, using clay as a binder. They are of the natural air draft type. Several dozen backfilled pits have also been found. On the edge of the buffer zone, the State Party has found what was probably an iron ore mine, which according to oral tradition is inhabited by sacred pythons.

Located in the same cultural area as Békuy, the site of Douroula includes the remains of a semi-underground furnace, dated to the 8th century BCE, which is the oldest discovered in Burkina Faso up to now. It takes the form of a conical bowl in the ground, with walls made of laterite earth that were partly baked during the use of the furnace. Fields of slag, an ore quarry, with cavities hollowed out of the laterite rock, and anthropogenic mounds have been documented. The additional information received in November 2018 throws further light on the Douroula complex: the examination of the 15 anthropogenic mounds has uncovered pottery, grinding equipment, iron tools and human tombs. Their distribution points to the existence of groups of mounds interpreted as villages with different quarters. The site is attributed to ancient ironworkers from the Bwaba community. Three smithing workshops are still operating in the village of Douroula.

Ancient ferrous metallurgy is an industry that has been practised across the whole African continent for millennia. The industry was developed in Africa over a period of more than 2500 years. Datings in most cases have been carried out on smelting residues showing that Africa was one of the most ancient ferrous metallurgy centres in the world. Ferrous metallurgy began in the first millennium BCE, and consisted of two components: the primary component (processes to transform the ore into iron) and the secondary component (associated with smithing). The importance of the industry is tangibly expressed by large amounts of remains, such as the former iron ore mines, and above all the smelting workshops, consisting essentially of assemblages of slag, and the remains of furnaces and tuyères.

Although the lifeway was primarily rural, with small communities whose main activities continued to be agriculture and livestock rearing, the metal ages were marked by an acceleration in the hierarchisation of society, and the birth of crafts linked to iron. Between the 7th and 16th centuries AD, powerful and prosperous political forces developed in Western Africa, thanks largely to the introduction of iron, with the emergence of the empires of Ghana, Mali and Songhai.

During the colonial period in Burkina Faso, traditional iron production was gradually abandoned in favour of

production from scrap iron. Today, iron processing is the only remaining component of ferrous metallurgy. From a social viewpoint, metallurgy has had a powerful impact on the structuring of human groups, because of the importance of blacksmith castes. These roles are being perpetuated, and today the blacksmith remains an important and respected figure in the village.

Boundaries

The nominated property of five components represents a total area of 122.3 ha, with buffer zones representing a total of 797.5 ha. Each component has an associated buffer zone.

Some buffer zone boundaries follow natural features (Tiwêga), others the boundaries of forest reserves (Békuy), and others artificial lines, with perimeters ranging from 100 metres (Kindibo) to 500 metres (Yamané). Following ICOMOS' request for clarification, the State Party – in the additional documentation provided on 9 November 2018 – indicates that the logic applied for the boundaries of the serial property is based on a participative and community-based approach, with local communities choosing the boundaries of the buffer zones within the limits of the land that they own. Land ownership in some cases is determined by natural landforms or artificial elements (such as a road). The State Party also stresses that the best conserved furnaces, together with the mines, iron ore pits and workshops, and all remains associated with ferrous metallurgy, are few in number, and have therefore been protected as a matter of priority. ICOMOS encourages the State Party to continue its archaeological research and ethnographic investigations that are not strictly linked to metallurgy, such as settlement sites and burial sites near the furnaces, to document them and consider their inclusion in buffer zones in the future.

State of conservation

The two furnaces at Tiwêga have been colonised by termite nests. To limit the degradation of the furnaces, a protocol has been implemented (involving the use of termite nest clay, chopped grass and sodium silicate). A conservation test has been carried out in one of the furnaces on a surface area of 50 cm², in conjunction with international partners (European Archaeological Centre, Bibracte). In the additional information provided in November 2018, the State Party indicates that, as the layer has not been rubefied, rainwater has leached certain parts of the layer, and that corrections will therefore be carried out during the dry season.

Two of the three furnaces at Kindibo have been colonised by termite nests in their base, while the third has been destabilised by a tree just next to it. Traces of cracks have been noted, and the upper part has been eroded. As the site is close to the village and surrounded by fields, the archaeological context has been disrupted in part of the buffer zone.

As for the Yamané site, the State Party indicates that the collapse of a section of the wall of one of the furnaces has

made visible the interior and details of construction. The wall section is also being lifted up by the roots of the tree just next to it. Despite this natural degradation, the archaeological context of the site has been preserved.

The site of Békuy, which is partly covered by vegetation, has thus become hard to access, but it remains in a good state of conservation, which is also the case at the site of Douroula.

Based on the information provided by the State Party and the observations made by the ICOMOS Technical Evaluation Mission, ICOMOS considers that the state of conservation of the sites is a cause for concern. ICOMOS wishes to stress the vulnerability of the attributes, particularly with regard to the furnaces that are still standing, and encourages the State Party to continue implementing the conservation measures so as to preserve them.

Factors affecting the property

Based on the information provided by the State Party and the observations made by the technical evaluation mission, ICOMOS considers that the main factors affecting the property are development pressures and environmental constraints.

The development pressures consist mainly of the expansion of farms. At Kindibo for example, where the village is 500 metres from the furnaces, cultivated fields formerly surrounded the property in part of the buffer zone, and disrupted the archaeological context as a result. At the moment, the population does not farm areas close to the site, which has been clearly delineated by a hedge to strengthen its identification and protection. Some fields are delineated by lines of slag at Tiwêga, Yamané and Douroula. Close to the site of Yamané there is some small-scale gold mining, which could ultimately pose a threat to the property's integrity. The State Party stresses however that the management system put in place will keep these threats under control.

In the additional information, provided on 9 November 2018, the State Party also explains that, thanks to a strong awareness raising initiative, local communities are realizing that it is necessary to conserve the serial property, by gradually avoiding the use of the assemblages of slag for private and domestic purposes. The gold mine at Yamané has also been prohibited by the local communities, as some of the nearby hills are considered to be sacred.

Based on the observations of the technical evaluation mission, ICOMOS notes that, particularly for Douroula, crop growing is having a direct impact on the property, and on almost the whole buffer zone (deep ploughing of the fields, and the use of pesticides). The presence of a burrow that could be a threat to the base of the furnace, dated to the 8th century BCE, has also been noted.

The environmental pressures consist of the termite nests that have colonised some furnaces (Tiwêga, Kindibo), the

trees growing next to furnaces that lift them up and cause cracks (Yamané, Kindibo, Douroula), run-off water (Douroula), and straying domestic and wild animals that rub up against the furnaces (elephants in the case of the forest at Békuy).

ICOMOS considers that the termite nests can seriously damage the state of conservation of the furnaces (causing cracks and rain water infiltration, and maintaining residual dampness in the structure). It is also necessary to limit wherever possible the growth of trees near the furnaces, as this can affect the stability of the structures and cause them to collapse.

Visitor pressure is non-existent at present, as the serial property is not yet included in official tourism circuits, and is only a subject of scientific research.

In the additional information provided in February 2019, the State Party indicates that the conservation measures already taken are: the delineation of buffer zones by fences, the maintenance of the property by local communities (to keep vegetation under control near the furnaces), and visits led by a guide made fully aware of the different threats.

3 Proposed justification for inscription

Proposed justification

The nominated property is considered by the State Party to have Outstanding Universal Value as a cultural property on the following grounds:

- The components forming the serial property bear emblematic testimony to ancient ferrous metallurgy in Burkina Faso. The furnaces used for smelting the iron ore are associated with remains bearing witness to the whole technical system of traditional ferrous metallurgy.
- The property provides an insight into the different morphological types of furnace (above-ground, underground and semi-underground), the different working modes of induced draft furnaces (artificial or natural draft), and the diversity of materials used in their construction.
- The property bears witness to a cultural and technical iron ore smelting tradition that has lasted for three millennia. The property thus contains the earliest dated remains (8th century BCE) in Burkina Faso and Western Africa west of the Niger River.
- The metallurgical activity forms part of a major technological development, that of the adaptation of African people to their direct environment, whose demographic, economic and social effects were unprecedented in the region, i.e. the appearance of states and of long-distance commercial exchanges with the Arab world, through trans-Saharan trading in the case of Western Africa.
- Although iron ore smelting has ended, today's blacksmiths are still perpetuating the knowledge and

craft skills, and the rituals and social practices, linked to metallurgy through the manufacture of objects, peaceful conflict management and the treatment of disease.

Comparative analysis

The comparative analysis is presented in two parts: a comparison with properties in Burkina Faso and in Western Africa, and a comparison including sites inscribed on the World Heritage List and on the Tentative Lists, and other zones worldwide that are comparable on the basis of the proposed Outstanding Universal Value and the identified attributes.

The state of conservation of the furnaces, the representativity of the technical traditions, and the chronology were the criteria chosen by the State Party to select the sites that make up the current series.

The State Party stresses that with a dating of 8th century BCE, Douroula bears the most ancient testimony to iron production development identified in Burkina Faso up to now. Although only a furnace base structure remains, this component is presented as having outstanding universal value bearing witness to this first and relatively early phase of iron production development in Africa, and demonstrating that iron production technology was already widespread around 500 BCE.

In the additional information provided on 9 November 2018, the State Party notes however that several sites in Africa may be more ancient, but that the datings are subject to debate amongst the scientific community. This is the case for example with the sites of Oboui and Gbabiri I, in Central African Republic; Lejja in Nigeria; and Do Dimmi in Niger.

ICOMOS considers that, even if this particular component may not be as ancient as the sites in Niger, the Great Lakes or Central Africa, it is outstanding as the earliest ferrous metallurgy dating throughout the large zone west of the Niger River.

The State Party notes that the comparative analysis of furnaces (and of their base structures) documented in Benin, Côte d'Ivoire, Mali, Niger and Togo shows a certain degree of homogeneity in practices as regards construction modes, styles (cell furnaces, column furnaces, and chamber furnaces), and smelting techniques. In the additional information provided in November 2018, the State Party indicates that the serial property bears exceptional testimony to the variety of traditional iron ore smelting techniques in Western Africa in view of the comprehensive character of its furnaces, which have conserved all or almost all of their elevation. These are the only furnaces with elevation in Burkina Faso, and they are located in a preserved landscape. They are massive production sites which, with their large scale, illustrate the intensification of iron production in the second millennium AD, at a period when West African societies became increasingly complex. Other remains associated with the furnaces, such as vast assemblages

of slag and traces of mining extraction, together with technical traditions that are still alive, strengthen the outstanding universal value of the serial property.

ICOMOS considers that the nominated property presents furnaces that are representative of multiple use smelting structures and bears witness to the various stages of the metallurgical process. Furthermore, Yamané, Kindibo, Békuy and Tiwêga have furnaces that are still standing, which is exceptional in Western Africa, where in most cases only bases are found.

The State Party compares the serial property with properties inscribed on the Tentative Lists: such as the ore extraction mines of the serial property "Les curieuses mines de fer de Télé-Nugar" (Chad), "Le site métallurgique de Begon II" (Chad), "Les sites paléométallurgiques de Bangui" (Central African Republic), "Le Parc National de 'W' " (Niger), "La Réserve naturelle nationale de l'Aïr et du Ténéré", "Ancien site industriel de Mantasoa" (Madagascar); and with the "Archaeological Sites of the Island of Meroe" (Sudan) and "Sukur Cultural Landscape" (Nigeria), inscribed on the World Heritage List.

It emerges from these comparisons that the nominated property differs from the above because of the state of conservation of its smelting structures, which complements the technical information relating to the iron smelting and transformation process. Furthermore, the State Party indicates that, unlike the Sudanese and Nigerian properties, inscribed because of their assemblages of slag, the nominated serial property includes all the attributes of the whole ferrous metallurgy technical system. The State Party explains that, unlike Sukur Cultural Landscape, the serial property also makes visible a different organisation of working space, well away from all dwellings.

The State Party stresses finally that the nominated property differs from the archaeological sites of the Island of Meroe, Sukur Cultural Landscape, the W-Arly-Pendjari Complex, and the Ecosystem and Relict Cultural Landscape of Lopé-Okanda, as the above form part of larger archaeological complexes and are not specifically related to metallurgical knowledge.

Lastly, a comparison is made with other properties inscribed on the World Heritage List in a wider geographical perspective, such as the Steel Works of Völklingen, Germany, and the Forges of Engelsberg, Sweden, selected because they bear testimony to a close relationship between a production activity and a human society. The State Party stresses that these properties are related only to indirect iron reduction (cast iron), unlike the serial property, which specifically represents direct smelting. The State Party also notes that the nominated property differs from the above properties, as it is related to a traditional (pre-industrial) technology which evolved autonomously in the continent of Africa and attained high efficiency and mass production.

ICOMOS considers that the comparative analysis, made deeper and more comprehensive by the additional information provided in November 2018, sets the property into the context of the history of ferrous metallurgy in Western and Central Africa, and enables an understanding of its importance and exceptional nature.

ICOMOS considers that the comparative analysis justifies consideration of this property for the World Heritage List.

Criteria under which inscription is proposed

The property is nominated on the basis of cultural criteria (iii), (iv) and (vi).

Criterion (iii): *to bear a unique or at least exceptional testimony to a cultural tradition or to a civilization which is living or which has disappeared;*

This criterion is justified by the State Party on the grounds that the ancient ferrous metallurgy sites bear exceptional testimony to a unique iron ore smelting tradition, passing on to the present-day communities a rich technical and cultural heritage. Douroula illustrates this initial phase of iron production development in Africa, and demonstrates that iron production technology was already widely disseminated at around 500 BCE, and probably during the first half of the first millennium BCE, throughout the region. Tiwêga, Yamané, Kindibo and Békuy are massive production sites, whose scale is illustrative of the intensification of iron production throughout the Sahelian zone of Burkina Faso in the 2nd millennium AD, at a time when societies in Western Africa became increasingly complex.

ICOMOS considers that the nominated property bears witness to the ancient nature and importance of the iron production, and its impact on pre-colonial societies throughout the Sahelian zone of Burkina Faso. It bears testimony to advanced technological expertise in iron production, a technology which led to the establishment and development of empires in Western Africa whose last remaining heirs are today's blacksmiths. The nominated property is also a rare example of ancient anthropogenic activity visible in a rural setting. The nominated serial property is exceptional in that it is the earliest dated example of ferrous metallurgy throughout the whole zone west of the Niger River, with the site of Douroula.

ICOMOS considers that criterion (iii) has been justified.

Criterion (iv): *to be an outstanding example of a type of building, architectural or technological ensemble or landscape which illustrate (a) significant stage(s) in human history;*

This criterion is justified by the State Party on the grounds that the ancient ferrous metallurgy sites are outstanding examples that illustrate the variety of traditional iron ore smelting techniques in Burkina Faso. The furnaces have conserved all or almost all of their elevation, and they have morphological features (size, shape, arrangement of tuyères, situation in relation to ground level, etc.) that

enables differentiation. Other remains are associated with the furnaces, such as huge assemblages of slag and traces of mining extraction, together with technical traditions that are still alive today. The very early appearance of this technology in worldwide terms has had significant consequences for the history of African peoples.

ICOMOS considers that the components of the nominated property are particularly well conserved and exceptional examples of technological construction types that illustrate the Iron Age in Western Africa, from its beginning up to the contemporary period. Mastery of ferrous metallurgy marked a turning point in the history of civilisations in Sub-Saharan Africa, fostering the development of agriculture, contributing to the emergence of complex social structures, with castes in this part of the continent, particularly of blacksmiths, and celebrated kingdoms.

ICOMOS stresses that the nominated property has furnaces that are representative of multiple-use smelting structures, and bears witness to the various stages of the metallurgical process. Furnaces that are still standing have also been conserved, which is exceptional in Western Africa, where usually only bases are found.

ICOMOS considers that criterion (iv) has been justified.

Criterion (vi): *to be directly or tangibly associated with events or living traditions, with ideas, or with beliefs, with artistic and literary works of outstanding universal significance;*

This criterion is justified by the State Party on the grounds that the ancient ferrous metallurgy sites are directly associated with living traditions embodied by the blacksmiths as a socioprofessional group. The traditions are expressed today by symbolic values linked to iron technology in the communities that include the descendants of the blacksmiths and metallurgists. As the masters of fire and iron, the blacksmiths perpetuate ancestral rites and social practices that confer on them an important role in their communities at Yamané, Kindibo and Douroula. The smithing workshops are places where specific cults are carried out to obtain good harvests or success, to protect against lightning strikes and to treat certain diseases. The smithing workshop's cult altar can also be used as a mediation space for the resolution of conflicts.

ICOMOS considers that the role of the blacksmith is fundamental in traditional beliefs and craftsmanship. The primary and secondary ferrous metallurgy embodied in tangible form is the result of cultural interactions between several groups who are perpetuating this activity, particularly at Kindibo. Although iron ore is no longer smelted, the blacksmiths in nearby villages still play an important role by supplying and maintaining the tools and instruments that are necessary for everyday life and in numerous rituals.

ICOMOS considers that criterion (vi) has been justified.

ICOMOS considers that the nominated property meets criteria (iii), (iv) and (vi).

Integrity and authenticity

Integrity

The nominated property contains all the elements necessary for the expression of its outstanding universal value, and is of an appropriate size for the satisfactory preservation of the conditions of integrity.

ICOMOS considers however that the conditions of integrity of the nominated property are rendered fragile by the expansion of farming activities, causing disruptions of the archaeological context (Tiwêga, Yamané, Douroula); by gold mining activities (in the case of Yamané); by the presence of termite nests colonising certain furnaces (Tiwêga, Kindibo), and of trees growing just next to them (Yamané, Kindibo, Douroula); by soil erosion caused by water and wind; by the straying of domestic or wild animals that rub against the furnaces, in the absence of any physical protection, giving rise to clear and present risks.

ICOMOS notes however that the conservation measures already carried out or envisioned, set out in detail in the additional information provided in February 2019, and included in the site's management plan, will provide sufficient guarantees to maintain the integrity of the property.

ICOMOS considers that the selection of the components of the series is justified. It has been guided both by a concern to represent the different techniques that exist in the country, and by a determination to preserve furnaces that are still particularly well conserved, which is exceptional in Western Africa, and bear testimony to the various stages of the metallurgical process.

Authenticity

ICOMOS considers that the conditions of authenticity of the serial property have been met. The component parts of the serial property are still in their original location and in the posture for which they were designed. A few interventions have taken place to restore some furnaces that had been broken and to maintain others in their standing position.

ICOMOS notes the lack of chronological continuity between the oldest component, Douroula, dated to the 8th century BCE, and the other components, considered to be the most significant in terms of the country's metallurgical history, which appear in the most recent periods (15th-18th centuries AD). For some components, such as Tiwêga, datings are based solely on oral tradition.

ICOMOS considers it necessary to validate these datings by means of the radiocarbon method, to provide

additional documentation of the chronology of the furnaces.

ICOMOS encourages the State Party to continue its efforts to document the property, the traditions connected to the smithing work, and the elements located in the buffer zones, in order to strengthen the conditions of authenticity of the serial property.

The resilience of the traditions linked to the smithing work should be treated as a specific aspect of the management of the property, in order to maintain the conditions of authenticity.

ICOMOS considers that the conditions of integrity and authenticity are vulnerable because of factors affecting the property.

Evaluation of the proposed justification for inscription

The outstanding universal value of the serial property is based on the presence of furnaces that are still standing, bearing witness to socio-technical knowhow that is centred on outstanding furnace construction skills, evidenced by the stylistic diversity, and on geological knowledge and quarrying skills (iron ore).

The serial property is of Outstanding Universal Value because of the monuments still standing, some of which are ancient, the involvement of several cultural groups and certain modes of transmission and maintenance.

The comparative analysis justifies the inscription of this property on the World Heritage List. The nominated property meets criteria (iii), (iv) and (vi). The selection of the sites in the series is appropriate. The conditions of integrity and authenticity however remain vulnerable, because of factors affecting the property.

Attributes

The tangible attributes of the serial property are the archaeological structures and sites, containing some fifteen furnaces still standing, several furnace bases, assemblages of slag, mines and some traces of dwellings. The serial property is also characterised by a set of intangible attributes, linked to smithing work. The blacksmiths still play an important role today in supplying and maintaining the tools and instruments necessary for everyday life and in numerous rituals.

ICOMOS considers that the nominated serial property meets the conditions of integrity and authenticity, and meets criteria (iii), (iv) and (vi).

4 Conservation measures and monitoring

Conservation measures

The conservation initiatives put in place by the State Party consist of taking measures (legal instruments and tangible actions) to ensure the security of tenure and

physical security of the land; ensuring the restoration of the furnaces and other remains; running structures to encourage concertation in the conservation of the sites (via local and national bodies); strengthening the capacities of the stakeholders in terms of cultural heritage conservation to ensure sustainable management of the sites; ensuring the routine upkeep of the sites; and finally ensuring the monitoring of each site.

Conservation and valorisation efforts are being undertaken by protecting what remains of the most ancient low furnace and the creation of the ethnographic museum at Douroula, and by experimental constructions of furnaces at Kaya. A conservation test has also been carried out on one of the furnaces at Tiwêga, on a surface area of 50 cm². As a result, a protocol has been drawn up to attenuate the degradation of the furnaces.

The awareness of the local communities has also been raised, and they are being involved in the conservation, protection and valorisation of the ancient ferrous metallurgy sites. At Kindibo, the local community has initiated conservation actions by setting up lines of stones (*diguettes*) to mark the boundaries of the furnaces. The State Party also indicates that the administration of the different communes is beginning to play an active role in the process of conserving and valorising the cultural properties.

Under the management system, local committees, and local communities take care of maintenance work on the components of the nominated property.

In the additional information provided in February 2019, the State Party indicates that the management system includes an action plan for the conservation of each component, and indicates for each one the strategic objectives and actions, the expected results, the indicators, the persons responsible and the partners, the implementation schedule and the funding envisioned. The action plan for 2018-2022 provides for a strategic effort focused on strengthening the conservation and protection of the serial property. The objectives are to ensure the conservation and protection of the ancient ferrous metallurgy sites (by ensuring the physical security of the furnaces and by making the management structures more dynamic) and the safeguarding of the intangible cultural heritage elements linked to traditional ferrous metallurgy (by collecting and raising awareness about metallurgy-related elements and supporting the transmission of knowledge and craft skills).

In the additional information supplied in February 2019, the State Party also indicates that the measures already put in place to deal with the different threats to the property are: the delineation of the buffer zones by fences, the maintenance of the property by local communities (control of vegetation around the furnaces), and visits accompanied by a guide who is fully aware of the threats faced.

The measures to be developed will consist of reinforcing and capitalising on expertise in the preservation of earthen architecture, preserving and consolidating the furnaces in place, developing heritage valorisation systems that are located at a distance from the serial property sites, and continuing archaeological research. The measures envisioned to conserve the furnaces are the installation of a reinforcement with exogenous materials, to prevent the furnace chimneys from splitting, the filling of cracks with a material as close as possible to the original material, the evaluation of the impact of termite nests on the stability of the furnaces, and the protection of the furnaces against bad weather. The State Party points out that some of these measures may raise authenticity problems, and that they must be implemented in a way that complies with the recommendations of the Venice Charter.

The State Party also indicates that only non-destructive processes will be used for archaeological research. The objective will be to better characterise the extent of the sites by prospection (pedestrian prospection, photographic and photogrammetric surveys using a drone, or geophysical prospection). Excavations, which are the only method enabling the gathering of detailed information about iron smelting technologies and the dating of the furnaces, will only be developed on sites that are similar to those of the serial property in order to establish points of comparison.

ICOMOS considers however that it is important that the archaeological research programme is specifically linked to the conservation of the property, and that it is specifically focused on research questions related to the proposed statement of Outstanding Universal Value.

As for the research collaborations envisioned, the additional information supplied in February 2019 stresses that the Ministry of Culture, Art and Tourism has close relationships with the national and international institutions actively involved in implementing the policies for conservation, research and valorisation of the metallurgical heritage in Burkina Faso. At national level, the State Party can rely on the support of the History and Archaeology Department of the University of Ouagadougou. At international level, a partnership arrangement is currently being set up with the *Réseau des Grands Sites de France* for the management and enhancement of the paleo-metallurgical sites. Several international archaeological programmes on ferrous metallurgy are active in Burkina Faso and in the neighbouring countries. The State Party also points out that the communes of Kaya (Tiwêga) and Douroula are twinned with French communes, which has resulted in the provision of signage at Tiwêga and the creation of a museum at Douroula.

ICOMOS congratulates the State Party for the documentation activity it has set up for the conservation of the property, and encourages it to continue in the same vein. However, ICOMOS also notes that the workload for the conservation effort put in place, and for the

maintenance of the property and its components, is extremely challenging. These actions require a large and regular supply of financial resources, which must be backed up by a vigilant strategy of funding collection, and by public-private partnerships, and must be supported by solid institutional, technical and administrative capacities.

Monitoring

The monitoring indicators and monitoring frequency are described in the nomination dossier. The monitoring of the property and the implementation of the management system are carried out by the national ferrous metallurgy site management committee and by five local management committees. The nomination dossier states that the key indicators to measure the state of conservation are checked annually (furnaces, archaeology, slag, anthropogenic mounds).

In view of the threats linked to erosion and stability of structures, ICOMOS considers that the state of conservation of the property should be monitored on a more frequent basis. ICOMOS also notes that the monitoring system must include risk management as a monitoring indicator.

In conclusion, ICOMOS considers that the conservation measures put in place constitute one of the most important challenges for the management of the property, and require strategies to ensure the stability of financial resources, and the providing of substantial qualified human resources and considerable institutional and technical capacities. The state of conservation of the property should be monitored more frequently, and risk management should be included as a monitoring indicator.

5 Protection and management

Documentation

The archaeological and ethnographic research work has produced a huge amount of documentation about ferrous metallurgy and the place of the blacksmith in Burkina Faso, and more generally in Western Africa.

ICOMOS considers that, in the additional information provided in November 2018, the maps indicate the situation of all the archaeological structures in detail. The locations of the furnaces, the auxiliary facilities, the waste zones and the important topographic elements are specified, which enables a better understanding of spatial organisation and the chronological relationship between the sites, while relating them to land use.

ICOMOS notes however that the attributes will need to be better documented and dated by means of archaeological research, which up to now has only been carried out on the sites of Douroula and Yamané.

In the additional information provided in November 2018, the State Party indicates that archaeological research is

considered at Békuy, Kindibo and Tiwêga, and that the management system provides for the continuation of research at 2 year intervals. The archaeological programme will consist of systematic prospection in the buffer zones in order to produce an overall plan of remains, and thus understand the relationships between the different archaeological sites. Excavations will also be conducted on each site, focused on its specific characteristics.

The additional information provided in February 2019 also provides details about the relationships between the local communities and the sites, particularly as regards the blacksmiths, notably at Kindibo. Rituals to obtain rainfall and fertility rituals are carried out in the central zone of Békuy. The mine, which is inhabited by sacred pythons, is also a place of rituals carried out by the local communities. The site of Douroula is believed to be inhabited by the spirits of those who once lived there. At Kindibo, the proximity of the blacksmiths makes the site alive and dynamic through the smithing, pottery and the treatment of some diseases. Cults are also carried out some 500 metres from Tiwêga, to solicit the well-being of the community. As at Yamané, the furnaces are believed to be inhabited by genies. In general, fear of the genies actively contributes to the protection of the furnaces.

The additional information provided in February 2019 indicates that the location of the iron ore smelting sites was based on the availability of natural resources such as iron ore, wood, clay and water. The ferrous metallurgy workshops were set up close to water sources providing water and clay, and wood (often transformed into charcoal). They are also located close to places where ore was extracted. In the case of natural draft furnaces, the orientation of the furnace openings was determined by a strict rule based on the direction of dominant winds. The State Party stresses that the iron production activity has left traces on the landscape of varying degrees of visibility. The most easily identifiable elements are the assemblages of slag and the quarries. The use of some plant species as fuel has modified their population density and morphology, and in some zones has led to their rarefaction.

Legal protection

The nominated property is protected by Law 024-2007/AN of 13 November 2007 on cultural heritage protection in Burkina Faso, and on the creation of a public structure for the management of listed World Heritage sites, decree no. 2014-1019/PRES/PM/MCT/MEDD/MATS/MATDS of 28 October 2014 on the classification of cultural and natural properties and their inscription on the tentative heritage list of Burkina Faso; and Order 116/SE of 28 January 1940 on the classification of the Forest of Maro. Ownership rights are governed by Law n°014/96/ADP of 23 May 1996 on agricultural and land reorganisation in Burkina Faso; Law 055-2004/AN of 21 December 2004 on the general local authorities code in Burkina Faso; Law 003-2011/AN of 05 April 2011 on the forestry code in Burkina Faso; and Law 006-2013/AN of 02 April 2013 on the environment code in Burkina Faso.

This legislation governs ownership and land administration at national level. The components of the serial property are all located on public land, which is managed by local communities, except for the site of Békuy, located in the classified Forest of Maro (Act n°116/FE/17 January 1939).

Traditional protection is ensured by the local communities, on the basis of customary law and the respect in which the blacksmiths are held. The minutes of palavers (the traditional system of concertation and conflict prevention and resolution), have been recorded to obtain the agreement of the traditional authorities for the ceding of the land selected by the State Party for the serial property. With regard to this nomination, the State Party indicates that Municipal Orders will be issued by the communes to officialise the protection of sites and facilitate their conservation. In the additional information provided in November 2018, the State Party also indicates that all the minutes of the palavers will gradually be replaced by land titles.

ICOMOS considers that a form of combined protection, incorporating both traditional and institutional stewardship, is an advantage in terms of involving local populations and increasing their awareness of, and participation in, the safeguarding and management of the nominated property. ICOMOS encourages the State Party to continue issuing Municipal Orders for the officialisation of the protection of all the sites in the series.

Management system

The management system for the ancient ferrous metallurgy sites of Burkina Faso, approved for the period 2018-2022, and submitted to ICOMOS in February 2019, is based on the whole set of management plans for Yamané, Tiwêga, Kindibo and Douroula, which have an identical structure.

The overall objective of the management system is to strengthen the measures for the conservation of the archaeological heritage associated with the long history of iron in Burkina Faso, to raise the awareness of the public, in Burkina Faso and internationally, about the importance of this heritage, and to share these ambitions with other states at regional level.

The management system is articulated around three strategic priorities common to all the components: the strengthening of the conservation and protection of the site (ensuring the physical security of the furnaces, making the management structures more dynamic, collecting and promoting metallurgy-related elements, supporting the transmission of knowledge and craft skills); the development of research and partnerships (support for scientific research, support for the dissemination of research results to the general public, support for scientific and technical cooperation initiatives, support for efforts to obtain funding); and finally the promotion and valorisation of the property (support for the providing of facilities, support for promotion initiatives).

This common management framework is managed, for all practical purposes, by the World Heritage Listed Sites Department, which is attached to the Ministry of Culture, Art and Tourism. With regard to reflection and orientations, a national management committee exercises authority and control over all questions related to the serial property. It is supported by five local management committees, each in charge of one component of the serial property, which will oversee the conservation of the sites at local level. The State Party stresses that the texts that created the local management committees provide for the participation of officials from the commune. The World Heritage Listed Sites Department also coordinates conservation and management activities in conjunction with the local committees. The State Party will also consider setting up a scientific committee responsible for conceiving, examining and supervising research, conservation and valorisation work. At national level, 45 provincial departments in charge of culture have been set up to relay the efforts of the central administrations at grassroots level and ensure better protection of the sites. At local level, the State Party indicates that the protection of the serial property is the responsibility of the local communities and their authorities, which manage serial property conservation on a permanent basis. The local communities have developed endogenous management systems that play an active role in maintaining the integrity of the sites. The management of the site of Békuy, located in the classified Forest of Maro, is carried out by the Water and Forestry Department.

The State Party also indicates that each municipality has a communal development plan. These plans do not yet include a specific policy for metallurgy, but some initiatives are being taken to promote the protection, conservation and valorisation of the ancient ferrous metallurgy sites.

The State Party stresses that the public bodies in charge of the heritage (World Heritage Listed Sites Department) and the research institutions are sources of expertise on ancient ferrous metallurgy at national level. It is intended that the State Party will support the strengthening of the expertise of the managers of the tangible cultural heritage and the continuing education of the central, local and associative actors concerned, in the areas of furnace restoration, the management of the world heritage sites, and the promotion and valorisation of the ancient ferrous metallurgy sites. The State Party also indicates that the communities of blacksmiths and certain associations for the promotion of ancient ferrous metallurgy have access to endogenous expertise.

International partnerships have been set up with eminent structures dedicated to the conservation of earthen architecture.

The State Party indicates that it will invest in the conservation and protection of the serial property, and that it will strive to mobilise financial resources from its partners. Local authorities will also contribute to adding to the facilities at the serial property, to strengthening the

capacities of the communities and to supporting local festivals. Civil society will also contribute in the areas of training, dissemination of information, awareness raising, conservation and encouraging arts and crafts. Local communities will be closely involved in the conservation, protection and valorisation of the serial property. Research and higher education institutions will contribute by focusing on ferrous metallurgy research topics.

ICOMOS considers that the serial property is organised with a structured management plan, and that a considerable amount of work has already been done. Priority actions and scheduled actions have been defined, with indicators and checking sources that enable better monitoring.

ICOMOS notes however that no intervention plan is described in the nomination dossier to deal with foreseeable risks of natural disasters (fires, storms, earthquakes), or of climate change. In view of the fragility of certain attributes, ICOMOS recommends that an appropriate risk preparedness strategy is drawn up for inclusion in the management plan. It could also be used as a basis for devising better monitoring mechanisms.

Visitor management

The State Party indicates that the serial property is not yet included in official tourism circuits, and that it does not have appropriate facilities and infrastructures for visits. The management system however does provide for the construction of facilities to encourage visits to the serial property, and for the creation of a metallurgy interpretation centre. At the moment, interpretation is provided by an open-air museum of African furnaces at Kaya, close to the site of Tiwêga, an ethnographic museum at Douroula, and a temporary international exhibition on ferrous metallurgy at the National Museum in Ouagadougou.

The additional information provided in November 2018 indicates that a tourism management plan will be drawn up by the local management committees and that facility projects are planned at Kindibo and Tiwêga. In the additional information submitted in February 2019, the State Party indicates that visitor facility and infrastructure projects at Kindibo and Tiwêga are scheduled outside the management zones. For Kindibo, the facility zone will cover an area of 9 ha, and the facility zone at Tiwêga is currently being discussed. International tourism is very limited because of the lack of security in this subregion. The groups targeted for visits are a very small number of international tourists interested in the history of metallurgy, but above all school students, through a partnership that has been stepped up with the Ministry of Education and local authorities. Investment will as a matter of priority be directed at training local guides, and raising the awareness of teachers and local players, together with the setting up of information desks for tourists and urban interpretation centres (as at the museum at Kaya) and the publication of an iron heritage guide.

Community involvement

The State Party indicates that local communities will be closely involved in the conservation, protection and valorisation of the serial property, through participation in the dissemination of knowledge about the sites, and through visitor reception, cultural activity organisation, guided tours, and making their knowledge accessible to the general public. The additional information of November 2018 stresses that local communities will be given preferential access to the jobs generated by tourism, and that the mechanisms put in place will lead to fairer sharing of the benefits generated by tourism.

The additional information provided in February 2019 indicates that the local communities are involved in the local management committees, almost all of whose members belong to the local community. The active involvement of the local communities is also reflected in the way they have made themselves available throughout the process of preparing the nomination. It is the local communities themselves who identified the buffer zones and ceded the corresponding land to the State Party.

ICOMOS has also taken note of the workshop held on 22 November 2018 at Ouagadougou, where a document was drawn up setting out the strategy of conservation and management of the ferrous metallurgy sites, with representatives of the local communities and the persons responsible for property management. The additional information provided in February 2019 indicates that the workshop was intended to enable the validation of the management system by all the stakeholders.

Evaluation of the effectiveness of the protection and management of the nominated property

ICOMOS considers that the legal protection in place and the traditional measures for the protection of the property are appropriate.

The attributes are not sufficiently documented, resulting in the lack of an absolute chronology that archaeology could provide. With this aim in mind, archaeological prospection must continue, as must the inventory and documentation of the ancient ferrous metallurgy sites inside the boundaries of the property and in the buffer zones, to provide a basis for monitoring and conservation.

The measures put in place by the State Party to deal with the threats that could damage the conservation of the serial property, and the way in which these measures will be incorporated in the conservation plan, will also need to be strengthened.

In addition, in view of the fragility of the attributes, the property is exposed to risks as a result of various factors. The management system must therefore include risk prevention strategies and measures for intervention in the event of a disaster, and interconnection between excavation activities and conservation activities, which must go hand in hand.

Lastly, ICOMOS encourages the State Party to continue issuing Municipal Orders to officialise the protection of all the sites in the series, and also recommends the finalisation of the tourism management plan, which must be included in the management system.

ICOMOS considers that the management system should be developed, in order to incorporate a risk preparedness plan, and action plans with clear priorities in terms of conservation intervention and budget proposals. Measures are necessary to consolidate and reinforce research, by continuing archaeological prospection, the inventory and the documentation of the ancient ferrous metallurgy sites inside the property boundaries and in the buffer zones.

6 Conclusion

ICOMOS considers that the comparative analysis justifies consideration of this property for inscription on the World Heritage List. The nominated property meets criteria (iii), (iv) and (vi). The selection of the sites forming the series is appropriate. The conditions of integrity and authenticity are vulnerable because of the factors affecting the property.

The serial property, because of its monuments that are still standing, and the ancient nature of some of them, the involvement of several cultural groups and certain transmission and maintenance modes, has Outstanding Universal Value. In the context of the long iron sequence in Africa, the presence of furnaces that are still standing in Burkina Faso bears witness to socio-technical knowhow that was centred on great skill in furnace construction, which is observable in stylistic diversity, geological knowledge and quarry working (iron ore).

In view of the fragility of the cultural attributes and the threats facing them, ICOMOS recommends that an appropriate risk preparedness strategy should be devised and integrated into the management system, together with a strengthened monitoring system.

ICOMOS considers that the conservation measures put in place represent one of the most important challenges for the management of the property, and require strategies to guarantee the stability of financial resources, qualified human resources in sufficient numbers, and considerable institutional and technical capacities.

ICOMOS also congratulates the State Party for the additional information provided in November 2018 and February 2019, which was extremely useful for an understanding of the property.

7 Recommendations

Recommendations with respect to inscription

ICOMOS recommends that the Ancient ferrous metallurgy sites, Burkina Faso, be inscribed on the World Heritage List on the basis of **criteria (iii), (iv) and (vi)**.

Recommended Statement of Outstanding Universal Value

Brief synthesis

The five components of the property bear witness to the ancient nature and importance of iron production, and its impact on pre-colonial societies in the Sahelian zone of Burkina Faso. Dated to the 8th century BCE, Douroula bears the most ancient testimony to the development of iron production currently identified in Burkina Faso, and illustrates this first and relatively early phase of the development of iron production in Africa. Tiwêga, Yamané, Kindibo and Békuy all have remarkably well conserved iron ore smelting furnaces. They are also the only sites in Burkina Faso to have furnaces in elevation. They are massive production sites that, through their scale, illustrate the intensification of iron production during the second millennium AD, at a time when Western African societies were becoming increasingly complex. The property is directly associated with living traditions embodied by the blacksmiths at Yamané, Kindibo and Douroula. These traditions are expressed today by symbolic values linked to iron technology among the communities of descendants of the blacksmiths and metallurgists.

Criterion (iii): The ancient ferrous metallurgy sites bear exceptional testimony to a unique tradition of iron ore smelting, passing on to today's Burkina Faso communities a rich technical and cultural heritage. Douroula illustrates this first phase of iron production development in Africa, and demonstrates that the iron production technology was already widely disseminated by around 500 BCE across the whole region. Tiwêga, Yamané, Kindibo and Békuy are massive production sites that illustrate iron production throughout the Sahelian zone of Burkina Faso in the second millennium AD.

Criterion (iv): The ancient ferrous metallurgy sites are outstanding examples that illustrate the variety of traditional iron ore smelting techniques in Burkina Faso. The furnaces have conserved all or almost all of their elevation, and have morphological features that enable their differentiation. Other remains are associated with the furnaces, such as the huge assemblages of slag and traces of mining extraction, together with technical traditions that are still alive today. The very ancient appearance of this technology in global terms has had very significant consequences for the history of the African peoples.

Criterion (vi): The ancient ferrous metallurgy sites of Burkina Faso are directly associated with living traditions embodied by the socioprofessional group of the blacksmiths. These traditions are expressed today by

symbolic values linked to iron technology in the communities that descend from the blacksmiths and metallurgists. As the masters of fire and iron, the blacksmiths perpetuate ancestral rites and social practices that confer on them an important role in their communities at Yamané, Kindibo and Douroula.

Integrity

Within their boundaries the ancient ferrous metallurgy sites contain all the essential attributes of Outstanding Universal Value. They have all been preserved in their integrity and in their environment, with no major disruption down the centuries. No furnace has been dismantled, moved or damaged by vandalism. Only the furnace base at Douroula with the earliest dating has been physically protected. The distance at which dwellings are located, and the sacred nature of these zones, which are connected to the blacksmiths, are a guarantee of the protection of integrity. Nevertheless, the conditions of integrity are vulnerable because of soil erosion by water and wind, drought cycles and in some cases desertification, the colonisation of some furnaces by termites and trees, and small-scale gold mining.

Authenticity

The sites bear witness to continuity of production over more than 2700 years, to mastery of the processes of iron smelting and transformation, and to the essential contribution of this technology to the history of African settlement, and not only to the history of the peoples of Burkina Faso. The five metallurgy sites of the property express Outstanding Universal Value in terms of the age of the phenomenon, the form of the smelting structures, the completeness of the metallurgical complex elements, the diversity and richness of the architectural techniques, and the blacksmith traditions that are still alive today. The limited state of documentation in the property zones and in the buffer zones however means that the conditions of authenticity are vulnerable. Maintaining authenticity should be an important priority in the management of the property, to ensure the resilience of smithing traditions.

Management and protection requirements

The property is protected at national level by a set of laws, and by traditional protection provided by local communities on the basis of customary law. Management is also ensured at local level by communities, except for the site of Békuy, located in the Maro forest reserve.

A management system, drawn up for the period 2018-2022, is based on the management plans for each of the five sites, and constitutes the main sustainable management tool for the property. The property is managed in terms of reflection and orientations by a National Management Committee and in practical terms by the Listed World Heritage Sites Department. The national management committee exercises authority and control for all questions relating to the sites. At the level of each individual site, a local committee has been set up to ensure the sustainable management of the property by the local communities. The

committee is guided by the site management plan and the orientations of the national management committee.

Additional recommendations

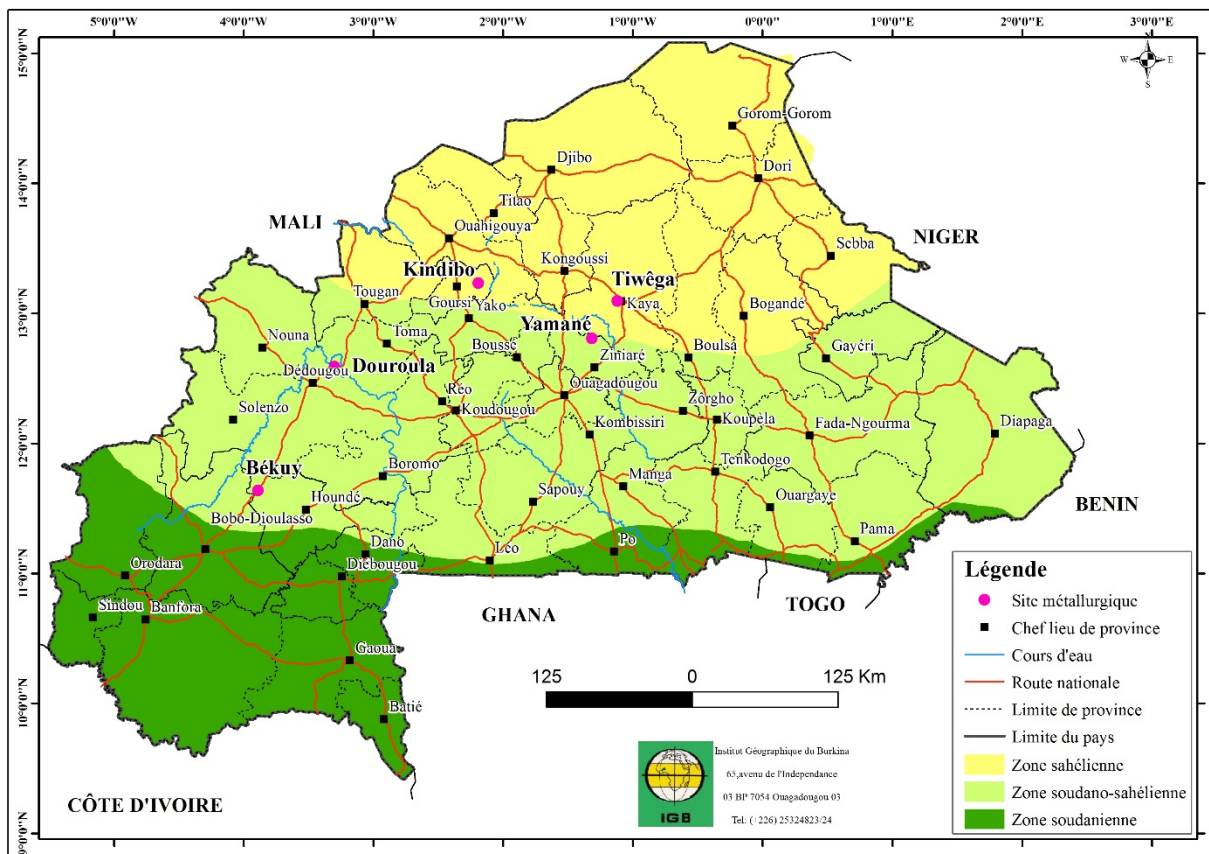
ICOMOS also recommends that the State Party give consideration to the following points:

- a) Continuing issuing Municipal Orders to officialise the protection of all the sites in the series,
- b) As the conservation measures are one of the most important challenges for the management of the property, developing strategies to ensure the stability of financial resources, sufficient numbers of qualified human resources, and multiple institutional and technical capacities,
- c) Setting up the scientific committee in charge of conceiving, examining and supervising research, conservation and valorisation work on the property,
- d) Developing the management system so as to include action plans with clear priorities as regards conservation intervention and budget proposals, and to include a risk preparedness plan and strengthened monitoring systems,
- e) Finalising the tourism management plan,
- f) Continuing archaeological prospection, the inventory and documentation of ancient ferrous metallurgy sites inside the boundaries of the property and in the buffer zones,
- g) Continuing archaeological research and ethnographic investigations that are not strictly linked to the metallurgical phenomenon, such as settlement sites and burial grounds near to the furnaces, document them and consider their inclusion in the future in buffer zones,
- h) Submitting to the World Heritage Centre and to ICOMOS, by 1st December 2021, a report on the implementation of the recommendations set out above;

Moreover, ICOMOS recommends that the name of the property be modified in order to specify the geographic location of the sites, and to become: "Ancient ferrous metallurgy sites of Burkina Faso".

ICOMOS encourages international cooperation to support the protection and conservation of the property.

ICOMOS also encourages countries in the Region to commit themselves to a procedure of nominating metallurgical sites in their territory so as to provide a selection of properties that are representative of the whole metallurgical phenomenon across Western Africa.



Map showing the location of the nominated components



Furnaces, conical in shape, Kindibo



Furnace, natural air draft type, Tiwêga



Furnaces and anthropogenic mound, Douroula



Blacksmithing in workshops

IV Cultural properties

- A Africa**
New nomination

- B Arab States**
New nominations
Nomination deferred by previous session of
the World Heritage Committee

- C Asia – Pacific**
New nominations

- D Europe – North America**
New nominations

- E Latin America – Caribbean**
New nominations

Dilmun Burial Mounds (Bahrain) No 1542

Official name as proposed by the State Party

Dilmun Burial Mounds

Location

Northern Governorate and Southern Governorate
Bahrain

Brief description

Located in the western part of the island of Bahrain, the Dilmun Burial Mounds were built during the Early Dilmun Period over a period of 300 years, approximately between 2050 and 1750 BCE. The nominated property consists of a serial property which comprises thousands of burial mounds. The mounds are characterized by their architectural design, their interior arrangement including the use of alcoves, and their different types indicating the emergence of social hierarchies. Dilmun Burial Mounds are categorized in five typological groups including Early Type Mounds, Late Type Mounds, Chieftain Type Mounds, Royal Type Mounds and Mounds with subsidiary burials. The nominated property includes all mound types in 21 component parts. Recently published archaeological research has identified the last Dilmun kings as well as the funerary architecture of the Royal Mounds. The great majority of the mounds have not been excavated.

Category of property

In terms of categories of cultural property set out in Article 1 of the 1972 World Heritage Convention, this is a serial nomination of 21 *sites*.

1 Basic data

Included in the Tentative List

29 May 2008

Background

This is a new nomination.

An extension for this nomination to include Umm Jidr and Wadi as-Sail mound fields is planned for 2022.

Consultations and Technical Evaluation Mission

Desk reviews have been provided by ICOMOS International Scientific Committees, members and independent experts.

An ICOMOS technical evaluation mission visited the property from 24 to 27 September 2018.

Additional information received by ICOMOS

Further information was requested in the Interim Report including: selection of component sites, justification for inscription, protection and conservation.

Additional information was received from the State Party on 21 February 2019 and has been incorporated into the relevant sections of this evaluation report.

Date of ICOMOS approval of this report

13 March 2019

2 Description of the property

Note: The nomination dossier and additional information contain detailed descriptions of this property, its history and its state of conservation. Due to limitations on the length of evaluation reports, this report only provides a short summary of the most relevant aspects.

Description and history

The history of the Dilmun Burial Mounds as a sepulchral tradition is highly connected to settlement activities and land-use patterns throughout the Early Dilmun period. While historical factors influenced the size and number of mounds, the geological constitution of the island of Bahrain dictated their distribution. The southern half of the island consists of desert land and the restricted arable land in the northern and western parts was too valuable to be used as burial grounds. Consequently, the burial sites occur mainly towards Bahrain's central dome area, where the bedrock lies just below the surface.

In general, the Dilmun Burial Mounds can be separated into five groups: Early and Late Type mounds, chieftain mounds, royal mounds, mounds with subsidiary burials, and a special type with an outer ring wall.

The current nomination differs from an earlier proposal which included 23 component parts. Umm Jidr and Wadi as-Sail components have been excluded due to problematic land ownership and access issues. An extension of the current nomination to include these mound fields is planned in 2022.

The nominated property consists of 21 component parts consisting of 6 mound fields, 13 individual Royal Mounds at A'ali, and 2 pairs of large mounds at A'ali, distributed as follows:

Component 1: Madinat Hamad 1 Burial Mound Field (Buri) consists of 754 mounds of the Late Type;

Component 2: Madinat Hamad 2 Burial Mound Field (Karzakkan) consists of 4,262 mounds, the great majority of the Late Type and a smaller number of the Early Type;

Component 3: Madinat Hamad 3 Burial Mound Field (Dar Kulayb) consists of 1,331 mounds of the Late Type;

Component 4: Janabiyah Burial Mound Field consists of 13 mounds of Late Type and five Chieftain Mounds;

Component 5: A'ali East Burial Mound Field consists of 4,669 mounds, most of which are Late Type and two Special Type Mounds with outer ring wall;

Component 6: A'ali West Burial Mound Field consists of 723 mounds, including six Special Type Mounds with outer ring wall; and

Components 7 to 21 consist of mainly single Royal Mounds, with the exception of components 17 and 18, which each include a pair of Royal Mounds.

Early and Late Type Mounds are tumuli placed in close proximity forming dense cemeteries. They are on average 2 to 3 meters in height and 6 to 11 meters in diameter. They are regularly-built grave chambers with various shapes such as L-, T-, H-shaped, or more complex shapes. Walls are built with a dry-stone technique and covered by capstones slabs.

Chieftain Mounds are contemporaneous to the Late Type Mounds. They are larger in size than the average Late Type Mounds, reaching 13 to 26 meters in diameter. They often consist of two-storey burial chambers with four or six alcoves and are accessed through a shaft or a passage.

Royal Mounds are also contemporaneous to the Late Type Mounds. Although both Chieftain and Royal Mounds present the same architectural characteristics, they can be differentiated in size: Royal Mounds display diameters of up to 50 meters. Although this terminology is used, until recently no research has definitively proven the existence of a monarchic dynasty in relation to the mounds. However, in 2017 Steffen Terp Laursen published work which identified two of the last kings in relation to A'ali Royal Mounds 8 and 10.

Mounds with subsidiary burials each consist of a central burial and one or more subsidiary burials connected to it. The best examples of this type are found in Janabiyah and Madinat Hamad 2 fields. The expansion, in terms of subsidiary burials, seems intentional and not of a sudden necessity. The additional burial chambers are surrounded by semi-ring walls, which are attached to either the central burial or to another semi-ring wall. It is assumed that this type was built for individuals who are related, probably the members of a family.

Ring mounds are Special Type Mounds with an outer ring wall. They seem to have been used for a prominent section of society, possibly three stations of paramount rank expressed in the mounds' sizes.

Some evidence has been found to indicate that the mounds were originally constructed as stone towers (Hojlund 1992, 2007; Velde 1994); Mackay (1929) suggested that the mounds were originally cylindrical towers. Examples of standing double walls supported the idea of towers. Later evidence suggests that mounds were ringed twice; one larger outer ground-level ring wall and a higher-level inner wall (Hojlund 2007), suggesting the original shape to be of a terraced building or a ziggurat (Hojlund 2007).

Alcoves or niches are a significant feature of the mounds. Almost every burial chamber has one or more such niches associated with it; they occur as single niches, as pairs or as a group of four niches, usually located at the chamber's corners. Their purpose is unknown.

Most of the burial mounds were looted in ancient times. As a result, grave furniture is missing. Pottery of different shapes and design is found, indicating the ritual of placing offerings. Most of the pottery found is locally produced. However large amounts of pottery produced elsewhere has also been found suggesting that international exchanges took place around 2000 BCE. Other finds include copper and bronze objects, seals, steatite and chlorite vessels, ivory objects, beads, objects made from shells, ostrich eggshells, bitumen-coated baskets and animal remains. Human remains that have been found have been examined and analyzed, providing interesting information such as indications of diet and certain diseases.

The burial mounds were mentioned by explorers and travellers to Bahrain throughout history. The first recorded excavations were in the late 1880s. Development projects between the 1930s and 1970s impacted some of the burial fields. Some mounds were removed to allow for pipelines, roads and other infrastructure.

The Danish Archaeological Expedition has worked in the area since the early 1950s and has shed light on many aspects of the ancient civilization of Dilmun. They were also involved in rescue excavations in the 1960s. Furthermore, British amateur archaeologists examined 47 mounds during the 1960s.

Major rescue archaeological excavations were carried out by the Jordanian Department of Antiquities in 1977 and 1978. After this, work was continued by the Bahrain Directorate of Archaeology. Further work was carried out by Bahrain National Museum with the collaboration of several international teams, including an Australian team, the French Archaeological Mission and the Danish Mission.

The Dilmun Burial Mounds have been protected since 1995 under the National Heritage Law.

Since the submission of the current nomination dossier, a major new publication has come out on the Royal Mounds: *Laursen, S.T., 2017, The Royal Mounds of A'ali in Bahrain: the Emergence of Kingship in Early Dilmun*, Jutland Archaeological Society & BACA.

This significant work provides an immense amount of detail on the Royal Mounds and their development, as well as (for the first time) a radiocarbon chronology; and most significantly, hard evidence for dynastic kingship at A'ali and identification of the tombs of two named kings, using cuneiform inscriptions recovered from one of the mounds (Royal Mound 8).

Boundaries

The area of the 21 components totals 168.45 ha, with buffer zones totalling 383.86 ha.

The boundaries of the component parts of the property are well defined and marked on the ground with fencing, while the boundaries of the buffer zones are defined only on maps.

ICOMOS notes that it is necessary that the boundaries marked out by the Bahrain Authority for Culture and Antiquity (BACA) using GIS mapping are fully shared with the necessary planning authorities, in this case the Ministry of Works, Municipalities Affairs and Urban Planning.

The boundaries of the buffer zones are established with a range of 200 to 300 meters from the property following existing land use and zoning plans. Land use and planning regulations impose restrictions for urban development within the buffer zones; all development proposals within it require approval by BACA.

This approach for delineating the buffer zones may produce difficulties in the future when, for example, houses within a continuous block are within the buffer zone on one side, but outside it on the other. Although municipal zoning regulations are likely to be the same on both sides, it may cause confusion insofar as BACA would have a say in the approval of any changes or new development on the buffer zone side, but not the other. ICOMOS notes that care has been taken to avoid drawing any buffer zone boundary through a single property.

State of conservation

The burial chambers were subjected to grave robberies throughout ancient times, according to archaeological research. This was carried out by cutting a hole in the side of the mound and removing stones from the chamber wall. Looting targeted precious objects such as bronze, ivory and jewellery, while other less valuable objects such as pottery vessels were often left behind.

Some of the Royal Mounds were later used to hold pottery kilns, which were built onto their sides in recent centuries by a nearby village with a community of potters.

The construction of the King Fahad Causeway between Bahrain and Saudi Arabia in 1975, the construction of Madinat Hamad housing complex and other major construction projects in the 1980s and later, impacted on countless burial mounds.

Based on the information provided by the State Party and the observations of the ICOMOS technical evaluation mission, ICOMOS considers that the state of conservation is stable for the vast majority of mounds. The exceptions are for excavated mounds, and most of the Royal Mounds, where more active conservation needs to take place, as acknowledged in the Conservation section of the Management Plan, and its related Action Plan.

ICOMOS considers that the vertical sections of the excavated mounds, or mounds that were opened by illicit removal of large stones from ring walls, require conservation interventions to prevent deterioration by weathering. In addition, the mounds that will be made accessible to visitors need stabilization interventions to secure visitors' safety and to improve presentation of the mounds.

Required interventions should be decided on a case-by-case basis and according to an overall condition assessment survey.

Brief assessment of the state of conservation of the major excavated mounds, and smaller robbed or excavated graves in other mound fields, is given below.

Madinat Hamad 1 (Buri)

Many of the mounds at MH1 (Buri) showed robber pits of unknown date. In most cases, perhaps all, active conservation is probably not required. A brief survey of the mounds is recommended to identify any potentially dangerous examples, and measures to infill or block off robber pits should be considered if any dangerous ones are identified.

Madinat Hamad 2 (Karzakkan)

Several Early and Late Type excavated mounds are exposed in the southeastern part of the property component. Some are deteriorating. Active conservation measures should be considered in these cases to improve visitor interpretation and site preservation, not for all exposed mounds, but the ones which lend themselves best to viewing.

Janabiyah

The large excavated or partially-excavated mounds risk deterioration over time, as vertical sections exposed by excavation and by earlier illicit removals of large stones from the ring walls will eventually erode, and potentially collapse. In addition, eroded sections obscure the structure.

A'ali East

The excavated "Aziz Mound" in particular, in the north of the mound field, is vulnerable to erosion, and the crumbling sections and cavernous exposed chambers may threaten visitor safety. It is recommended to prevent direct visitor access, but also to tidy up the mound and consolidate the sections so that its chambers and internal structures can be viewed.

Royal Mound 1

Interventive conservation has already taken place at RM1, where two dangerously undermined parts of the hollowed-out interior part of the mound had been infilled and plastered. Tall sections of compacted gravelly fill are standing at this Royal Mound and several others, sometimes overhanging. Interventionist measures to remove overhangs may be highly destructive, and the compacted fills appear relatively stable and strong. Research is required to establish the stability and safety of each Royal Mound with large exposed sections, and

whether safety could be improved through intervention, or whether it would be better to partially or completely restrict visitor access.

Royal Mound 2

This mound has not been excavated but has had part of its lower southwestern ring wall stones and edge removed to accommodate a road. It has had some small steps cut into a path in order to help in its ascent but is otherwise in good condition. Its lower edges have recently been supported by the placing of spoil and gravel along them, in order to prevent further erosion and undermining.

Royal Mound 4

This mound has a remarkably well-preserved lower chamber, discovered but not excavated during recent Danish excavations, the small entrance to which is now backfilled and invisible. It is relatively well preserved on the outside. Active conservation and perhaps measures for visitor access should be considered if the lower chamber is ever reopened for excavation, but in the meantime the state of conservation appears stable.

Royal Mound 5

The conservation status of this large mound (Prideaux's Mound A) requires close investigation. It contains a deep cut to the chamber with very high sides, undermined at the end. The compacted fill of the sides, above the original entrance passage walls (dromos), which are well preserved, appears stable but research is required if visitor access is to be permitted. The western side of the mound where the dromos entrance and cut are located was truncated some time before 1961 and appears to have remained stable since then.

Royal Mound 6

This tomb also has high overhanging sections and should be studied before decisions are made about conservation and visitor access.

Royal Mound 7

This mound suffers from a degree of erosion on its northern side and has a very large and deep cut running to its centre with overhanging sides. Study would be required to decide whether remedial action is needed, and the cut may not be suitable for visitor access. Nonetheless it may be possible to position a viewpoint so that the interior can be safely viewed.

Royal Mound 8

Royal Mound 8 has been completely excavated, and recently identified as the tomb of King Yagli'el. The walls are for the most part strong and bonded with original plaster. The mound fill also consists of stones set in layers of plaster, a distinction shared with Royal Mound 10. This lends it a degree of strength and resistance to erosion, but monitoring is essential. However, the lintel of one of the side chambers is cracked and is currently supported by a standing support consisting of a metal pole with wooden pad. This appears to be sufficient for the time being, but expert guidance and research are required to determine whether it should be a long-term solution. Another feature

of Royal Mound 8 is that a high banked area close to one side of it would provide a good viewing point for visitors, if appropriately prepared.

Royal Mound 9

This mound is strongly truncated on the southeastern side, with a high vertical section, undermined at one point, and also has lower eroding sections on its western side. There is no large excavated cavity in its centre however, and interventive conservation may only be required to prevent further erosion of the southeastern face.

Royal Mound 10

Royal Mound 10 is understood to be the tomb of King Ri'mum, and, like Royal Mound 8, is therefore likely to become a focus of touristic interest. It has not been as completely excavated as Mound 8. Like Mound 8 it is constructed of stones set in layers of plaster, but is less stable, having courses of huge stones at its summit, almost in situ but unstable. A Condition Assessment is crucial for this monument as visitor needs must be balanced with safety and sensitive conservation. Vandalism has occurred some years back in the form of bitumen, thick black paint or burnt melted plastic found on a vast carved threshold stone close to the top of the mound. A conservation effort is needed to remove this, and monitoring should continue to prevent re-occurrence. The excavated flanks of Royal Mound 10 reveal remarkable courses of monumental walling, no longer vertical but still in their correct relative positions, which show the height and impressive nature of the monument. These appear to be stable, but monitoring is required.

Royal Mound 11 (paired with Royal Mound 12)

Royal Mound 11 is remarkable in that both its upper and lower chambers are completely preserved (usually only floors and lower parts of the upper chamber remain). Both are clearly visible through a vertical shaft excavated by Prideaux. The mound is also notable for its graffiti from 1917. Viewing of the chambers by visitors may be possible from the outside, while entry would be challenging, but perhaps feasible with well-designed steps.

Unfortunately, the conservation status of Royal Mound 11 has been compromised by the lighting of extensive fires inside the lower chamber in 2011, which caused structural damage and blackening. Before any consideration of external visitor viewing or actual access is made, a conservation assessment is therefore required to establish if the fires caused structural instability (e.g. to the plaster), and whether the blackening can be cleaned off. Research into the stability of Prideaux's shaft would also be necessary. Finally, the lower edges of the mound have been truncated on the western side leaving vertical sections 2-3 m high, which need to be monitored and perhaps stabilised, following research.

Royal Mound 12 (paired with Royal Mound 11)

This mound has a large cut in its top with vertical sections and has also been truncated on all sides around its bottom edge, leaving approximately 2m high vertical sections. These need to be monitored for stability.

Royal Mound 13 (paired with Royal Mound 14)

Royal Mound 13 has a large cavity on its western flank with overhanging sides, representing the eroded remains of Prideaux's excavation trench. The stability of this should be examined and backfilling of this cavity should be considered in order to stabilise and prevent future erosion and collapse.

Royal Mound 14 (paired with Royal Mound 13)

Similar to Royal Mound 11, this mound is unusual in that it has a well preserved upper chamber as well as a lower chamber. The mound appears stable, albeit truncated on its southwestern side, which has left a high vertical section. In the future, re-exposure of the upper and lower chambers, for viewing by visitors, may be feasible if the 1980s backfill is removed in a controlled manner.

Royal Mound 15

The conservation status of this mound is uncertain. The interior of the mound cannot be assessed. There is a rectangular trench running from its centre to its western edge. Parts of its bottom slopes have been removed.

Royal Mound 16

This mound is mostly intact. Parts of the upper ring wall have disintegrated. Much of the material of the slopes has slid off. A condition assessment should be made and a decision is needed as to whether it should be left as is or supported, or backfilled.

Royal Mound 17

The conservation status of Royal Mound 17 is determined by the removal of its outer ring wall in 1961, which has left 2m high vertical edges all around. Also significant is the trench opened by the Danish expedition in 1961-2, which cuts into the centre of the mound and has very high vertical edges. All these vertical sections appear stable but require examination and monitoring for stability. A tree is standing at the entrance to this trench; this appears to be doing no harm but the ramifications of root action in the long term should be considered.

Factors affecting the property

Based on the information provided by the State Party and the observations of the ICOMOS technical evaluation mission, ICOMOS considers that the main factors affecting the property are development pressures due to the limited availability of land and the growing population.

Environmental pressures affecting the property include illegal littering and waste dumping, weathering, particularly heavy rainfall and strong storms, and climate change, particularly the potential increase of intense rainfall. Disasters including fire and earthquakes may impact the property, particularly for mounds that are surrounded by houses. Floods and landslides may also affect the property.

Visitor pressures may affect the property as a cause of erosion as a result of visitors climbing the mounds.

3 Proposed justification for inscription

Proposed justification

The nominated property is considered by the State Party to be of Outstanding Universal Value as a cultural property for the following reasons:

- It bears witness to the flourishing of the Early Dilmun civilization around the 2nd millennium BCE;
- It illustrates globally-unique characteristics with regards to amount, density and scale of the burial mounds but also in terms of construction details, such as their burial chambers;
- It provides essential archaeological and scientific data defining the unique funerary constructions of the Dilmun civilization; and
- It provides unique information about the development of social complexity, land use, and life and death of the Early Dilmun people.

Comparative analysis

The Comparative Analysis is presented in three parts: the internal comparison with burial mound sites within Bahrain and the region that once encompassed the Early Dilmun civilization, within the same chronological framework; the typological comparison with burial sites across the Gulf Region; and external comparison with burial mounds worldwide, including World Heritage and Tentative List properties and other areas throughout the world with a comparable combination of values and attributes.

Comparisons are made based on four criteria:

- Age and period;
- Number and density of mounds;
- Social strata, which the mounds cover; and
- Architecture and design.

The State Party argues that a number of other archaeological sites that are either related to the same historical period or to the tradition of constructing burial mounds, can be found in Bahrain, Saudi Arabia and Kuwait. However, it considers that the components selected are the best examples of their kind and together form a comprehensive picture of the sepulchral tradition of the Early Dilmun Era.

The State Party also argues that the typological analysis at the regional level shows that all neighbouring countries feature burial mound sites but not in terms of the sheer quantity of the Dilmun Burial Mounds. Moreover, the other sites belong to a different chronological period (such as the Tylos burial mounds in Bahrain) or present distinct patterns (as in the case of cairns in Oman and Qatar).

The comparison at the global level shows that burial mounds from the Bronze Age are found in other countries such as the United Kingdom, Denmark, Algeria and Morocco. The State Party argues that whilst some of the sites identified include an impressive number of tumuli, they cannot be compared with the high density of the

cemeteries found in Bahrain. It also considers that the nominated property is exceptional, with regards to architecture and design.

It is claimed that around 14,000–14,500 burial mounds remain. The nominated burials include almost all that survive from a much larger number that was subject to great transformations in the 1980s. The Interim Report requested clarification from the State Party regarding whether what has survived is the result of a choice at the time when these clusters of tombs were protected or not, and how these clusters relate to the scope and disposition of what once existed in order to have an understanding of the methodology which has been used for the selection of the component sites of the current serial nomination.

The State Party submitted additional information in February 2019 stating that the burial mounds that have survived today are partially the result of choice and that they were the first sites inscribed on the National Heritage list in the late 1980s, as they are the most striking and representative examples.

ICOMOS notes that the nominated property does not include two sites that are included on the State Party's Tentative List, namely Barbar Temple and Saar Heritage Park (or the Honeycomb complex). The Interim Report included a request to the State Party to clarify the reasons for excluding these two sites from the nominated property.

The State Party submitted additional information clarifying the rationale for excluding Barbar and Saar Heritage Park from the current serial nomination. According to the State Party neither of the two sites could contribute to the proposed Outstanding Universal Value of the nominated property, as the Barbar Temple is not directly linked to the funerary testimony of the Early Dilmun Civilization. Saar settlement, grave furniture and dietary habits indicate that the Saar settlement area was most likely occupied by a particular cultural group and does not provide information on common burial practices of the Dilmun Civilization.

ICOMOS notes that large numbers and density of tumuli are known in other locations such as the United Kingdom, where the number of mounds is estimated at over 40,000; and Denmark, where recorded mounds number over 9,000 tumuli, while more than 50,000 are estimated. Other locations of tumuli include the Balkans, Algeria and Morocco. However, the exceptional significance of the Dilmun Burial Mounds in Bahrain is due to their architectural design and typology.

The nominated serial property represents a unique sepulchral testimony to the Early Dilmun culture. It is a testimony currently reflected by the proposed selection of component sites.

ICOMOS considers that the comparative analysis justifies consideration of this property for the World Heritage List.

Criteria under which inscription is proposed

The property is nominated on the basis of cultural criteria (iii) and (iv).

Criterion (iii): *bear a unique or at least exceptional testimony to a cultural tradition or to a civilization which is living, or which has disappeared;*

This criterion is justified by the State Party on the grounds that the Dilmun Burial Mounds are the most extensive and most apparent evidence of the Early Dilmun culture. They represent unique sepulchral testimony to the Early Dilmun civilization over a period of about 300 years. The Dilmun Burial Mounds provide a cross section of various social groups in the Early Dilmun society, attesting to thousands of individuals of different age, gender, and social class. They also offer crucial evidence on the evolution of elites and ruling classes.

ICOMOS notes that despite the exclusion of Umm Jidr and Wadi as-Sail mound fields from the current nomination, which contain the majority of Bahrain's surviving Early Type mounds, the present boundaries of the property include Early Type Mounds in Madinat Hamad 2 and A'ali West component parts, some of which are excavated, and others are not. Thus, ICOMOS recommends including the Early Type mounds into the justification for inscription. The Interim Report included this recommendation to the State Party and the additional information submitted by the State Party accepted the recommendation by ICOMOS to include the Early Type Mounds in the justification for inscription of the property.

ICOMOS considers that this criterion is justified.

Criterion (iv): *be an outstanding example of a type of building, architectural or technological ensemble or landscape which illustrates a significant stage in human history;*

This criterion is justified by the State Party on the grounds that the Dilmun Burial Mounds reflect the evolution of the Early Dilmun civilization and give clues about the emergence of social hierarchies according to the four different mound types. The construction typology of the mounds is exceptional. A very particular and unique characteristic of the Dilmun tumuli construction is the presence of alcoves, which varied in number according to the occupier's social status and were usually filled with mortuary gifts.

ICOMOS recommends adjusting the text to add the Early Type since it is represented within the current property, taking into consideration the inclusion in the property within its current boundaries of Early Type mounds, as mentioned above. ICOMOS further recommends adding the new information on the Royal Mounds, which were recently published in Laursen, S.T., 2017, *The Royal Mounds of A'ali in Bahrain: the Emergence of Kingship in Early Dilmun*, Jutland Archaeological Society & BACA. The Interim Report included this recommendation to the State Party.

The additional information submitted by the State Party accepted the recommendation by ICOMOS to include the Early Type Mounds and to add the new information on the architecture of the Royal Mounds.

ICOMOS considers that this criterion is justified.

ICOMOS considers that the nominated property meets criterion (iii) and (iv).

Integrity and authenticity

Integrity

Most of the tumuli have not been excavated and their fabric is completely intact, except for some ancient looting and erosion by weathering, which has slowly transformed the funeral towers into mounds.

Although more than 80% of the original number have disappeared, the remaining tumuli are still the biggest and densest group of burial mounds in the world.

The property includes various cemeteries of Late Type Early Dilmun Burial Mounds excluding the Early Type mounds of Wadi as-Sail burial field and Umm Jidr burial field that are planned to be nominated as an extension to the present property in 2022. ICOMOS considers that the Early Type mounds should not be excluded from the justification for nominating the property as examples of this type are already included in Madinat Hamad 2 and A'ali West component parts. The Interim Report included this recommendation to the State Party. The additional information submitted by the State Party accepted ICOMOS' recommendation.

The setting has lost part of its integrity because of urban development. Protective and corrective measures have been in place and continue to be implemented by BACA. Nevertheless, development pressures are likely to continue due to the limited area of Bahrain and population growth.

In addition, the visual integrity of the property is compromised by a number of structures, even if most of them conform to the urban planning regulations for the buffer zones of the nominated property:

- A tower-like staircase at the edge of Madinat Hamad 1;
- A large school building at the edge of Madinat Hamad 2;
- A large industrial facility at the southwestern corner of Madinat Hamad 3; and
- The dense urbanization including some encroachments on Royal Mounds 1 to 17.

The removal or burying of the oil pipelines south of A'ali West component part, which is said to be planned, may impact the safety of 40 to 50 mounds flanking the pipelines.

Environmental pressures and visitor pressures affecting the property will be a continuous challenge due to the fragile fabric of the burial mounds, particularly the excavated tombs.

Authenticity

The nominated property is authentic in terms of location, function, material and substance, form and design. The fact that most of the tumuli have not been excavated adds to the authenticity and so does the density of the tumuli, despite past destruction of numerous mounds.

The documentation of past archaeological interventions at the excavated component sites is extremely variable.

Regarding form and design, and materials and substance, the authenticity of the Royal Mounds is not in doubt. These are ancient burial monuments which have been largely unaltered by humans, except by excavation and ancient tomb robbing, and a very limited amount of remedial conservation work to maintain stability.

All these activities are part of the history and maintenance of the monuments rather than matters affecting their authenticity. Some mounds have in the past been used to hold pottery kilns, which were built into their sides in recent centuries. The community was once a village of potters, and several kilns and businesses survived the loss of traditional demand during the switch to the oil economy and resulting changes in local consumption patterns. It is recommended to ensure that no further alteration to the mounds occurs due to the activities of the potters.

ICOMOS considers that the requirements of integrity and authenticity have been met.

Evaluation of the proposed justification for inscription

ICOMOS considers that the comparative analysis justifies the nomination of the property for the World Heritage List. The proposed selection of sites has been justified.

ICOMOS considers that the nominated property meets criteria (iii) and (iv).

The State Party agreed to modify the justification for inscription to include Early Type mounds and new information on the Royal Mounds, which has recently been published.

ICOMOS considers that the nominated property meets the requirements of integrity and authenticity.

Attributes

The attributes carrying the potential Outstanding Universal Value of the property are: the vast and dense burial mound fields; the different types of mounds possibly expressing different social status and human relationships during the Early Dilmun Period; the internal design of the burial chambers including alcoves; human remains, animal remains and archaeological finds from excavations of different mounds from the late nineteenth century up to the present.

ICOMOS considers that consideration of this property for World Heritage listing is justified.

4 Conservation measures and monitoring

Conservation measures

Most mounds are stable under current conditions and are in a good state of conservation. However, the majority of the Royal Mounds and the mounds that have been excavated or exposed by illicit removal of large stones from the ring walls require structural stabilization. This has been considered in the Management Plan and its Action Plan. In some cases, interventions have already been made.

A condition assessment is required for each Royal Mound at A'ali and other excavated mounds in Janabiyah, A'ali East, A'ali West and Madinat Hamad 2 as well as the robbed graves with open cavities in Madinat Hamad 2. According to the Conservation Section of the Management Plan, a comprehensive survey has started, and assessment of conservation is underway.

Limited conservation interventions have taken place at the Royal Mounds, some of which are preventive, and others are curative, following observations made by the DBM Unit during monitoring routines. These include plaster infill, support of cracked masonry, experimental support of unstable vertical sections, and new fencing around some of the Royal Mounds.

The section on "Strategic Objective 3: Research" in the Management Plan identifies research on the impact of the environment on the degradation of monuments as well as research on suitable plaster to be used for maintenance. The section on "Strategic Objective 4: Conservation" identifies possible threats to excavated remains and mitigation measures, including sacrificial layers, geotextiles and partial backfilling.

The Interim Report requested further information on how the documentation of the mounds is created, managed and updated and how documentation of previous archaeological excavations and interventions is managed and integrated into the documentation system, given that they were undertaken by different archaeological missions.

The State Party submitted additional information in February 2019 clarifying that the Bahrain Authority for Culture and Antiquities is in the process of developing a digitized library called 'AdLib' for the Directorate of Archaeology and Museums, which will be used for the management, updating and use of documentation for the nominated property. The working logic of AdLib is explained and screen shots from Madinat Hamad 2 (Karzakkah) Burial Mound Field are given as an example.

The Interim Report requested that the State Party clarify whether knowledge and expertise have been developed with regards to the best conservation strategies for different

types of burial mounds, including reburial and consolidation.

The State Party submitted additional information in February 2019 explaining that experts of the Dilmun Burial Mounds Management Unit and Bahrain Authority for Culture and Antiquities are working on the development of a conservation strategy for the burial mounds and that an external consultancy has been initiated for the same purpose. A holistic conservation strategy is being developed for all burial mounds, which will be followed by a monitoring regime in order to develop the most suitable conservation approaches. In parallel to developing conservation strategies, guidelines for best practice are being issued and surveys with 3D scanning are being initiated and will continue. Also, a new format for licenses for archaeological excavations is now used including the provision of post-excavation treatment of sites.

Monitoring

The nomination dossier defines the following main groups of indicators for monitoring the state of conservation of the property:

- Physical conservation
- Conservation of artefacts
- Visitor impact
- Development control
- Stakeholder involvement
- Capacity building

ICOMOS considers that the monitoring regimes for 'physical conservation' and 'conservation of artefacts' are effective for the monitoring purposes and for feeding into the aim of developing conservation strategies and approaches for the nominated property. Also, monitoring of 'development control' is effective.

The effectiveness for other issues could be improved by adding more indicators: 'visitor impact' could be more effective by adding indicators for monitoring which mounds or mound fields are visited and the visitor impact on management issues, such as littering and crowds and visitor circulation versus carrying capacity of different mounds and/or burial fields. 'Stakeholders' involvement' monitoring could be more effective by adding indicators to monitor engagement and participation of the private sector, particularly in tourism and tourism-related fields. 'Capacity building' monitoring could be more effective by monitoring the staffing level and engagement of consultants to fulfil the roles identified by the Management Plan for the nominated property.

Documentation should be a separate issue to be monitored to ensure the appropriate updating and management of documents, which are essential for effective conservation, management and protection of the property and its features.

ICOMOS considers that conservation measures should be prioritized and implemented once the currently on-going condition assessment survey is complete, particularly for excavated mounds.

ICOMOS considers that monitoring effectiveness could be improved and that documentation should be added to monitoring indicators.

5 Protection and management

Documentation

The first systematic and consistent documentation and inventory of the property was made for the preparation of nominating the property for the Tentative List and is kept by BACA. However, due to the extent and density of the features and the inaccessibility of the unexcavated mounds, much more work is needed to compile and manage the documentation of the property using different tools, techniques and media.

A condition assessment survey is currently being undertaken to guide conservation and management plans. There is a need to manage the resulting documentation and keep them up to date through monitoring and periodical reporting.

There is a need to standardize available documentation which was produced by different archaeological missions and teams over a long period of time. Consistent, up-to-date, accessible baseline documentation is essential for any management and particularly in the event of disasters.

ICOMOS notes the absence of a documentation officer from the DBM Unit, whose responsibility should be standardization, updating and management of documentation for different purposes such as inventory, archaeological research, conservation, management, interpretation and presentation.

Legal protection

The property is protected by the Bahrain Antiquities Law of 1970, as amended by Legislative Decree No. 17 of 1985 and Legislative Decree No. 11 of 1995.

Accordingly, the property's location and boundaries were forwarded to the Ministry of Works, Municipalities Affairs and Urban Planning to be listed in the zoning plans as archaeological areas.

The buffer zones are protected by Decree Law No. 11 of 1995, articles 7 and 8, as they surround protected properties. In addition, the protection of the buffer zones is integrated in the Land Use and Zoning regulations, which are subcategories of the Physical Planning Legislation of 1994.

The protection of archaeological sites is implemented by relevant bylaws such as Resolution No. 28 of 2009 Zoning Regulations for Construction, and Resolution No. 56 of

2009 Implementation Regulations Bylaw for Subdivision of land prepared for Construction and Development.

The National Planning and Development Strategies which was commissioned in 2007 by the Ministry of Works, Municipalities Affairs and Agriculture, and further developed in 2011 and revised in 2015, recognises all the property components as archaeological sites.

Bahrain's Economic Vision 2030 includes among its goals to encourage the preservation of sites and archaeological treasures by protecting them from potential negative effects of development processes. The DBM Unit experts are actively engaged with the planning authorities and other governmental agencies to ensure the protection of the nominated property and the control of its buffer zones, including applying control measures, such as the height of buildings, on sites within the buffer zones that are categorized as "Under Study", "Special Project" or "Ministry of Housing".

Management system

The Directorate of Archaeology and National Heritage within the Bahrain Authority for Culture and Antiquities (BACA) is the responsible department for managing cultural heritage. It includes three sections: Archaeology Section, Heritage Section and Conservation Section.

The Dilmun Burial Mounds Unit (DBM Unit) is under the three sections and is responsible for the management of the nominated property. This Unit is currently staffed by four experts who are multi-tasking, addressing and coordinating issues of archaeology, conservation, interpretation, visitor management, promotion, education and marketing. The DBM Unit will be expanded to include the relevant profiles needed for the various management tasks. It will also outsource some services, particularly in areas of maintenance, security and commercial services.

The management plan identifies six strategic objectives and an action plan for each objective, as follows:

- 1) Administration and finance;
- 2) Land ownership and urban development;
- 3) Research;
- 4) Conservation;
- 5) Awareness-raising and community involvement; and
- 6) Interpretation, presentation and visitor management.

Sources of finance are mainly government funds via biennial budgets and project-specific budgets. Other sources of finance include a trust fund and revenue generated by the property.

The management plan has been approved and implemented since January 2018 to an extent. The list of Actions (including Monitoring activities) will run until December 2023 and includes around 700 Actions distributed across the six Strategic Objectives and from various actors.

ICOMOS notes that although the nomination dossier identifies a number of potential disasters and risks which may impact the property, a risk preparedness plan is missing from the management plan.

Visitor management

Strategic Objective 6 of the management plan addresses interpretation, presentation and visitor management. Planned visitor facilities include:

- Information points in Madinat Hamad 1, Madinat Hamad 3 and Janabiyah;
- A visitor centre in Madinat Hamad 2;
- Interpretation centre in A'ali Burial Mound Field;
- Pottery workshops in A'ali village.

Pre-visit information will be provided via an official website. Plans also include presentation material, publications, guided visits and other activities such as exhibitions and lectures, as well as activities catering for children.

Community involvement

The local community is involved in monitoring the mounds. Part-time employees, guards and wardens are recruited from local communities.

At A'ali, the local community use the mounds in their everyday life. Awareness-raising and education activities by the DBM Unit aim to eradicate harmful use while encouraging use that does not impact the property.

The Interim Report requested from the State Party clarification on meeting the challenges of protecting the Royal Mounds of A'ali, which are greatly intertwined with the urban fabric.

The State Party submitted additional information in February 2019 explaining that these challenges are met on different levels and by different means, including awareness-raising of the local community, municipal control on all building activities, DBM Unit monitoring of any construction activities through a network of local guards, and raising the sense of pride of place in the community by improving the quality of fencing, signage and presentation of the mounds.

Remarkable efforts have been made and more efforts are needed to change community practices, which included in the past cutting into the mounds to provide kiln platforms, animal pens, outdoor meeting spaces, parking spaces, road widening and house building.

The community was made aware of and consulted on the nomination of the property. The following activities, which are outlined in the management plan, have already begun:

- School trips to the Bahrain National Museum;
- Educational workshops for children;
- Local community with regards to building permits reviews within the buffer zones;
- Signage and fencing have been improved;

- Local community participated in cleaning campaigns;
- Interviews and data collection were carried out for compiling the community involvement plan;
- Recorded interviews with the local community were presented in an exhibition in support of outreach activities.

Evaluation of the effectiveness of the protection and management of the nominated property

The management plan for the nominated property is approved and its implementation has started. Adequate legal protection and funding are in place. The DBM Unit is formed, even if not fully staffed, and has been actively managing the property.

A unified study and documentation of the current state of conservation of each element of the property is needed as a priority. The management plan does not address documentation and management of records in a clear way. Also, a documentation officer is needed for the DBM Unit to ensure appropriate planning and management of documents and records.

A risk management plan should be developed and added to the management plan.

ICOMOS considers that the protection and management of the property are adequate. A unified study and documentation of the current state of conservation of each element of the property is needed as a priority. Documentation management needs should be addressed, and a risk management plan should be developed and endorsed.

6 Conclusion

ICOMOS considers that the Early Type mounds should be included in the justification for inscription as the present boundaries of the nomination include examples of the Early Type mounds. This inclusion would enhance the integrity of the property as it would include all types of Dilmun burial mounds, even if the major examples of the Early Type are within Umm Jidr and Wadi as-Sail Mound Fields that are planned for nomination as an extension of the present nomination in 2022. The inclusion of the Early Type mounds would support the justification of criteria (iii) and (iv) as the most extensive and most apparent evidence of the Early Dilmun culture. They represent unique sepulchral testimony to the Early Dilmun civilization. The revised justification for inscription should also include newly published information on the Royal Mounds.

The State Party has agreed with this recommendation.

ICOMOS considers that the serial approach is justified, the selection of sites is appropriate, and the nominated property meets criteria (iii) and (iv) and conditions of integrity and authenticity.

The lack of complete and consistent documentation weakens the authenticity of the property and poses a problem for the management of the property. This issue should be tackled by a dedicated strategic objective in the management plan, an indicator for regular monitoring, and the creation of a documentation officer at the DBM Unit.

Conservation measures should be prioritized and implemented once the currently on-going condition assessment survey for the property has been completed.

The main threats to the property are development pressures, environmental pressures and visitor pressures. Disasters may include heavy rainfall, strong storms, earthquakes and fire. Legal protection and management systems are adequate.

7 Recommendations

Recommendations with respect to inscription

ICOMOS recommends that the Dilmun Burial Mounds, Bahrain, be inscribed on the World Heritage List on the basis of **criteria (iii) and (iv)**.

Recommended Statement of Outstanding Universal Value

Brief synthesis

The Dilmun Burial Mounds is a serial property formed by 21 archaeological sites located in the western part of the island of Bahrain. Six of the selected site components are burial mound fields consisting of some dozen to several thousand tumuli. Together they comprise about 11,774 burial mounds. The remaining 15 site components consist of 13 single royal mounds and two pairs of royal mounds, all embedded in the urban fabric of A'ali village.

The Dilmun Burial Mounds were constructed during the Early Dilmun Period over a period of 300 years, approximately between 2050 and 1750 BCE. The property encompasses the most representative sites of Early and Late Type Dilmun Burial Mound construction. The burial mounds bear witness to the flourishing of the Early Dilmun civilization around the 2nd millennium BCE. During that period, Bahrain gained economic importance on an international level as a trade hub which led to population growth and, as a consequence, to a more diversified social complexity. The latter is best reflected in the extensive necropoli with their variety of graves, comprising burial mounds of various sizes, as well as chieftain mounds and the grandest of them all, the royal mounds.

Archaeological evidence shows that the burial sites were originally not constructed as mounds but as cylindrical low towers. The royal mounds, characterized by their pronounced sizes and elaborate burial chambers, were constructed as two-storeyed sepulchral towers forming a ziggurat-like shape. Two of the last Dilmun kings have

been identified as Ri' Mum and Yagli-'El in relation to the royal mounds 8 and 10.

The Dilmun Burial Mounds illustrate globally-unique characteristics not only with regards to their numbers, density and scale but also in terms of construction typology and details, such as their alcove-equipped burial chambers.

Criterion (iii): The Dilmun Burial Mounds represent unique sepulchral testimony to the Early Dilmun civilization over a period of 300 years. As remains of settlements are scarce and buried under thick layers of soil, the Dilmun Burial Mounds are the most extensive and most apparent evidence of the Early Dilmun culture. At the time, the newly gained prosperity allowed the island's ancient inhabitants to develop an elaborate burial tradition applicable to the entire population. The excavated mounds provide a cross section of various social groups in the Early Dilmun society, attesting to thousands of individuals of different age, gender, and social class. They also offer crucial evidence on the evolution of elites and ruling classes. The ancient inhabitants of Bahrain understood the special geological configuration of the island and used less fertile land for the development of these extraordinary cemeteries.

Criterion (iv): The evolution of the Early Dilmun civilization is reflected in the architecture of the Dilmun Burial Mounds. Four different mound types give clues about the emergence of social hierarchies. Even though the burial mounds can be divided according to variations in size and interior design, the basic layout of the mounds remains the same throughout the 300-year period. The construction typology is exceptional. The majority of the tombs were constructed as single-storeyed small cylindrical towers while some of the bigger two-storeyed examples were built in a ziggurat-like shape. A very particular and unique characteristic of the Dilmun tumuli construction is the presence of alcoves. Depending on the occupant's social status there can be up to six of such alcoves which were usually filled with mortuary gifts.

Integrity

The serial property displays the original distribution of Early and Late Type Dilmun Burial Mounds, organized in individual cemeteries. It excludes two fields which provide evidence of the great majority of Early Type Early Dilmun Burial Mounds (Wadi as-Sail and Umm Jidr) which are planned to be nominated as an extension in a second nomination phase. The five distinct types of burial mounds reflect a hierarchy of the ancient population and present a cross section of various social groups of the Early Dilmun society.

Most of the tumuli have not been excavated and their fabric is completely intact, solely impacted by occasional ancient looting and natural erosion that has transformed the once sepulchral towers into mounds. As a result of previous development activities, the setting has lost parts of its integrity. In particular the direct vicinity of residential

developments affects the visual integrity of some of the property components. However, urban developments have come to a halt due to effective arrangements in the protection and management of the site. Corrective measures are underway and include the introduction of green belts around the ancient cemeteries in order to improve their visual setting.

Authenticity

The serial property is authentic in terms of its location, function, material and substance, form and design, as well as density. Despite having been impacted by erosion and partially by looting in ancient times, the mounds' architecture, layout and interior design remain intact. The particular characteristics and distribution of Early and Late Types of Early Dilmun Burial Mounds within the cemeteries are excellently displayed. The density of fields in a limited area is exceptional as well as the unique concentration of burial mounds within each cemetery.

Management and protection requirements

All site components of the Dilmun Burial Mounds serial property are registered as National Monuments and are protected according to the Kingdom of Bahrain Legislative Decree No. 11 of 1995 concerning the Protection of Antiquities. The restrictions for urban development within the buffer zones of the site components are integrated in the Land Use and Zoning regulations which are subcategories of the Physical Planning Legislation of 1994. Site administration is carried out by the Bahrain Authority for Culture and Antiquities. A unit with the Directorate has been designated for the administration of the property.

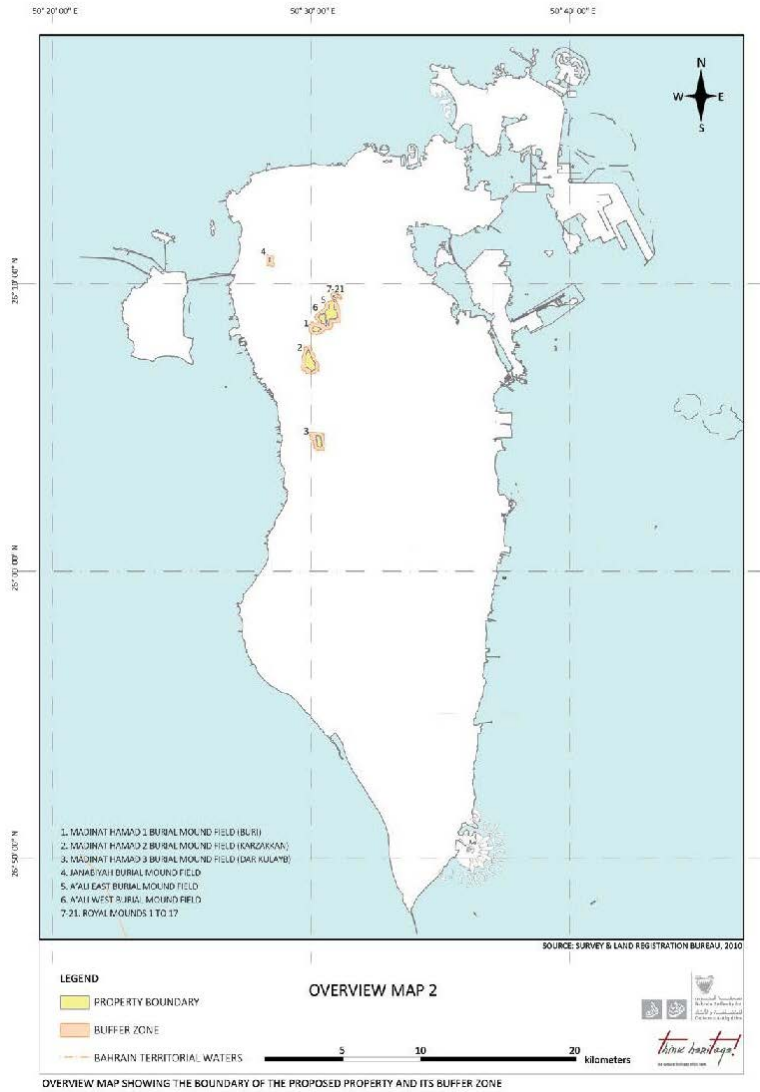
The Dilmun Burial Mounds Management Plan has been approved and effective since January 2018 for a period of five years, including long-term objectives for the site. It is envisioned as an integrated management and action plan with the following key strategic themes: administration and finance, land ownership and development, research, conservation, awareness-raising and community involvement, as well as interpretation, presentation and visitor management. The management plan works also as a protection plan as it addresses the main threats to the site components, which are development pressures, pollution and erosion.

Additional recommendations

ICOMOS further recommends that the State Party give consideration to the following:

- a) Completing the condition assessment survey for all the features of the property, then developing a conservation action plan accordingly,
- b) Adding documentation as a strategic objective to the management plan,
- c) Adding more indicators to monitor visitor impact, stakeholders' involvement and capacity building and documentation as a separate issue to be monitored,

- d) Adding a documentation officer position to the DBM Unit,
- e) Developing a risk management plan,
- f) Completing all required actions to ensure that the extension of this property to include Umm Jidr and Wadi as-Sail mound fields is implemented for 2022;



Map showing the location of the nominated components



Madinat Hamad 3 Burial Mound Field



Partially excavated Chieftain Mound



Royal Mound 1



Burial chamber at Royal Mound 8

**Historic Village of Rijal Almaa
(Saudi Arabia)
No 1576**

WITHDRAWN

**Sharjah: Gateway to the Trucial States
(United Arab Emirates)
No 1566**

WITHDRAWN

IV Cultural properties

- A Africa**
New nomination

- B Arab States**
New nominations
Nomination deferred by previous session of
the World Heritage Committee

- C Asia – Pacific**
New nominations

- D Europe – North America**
New nominations

- E Latin America – Caribbean**
New nominations

Babylon (Iraq) No 278rev

Official name as proposed by the State Party

Babylon

Location

Babil Governorate
Iraq

Brief description

Babylon is located 85 km south of the Iraqi capital Baghdad, within the territory of the Shatt Al-Hillah Municipality in the Babil Governorate. The nominated property includes the archaeological remains contained in both the inner and the outer city wall as well as selected agricultural areas surrounding the ancient city. At its centre are the excavated ruins of the ancient Neo-Babylonian city of Babylon. Subsequent layers within the property boundaries include the added administrative headquarters of the Babil Archaeology Department, the police headquarters of the site, the offices of Babil Governorate and others. Three artificial hills, conical with flat tops, were built during the former Iraqi President Saddam Hussein's reign, with his palace constructed on one of them. In addition to the archaeological site and the 20th century additions, the villages of Annanah, Sinjar, al-Jimjmah, New Kweiresh and Bernoun are all located within the property.

Category of property

In terms of categories of cultural property set out in Article I of the 1972 World Heritage Convention, this is a *site*.

1 Basic data

Included in the Tentative List

29 October 2003

Background

This property was first considered in 1983, when the Bureau of the World Heritage Committee in its decision CONF 009 VIII.30-31 decided to defer the property back to the State Party in order to prepare a safeguarding plan, provide more information on ongoing and envisaged restorations, and define better the boundaries of the property.

On 24 June 2005 UNESCO at its headquarters in Paris arranged for a special session aimed at assessing the condition of the site of Babylon, devising measures to mitigate damage which had occurred, coordinating activities and efforts, and assisting the Iraqi authorities to prepare an overall conservation and management plan for

the site. Three independent damage reports were requested and discussed at a second special session organized on 22 November 2005 in Berlin in cooperation with the German authorities. A third special session on 12 November 2007 analysed these reports and made recommendations for a three-phased approach which included establishing an ICC (International Coordination Committee for Safeguarding of the Cultural Heritage of Iraq) Sub-committee for the safeguarding of Babylon, to investigate further the condition of disturbed areas within the property and to collaborate towards a comprehensive management and conservation plan for the site. The ICC Plenary Session on 13-14 November 2007 in Paris confirmed the establishment of an ICC Sub-committee for the protection, conservation and management of the archaeological site of Babylon.

At the request of UNESCO, John Russell visited Babylon in July 2008 and John Curtis and Tamar Teneishvili visited the property in February 2009. The ICC Sub-committee prepared a draft report for damage assessment in Babylon based on these commissioned assessments and, on this basis, developed recommendations towards emergency interventions in view of a partial reopening of the site to the public. A final report on the damage assessment was issued by UNESCO in 2009. The report of John Russell was published in 2010.

Consultations and Technical Evaluation Mission

Desk reviews have been provided by ICOMOS International Scientific Committees, members and independent experts.

An ICOMOS technical evaluation mission visited the property from 30 September to 6 October 2018.

Additional information received by ICOMOS

A letter was sent to the State Party on 9 October 2018 requesting further information about the proposed justification for Outstanding Universal Value, maps, and aerial as well as other photographs. The State Party responded on 7 November 2018, providing a response on the proposed justification of Outstanding Universal Value. It also submitted a management plan for the property, which had been officially adopted on 19 September 2018. This information has been incorporated in the relevant sections of this evaluation report.

An Interim Report was provided to the State Party on 9 January 2019 summarising the issues identified by the ICOMOS World Heritage Panel. Further information was requested in the Interim Report including: submission of a redefined boundary delimitation, elaboration on future strategies to protect the property from private development, a conservation plan including human and financial resources dedicated to conservation measures, and information on envisaged future archaeological research.

Additional information was received from the State Party on 25 February 2019 in response to the questions raised in the Interim Report. This includes a new boundary

delineation and further information on conservation, legal protection and research plans. The information has been incorporated into the relevant sections of this evaluation report.

Date of ICOMOS approval of this report

13 March 2019

2 Description of the property

Note: The nomination dossier and additional information contain detailed descriptions of this property, its history and its state of conservation. Due to limitations on the length of evaluation reports, this report only provides a short summary of the most relevant aspects.

Description and history

Babylon is located 85 km south of Baghdad, within the territory of the Shatt Al-Hillah Municipality in the Babil Governorate. It contains the remains of the ancient Neo-Babylonian city of Babylon, its city walls and temples, as well as a number of architectural and landscaping additions constructed in the second half of the 20th century. As the archaeological remains and the 20th century additions form distinctly separate layers at the property, these will be described consecutively.

Babylon was the centre of the Neo-Babylonian Empire between 626 BCE and 539 BCE. Only 18 percent of the archaeological city has been excavated up to today, but this has revealed much important evidence about this ancient city, shedding light on one of the most important kingdoms of the Ancient Near East. The excavations, which began in the mid-19th century, discovered strata of different occupations reaching back to the 3rd millennium BCE. The key period of Babylon, however, began in 626 BCE, when Nabopolassar rose to power (626–605 BCE) and especially under his successor, Nebuchadnezzar II (604–562 BCE), who created a vast empire, making Babylon a significant capital. This new role as regional capital was supported by a monumental construction programme and most of the presently-excavated remains date back to this period of intense construction. The comparatively brief fame of Babylon ended under King Nabonid (562–539 BCE), whose religious reforms in favour of the moon god Sin made him move the capital to Harran, west of Babylon.

Excavations in Babylon commenced as early as 1842, when Paul-Émile Botta, the French Consul at Mosul, started archaeological investigations. Hormuzd Rassam, on behalf of the British Museum, conducted excavations at Babylon from 1879 to 1882, focused mostly on recovering cuneiform tablets to supply the emerging field of Assyriology. Between 1899 and 1918, the Deutsche Orient-Gesellschaft (DOG) conducted the first systematic excavations at Babylon. The excavations' findings form the basis of our knowledge of ancient Babylon's topography.

The key buildings and structures, which today testify to Babylon as the Neo-Babylonian capital, are the Northern Palace, the Summer Palace, the Esagila Temple, the

Ninurta Temple, the Z-Temple, the Gula Temple and the remains of the Etemenanki or Ziggurat of Babylon. Visually more recognizable today are the Southern Palace, the Ishtar Temple, the Nabu sha khare Temple, the Processional Way and the Ishtar and Marduk Gates, which were all reconstructed, based on their archaeological remains, during the 1980s as part of the 'Revival of Babylon Project'. These elements are surrounded by the remains of the outer and inner city walls, which remain as visible markers in the landscape. Towards the outer areas of the property, one finds the villages of Annanah and Sinjar on the west bank of the Shatt al-Hillah, al-Jimjma on the east bank, New Kweiresh (corresponding to the modern-day al-Intisar Village) to the northeast, and Bernoun Village to the northwest. Agricultural lands in and around the property remain in use for the grazing of livestock.

The alterations to the site in the 1980s went beyond the reconstructions of the 'Revival of Babylon Project', which in themselves were vast, and conducted in inappropriate materials. Structures added into the territory of the archaeological city include the administrative buildings of the Babel Archaeology Department, the police headquarters, and the Babel Governorate. These are extended by a complex of buildings of different purposes, including the Babylon Conference Centre, a park with kiosks for visitors, and a small docking facility for tourist boats. Three artificial, conical hills with flat tops, each 30 metres high and 300 metres in diameter, were created and arranged in a triangular shape at a distance of 2.5 km on three sides of the property. The former Iraqi president Saddam Hussein's palace was built on the westernmost of these hills, while the others were purportedly intended to be stations of a cable car transport system to carry his visitors over the site. However, this transport system was never implemented. Further landscaping features created at the same time include artificial canals and lakes in the northern and eastern part of the site.

The negative impacts of the 'Revival of Babylon Project', and the inappropriate architectural constructions from the 1980s onwards, were further exacerbated by the military use of the site, initially by Iraqi forces and from April 2003 by the Coalition Forces. Not only during the military usage but also during the period between the different military occupations of the site, damage to site structures and looting occurred. Camp Alpha, which was used by United States and Polish forces, covered more than 150 hectares of the inner archaeological site and provided barracks for around 2000 soldiers. The impacts of alterations and uses in the late 20th and early 21st century have been the subject of several damage assessment reports commissioned and published by UNESCO, which were submitted as annexes to the nomination dossier.

Boundaries

The initially-nominated property had an area of 1054.3 hectares, and a buffer zone of 154.5 hectares. The property boundaries corresponded to the limits of the ancient outer city wall with its surrounding agricultural areas and also included 20th century constructions and reconstructions, such as the artificial landscape

alterations. The unexcavated archaeological evidence which was documented in a survey of 1914 lies fully within the property boundaries. The buffer zone surrounds the property, with a depth of 100 meters on all sides, which corresponds to the legal requirements of the Law of Antiquities no. 55 of 2002, requiring that all protected archaeological areas establish an additional protection zone of 100 meters around the boundary of the archaeological remains.

ICOMOS considered that the proposed outer boundaries of the initial boundary delineation were clearly and logically delineated and covered all known archaeological evidence of Neo-Babylonian Babylon. The area corresponded to the legal registration under national legislation. However, ICOMOS expressed regret to the State Party that within these boundaries several elements were located, which cannot be considered as potential attributes of the proposed Outstanding Universal Value. ICOMOS was concerned that if these elements, in particular the 20th century reconstructions, palace and office buildings, as well as landscape alterations, remain located within the property boundaries, they could be mistaken as part of the value-constituting attributes, thus it might be more desirable to limit and reduce their negative impacts.

ICOMOS therefore requested the State Party in its Interim Report to consider revising the proposed boundaries by developing a three-dimensional boundary delineation, which includes all remaining archaeological evidence above-ground and underground, and excludes the alterations in landscaping and added 20th century architecture from the property. The alterations would then be part of the buffer zone.

In response, the State Party submitted a new, three-dimensional boundary concept on 25 February 2019. In this revised delimitation, the outer boundaries remain identical while a number of 20th century constructions have been excluded above-ground – thereby becoming islands of buffer zone within the property – while potential or known archaeological resources below these remain explicitly within the property. Excluded are numerous areas including the three artificial hills with Saddam Hussein's palace located on the westernmost side, the contemporary village housing located within the property, individual government buildings such as the police headquarters and conference centre, as well as manifold others. Retained within the property, however, are the reconstructed walls on the archaeological remains, as well as the artificial landscaping interventions in the form of canals and an artificial lake, which were created in the 20th century. These have recently been drained of water and archaeological evidence is probable below their former ground-levels.

ICOMOS regrets that the notion of considering Babylon as a cultural landscape, which was presented in the tentative list entry, was not pursued in the present nomination and recommends that further studies should aim at investigating further the relationship of the Neo-Babylonian capital with its wider landscape, in particular in the western direction towards the Euphrates River. In this context,

ICOMOS notes that a buffer zone 100 meters wide does sufficiently provide an added layer of protection for the excavated and not yet excavated archaeological evidence. With its limited extent, however, it cannot contribute to the protection of the visual setting. ICOMOS recommends considering exploring whether a future extension of the buffer zone could assist in addressing actual and potential future challenges which can be identified in the wider setting of the archaeological city.

State of conservation

Based on the information provided by the State Party and the observations made by the ICOMOS technical evaluation mission, ICOMOS considers that the state of conservation is concerning if not critical in many instances.

All archaeological monuments and excavations, including those partially or wholly reconstructed during the 20th century, suffer from a lack of maintenance and lack of a well-defined and programmed approach to conservation. The excavated and unrestored sections have turned into earth hills as a result of erosion processes; the reconstructed ones suffer from the additional load that incompatible materials have added and show signs of deterioration, in particular at the intersections between ancient foundations and added reconstructions. All areas suffer from uncontrolled growth of trees and other vegetation.

With regard to individual monuments, there are structural instabilities, such as at the Marduk Gate, which, despite its rebuilding in 1978 with modern fired bricks and cement mortar, presents large cracks resulting from the differential settlement of its structural elements. The Ninmakh Temple, Ishtar Gate, the Southern Palace and the Ishtar Temple also suffer from incompatible materials added during the 'Revival of Babylon Project'. In addition, these and other structures are affected by undercutting of their lower walls as a result of poor drainage during rain falls and water erosion and capillary action. Other damage phenomena observed include the peeling-off and loss of internal and external plaster layers, as well as bird droppings causing both physical damage and aesthetic issues. A couple of structures, such as sections of the inner city wall, have deteriorated to such an extent that they require improvised shoring systems to prevent collapses.

Due to the severe conservation challenges observed, ICOMOS requested the State Party in its Interim Report to communicate all conservation measures which were planned to address these multiple issues, as well as provide information on the human and financial resources available to undertake conservation activities. The State Party indicated in its response of 25 February 2019, that the responsibility for conservation of the Ishtar Gate had been given to the World Monuments Fund, with a budget of 750,000 USD.

Following a decision of the Prime Minister, the site administration had received an additional 600,000 USD from state resources for the budgetary year 2018/19. These have been used to clear military remains, start works on the

new visitor centre, and to undertake urgent conservation work on Ninmakh, Nabu-sha-Hare and Ishtar Temples. In addition, the Council of Ministers of Iraq is said to have decided to grant an additional 20 million USD to the archaeological site of Babylon. However, no concrete conservation activities envisaged in the short- or medium-term were elaborated and neither did the State Party provide plans of how conservation priorities will be defined and a programmed conservation approach prepared.

ICOMOS considers that the state of conservation of the property raises severe concerns and in most places must be described as a level of decay and deterioration which constitutes an obvious danger to the proposed Outstanding Universal Value of the property. ICOMOS recommends that the conservation plan which is planned to be prepared in cooperation with the World Monuments Fund should be elaborated and finalized and that the available funds are used to finance immediate conservation activities in the sections most critically affected, as well as the preparation of a thorough and comprehensive conservation plan for the property.

Factors affecting the property

Based on the information provided by the State Party and the observations of the ICOMOS technical evaluation mission, ICOMOS considers that the main factors affecting the property are several, most predominantly development pressures in the form of illegal and semi-legal constructions on private land, inappropriate human use such as for trash dumping or burning, meteorological risks, such as weathering, surface flooding and erosion, and hydrological risks, through ground water penetration and natural vegetation growth. All the above risks are very likely to occur and will continue to damage the property irreversibly. Other potential risks include damage from fire, animal disturbances and potential future reconstructions or developments in the archaeological sections.

The State Party has developed a comprehensive risk map which documents their full awareness of the different levels of actual and potential risk within the property. However, even though the risk factors are known and impacts have been assessed, little to no action has been undertaken to deter, reduce or prevent the impacts or sources of several of these risks or mitigate their adverse effects on the property. ICOMOS recommends that the management and conservation plan needs to comprehensively address all of these risks and propose concrete measures as to their effective reduction and mitigation.

3 Proposed justification for inscription

Proposed justification

The nominated property is considered by the State Party to be of Outstanding Universal Value as a cultural property for the following reasons:

- The Neo-Babylonian capital of Babylon constitutes a unique testimony of one of the most influential empires of the ancient world, and its historic and

cultural value for humanity is on a par with that of the greatest archaeological sites and historic cities of the ancient world;

- 'Babylon' is a name which throughout the centuries has evoked an image of power, wealth, splendour and decadence. Thanks to Biblical sources and classical authors, the image of Babylon flourished long after the city itself had crumbled and Babylon's power to fascinate has not diminished to this day.

Comparative analysis

The comparative analysis is embedded within a regional framework of four historic empires which are related in one way or another to the Neo-Babylonian Empire, and cites the major historic cities within a similar time frame and within Babylon's geo-cultural context. These are Sumerian city states, the Akkadian kingdom, the kingdoms of Babylon, both the Old Babylon and New Babylon, as well as the Assyrian empires, including the Old, Middle and New Assyrian Empires. The comparative analysis indicates that the Babylonian Empires, and in particular the Neo-Babylonian Empire, are not currently included among those ancient Mesopotamian empires represented on the World Heritage List. It therefore indicates that this particular ancient empire provides a gap to be filled.

The comparative analysis then continues to compare early capitals outside the Mesopotamian region, including those of the ancient Greeks, Romans and Egyptians. ICOMOS considers that, while comparative analyses can always be broader and wider to also, in this case, compare ancient capitals at a global level, the essential comparators are within Mesopotamia and the comparative analysis has successfully illustrated that Babylon is without comparison as the Neo-Babylonian capital city and an important symbolic reference in monotheistic reference texts and classical literature.

ICOMOS considers that the comparative analysis justifies consideration of this property for the World Heritage List.

Criteria under which inscription is proposed

The property is nominated on the basis of cultural criteria (iii) and (vi):

Criterion (iii): *bear a unique or at least exceptional testimony to a cultural tradition or to a civilization which is living or which has disappeared;*

This criterion is justified by the State Party on the grounds that Babylon is one of the largest and oldest settlements in Mesopotamia, which provides testimony to the seat of successive powerful empires under such famous rulers as Hammurabi and Nebuchadnezzar. It is the most exceptional testimony of the Neo-Babylonian Empire, representing its cultural achievements at their height and showing the full flowering of the civilization's creativity.

ICOMOS considers that Babylon is indeed an exceptional testimony of both the Babylonian and, most particularly, the Neo-Babylonian Empire, which, although it witnessed

a comparatively brief time span as the capital, is testimony to a highly productive phase in architectural and urban creation. ICOMOS therefore considers that the application of criterion (iii) is justified in reference to the Babylonian and Neo-Babylonian Empires to which it provides testimony, but not necessarily to earlier or later civilizations that have also left occasional traces and evidence within the city.

Criterion (vi): *be directly or tangibly associated with events or living traditions, with ideas, or with beliefs, with artistic and literary works of outstanding universal significance;*

This criterion is justified by the State Party on the grounds that Babylon figures in the religious texts and traditions of the three Abrahamic religions as well as innumerable other artistic and literary representations as a powerful symbol and multifaceted metaphor. Its association with one of the seven wonders of the ancient world, the Hanging Gardens, as well as the Tower of Babel, has inspired artists and created numerous associated images and tales. The State Party suggests that the heavy investment by Iraqi leaders in the 20th century, who strove to leave their mark by reconstructing the grandiose ancient monuments of Nebuchadnezzar, continued this tradition of the symbolic power of Babylon as a foundation of national pride.

ICOMOS considers that, while in principle the multiple historic and religious references and the symbolic importance of Babylon in the arts and literature merits the application of this criterion, the suggestion that the 20th century alterations could be recognized as contributing to this continuity and hence provide a contribution to the Outstanding Universal Value cannot be accepted. ICOMOS therefore notes that the reference to the fact that Babylon remained an icon of Iraqi national identity cannot be seen as an exceptional significance at a global scale. As a result, ICOMOS recognizes that this criterion is justified in reference to Babylon's function as a model, parable and symbol of ancient power for over two thousand years.

ICOMOS considers that the nominated property meets criteria (iii) and (vi).

Integrity and authenticity

Integrity

The State Party considers that the buildings and other urban features contained within the property include all archaeological remains since the time of Hammurabi until the Hellenistic period, and specifically urbanistic and architectural features from the Neo-Babylonian period, when the city was at the height of its power and glory. ICOMOS confirms that, in terms of completeness, all relevant archaeological remains are encompassed within the property boundaries.

However, ICOMOS considers that the nominated property suffers from the adverse effects of a variety of predominantly anthropogenic threats including illegal constructions, trash dumping and burning, small-scale industrial pollution, urban encroachments and other environmental factors. In terms of urban encroachments, aerial photos clearly show that houses have been constructed within the western Outer City wall since 2009. In the additional information provided on 25 February 2019, the State Party indicates that since 2018, the site administration has been initiating court proceedings aimed at prosecuting illegal constructions. As a result of this, 11 court orders have been issued demanding the removal of the illegal constructions. The so-called tourist village situated north of the Hellenistic Theatre was built with recreational objectives and the buildings were last used during the occupation of the site by the allied forces and then abandoned in 2009.

The general physical fabric of the site is in a critical condition as a result of neglect and lack of programmed efforts towards conservation. In ICOMOS' view the pace of deterioration is faster than the pace of the maintenance programme and intended conservation interventions. For this reason, ICOMOS, in its Interim Report, requested the State Party to explain in more detail its conservation and maintenance efforts. The State Party responded on 25 February 2019, stating that additional funds of 20 million USD had been made available for the next 5 years to address conservation concerns. However, no concrete plan of prioritization or programmed conservation approach exists at this stage. ICOMOS recommends that the State Party prioritizes the preparation of a conservation plan for the property, which should include quality indicators for the conservation desired as well as qualification profiles for those who will implement the parallel conservation efforts on site.

ICOMOS considers that both the reconstructions and structural alterations of the 'Revival of Babylon Project' and other constructions in the 1980s have affected the integrity of the property. It has continued until very recently to be jeopardized by illegal constructions. Whilst the State Party has given assurances that since 2018, court orders are being obtained for prosecution and removal of illegal constructions, ICOMOS remains concerned and concludes that, unless the legal protection is 'de facto' implemented and a programmed approach to conservation applied, the integrity of the property remains at stake.

Authenticity

The State Party considers that some physical elements of the site have been viewed as problematic in terms of authenticity, such as the reconstructions built on archaeological foundations, which aimed at making the scanty archaeological remains better visible to visitors. In most cases, however, these additions are discernible from the original remains and are said to have diligently followed the original plans exposed through archaeological excavations. The State Party argues that these did not affect the legibility of the spatial organization of the urban

core, and of the inner and outer city limits, which remain discernible today.

ICOMOS considers that the number of reconstructions is unusually high and that some of these were almost complete reconstructions based on very scanty archaeological evidence. The height and design of these reconstructions is thus based on conjecture rather than scientific or archaeological evidence. These volumetric aspects of the reconstructed monuments and the additions in successive restorations did affect the ability of parts of the property to convey authenticity in form and design with regard to these archaeological remains. Likewise, based on the introduction of new materials, these monuments illustrate limited authenticity in material and substance. ICOMOS considers that, whilst these reconstructions remain within the boundaries of the property, the State Party has indicated that within the context of developing an overall conservation plan, their condition will be evaluated and all possible options, including removal, will be considered to ensure the preservation in the best possible way of the remains of the ancient walls at their foundations. Authenticity in this context is nevertheless confirmed in view of the large majority of unexcavated and non-reconstructed archaeological evidence, which by far exceeds these problematic areas.

In conclusion, ICOMOS considers that the requirements of integrity and authenticity have been met for the large majority of the property but are highly vulnerable as a result of the clear danger which exists in the very worrying state of conservation.

Evaluation of the proposed justification for inscription

The comparative analysis justifies the consideration of Babylon for the World Heritage List and has highlighted that the Babylonian Kingdoms constitute a gap not yet adequately represented on the List. The proposed property fulfils the justification of criteria (iii) and (vi). However, due to the large-scale archaeological reconstruction programme which was implemented between the 1960s and 1980s and now causes conservation concerns, as well as severe threats including from illegal constructions on the site, the integrity of the property is highly vulnerable. The overall state of conservation constitutes a clear danger, which likely will affect the remaining integrity in the near future. Likewise, although the qualifying condition of authenticity is affected with regards to several information sources, it remains satisfactory for the considerable areas with unexcavated remains but is endangered as a result of the general state of dilapidation and decay.

Attributes

Attributes of the Outstanding Universal Value are all archaeological remains within the former outer city wall, as well as the testimonies of nearby agricultural lands cultivated during the Babylonian era. The attributes comprise the remains of ancient palaces, temples, gates and other urban features and explicitly include the foundations below the reconstructions of the 20th century and the layer of archaeological evidence below 20th century

alterations and reconstructions. With regards to this layer, it should be noted that only 18 percent of the site has been systematically excavated and a very important attribute relates to the future potential of the site for the gaining of further knowledge about the Babylonian and Neo-Babylonian civilizations. The 20th century landscaping additions, and constructions in the form of settlements, administrative housing, visitor facilities and a palace, have been explicitly excluded from the property and remain in an above-ground buffer zone. These explicitly do not feature as attributes and have no capacity to contribute to the Outstanding Universal Value.

ICOMOS considers that, whilst the cultural criteria (iii) and (vi) are met, the conditions of authenticity and integrity are highly vulnerable. They are already affected in some areas of the property and might be further lost as a result of the ascertained dangers identified in regard to the overall state of conservation of the property.

4 Conservation measures and monitoring

Conservation measures

Almost all monuments at Babylon suffer from lack of maintenance. The excavated and unrestored monuments are slowly transforming into mounds of rubble; the reconstructed ones suffer from the adverse effects resulting from the incompatible materials, in particular mortars introduced during the reconstructions; and from the growth of natural vegetation and trees. Those ruins which have been reconstructed upon are at times also affected by the additional loads of these reconstructions on top of the authentic archaeological foundations, causing differential settlement and damaging the remaining few authentic parts. The few monuments that are in better shape at present are the ones which have received preliminary cleaning and conservation under the 'Future of Babylon' project in collaboration with the WMF. These are the Ishtar Gate, the Inner City Wall, the Ninmakh Temple, the Nabu sha Khare Temple and the Ishtar Temple.

The only active conservation measures undertaken on site in recent years have been those under the 'Future of Babylon' cooperation with the World Monuments Fund. This partnership was established in 2005. In 2010, due to a grant from the United States Ambassadors Fund for Cultural Preservation, a condition survey was commenced and the development of a management and conservation plan commissioned. While the management plan has been officially approved, it only contains rather generic references to conservation priorities and strategies, so a comprehensive conservation plan is yet to be finalized and should be given priority.

Monitoring

A set of twelve monitoring indicators has been submitted in the nomination, which includes monitoring of humidity in the form of rain water retention, ground water levels, humidity levels in archaeological remains and phenomena of salt crystallization, erosion phenomena, use of agricultural

lands, and urban encroachment. In addition, the Management Plan which was approved in September 2018 and submitted with the additional information on 7 November 2018, foresees as one of its strategic aims the wider involvement of different stakeholders within these monitoring processes and calls for the establishment of a World Heritage compliance monitoring system, aimed at ensuring the compatibility of each decision taken and measure implemented, with the Outstanding Universal Value of the property.

ICOMOS considers that baseline surveys available give a good indication of the state of conservation, and the monitoring and conservation plans which are planned to be established according to the management plan will be essential to develop a programmed approach to conservation. It is most important to develop a priority intervention scheme for conservation based on the critical condition of several monuments and parts of the site.

5 Protection and management

Documentation

Plans and photos of the excavated monuments and objects discovered on site have been taken and drafted since the beginning of systematic excavations in the early 20th century. The originals are being deposited at the Baghdad Museum archives while digitized copies are available to the management team in Babylon. Since 2012, the State Party has been collaborating with the World Monuments Fund on a project called 'Future of Babylon', which aims at assessing the site condition, developing a priority-based conservation plan, and stabilizing the archaeological ruins to prevent immediate losses.

A baseline survey was conducted to gather information towards this objective and set immediate priorities. In this context CyArc was requested to undertake a laser scanning survey for two monuments, namely the Ishtar Gate and the Nabu sha khare Temple. Recently, drone photographs of some areas of the site were taken and are available in the site's database and digital photograph storage. For the less central areas of the property, the management team is still dependent on maps which were drawn in the early 20th century, although the World Monuments Fund has drawn a new map of the site based on the systematic compilation and overlay of other available maps.

At the enquiry of ICOMOS in the dialogue process with the State Party, it was indicated that no archaeological surveys or excavations are envisaged in the near future and priority will be given to non-intrusive survey methods to preserve the maximum possible of future information potential. This approach was confirmed and reiterated in the additional information received on 25 February 2019. ICOMOS strongly commends this approach and recommends highlighting the urgent priority for conservation to any foreign requests for archaeological cooperation.

Legal protection

The property is protected by the Law of Antiquities, no 55 of 2002, which is a specific national law with high priority over other general public laws. This law provides essential protection against unauthorized excavation or development on the property. The law imposes prosecution of up to 15 years of imprisonment for acts against archaeological heritage, which is a powerful tool when cited by the archaeological administration, which is designated as the enforcing authority of this law.

However, despite the solid 'de jure' protection, ICOMOS is concerned that the 'de facto' protection is less sound than is desirable, as its implementation is hindered by socio-political interference. The State Party indicated in the additional information provided on 25 February 2019 that since 2018, illegal constructions have been prosecuted more consistently and that 11 court orders for removal of illegal constructions had been issued. In ICOMOS' view, these will act as a warning sign and likely reduce the desire to invest in constructions that may need to be removed later. However, the real challenge lies in the implementation of these court orders to allow for long-term protection in the sections of the property which are privately-owned, and where ownership rights conflict with the antiquity legislation.

ICOMOS recommends continuing the strict approach of legal prosecution and to transform the entire property into a no-construction zone, which is enforced in the Iraqi context by means of expropriation. While ICOMOS notes that this is a long-term process consuming a considerable amount of financial resources, which may not be easily available and which should currently be directed towards the urgent conservation needs, it seems the only possible option to ensure, legally and on-the-ground, the long-term protection of the archaeological remains.

Management system

The overall management authority for the property lies at the state level with the State Board of Antiquities and Heritage (SBAH) in Baghdad, which is responsible for the conservation and monitoring of the site and is the Iraqi partner within the 'Future for Babylon' collaboration. Within the SBAH a section for World Heritage sites exists, which was involved in the development of the management plan for the property. At the governorates level, Antiquity and Heritage Directorates (AHDs) are directly responsible for day-to-day conservation, monitoring and management concerns. The Babil AHD is located within the property and includes sections dedicated to restoration and conservation, investigation and museums. The AHD employs antiquity inspectors who are engaged in daily control and monitoring of the site.

Although there is no formally designated site management unit under the AHD, a management team was established by ministerial decision. In addition to the above institutions, the government of Iraq created an inter-ministerial Committee for World Heritage Sites in 2013. This Committee plays a crucial role in the vocalization of World Heritage concerns in high-level decision-making processes.

A management plan was approved on 18 September 2018 which was co-signed by the Minister of Culture, Tourism and Antiquities, the Deputy Minister of Culture, the Director General of the National Committee for the Babylon Project, and the National Focal Point for Culture with UNESCO. The management plan sets out a realistic and detailed identification of the risks, issues and conservation challenges on-site and formulates general aims and policies to address these. Unfortunately, these policies and aims remain abstract and the plan provides very limited guidance towards the concrete implementation of these general schemes and guiding principles, as it remains without structured actions, clear methodologies or resource references.

ICOMOS notes that the short-term actions indicated for the forthcoming 5-year period, do not include all the urgent actions needed to reduce the most important risks which currently threaten the preservation of the historic fabric and affect the integrity of the property. Priorities are not sufficiently identified within the needed time-frame and in ICOMOS' view a rearrangement of activities towards full prioritization conservation activities is needed. ICOMOS therefore recommends that the management plan is augmented by a comprehensive conservation plan, indicating needs for priority and emergency interventions and providing detailed implementation-oriented guidance as well as quality indicators for successful implementation.

Visitor management

The site has been reopened to visitors and has parking spaces and a ticketing office. A visitor centre, to be located in the former Hammurabi Museum, and the development of a visitor route, are planned and outlined in the management plan. Other facilities such as public bathrooms are also planned to be provided in different sections of the large-scale property. Two huge parking areas at the entrance of the site are another legacy of the 'Revival of Babylon Project', but are now planned to be used for different events, which in the past used to take place in the Hellenistic amphitheatre. Within the projected visitor plan, electric cars would take visitors from the parking space to the archaeological ruins. While some electric cars are already available, lack of regular maintenance leaves these non-functioning at present.

In terms of interpretation, the site contains two recently-installed interpretation panels in Arabic and English, providing a brief introduction to the site's history and key features. There is also one interpretation panel with a site plan, which remains from the 1980s. The museum provides visitors with a model of the inner historic city. ICOMOS considers that the interpretation of the property is rather scanty at present and does not pay due credit to its historic importance. The management plan indicates several strategies to address this lack of interpretation in the future. However, while this is extremely important, ICOMOS considers that immediate priority should be given to conservation rather than interpretation until the most critical conditions have been stabilized.

Based on the revised boundary concept submitted by the State Party in response to ICOMOS' Interim Report, it would be beneficial to communicate to visitors the fact that 20th century additions have been excluded from the property and that exclusion zones are located within the larger property boundaries.

Community involvement

The State Party indicates that the local communities were involved and consulted in both the preparation of the nomination and the management plan. Despite this intense consultation, they have not been attributed any active roles in the processes and policies outlined by the management plan. Other than by means of providing short-term jobs in cleaning, construction or gardening, the local communities do not seem to be given shares, benefits or even revenues in relation to the site. ICOMOS considers it would be desirable to establish closer collaboration between the Site Management Unit and the local, residential communities as well as civil society at large.

Evaluation of the effectiveness of the protection and management of the nominated property

Despite good intentions and coordinated efforts by the State Party as well as significant financial resources made available, the effectiveness of protection and management still remains limited. While the formal legal protection is adequate, its 'de facto' implementation faces challenges, with illicit urban encroachment continuing on site since 2009. Recent legal action and court orders to remove illegal constructions should be consistently implemented. The adopted management plan provides a good basis of agreed-upon principles and general policies for site management but does not provide any action-oriented guidance towards its implementation or resourcing. ICOMOS considers that short-term priorities of the management plan may have to be rearranged to focus all efforts and resources on the immediate conservation challenges the site is facing.

ICOMOS considers that legal protection is present but requires strict implementation: conservation pressures are vast and constitute an obvious danger to the property. All resources should therefore be channelled towards addressing these as a priority.

6 Conclusion

The nominated property of Babylon is an exceptional testimony of the Babylonian and Neo-Babylonian Empires, which are not currently represented on the World Heritage List. Babylon has also been a powerful symbol and metaphor, not only in religious texts of the three monotheistic religions but also as a symbol and reference in the arts and literature at large. ICOMOS therefore considers that the property justifies the cultural criteria (iii) and (vi). However, ICOMOS considers that the 20th century additions to the property, which were driven by the aim of utilizing the site's symbolic power for political representation and nation-building, cannot be seen as

contributing to this Outstanding Universal Value. These rather had a detrimental effect to the property's authenticity and integrity. ICOMOS therefore appreciates the removal of the 20th century constructions and several landscaping interventions from the property boundaries by creating above-ground buffer zone islands within the property.

The conditions of integrity, which are largely satisfied in terms of wholeness, are challenged and vulnerable in terms of intactness. The preparation of a priority conservation plan and programmed approach to conservation is essential to divert the clear danger the site is facing at present. The consistent application of the legal protection, also through implementation of issued court orders for the removal of illegal constructions, remains essential. Authenticity will not be fully recovered for some areas, where irreversible changes have had an impact on the credibility of the archaeological remains. ICOMOS recommends, however, that when interpreting authenticity, it should be kept in mind that the large majority of the property remains unexcavated and retains a significant potential to provide knowledge based on the yet unaltered and unexcavated remains.

The state of conservation of Babylon raises serious concerns, with several structures in urgent need of conservation and several on the verge of collapse. ICOMOS considers that this critical state of conservation constitutes a clear threat to the integrity of the property, in accordance with paragraph 179 of the *Operational Guidelines*.

While the management plan, which was adopted in September 2018, addresses general aims and principles towards conservation, it does not guide active conservation measures nor does it provide a comprehensive conservation plan with identification of priority interventions. ICOMOS recommends that the development and finalization of such a conservation plan should be given the highest priority. ICOMOS commends the intention of the State Party to focus future research on non-intrusive technologies and give clear priority to conservation rather than excavation.

Whilst the legal protection of the site is adequate at a formal level, ICOMOS is concerned about the ongoing construction and urban encroachment activities on site. ICOMOS therefore considers that effective legal protection needs to be implemented, including by strict implementation of the recently obtained court orders for the removal of illegal constructions on site. ICOMOS further recommends declaring the property a no-construction zone and to prepare a plan for the expropriation of all privately-owned parcels within the property. While ICOMOS notes that this is a time- and resource-consuming process, it should be launched at the earliest possible opportunity to create further awareness of the property's needs at both governorate and national level.

ICOMOS considers that a clear threat exists to the integrity of the property, in accordance with paragraph 179 of the *Operational Guidelines*. Indeed, the property is faced with specific and proven imminent dangers in terms of its state of decay and dilapidation, with several structures on the verge of collapse, which could lead to significant loss of historical authenticity and of cultural significance.

In view of the vulnerabilities of and threats to the cultural attributes as well as the lack of priority conservation schemes and a comprehensive conservation approach, ICOMOS considers that the property should be inscribed under criteria (iii) and (vi) and at the same time be inscribed on the List of World Heritage in Danger. This should be seen as a way forward to mobilise further international resources to address the conservation problems.

7 Recommendations

Recommendations with respect to inscription

ICOMOS recommends that Babylon, Iraq, be inscribed on the World Heritage List on the basis of **criteria (iii) and (vi)**, and be simultaneously inscribed on the List of World Heritage in Danger.

ICOMOS also recommends that the State Party invites a mission to the property as soon as possible to agree on a Desired State of Conservation for the removal of the property from the List of World Heritage in Danger, based on the cultural attributes of Outstanding Universal Value and to be reached through a detailed conservation strategy and corrective measures that can then be phased and costed. Efforts would then be made with the assistance of the UNESCO World Heritage Centre and ICOMOS to find partners, technical support and donors to support this conservation project.

Recommended Statement of Outstanding Universal Value

Brief synthesis

Babylon is an archaeological site which stands out as a unique testimony to one of the most influential empires of the ancient world. One of the largest, oldest settlements in Mesopotamia and the Middle East, it was the seat of successive powerful empires under such famous rulers as Hammurabi and Nebuchadnezzar. As the capital of the Neo-Babylonian Empire (626-539 BCE), it is the most exceptional testimony of this culture at its height and represents the expression of this civilization's creativity through its unusual urbanism, the architecture of its monuments (religious, palatial and defensive) and their decorative expressions of royal power. Babylon radiated not only political, technical and artistic influence over all regions of the ancient Near and Middle East, but it also left a considerable scientific legacy in the fields of mathematics and astronomy.

As an archaeological site, Babylon possesses exceptional cultural and symbolic associations of universal value. The property represents the tangible remains of a multifaceted myth that has functioned as a model, parable, scapegoat and symbol for over two thousand years. Babylon figures in the religious texts and traditions of the three Abrahamic faiths and has consistently been a source of inspiration for literary, philosophical and artistic works. The buildings and other urban features contained within the boundaries of the property (outer and inner-city walls, gates, palaces, temples including the ziggurat, the probable inspiration for the Tower of Babel, etc.), include all its attributes as a unique testimony to the neo-Babylonian civilization, in particular its contribution to architecture and urban design. Eighty-five percent of the property remains unexcavated and of primary importance to support the site's Outstanding Universal Value through further conservation and research.

Criterion (iii): Babylon dates back to the third millennium BCE and was the seat of successive powerful empires under such famous rulers as Hammurabi and Nebuchadnezzar. As the capital of the Neo-Babylonian Empire (626-539 BCE), it is the most exceptional testimony of this culture at its height and represents the expression of this civilization's creativity during this highly productive phase in architectural and urban creation.

Babylon's cultural legacy was enhanced by previous Akkadian and Sumerian cultural achievements, which included the cuneiform writing system, a significant tool for today's knowledge of the history and evolution of the region in general and Babylon in particular. In turn, Babylon exerted considerable political, scientific, technological, architectural and artistic influence upon other human settlements in the region, and on successive historic periods of Antiquity.

Criterion (vi): Babylon functioned as a model, parable and symbol of ancient power for over two thousand years and inspires artistic, popular and religious culture on a global scale. The tales of Babel find reference in the religious texts of the three Abrahamic religions. In the works of Greek historians, Babylon was distant, exotic and incredible. Classical texts attribute one of the seven wonders of the world to Babylon: the Hanging Gardens; and other texts speak of the wondrous Tower of Babel. Both are iconic but have their origins in real ancient structures of which archaeological traces are still preserved: the ziggurat Etemenanki and Nebuchadnezzar's palatial complex.

Integrity

The boundaries of the property encompass the outer walls of the neo-Babylonian capital on all sides. These limits are well marked by remnants of the fortifications in the form of mounds visible on the ground and they are also confirmed by archaeological surveys. The buildings and other urban features contained within the property include all archaeological remains since the time of Hammurabi until the Hellenistic period, and specifically urbanistic and architectural products of the Neo-Babylonian period when the city was at the height of its power and glory. These

represent the complete range of attributes of the property as a unique testimony to the Neo-Babylonian civilization, and the material basis for its cultural and symbolic associations.

The property suffers from a variety of threats including illegal constructions, trash dumping and burning, small-scale industrial pollution, urban encroachments and other environmental factors. At the time of inscription, the general physical fabric of the site is in a critical condition and lacks programmed efforts towards conservation. Both the reconstructions and structural alterations of the 'Revival of Babylon Project' and other constructions in the 1980s have negatively affected the integrity of the property. Whilst the constructions of the 20th century are excluded from the property and now function as above-ground buffer zones within the property area, the future management of these within the overall property will be critical to the preservation of the fragile condition of integrity.

Authenticity

Some physical elements of the site have been viewed as problematic in terms of authenticity, in particular the reconstructions built on archaeological foundations, which aimed at making the scanty archaeological remains better visible to visitors, and the 20th century interventions within the property. In most cases, however, these additions are discernible from the original remains. Whilst it is a matter of debate whether these did affect the legibility of the spatial organization of the urban core, the inner and outer city limits remain discernible today and approximately 85 percent of the property is unexcavated. Authenticity of these remains is very vulnerable based on the critical state of conservation of the property.

For the reconstructed sections, the authenticity of the property above-ground is problematic. While all other 20th century constructions were excluded from the property and covered by the above-ground buffer zones, the unusually high number of reconstructions and the fact that some of these were almost complete reconstructions based on very scanty archaeological evidence remains an unfortunate part of the history of the property. The height and design of these reconstructions is therefore based on conjecture rather than scientific or archaeological evidence. These volumetric aspects of the reconstructed monuments and the additions in successive restorations did affect the ability of parts of the property to convey authenticity in form and design with regard to these archaeological remains. Likewise, based on the introduction of new materials, these monuments illustrate limited authenticity in material and substance.

Management and protection requirements

The property falls under the jurisdiction of the Iraqi Antiquities and Heritage Law No. 55 of 2002, which aims to protect, conserve and manage all archaeological sites in Iraq. The law is also concerned with surveying, excavating and documenting all archaeological sites and presenting them to the public. The law is enforced by the State Board of Antiquities and Heritage, a body under the authority of

the Ministry of Culture, Tourism and Antiquities. At the provincial level, the Directorate of Antiquities and Heritage of Babil is directly responsible to ensure the conservation, management and monitoring of the property, and works in collaboration with the Antiquity and Heritage Police who maintain a station near the site.

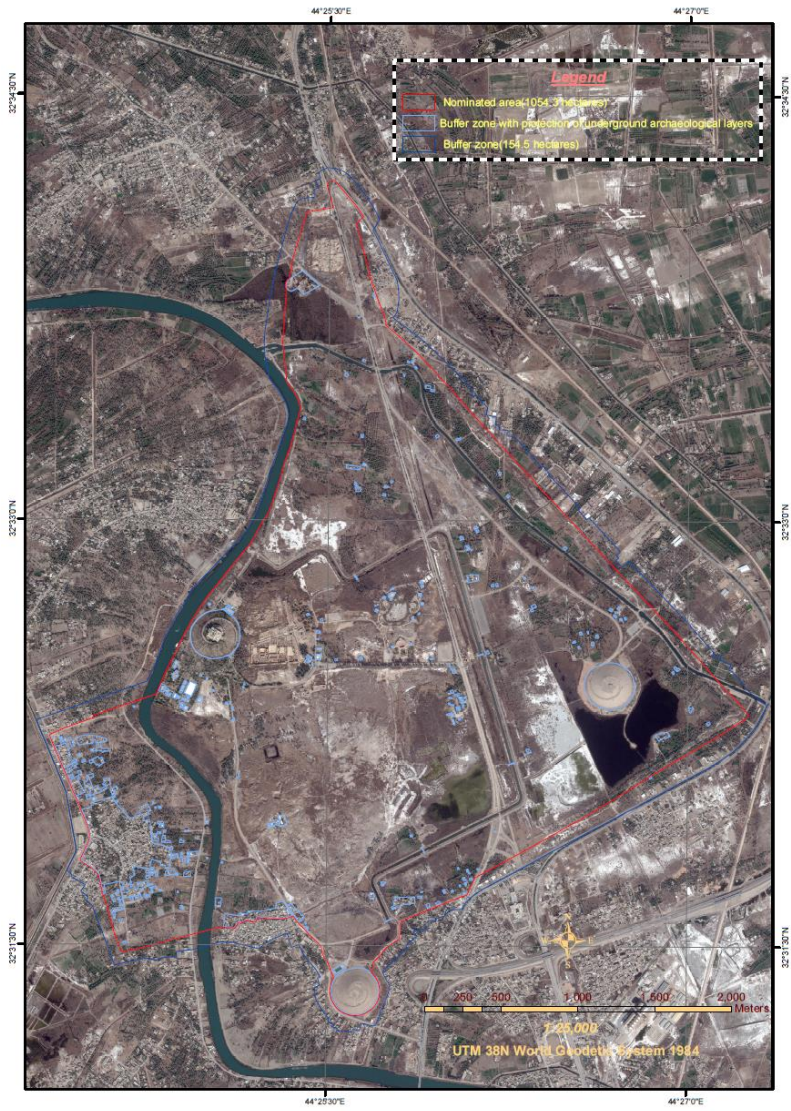
ICOMOS encourages international cooperation to support the protection and conservation of the property.

The state of conservation of the property is very concerning and constitutes an ascertained danger in the absence of a coordinated programmed conservation approach with urgent priority interventions. A management plan has been developed through an in-depth consultation process with local and national stakeholders since 2011. Both the federal and provincial governments have committed sufficient levels of funding to ensure that the property is conserved, studied and developed for visitors to international standards while protecting its Outstanding Universal Value. It is essential that the overall principles laid out in the plan are subsequently transferred to concrete actions on site, prioritizing conservation to prevent immediate losses which can occur at any time, in particular in case of rainfalls.

Additional recommendations

ICOMOS further recommends that the State Party give urgent consideration to the following:

- a) Developing and finalizing the comprehensive conservation plan for the property and within this address the various risk factors identified in the risk map provided, including through proposing concrete measures towards their effective reduction and mitigation as well as the establishment of a priority intervention scheme for the most urgent conservation measures needed,
- b) Augmenting the management plan to include the above-described conservation plan, to allow the management team to focus on priority, emergency interventions and providing detailed implementation-oriented guidance as well as quality indicators for its successful implementation,
- c) Researching further the relationships between the Neo-Babylonian capital and its wider landscape, in particular towards the Euphrates River, which is located a few kilometres west of Babylon and, based on the outcomes of this research, consider further extending the buffer zone in order to address actual and potential future challenges which can be identified in the wider setting of the archaeological city,
- d) Communicating to visitors the revised boundary concept and the explicit exclusion of 20th century additions from the property,
- e) Submitting to the World Heritage Centre by 1st December 2019 a report on the implementation of the recommendations set out above for examination by the World Heritage Committee at its 44th session in 2020;



Revised map showing the boundaries of the nominated property



Panoramic view of the Northern Palace



The remains of the Gula Temple



Etemenanki, the Ziggurat of Babylon



Esagila Temple

IV Cultural properties

- A Africa**
New nomination

- B Arab States**
New nominations
Nomination deferred by previous session of
the World Heritage Committee

- C Asia – Pacific**
New nominations

- D Europe – North America**
New nominations

- E Latin America – Caribbean**
New nominations

Budj Bim Cultural Landscape (Australia) No 1577

Official name as proposed by the State Party

Budj Bim Cultural Landscape

Location

Glenelg and Moyne

State of Victoria

Australia

Brief description

The Budj Bim Cultural Landscape is situated within the traditional Country of the Gunditjmara, an Australian aboriginal nation, in the south-west of the State of Victoria. The property comprises the Budj Bim volcano and Budj Bim lava flows, which extend over 50 km west and southwards, Tae Rak (Lake Condah) and Killara (Darlot Creek). The lava flows, which connect the three property components, provided the basis of a complex aquaculture network developed by the Gunditjmara, based on deliberate redirection, modification and management of waterways and wetlands. This aquaculture system has provided a six millennia-long economic and social base for Gunditjmara society.

Category of property

In terms of categories of cultural property set out in Article I of the 1972 World Heritage Convention, this is a serial nomination of 3 sites.

In terms of the *Operational Guidelines for the Implementation of the World Heritage Convention* (July 2017) paragraph 47, it has also been nominated as a *cultural landscape*.

1 Basic data

Included in the Tentative List

20 January 2017

Background

This is a new nomination.

Consultations and Technical Evaluation Mission

Desk reviews have been provided by ICOMOS International Scientific Committees, members and independent experts.

Comments on the natural attributes of this property, and their conservation and management were received from IUCN on 20 December 2018 and have been incorporated into relevant sections of this report.

An ICOMOS technical evaluation mission visited the property between 3 and 7 September 2018.

Additional information received by ICOMOS

A letter was sent to the State Party on 10 October 2018 requesting further information about the composition and rationale for selection of serial components and the future plans for management of wild boar populations to prevent damage caused by the boars rooting. The State Party responded on 7 November 2018, addressing all questions posed. The additional information has been incorporated into the relevant sections below.

An Interim Report was provided to the State Party on 22 December 2018 summarising the issues identified by the ICOMOS World Heritage Panel. Further information was requested in the Interim Report including: specifications on the legal mechanisms in place to guarantee the continuity and quality of the overall water system, as well as to prevent land-use changes in plots neighbouring the property. ICOMOS further requested the submission of a hydrological study on sources and movements of water flows, which was said to have been undertaken. Lastly, the Interim Report requested additional information on what the State Party refers to as an “unlimited” buffer zone mechanism.

Additional information was received from the State Party on 28 February 2019, including responses to all questions raised in the Interim Report and two annexed reports: (1) a hydrological feasibility study of the Lake Condah restoration project; and (2) recommendations developed towards the environmental water requirements by the Glenelg Hopkins Catchment Management Authority. This information has been incorporated into the relevant sections of this evaluation report.

Date of ICOMOS approval of this report

13 March 2019

2 Description of the property

Note: The nomination dossier and additional information contain detailed descriptions of this property, its history and its state of conservation. Due to limitations on the length of evaluation reports, this report only provides a short summary of the most relevant aspects.

Description and history

The Budj Bim Cultural Landscape is situated within Gunditjmara Country in the Glenelg and Moyne Shire Councils. The property is proposed in three separate serial components, which are connected by the continuous lava stream of Budj Bim.

The description and history of the Budj Bim Cultural Landscape provided in the nomination dossier draws on two distinct, though intersecting, knowledge systems and cosmologies: Gunditjmara traditional knowledge, and Western knowledge traditions dominated by scientific empirical data.

The Budj Bim Cultural Landscape is a result of a creational process narrated by the Gunditjmaras as a “deep time” story. During the time of creation, Gunditjmaras Country was inhabited by beings which were sometimes human, sometimes animal, sometimes neither and which brought the Country into life. From an archaeological perspective, “deep time” refers to a period of at least 32,000 years that Aboriginal people have occupied and lived on the Western Victorian Volcanic Plains. Over this time, the Gunditjmaras developed and maintained aqua-cultural practices which are illustrated in the nominated property.

The last major eruption of Budj Bim volcano occurred between 39,000 and 30,000 years ago, when the key present landscape features were formed. However, today much of the lava flow is underwater due to sea level rises between 18,000 and 6,000 years ago. Earliest archaeological evidence of the Gunditjmaras aquaculture tradition dates back 6,600 years.

Gunditjmaras people conceive this landscape as imbued with meaning and a sense of purpose. Elders narrate stories of: Ancestral Creation Beings revealing themselves in the landscape, as erupting volcanoes, tsunamis, mountains forming and rivers changing; the relationship between people, animals and plants; the abundant natural resources; settlements and aquaculture; and the arrival of other people to Gunditjmaras Country.

The nominated serial components comprise four different landscape types, recognized by their traditional owners as Woorroorook Mirring or Forest Country, Bocara Woorroorook Mirring or River Forest Country, Koonang Mirring or Sea Country, and Tungatt Mirring, or Stone Country. The latter is focused on the dramatic volcanoes and lava flows. Their shared element is the presence of complex aquaculture systems, composed of constructed channels, weirs and dams used to contain flood waters and create holding and growing ponds for *kooyang* (short-finned eel – *Anguilla australis*). The systems aimed at confining the fish to a restricted area allowing for them to be kept as live storage for consumption over longer periods. Apart from the aquaculture systems, the nominated property presents Gunditjmaras settlement structures and is the focus of manifold cultural traditions and associations practiced and narrated up until the present day.

The northern component, Budj Bim, is by far the largest and contains the Budj Bim volcano (the origin of the lava flows), Lake Condah Mission and parts of the Budj Bim Indigenous Protected Area, wholly owned by the Gunditjmaras (freehold title), who also co-manage Budj Bim National Park located in this component. It lies alongside the lava flow landscape (Stone Country) and contains dry forests and woodlands as well as inland waters and wetlands. Six archaeological Gunditjmaras aquaculture complexes are found in this component, which include 6,600 year-old fish traps.

The second and central component of the Budj Bim Cultural Landscape is named Kurtonitj, which means ‘crossing place’. The Gunditjmaras hold freehold title to this component, which is situated entirely within the Budj Bim

lava flow. It is characterized by wetland swamp and low-lying depressions as well as a number of shallow valleys. Within the Kurtonitj component are two weirs and a dam associated with trapping and holding *kooyang*.

The third, southern component comprises the Tyrendarra Indigenous Protected Area (owned by Winda-Mara Aboriginal Corporation) and a part of the Budj Bim Indigenous Protected Area (owned by Gunditj Mirring Traditional Owners Aboriginal Corporation, GMTOAC). This component is dominated by stony ridges and large swamps. In terms of aquaculture systems, the component includes an inter-connected complex of 18 stone wall dams/weirs and seven excavated channels, as well as numerous swampy depressions used for trapping and holding *kooyang*.

In the mid-19th century new settlers arrived in Gunditjmaras Country and claimed property, which led to a period of extreme violence and conflict. Initially, the Stone Country of the Budj Bim lava flows remained largely inaccessible to the new settlers and hence a stronghold of aboriginal resistance. Two locations within the property bear witness to the massacres which occurred. The 20th century was a very difficult period for the Gunditjmaras in and beyond the property boundaries as a result of unfavourable Australian government policies. Children were forcibly removed from their families, their land became increasingly privatized and as late as the 1970s the Gunditjmaras were unable to access most of their aquaculture complexes. Following intense activism since the 1980s, much of the property has now been returned to its traditional owners. Gunditjmaras native title determinations were issued in 2007 and 2011, which returned significant areas to the Gunditjmaras, who now are given full right of access to and use of the land and water resources, including the margins of Tae Rak where most aquaculture complexes are located.

Boundaries

The area of the three components totals 9,935 ha. The boundaries of the proposed serial property are primarily determined by ownership – the land is either owned by the Gunditjmaras Traditional Owners and designated as Indigenous Protected Areas, or managed as the Budj Bim National Park by the State Government through Parks Victoria in cooperation with the Gunditjmaras.

ICOMOS notes that the property boundaries do not presently include the entirety of the related water system or the Budj Bim lava flow system, both essential elements of the landscape continuity and management approach. The overarching story of the Budj Bim Cultural Landscape, being an interaction between people and their environment, therefore likely extends beyond the proposed boundaries. The water flow is a key element of the subsistence economy, and the lava flow underpins the establishment of the aquaculture system and complexes. Both connect the three serial components but extend between these and into Portland Bay. For example, the Condah swamp to the north of the property is an important context of the overall *kooyang* aqua-culture system.

In terms of the Gunditjmara “deep time” narrative of the property, the southward journey of the lava flows created by the Budj Bim Ancestral Beings expressed the creative powers of dreaming spirits. Like the lava flows, this spirit-scape extends further south into Portland Bay, more precisely up to the sacred site of Deen Mar (Lady Julia Percy Island), where the forbidding cliffs guard the final resting place of the spirits of Gunditjmara people when they die.

ICOMOS in its request for additional information enquired about the rationale for the present boundaries’ designation and the opportunities for an extended, continuous property delimitation along the Budj Bim Lava Stream. The State Party responded on 7 November 2018 indicating that the three serial components include all physical elements of the aquaculture system and is considered to be sufficient in size to also incorporate the cultural features and ecological processes that illustrate the multiple spiritual, geological, hydrological and ecological contexts of interaction. While ICOMOS is satisfied with the response provided, it recommends to continue studies on cultural heritage features along the entire lava flow and to consider a future boundary modification of the property if further features contributing to the proposed Outstanding Universal Value are identified.

The property is not surrounded by a delineated buffer zone. The State Party reasons that the setting is protected by the Australian Government’s Environment Protection and Biodiversity Conservation Act of 1999 which provides sufficient protection and that therefore no buffer zone is required. ICOMOS notes that this act indeed protects the environmental and biodiversity values of the property from negative influences, which may originate outside its boundaries. However, ICOMOS also notes that this legislation does not necessarily cover all identified attributes of the proposed Outstanding Universal Value.

In the additional information received on 28 February 2019 in response to the questions raised in ICOMOS’ Interim Report, the State Party clarified that, based on the Environment Protection and Biodiversity Conservation Act, once a property gains World Heritage status, the statement of Outstanding Universal Value becomes the benchmark of legal protection, regardless of whether this emphasizes environmental or cultural values. Subsequently, the protective designation covers all potential negative impacts from activities outside the property boundary, regardless of their respective distance from the property. ICOMOS considers that this system can be understood as an unlimited buffer zone, provided that monitoring mechanisms are well elaborated and consistently applied.

State of conservation

The serial components of the nominated property are in a good state of conservation. Most environmental and cultural negative impacts of the 20th century, which followed the access restrictions of the Gunditjmara and artificial drainage schemes designed to reduce the swampy

areas and create new lands for agriculture, have now been reversed. In the 1950s the Tae Rak (Lake Condah), originally 250 hectares in size, held only 5 percent of its water capacity, which led to an invasion of pest plant species. Archaeological excavations, which commenced in the 1970s and identified evidence of the Gunditjmara aquaculture system, increased over time the appreciation of the Gunditjmara traditional form of land use.

Since the 1980s the traditional owners have initiated schemes to restore the water levels and water flows at Tae Rak based on Aboriginal heritage values. In 2010, the vision of the Gunditjmara was implemented through construction of a weir, which raised the water levels at Tae Rak to 52.4 metres above the Australian Height Datum over the following two years. Likewise, the re-granting of access to significant areas and the return of land ownership enabled them to restore the traditional cultural landscape use. The restoration and revival of Tae Rak has enabled much of the Gunditjmara aquaculture system to be reactivated.

Based on the information provided by the State Party and the observations of the ICOMOS technical evaluation mission, ICOMOS considers that the state of conservation of attributes within the property boundaries is generally good with active dedicated and appropriate conservation measures, pest control and strong awareness in relation to associated cultural values. The Budj Bim Cultural Landscape is largely free of serious conservation challenges. Only the recent population increase of wild boars raises concerns, as the herds’ rooting activities may cause threats to the archaeological remains. However, in the additional information provided, the State Party made assurances that this recent phenomenon is adequately addressed by pest control strategies already in place (see Factors affecting the property below).

Factors affecting the property

Based on the information provided by the State Party and the observations of the ICOMOS technical evaluation mission, ICOMOS considers that main factors affecting the property are not of immediate concern, with perhaps the exception of the recently observed wild boar populations, which have the capacity to destroy heritage features, such as archaeological aquaculture sites or weirs and dams, whilst rooting. In the additional information provided by the State Party on 7 November 2018, it is outlined that the presence of feral pigs is a very recent phenomenon. Feral pigs have been declared pest animals within the property and Victoria’s Catchment and Land Protection Act of 1994 requires land owners to prevent the spread of and eradicate as far as possible, feral pigs on their land. The State Party assures that an intensive trapping programme commenced in 2016 and that damage from the boars is confined to areas which are absent of volcanic rocks and hence the aquaculture features have not been affected.

Climate change could also become a significant impact factor. Other factors, which have been identified but cannot be considered significant, include development pressures in terms of agriculture, forestry and pastoralism, as well as resource extraction. A small basalt stone quarry continues to operate in an area theoretically within the boundaries which has, however, been excluded for this reason.

In terms of natural catastrophes, potential risks of flooding are considered minor whereas those of wildfires are considered high. Controlled cultural burns are undertaken by the Gunditjmarra to reduce such risk. Currently visitation of the property by tourists is a relatively minor pressure, which might however increase should the property be inscribed. The estimated number of visitors to Budj Bim National Park is 30,000 people per year. However, *the Budj Bim (Tourism) Master Plan* identifies ambitious target visitation numbers for the Budj Bim Cultural landscape: approximately 86,000 visitors by 2030.

3 Proposed justification for inscription

Proposed justification

The nominated property is considered by the State Party to be of Outstanding Universal Value as a cultural property for the following reasons:

- The Budj Bim Cultural Landscape contains one of the world's oldest and most extensive aquaculture systems, managed by the Gunditjmarra for at least 6,600 years.
- This aquaculture system illustrates practices of kooyang (short-finned eel) management, storage, and harvesting; as well as the associated modification and management of the environment.
- Budj Bim Cultural Landscape has sacred origins. Its creation is written in the land and known through the traditions and cultural practices of the Gunditjmarra.

Comparative analysis

The comparative analysis is presented in two key parts: the comparison with sites within Australia and the immediate Pacific Region; and the comparison including World Heritage and Tentative List properties of other areas throughout the world with a comparable combination of proposed Outstanding Universal Value and attributes.

The comparative analysis is rather exhaustive in its comparison of World Heritage properties and considers not only landscapes with aquaculture systems but also other cultural landscapes which are indicative of the longevity of systems of knowledge and cultural practices expressed through interaction with the environment. Likewise, on the Tentative lists relevant sites were identified and cover sites of other regions including Zambia, Canada and Denmark.

Merely at a regional level, the comparative analysis could have been improved by considering the eel aquaculture in Maori traditional practices beyond the sites currently listed in New Zealand. Extensive documentation on the eel and Maori culture exists, with similar aquaculture systems in which the Maori also built weirs, made special ponds and used torches, nets and spears. That being said, based on its own review and academic consultations, ICOMOS confirms that these Maori eel-storage and catching sites are not as extensive or as well preserved as in the Budj Bim Cultural Landscape. The nomination also does not explore the significance of the eel to other neighbouring cultures in the Pacific region. Eels are attributed high cultural significance in Fiji, Samoa and other Pacific nations. However, ICOMOS agrees that no aquaculture systems of similar size, extent and longevity exist within the Pacific region or elsewhere.

ICOMOS considers that the comparative analysis justifies consideration of this property for the World Heritage List.

Criteria under which inscription is proposed

The property is nominated on the basis of cultural criteria (iii) and (v).

Criterion (iii): *bear a unique or at least exceptional testimony to a cultural tradition or to a civilization which is living or which has disappeared;*

This criterion is justified by the State Party on the grounds that the Budj Bim Cultural Landscape bears exceptional testimony to the cultural traditions, knowledge, practices and ingenuity of the Gunditjmarra. Their aquaculture practices have been shown to reach back at least 6,600 years and continue to be used today. They are amongst the oldest, perhaps the oldest, and most extensive, aquaculture traditions in existence.

ICOMOS considers that Budj Bim Cultural Landscape is physically and spiritually imprinted with cultural traditions that have defined the Gunditjmarra people. The physical archaeological remains of their historic aquaculture systems, as well as the physical expressions of the contemporary continuation of aquaculture practices, testifies to this long and continuous interaction between people and natural resources, which form not only a cultural tradition but part of the spirituality and well-being of the Gunditjmarra.

ICOMOS considers that criterion (iii) has been justified.

Criterion (v): *be an outstanding example of a traditional human settlement, land-use, or sea-use which is representative of a culture (or cultures), or human interaction with the environment especially when it has become vulnerable under the impact of irreversible change;*

This criterion is justified by the State Party on the grounds that Budj Bim Cultural Landscape is a rare, intact and representative example of a cultural landscape that has survived through the continuity of Gunditjmarra cultural

and social practices and traditional management approaches. The attributes within the property are seen as an outstanding example of a traditional human interaction with the environment and form a representative example of an organically-evolved, continuing cultural landscape.

ICOMOS considers that the exceptional interaction of the Gunditjmara with their lands was created throughout their ancestral history and continues to the present day. The contemporary guardians of the land express this continuity of land-use by means of modifying and maintaining an extensive hydrological engineering system which redirects water flows in order to trap, store and harvest kooyang that migrate seasonally through the system. Beyond the physical elements, such as channels, weirs, dams, ponds and sinkholes, this interaction between people, animals, plants and land features is supported and maintained through Gunditjmara narratives and cultural traditions.

ICOMOS considers that criterion (v) has been justified.

ICOMOS considers that the nominated property meets criteria (iii) and (v).

Integrity and authenticity

Integrity

The State Party considers that Budj Bim Cultural Landscape meets integrity as the serial selection demonstrates completeness in that the three components include the eight largest and a representative selection of other smaller Gunditjmara aquaculture complexes. For this reason, the State Party is of the view that the 9,935-hectare serial property is sufficient in size to incorporate the cultural features and ecological processes that illustrate the ways multiple systems – social, spiritual, geological, hydrological and ecological – interact and function and demonstrate Gunditjmara aquaculture. This was reiterated in the response provided to ICOMOS' request for additional information on 7 November 2018, which enquired whether a possible future extension could be envisaged. The State Party indicated that the selected areas covered the most representative elements of the traditional water management and that ownership contexts prevented further extensions at present. The authors further highlight that, based on the cooperative management between the National Park and the traditional owners, the property is basically free of threats and adverse effects.

ICOMOS agrees that the Budj Bim Cultural Landscape is free of relevant threats that might affect its future intactness. However, ICOMOS also notes the potential for features of the proposed Outstanding Universal Value, physical and associated, to extend beyond the current property boundaries. The lava flow, the basis of the water management complexes but also the narrative of creation and cultural significance to the Gunditjmara, connects the three components and continues its physical presence

between and beyond these three. Whilst ICOMOS notes that the most significant and best preserved aquaculture complexes are located within the three components, the wetland and riverscape extends beyond them, the water management features extend towards the Lake Condah swamps in the North, while the ancestral embodiment of Budj Bim Cultural Landscape extends further southwards to Deen Mar (or Lady Julia Percy Island) in Portland Bay. ICOMOS therefore recommends, in the short- to medium-term, undertaking further studies to determine whether additional, relevant features of the proposed Outstanding Universal Value might be located outside the property boundaries and possibly consider a boundary modification in this regard.

Authenticity

Authenticity of Budj Bim Cultural Landscape is based on its continuity of use and function and traditional management as well as, at times, of material, substance, location, setting and intangible cultural associations and practices. The nomination attributes a high degree of authenticity to the Budj Bim Cultural Landscape based on millennia of oral tradition and continued cultural practices of the Gunditjmara people. Authenticity in addition is said to find expression in the physical evidence of the Gunditjmara aquaculture system, which retains the form and functionality it has had during the past millennia and in relation to the underlying lava flow, the continued functioning of the water flows, and the presence of kooyang.

ICOMOS considers that while authenticity of use and function as well as ownership and traditional management practices was historically partially interrupted for much of the 20th century, with the recent restitution of property rights to the Gunditjmara Traditional Owners – and with it the refilling of Tae Rak and reestablishment of continued use of aquaculture complexes – much of this former weakness in terms of authenticity has been reduced. ICOMOS notes that the section located within the Budj Bim National Park has not yet been returned to sole management by the Gunditjmara and with it full opportunity of traditional interaction with the environment. However, the cooperative management approach ensures that attributes retained are sustainably managed and preserved, which is considered sufficient for the demonstration of authenticity for this section of the property also.

ICOMOS also notes that whilst authenticity has been successfully strengthened within the property boundaries, additional features which might contribute to the proposed Outstanding Universal Value but which do not enjoy the same level of authenticity, may remain located outside the designated boundaries.

If such future studies would demonstrate that integrity could be strengthened through the inclusion of further features presently located outside the nominated property's boundaries, ICOMOS would recommend consideration of a future boundary modification to more adequately recognise the indivisibility of the place's use and meaning.

ICOMOS considers that the requirements of integrity and authenticity have been met for the proposed serial nomination.

Evaluation of the proposed justification for inscription

The Budj Bim Cultural Landscape provides largely intact physical evidence for one of the world's oldest and most extensive aquaculture systems, dating back to at least 6,600 years ago and based on kooyang harvesting and management. The property illustrates the complexity of traditional interaction with the environment and management of aquaculture systems on the Australian continent and therefore is important for understanding the range and complexities of eco-cultural relationships that the Gunditjmara have and had with managing their local environments and resources. This ongoing dynamic relationship is nowadays carried by knowledge systems retained through oral transmission, continuity of practice and documentation, in spite of past colonial dispossession and loss. All these aspects bear clear evidence for Outstanding Universal Value and the proposed nomination justifies criteria (iii) and (v).

Attributes

Physical attributes and features of the Budj Bim Cultural Landscape's Outstanding Universal Value include the Budj Bim volcano, the lava flows and the constructed evidence of aquaculture, both archaeological and contemporary, along the waterways and wetlands formed by the Budj Bim lava flows. These include modified channels (*yereoc*), weirs (stone and wood), dams, ponds and sinkholes developed to manage water and water flows in order to systematically trap, store and harvest kooyang. Attributes further include the traditional management practices and cultural associations of the Gunditjmara, who retain an exceptional interrelationship with their natural environment.

ICOMOS considers that the nominated property demonstrates Outstanding Universal Value and meets criteria (iii) and (v), as well as the conditions of integrity and authenticity.

4 Conservation measures and monitoring

Conservation measures

The most recent large landscape conservation measure was the removal of an artificial drainage system at Tae Rak in 2010 which allowed for the lake to be flooded, and with it the reutilization of the Gunditjmara aquaculture complexes. The management plan sets out that similar initiatives are to follow as it formalises the goal to "Restore cultural water flows to prioritize aquaculture channels and functioning eel traps that support cultural tourism and commercial use in the Budj Bim National Heritage Landscape". ICOMOS considers these measures essential but also sees these as opportunities to identify potential additional attributes outside the currently-designated property boundaries.

The continuity of associated Gunditjmara practices, traditions and knowledge – expressed through oral traditions, dance, landscape management methods such as cultural burning, and resource utilisation, such as basket weaving and rock building – is essential to the conservation of the nominated property. This memory resides with elders of the Gunditjmara and the young people are being mentored to continue traditions and practices. ICOMOS considers that this is indeed of critical importance and that further conservation routines for the archaeological remains should be designed.

Monitoring

A monitoring system with indicators is presented by the State Party. It is focused on ensuring the continuity of documentation, cultural practices, land management and aquaculture with indicators related to vegetation features and the condition of the physical aquaculture structures. Additional indicators are set aimed at monitoring climate change, water flows, pest controls, native flora and fauna and wildfire risks. The monitoring indicators will be incorporated into *the Budj Bim Cultural Landscape World Heritage Strategic Management Framework*, if the property is inscribed on the World Heritage List.

ICOMOS considers that while the current indicators presented are suitable for monitoring key aspects of the state of conservation of the nominated property, additional indicators are needed to assess other factors that affect the property. These might include the extent of continuity and change of cultural traditions, practices and associative values, the variation in the involvement of youth in traditional land-use practices, skills, festivals or celebratory events, as well as possible changes in the ways the property values and management schemes are appreciated by the relevant communities of interest and respected by visitors.

ICOMOS considers that current conservation activities and monitoring schemes are suitable but could be further augmented to ensure and monitor the continuity of traditional land management and cultural practices.

5 Protection and management

Documentation

In archaeological terms, an initial inventory and state of conservation report on the evidence of Gunditjmara aquaculture (channels, dams, weirs and ponds) was undertaken at the time of the first archaeological field surveys in the late 1970s and 1980s. In 1989-1990, archaeologist Anne Clarke revisited many of the previously-recorded sites and documented a number of new sites. Her inventory study provided basic condition assessments for 88 aquaculture features, 129 stone circles and 7 stone artefact scatters and provided baseline data against which future assessments could be compared. Subsequent archaeological surveys and investigations undertaken by Aboriginal Victoria (2004) and Monash University (since 2006) focussed on particular elements of the Tae Rak

aquaculture complexes, documenting the condition of the aquaculture features. Recently a condition report of trees growing in or besides aquaculture features was added.

The Gunditjmara traditional land management practices as well as social and cultural traditions related to the land are not formally inventoried in written resources but are handed on through oral traditions. While this is the most adequate method of knowledge transmission, ICOMOS considers that those aspects of the cultural and management traditions which can be shared outside the community could ideally be integrated in a GIS database. A GIS database of Budj Bim Cultural Landscape does exist under the administration of Aboriginal Victoria, but is barely referenced in the nomination. ICOMOS considers that the complex and multi-layered documentation capacity of the GIS database could make important contributions to management and conservation efforts and provide content for communication and interpretation.

Legal protection

The nominated property enjoys various levels of legal protection at local, regional and national level. A large part of the nominated property (about 90% of the Budj Bim component and about half of the Tyrendarra component) was included on the National Heritage List of Australia in 2004. The remaining Kurtonitj component and other sections are merely protected in their natural heritage values by means of the Australian Environment Protection and Biodiversity Conservation Act of 1999, under which cultural heritage values will be recognized once the property is inscribed on the World Heritage list. This is supported by local planning schemes. Glenelg and Moyne Shires have established a 'special use zone' over parts of the Budj Bim component, including Tae Rak. The purpose of the special use zone is to provide for the development of land consistent with the protection and management of the natural and Aboriginal cultural values.

ICOMOS considers that it would be desirable to have all components and proposed property areas recognized on the Australian Heritage List as well as being covered by the 'special use zone' of the Glenelg and Moyne Shires.

With the exception of the Budj Bim National Park, which is under a co-management arrangement between the Gunditjmara and the Victorian Government, the Budj Bim Cultural Landscape is wholly within the Country of the Gunditjmara and is subject to the traditional and customary rights and obligations of the Gunditjmara Traditional Owners. These rights are recognised under the Australian Government's Native Title Act 1993 and the Victorian Government's Aboriginal Heritage Act 2006.

Management system

The management system is to be coordinated by the Budj Bim Cultural Landscape World Heritage Steering Committee, which is yet to be established and prepared for following the property's World Heritage inscription. This Committee will have a majority of Gunditjmara Traditional Owners and include local community representatives to advise on the management of the property. A Budj Bim

Cultural Landscape World Heritage Framework will also be finalised and adopted by all relevant parties (GMTOAC, Winda-Mara Aboriginal Corporation, Australian and Victorian Governments) and will be the basis of the work of the Steering Committee.

On the ground, management is undertaken by a range of professional and service staff, employed by Parks Victoria, Aboriginal Victoria, the Department of Environment, Land, Water and Planning, the GMTOAC and the Winda-Mara Aboriginal Corporation. Notable among the institutional management arrangements is the Budj Bim Ranger Programme, which is managed through the Winda-Mara Aboriginal Corporation and employs 11 full-time rangers. Two Gunditjmara Elders mentor these rangers and provide them with traditional and cultural knowledge and support. These young people are actively encouraged to take up leadership responsibilities for the people and Country. This is the strongest management arrangement of Budj Bim Cultural Landscape which allows for on-the-ground management approaches to be guided by the traditional guardian communities in line with cultural traditions and practices.

The overarching management plan, which has been submitted as an annex to the nomination, is entitled the Ngootyoong Gunditj Ngootyoong Mara South West Management Plan. This plan, which dates to 2015, does not explicitly reference the attributes of the Outstanding Universal Value of the property nor does it reference the serial property components. Rather, it is described as a strategic guide for managing and protecting over 130 parks, reserves and Indigenous Protected Areas in south-west Victoria, covering over 116,000 hectares of land. Two additional management plans apply to parts of the property: Budj Bim Indigenous Protected Area Plan of Management 2015-2019 applies to the Budj Bim Indigenous Protected Area; and the Tyrendarra Indigenous Protected Area Management Action Plan 2015-2018 applies to the named area, which is owned and managed by the Winda-Mara Aboriginal Corporation. ICOMOS considers that, while the management plans outline some general strategies of relevance to Budj Bim Cultural Landscape as a whole and specific aspects to partial areas, the combination of the three does not function as a comprehensive management tool for the property.

With a series of other planning documents at local and federal level in existence, the anticipated *World Heritage Strategic Management Framework* will be essential to provide comprehensive site management guidance, or at least a collation of the relevant management documents, to ensure consistent and effective work, to prevent duplication of effort, and to clarify the relationships between, and hierarchy of, documents and responsible institutions. ICOMOS recommends developing the anticipated strategic management framework as a priority.

Risk preparedness and disaster response measures include actions against pests and invasive species, flood and wildfire controls. For wildfire prevention, the Gunditjmara carry out burning practices (termed 'cultural

burns'), based on traditional ecological and cultural knowledge. Cultural burns consist of controlled, mosaic 'cool' burning of small areas carried out in low-risk weather conditions, usually in autumn and winter.

Visitor management

The *Budj Bim (Tourism) Master Plan*, which covers the whole of the Budj Bim Cultural Landscape, was prepared in 2014. It presents a vision for the conservation and sustainable use of the nominated property for cultural, touristic and community purposes.

The Budj Bim Tours, an enterprise operated by Winda-Mara Aboriginal Corporation, provides a range of tours and other visitor experiences to the landscape. The visitor experience is in part led by a Budj Bim ranger or a Gunditjmara interpretative guide. In ICOMOS' view, this is an important part of the visitor experience, as the visitor is provided with knowledge, stories, interpretation and understanding of the cultural practices and traditional management schemes of the property.

The visitor destination areas within the nominated property generally have a moderate level of site infrastructure and access to some areas is only permitted as part of guided experiences. Six 'visitor experience areas' within the nominated property are recognised as priority precincts that support a range of visitor uses, activities, experiences and delivery of visitor programmes and services. Visitor numbers registered by the tour organizers have multiplied fivefold between 2009 and 2016, more precisely from 648 visitors to 4,000 visitors respectively. These sorts of numbers can be managed with ease but significant increases are to be expected following a World Heritage recognition of this property.

Community involvement

The community involvement in the preparation of the nomination dossier as well as in the management of the property is remarkably strong and can be considered an exemplar of good practice. More than involvement, the nomination and management arrangements are mainly led by the Gunditjmara, who also have had returned full ownership rights to large parts of the property, and access for their cultural traditions and land-use in all parts.

Evaluation of the effectiveness of the protection and management of nominated property

ICOMOS considers that at present the property is free of major threats and is well protected and managed. However, while all property components are protected at national level in terms of environmental laws, only parts of the property are formally recognized as cultural heritage sites at the highest national level. Likewise, the "special use zone" created by the two local municipalities does not completely cover the entire area of the three property components. ICOMOS recommends that the entire property be recognized in the National Heritage Register.

The strong commitment towards traditional management approaches of the Gunditjmara, implemented by the Gunditj Mirring Traditional Owners Aboriginal Corporation is an asset. However, the more formal management approaches by the national park administration are less exclusively tailored towards the needs of the Outstanding Universal Value.

ICOMOS considers that while traditional protection and management by the Gunditjmara are adequate, formal legal protection as national cultural heritage should ideally cover all property components, and the strategic management framework, or at least a collation of all relevant management tools and strategies, should be finalized.

6 Conclusion

Budj Bim Cultural Landscape is mainly owned and managed by the Gunditjmara Traditional Owners, who initiated the nomination and lead the management efforts. The nominated property provides largely intact physical evidence for one of the world's oldest and most extensive aquaculture systems, dating back to at least 6,600 years ago and based on kooyang eel harvesting and management. The property has international significance for its contribution to understanding the range and complexities of eco-cultural relationships of hunter-gatherer societies with their natural environments and resources, as well as the Gunditjmara's capacity to continue traditional practices to the present day.

The comparative analysis and justification of criteria (iii) and (v) confirm the Outstanding Universal Value of the nominated property. Whilst integrity and authenticity are also met, ICOMOS recommends that the State Party also continues studying if additional attributes might exist beyond the current boundaries of the property. Expected future water system restoration initiatives, highlighted in the Ngootyoong Gunditj Ngootyoong Mara management plan, would offer opportunities to do so. In the event that additional features are identified, ICOMOS considers that they should be protected, including through the possibility of making boundary modifications to the property.

In terms of protection and management, the traditional protection and land-management practices of the Gunditjmara are exemplary. The formal legal protection and management strategies, however, could be improved. In particular, all property components should be listed as heritage sites at the national level, be fully covered by the local 'special use zone' within the local administrative context, and be managed within the announced property-specific strategic management framework, which is to be finalized.

7 Recommendations

Recommendations with respect to inscription

ICOMOS recommends that Budj Bim Cultural Landscape, Australia, be inscribed as a cultural landscape on the World Heritage List on the basis of **criteria (iii) and (v)**.

Recommended Statement of Outstanding Universal Value

Brief synthesis

The Budj Bim Cultural Landscape is located within the traditional Country of the Gunditjmarra, an Australian aboriginal nation, in south-western Australia. It is a serial property of three components, comprising the northern component of Budj Bim, with the Budj Bim volcano and Tae Rak (Lake Condah), the central component of Kurtonitj, located approximately 5 km south along the lava flow, and the southern Tyrendarra component, bordered by the Pallawara and Killara Rivers. The Budj Bim lava flows, which connect the three components, provided the basis for a complex aquaculture system developed by the Gunditjmarra, based on deliberate redirection, modification and management of waterways and wetlands to harvest Kooyang (short-finned eel, *anguilla australis*). The property presents one of the world's most extensive and oldest aquaculture networks, which has provided a six-millennia-long economic and social base for Gunditjmarra society.

This deep time interrelationship of Gunditjmarra cultural and environmental systems is documented through present-day Gunditjmarra cultural knowledge, practices, and material culture, as well as scientific research and historical documents. It is evidenced in the aquaculture system itself and in the interrelated geological, hydrological and ecological systems. The Budj Bim Cultural Landscape is the result of a creational process narrated by the Gunditjmarra as a "deep time" story. From an archaeological perspective, "deep time" refers to a period of at least 32,000 years that Aboriginal people have lived in the Budj Bim Cultural Landscape. The ongoing dynamic relationship between the Gunditjmarra and their land is nowadays carried by knowledge systems retained through oral transmission and continuity of cultural practices.

Criterion (iii): The Budj Bim Cultural Landscape bears an exceptional testimony to the cultural traditions, knowledge, practices and ingenuity of the Gunditjmarra. The extensive networks and antiquity of the constructed and modified aquaculture system of the Budj Bim Cultural Landscape bears testimony to the Gunditjmarra as engineers and kooyang fishers. Gunditjmarra knowledge and practices have endured and continue to be passed down via their Elders and are recognisable across the wetlands of the Budj Bim Cultural Landscape in the form of ancient and elaborate systems of stone-walled kooyang husbandry (or aquaculture) facilities. Gunditjmarra cultural traditions, including associated storytelling, dance and basket weaving, continue to be maintained by their collective multigenerational knowledge.

Criterion (v): The Budj Bim Cultural Landscape is a rare, intact and outstanding representative example of human interaction with the environment and testimony to the lives of the Gunditjmarra, documenting land modification strategies, which challenge the division of hunter-gatherer and agricultural societies. The Landscape was created by the Gunditjmarra, who purposefully harnessed the productive potential of the patchwork of wetlands on the Budj Bim lava flow. They achieved this by creating, modifying and maintaining an extensive hydrological engineering system that manipulated water flow in order to trap, store and harvest kooyang that migrate seasonally through the system. Beyond the physical elements, such as channels, weirs, dams, ponds and sinkholes, holistic interaction with the environment is supported and maintained through Gunditjmarra narratives and cultural traditions.

Integrity

Budj Bim Cultural Landscape includes the eight largest Gunditjmarra aquaculture complexes and a representative selection of the most significant and best-preserved smaller structures. The property is free of major threats and is sufficient in size to illustrate the ways in which multiple systems – social, spiritual, geological, hydrological and ecological – interact and function. While the property contains a dense and representative collection of attributes, which are sufficient to demonstrate Outstanding Universal Value, the property might have potential for future expansion. The lava flow, basis of the water management complexes but also the narrative of creation and cultural significance to the Gunditjmarra, connects the three components but continues its physical presence between and beyond these three. If future surveys and studies determine additional features located within the lava flow but outside the property boundaries, these should become included by means of a boundary modification request.

Authenticity

Authenticity of Budj Bim Cultural Landscape is based on its continuity in use and function and traditional management as well as, at times, of material, substance, location, setting and intangible cultural associations and practices. The Gunditjmarra aquaculture system retains the form and functionality it has had during the last millennia in relation to the underlying lava stream, the continued functioning of the water flows, and the presence of kooyang. Despite historical interruption for much of the 20th century, the property has retained its authenticity. Recent restitution of property rights to the Gunditjmarra lands' traditional owners, the refilling of Tae Rak and reestablishment of continued use of aquaculture complexes, have enhanced the condition of the property. The cooperated management approach in the Budj Bim National Park, which is not under Gunditjmarra ownership, ensures that attributes retained are sustainably managed and preserved, which sufficiently demonstrates authenticity for this section of the property.

Management and protection requirements

The property enjoys legal protection at the highest national level according to the Australian Environment Protection and Biodiversity Conservation Act of 1999, and a large part of the property, about 90% of the Budji Bim component and about half of the Tyrendarra component, were listed as cultural heritage sites on the National List of Australia in 2004. It is desirable to also have the remaining parts designated on the national heritage register in the near future. This is supported by local planning schemes. Glenelg and Moyne Shires have established a 'special use zone' over parts of the Budj Bim component, including Tae Rak. The purpose of the special use zone is to provide for the development of land consistent with the protection and management of the natural and Aboriginal cultural values.

The management system is to be coordinated by the Budj Bim Cultural Landscape World Heritage Steering Committee, which will act as a communication and shared decision-making body between the local customary guardians (represented through GMTOAC, Budj Bim Council and Winda-Mara Aboriginal Corporation) and the state heritage and environmental authorities, which include the Victorian Aboriginal Heritage Council, the GMTOAC Registered Aboriginal Party and the Victorian Heritage Council, as well as the national level, here represented by the Australian World Heritage Advisory Committee.

On the ground, management is undertaken by a range of professional and service staff, employed by Parks Victoria, Aboriginal Victoria, the Department of Environment, Land, Water and Planning, the GMTOAC, and the Winda-Mara Aboriginal Corporation. Notable among the institutional management arrangements is the Budj Bim Ranger Programme, which is managed through the Winda-Mara Aboriginal Corporation and employs full-time rangers, who are mentored by Gunditjmarra Elders to provide them with traditional and cultural knowledge and support. This management arrangement of Budj Bim Cultural Landscape allows on-the-ground management approaches to be guided by the traditional guardian communities in line with cultural traditions and practices.

Additional recommendations

ICOMOS further recommends that the State Party give consideration to the following:

- a) Continuing to undertake surveys and studies on cultural heritage features along the entire lava flow and, in cases where additional features contributing to the Outstanding Universal Value are identified outside the property boundaries, considering submitting a boundary modification to include these,
- b) Listing all property components as cultural heritage in the Australian National Heritage Register and extend the 'special use zone' established in local planning schemes to cover the property components and areas,

- c) Finalizing the property-specific strategic management framework,
- d) Augmenting the monitoring system to include indicators on the continuity or change in land management practices, youth involvement, and property valuation by the Gunditjmarra guardian community;



Map showing the boundaries of the nominated property



Aerial view of Lake Condah



Aquaculture channel and pond



Netting of a kooyang (eel) in Tae Rak pools



Gunditjmara land managers placing an eel basket at Kurtonitj fish trap

Liangzhu (China) No 1592

Official name as proposed by the State Party
Archaeological Ruins of Liangzhu City

Location
Yuhang District, Hangzhou City, Zhejiang Province.

Brief description
The nominated property includes the archaeological remains of Liangzhu City (ca. 3300-2300 BCE) which was once the centre of power and belief of an early regional state in the lower reaches of the Yangtze River in Late Neolithic China. Located in the eastern foothills of the Tianmu Mountains in a plain criss-crossed by a network of rivers, the nominated property consists of four component parts: the Area of Yaoshan Site; the Area of High-dam at the Mouth of the Valley; the Area of Low-dam on the Plain – Causeway in Front of the Mountains; and the Area of City Site.

The property testifies to the existence of a regional state with a unified belief system and supported economically by rice-cultivating agriculture in late Neolithic China. It also represents an early urban civilisation with complex functions and structures.

The sites of the Archaeological Ruins of Liangzhu City were partially discovered in 1936 and since then have been excavated, researched, conserved, then presented or reburied.

Category of property
In terms of categories of cultural property set out in Article I of the 1972 World Heritage Convention, this is a serial nomination of four *sites*.

1 Basic data

Included in the Tentative List
29 January 2013

The property was included in the Tentative List as a single site, including only the fourth component part of the current nomination, the Area of City Site, under criteria (ii), (iv), and (vi).

Background
This is a new nomination.

Consultations and Technical Evaluation Mission
Desk reviews have been provided by ICOMOS International Scientific Committees, members and independent experts.

An ICOMOS technical evaluation mission visited the property from 19 to 24 September 2018.

Additional information received by ICOMOS
An Interim Report was provided to the State Party on 21 December 2018, summarising the issues identified by the ICOMOS World Heritage Panel.

Further information was requested in the Interim Report including boundaries of the buffer zone, legal protection, conservation, management and research.

Additional information was received from the State Party on 2 February 2019 and has been incorporated into the relevant sections of this evaluation report.

Date of ICOMOS approval of this report
13 March 2019

2 Description of the property

Note: The nomination dossier and additional information contain detailed descriptions of this property, its history and its state of conservation. Due to limitations on the length of evaluation reports, this report only provides a short summary of the most relevant aspects.

Description and history
The Archaeological Ruins of Liangzhu City are located on a plain crossed by river networks in the eastern foothills of the Tianmu Mountains in the Yangtze River Basin on the southeast coast of China.

The nominated property consists of four component parts:

The Area of Yaoshan Site (also called Yaoshan Cemetery) is located on top of a hill outside the city and contains the Yaoshan Altar (a sacrificial site) and the Yaoshan cemetery, with two rows of tombs. Hundreds of objects, including jade artefacts, have been unearthed from the cemetery. This component part covers an area of 66.56 ha. The remains date from ca. 3300-3100 BCE, an early period of the Liangzhu culture.

The Area of High-dam at the Mouth of the Valley is located approximately 11 km northwest of the City Site and consists of six artificial dam sites with residual heights of no more than 15 metres and a series of natural ridges and peaks directly associated with them. It covers an area of 136.41 ha. The area is believed to have been built ca. 3100-2850 BCE and was continuously in use until ca. 2600 BCE.

The Area of Low-dam on the Plain - Causeway in Front of the Mountains is located to the north and west of the City Site, and consists of four artificial dams, which form a water storage system with a length of approximately 2.4 km, and

the Causeway in front of the Mountains (also known as the Tangshan Site), containing composite dams extending for 5 km, with widths varying from twenty to fifty metres. This component part covers an area of 349.24 ha and is believed to have been built ca. 3000 to 2600 BCE.

The Area of City Site, built mainly between ca. 3000 and 2850 BCE, is composed of the palace area, inner city, outer city, and a series of socially-graded cemeteries; the natural topographic elements directly associated with them, and three main ancient river courses, are also included within the site. This component covers an area of 881.45 ha. The City Site was continuously in use until 2300 BCE.

Liangzhu City was the capital and power centre of the whole Liangzhu society. It is not located in the geographic centre of the Liangzhu cultural area for strategic reasons such as transport, water conservancy, agriculture, mountain resources and flood risk.

According to the latest analysis of Carbon-14 dating, Liangzhu City was built and occupied ca. 3300-2300 BCE and abandoned by ca. 2100 BCE. Its rise and decline may be divided into the following 4 periods, according to current research.

The first period is ca. 3300-3100 BCE (the early period): the early inhabitants of Liangzhu were active over a large area, with Daxiongshan Hill at the centre; high-grade cemeteries were built.

The second period is ca. 3100-2850 BCE (the middle period): ca. 3000-2850 BCE was the critical period for the establishment of Liangzhu City - the Peripheral Water Conservancy System, terraces at Mojiaoshan and surrounding areas, the Zhongjiagang water system and surrounding highland settlements (including Outer City settlements), and Fanshan and other high-grade cemeteries were built. It was also the key period for urban development with a consciousness of functional zoning of urban planning.

The third period is ca. 2850-2600 BCE (the earlier stage of the late period): highland settlements began to form in Bianjiashan Terrace and Meirendi Terrace and around Mojiaoshan Terrace; the ancient river courses represented by the Zhongjiagang River and dam system were both still in use; the high-grade cemeteries were continually being added to and used. According to the dating of the stratum of the bedded stones at the bottom of the Inner City walls, these walls were already under construction and/or in use.

The fourth period is ca. 2600-2300 BCE (the later stage of the late period): the area within the city walls of Liangzhu City and the surrounding terraces (such as Meirendi Terrace) were still in use as settlements; the dam system might have been abandoned by this time.

In its Interim Report, ICOMOS requested more information, if available, on the state of research pertaining to rice cultivation and rice typologies in relation to the relevant components of the nominated property, given its

significance as a representative of an ancient rice-cultivating civilization.

The State Party submitted additional information in February 2019, detailing the origins and archaeological records concerning rice cultivation in the middle and lower reaches of the Yangtze River. Liangzhu culture is a pioneer in terms of rice cultivation techniques, on a large scale for the management of rice resources. It was the regional centre of an agrarian economy.

The nominated property remained as ruins from ca. 2300-2100 BCE. In 1936, the archaeologist Xin'geng discovered the site and conducted excavations after he found black pottery representative of the Neolithic period. In 1959 the site was named 'Liangzhu Culture'. Further excavations, discoveries and research have been undertaken since the 1980s, up to 2016.

Boundaries

The area of the four components totals 1,433.66 ha, with a buffer zone of 9,980.29 ha.

The entirety of the area of Yaoshan Site (component 01), the Causeway in Front of the Mountains (part of component 03) and the entirety of the Area of City Site (component 04) are located within protection zones as stipulated in *the Conservation Master Plan for the Liangzhu Archaeological Site*, as National Priority Protected Sites.

The Area of High-dam at the Mouth of the Valley (component 02) and the Area of Low-dam on the Plain (part of component 03) are located within protection zones, as specified in the *Delimitation Scheme of Protection Zone and Construction Control Zone for the Periphery Water Conservancy Project Site of Liangzhu Ancient City*, as Provincial Protected Sites of Zhejiang.

The boundaries of the four component parts are delineated taking into consideration roads and natural features such as river systems and hills.

One buffer zone surrounds the four component parts of the nominated property. It includes surrounding groups of sites and parts of the surrounding landscape that are of supporting value to the property. The delineation of the buffer zone is based on the Construction Control Zone stipulated by *the Conservation Master Plan for the Liangzhu Archaeological Site* and the protection zoning of the *Delimitation Scheme of Protection Zone and Construction Control Zone for Periphery Water Conservancy Project Site of Liangzhu Ancient City*.

ICOMOS considers that the boundaries of the four component parts are well delineated and include the City Site, the Periphery Water Conservancy System, the socially-graded cemeteries, various archaeological artefacts and the related natural topographic elements, all of which are the features expressing the proposed Outstanding Universal Value.

ICOMOS considers the boundaries of the buffer zone adequate. However, ICOMOS noted a discrepancy between the boundaries of the buffer zone and the boundaries of the protection zones (the Construction Control Zone and the Environment Control Zone). In its Interim Report, ICOMOS requested whether the State Party would consider adjusting and extending the boundaries of the protection zones in order to match with the boundaries of the buffer zone.

The State Party replied in February 2019 and made the required adjustments to the protection zones. All legal procedures were completed on 25 January 2019, approved and implemented by Zhejiang Provincial People's Government.

State of conservation

The nominated property has been inventoried, described, documented, researched and maintained since 1936.

The physical fabric of the Yaoshan Site is well preserved. It is reburied by archaeological backfilling.

The High-dam at the Mouth of the Valley and the Low-dam on the Plain - Causeway in Front of the Mountains are largely covered by bamboo forests, tea gardens and other agriculture and forestry planting. Soil stability problems exist in local exposed sections. Some damage was caused to the Ganggongling Site and Zhoujianfan Site by buildings and road construction before the sites were excavated.

Parts of the High-dam at the Mouth of the Valley are exposed; Ganggongling Site and Qiuwu Site are partially exposed. Laohuling Site is exposed for archaeological research and protected by a protective shed.

The City Site is naturally buried or reburied by archaeological backfilling. The villages that were occupying the Inner City have been relocated out of the nominated property. Protective vegetation cover has been planted in certain patterns to mark and represent the structure of the Inner City underneath. The largest roadway that was within the boundaries of the nominated property has been moved to the south outside the nominated property. Most of the waterways in the Inner City are well preserved and in use. In 2015, they were dredged so as to improve the water quality and restore the ecological environment of the river courses and wetlands. Some of the exposed sections are impacted by natural factors such as moisture and rain, and man-made factors such as buildings, roads and agriculture.

Based on the information provided by the State Party and the observations of the ICOMOS technical evaluation mission, the state of conservation of the property is adequate.

Factors affecting the property

Based on the information provided by the State Party and the observations of the ICOMOS technical evaluation mission, ICOMOS considers that the main factors affecting the nominated property are development pressures from strong demand on land resources as a

result of twenty years of rapid urbanization and population growth. Steps are being taken by the State Party to shut down quarries, and to move factories and large manufacturing units outside the nominated property.

Due to the impact of domestic, industrial and agricultural sewage, the water quality of some river systems in the City Site was poor; recent treatment efforts have led to improvements. Water treatment and conservation have been applied, and anti-pollution measures taken. Protection and monitoring have been applied to dam sites, using Zhejiang Province's 'Beautiful Countryside' program and other initiatives.

The Conservation Master Plan introduced special regulations to coordinate and guide urban and rural development as well as to reduce or eliminate urbanization and industrialization within the nominated property and its buffer zone.

Environmental pressures, which include air quality, water quality and industrial pollutants, are addressed by the State Party with mitigation measures. Environmental laws and control mechanisms are in place. Water quality has been improved within the nominated property and the buffer zone in accordance with China's relevant national and regional policies. Controlling measures are in place to prevent discharge of household and industrial waste within the nominated property and its buffer zone.

Natural disasters such as floods and summer rainstorms, mainly in June and July, may also affect the nominated property; measures to prevent soil erosion have also been adopted.

The nominated property was only opened to visitors starting from June 2018 and a range of tourism facilities have been put in place. The State Party adopted a phased tourism policy with the stress on eco-tourism and responsible management of resources as well as focusing on observing environmental and ecological carrying capacity, which has made a positive impact. ICOMOS, however, notes that given the fast development of both domestic and international tourism in the region, a great increase is expected in visitor numbers, particularly should the property be inscribed.

The State Party submitted additional information in February 2019, explaining measures already taken identifying carrying capacity and setting early warning indicators at the Heritage Monitoring Centre, influencing control measures and restrictions. Future tourist service facilities will be subject to relevant impact assessments and approval procedures as per the *'Law of the People's Republic of China on the Protection of Cultural Relics'* and the *'Operational Guidelines for the Implementation of the World Heritage Convention'*.

3 Proposed justification for inscription

Proposed justification

The nominated property is considered by the State Party to be of Outstanding Universal Value as a cultural property for the following reasons:

- It represents the remarkable contributions made by the Yangtze River Basin to the “Diversity and Unity” feature of the origins of Chinese civilization;
- It is a typical approach in ancient China to highlight the socially-graded order and power in urban planning, created in the early state in the Yangtze River Basin and applied many times elsewhere;
- It reflects urban and architectural features created by people in a wetland environment, especially with the Peripheral Water Conservancy System;
- It is a supreme achievement of prehistoric rice-cultivating civilization of China and East Asia over 5000 years ago; and
- It is an outstanding example of early urban civilization in the history of human civilization.

Comparative analysis

The comparative analysis is presented in four parts: the comparison with other sites of the Liangzhu cultural period, with other early city sites in China, and with other archaeological sites in East Asia; and a global comparison including properties on the World Heritage List, Tentative Lists and other areas throughout the world with a comparable combination of proposed Outstanding Universal Value and the attributes of important cities in the cradles of early civilizations in the world. The comparison is based on two criteria: the corresponding period which is the late Neolithic; and the category of early states and urban civilization.

The comparative analysis distinguishes the property in a global context from its comparators in other early complex societies as being the largest late Neolithic Old World culture that developed in East Asia.

The comparative analysis sets the nominated property apart from its Chinese comparators as one of the largest, most important and best-preserved archaeological sites in China dating to the late Neolithic period. It is the only one of the Liangzhu culture sites that is categorized as a city, with a large water conservancy system and socially-graded cemeteries. The nature of urbanization, management of engineering construction, monumentality, and fine artistic production, particularly the jade craftsmanship, of Liangzhu are unique in comparison to other sites and systems of early civilizations. It bears a unique testimony to 5000 years of Chinese civilization along the Yangtze River.

The Archaeological Remains of Liangzhu City are unique in the context of intact urbanization process when compared to those in other world regions, such as Mesopotamian cities and Indus Valley cities, as well as to those in north China. The nominated property is the

largest late Neolithic Old World culture which developed in East Asia. It represents social classification, unified belief system, city forming and city-village division as well as other aspects of regional state society of the Liangzhu culture. Trajectories of social and cultural developments and strategies of environmental control exemplified by the nominated property are unique within the geographical and cultural context. Compared to important cities in the cradles of early civilizations, the nominated property is a regional representation of early human urban civilization.

ICOMOS considers that the comparative analysis justifies consideration of this property for the World Heritage List.

Criteria under which inscription is proposed

The property is nominated on the basis of cultural criteria (iii) and (iv).

Criterion (iii): *bear a unique or at least exceptional testimony to a cultural tradition or to a civilization which is living or which has disappeared;*

This criterion is justified by the State Party on the grounds that the nominated property represents an early regional state with rice-cultivating agriculture as the economic base, and social differentiation and unified belief system. It represents the remarkable contributions made by the Yangtze River Basin to the ‘Diversity in Unity’ feature of the origins of Chinese civilization and evidence of its 5000-year history.

ICOMOS considers that this criterion is justified, for being the most outstanding testimony of Liangzhu culture in the Lower Yangtze region. It provides unparalleled evidence for concepts of cultural identity, social and political organization and the development of society and culture in the late Neolithic and early Bronze Age in China and the region.

Criterion (iv): *be an outstanding example of a type of building, architectural or technological ensemble or landscape which illustrates a significant stage in human history;*

This criterion is justified by the State Party on the grounds that the nominated property reveals features of planning created by the urban civilization of the early state in the Yangtze River Basin and was applied many times to the capital planning of Ancient China’s ritual societies. It reflects the urban and architectural features created by people in a wetland environment, especially with the Peripheral Water Conservancy System. The nominated property also represents the great achievement of the prehistoric rice-cultivating civilization of China and East Asia over 5000 years ago, and as an outstanding example of an early urban civilization.

ICOMOS considers that this criterion is justified as the Archaeological Ruins of Liangzhu illustrate the transition from small-scale Neolithic societies to a large integrated political unit with hierarchy, rituals and crafts. It includes outstanding examples of early urbanization expressed in

earthen monuments, city and landscape planning, social hierarchy expressed in burial differentiations in cemeteries within the nominated property, socio-cultural strategies for organization of space, and materialization of power.

ICOMOS considers that the nominated property meets criteria (iii) and (iv).

Integrity and authenticity

Integrity

The four component parts of the nominated property include all the identified attributes necessary to convey its significance as an outstanding representation of a prehistoric early state and urban civilization in the Yangtze River Basin. The State Party has been proactive in taking steps towards closing quarries, and moving factories and large manufacturing units outside the nominated property. In addition, sections of roads have been removed out of the nominated property.

The buffer zone offers enough protection for the property and includes environmental elements associated with its significance, such as mountains, bodies of water and wetlands.

ICOMOS considers that development and environmental pressures affecting the property at present are appropriately dealt with within legal and planning frameworks. The ICOMOS Interim Report requested clarifications from the State Party with regards to the impact of increasing urbanization, particularly infrastructure projects such as the 104 National Highway, the 201 Provincial Highway, and the railway projects.

The State Party provided additional information in February 2019 explaining that these roads and railway lines predate the discoveries of the two component parts 02 and 03-1 and that subsequent remedial steps have already been taken or are in the process of completion, including the road and traffic planning. This includes abandoning the Yuancheng-Hangzhou railway line, constructing ring roads outside the buffer zone, incorporating the water conservancy system in the *Conservation and Management Plan for the Archaeological Ruins of Liangzhu City (2017-2035)* and the creation of vegetation shields to improve the visual integrity of component parts 02 and 03-1.

The Interim Report requested a clarification from the State Party with regards to the impact of the potential future increase of visitors to the property.

The State Party provided additional information in February 2019 on measures already taken identifying carrying capacity and setting early warning indicators at the Heritage Monitoring Centre influencing control measures and restrictions. Future tourist service facilities will be subject to relevant impact assessments and approval procedures as per the *'Law of the People's Republic of China on the Protection of Cultural Relics'* and the *'Operational*

Guidelines for the Implementation of the World Heritage Convention'.

Authenticity

The State Party asserts that the relationships and dynamic functions present in the four component parts of the property, including the archaeological fabric and unearthed artefacts, are authentic. Authenticity is manifested in form and design, materials and substance, use and function, traditions, techniques and management systems, location and setting, spirit and feeling. The Peripheral Water Conservancy System is represented by the archaeological sites of the Mouth of the Valley (02) and the Area of Low-dam on the Plain – Causeway in Front of the Mountains (03). The ancient city is represented by the Area of the City Site (04), which is a well-preserved archaeological site with a triple-structure spatial layout and different functional zones and material remains of buildings and different architectural elements. Social complexity, a unified belief system, social stratification, patterns of power and skilled craftsmanship are represented by jade artefacts, which have been excavated from the Area of the City Site and preserved in appropriate repositories.

ICOMOS considers that the requirements of authenticity have been met.

ICOMOS considers that the requirements of integrity and authenticity have been met.

Evaluation of the proposed justification for inscription

ICOMOS considers that the comparative analysis justifies the nomination of the property for the World Heritage List.

ICOMOS considers that the nominated property meets criteria (iii) and (iv).

ICOMOS considers that the nominated property meets the requirements of integrity and authenticity

Attributes

The attributes carrying the Outstanding Universal Value of the property are the Location of Liangzhu City; the Triple centripetal capital pattern; the Functional zoning of Liangzhu City; the Characteristics of a water city of the Inner and Outer cities; the Settlements of the Liangzhu culture; the Cemeteries that indicate social stratification; Earth and stone work of the City Site and dams; the Large-scale peripheral water conservancy system; the Artificial terraces in the Outer City; the Remains of jade processing; the Excavated jade artefacts; and the Large amount of carbonized rice remains.

ICOMOS considers that the nominated serial property is supported by a relevant comparative analysis, demonstrates criteria (iii) and (iv), and meets the requirements for authenticity and integrity.

4 Conservation measures and monitoring

Conservation measures

Conservation measures undertaken by the State Party address three aspects: conservation of the pattern, conservation of the physical fabric, and conservation of the environment for the four component parts of the nominated property.

Artefacts that are discovered from the nominated property are conserved, kept and protected in four institutions: Zhejiang Provincial Museum, Liangzhu Museum, Hangzhou Yuhuang Museum, and Zhejiang Provincial Institute of Cultural Relics and Archaeology.

Conservation measures follow nationally-prescribed norms and internationally accepted guidelines. Routine maintenance measures are in place. Adequate funding is available for conservation works and periodical maintenance. Yuhang District Government uses 10% of the total revenue from land transfer fees for projects on environment and heritage, which results in further funds for the conservation of the property.

In its Interim Report, ICOMOS requested additional information from the State Party on how the Zhejiang Liangzhu Archaeological Site Administration deals with human remains, given the nature and scale of the excavated cemeteries.

The State Party submitted additional information in February 2019, emphasizing that human remains are difficult to collect because they are poorly preserved in general. Some of them have nevertheless been collected, numbered and preserved through uniform storage methods in the Archaeological and Protection Centre of the Liangzhu Archaeological Site. Research and analysis are on-going.

The Interim Report also requested additional information from the State Party on the integration of conservation planning into archaeological research for the nominated property, given its great potential for further archaeological research and the importance of linking this research to conservation planning in order to ensure the safeguarding of the nominated property.

The State Party explained the different measures implemented to integrate archaeological research and conservation planning, including the provision of dynamically adjusting the protection zones according to results of archaeological research. Also, in situ, conservation will be provided for all newly-discovered archaeological fabric. Conservation planning will be adopted for archaeological work to ensure protection of physical fabric found by excavation. Further integration of archaeological work and conservation planning will be enhanced through future revisions of the *Conservation Master Plan for Liangzhu Site*.

Monitoring

Four main indicators are identified for monitoring the property: heritage preservation and conservation, covering the physical attributes of remains, and features of the historical environment; factors affecting the heritage, covering development pressures, environmental conditions, natural disasters and tourism pressures; heritage management, covering management and conservation zoning, and management planning; and the heritage utilisation, gathering together heritage presentation of the site and the stakeholders.

ICOMOS considers that the indicators are well linked to the attributes of the proposed Outstanding Universal Value and the identified factors affecting the property.

Monitoring of the nominated property is active and is mainly divided into two administrative arrangements of professional monitoring and routine monitoring. A summary of the monitoring record of 2016 for the property is included in the nomination dossier.

ICOMOS considers that documentation should be a further indicator to ensure the appropriate updating and management of documents, which are essential for effective management and protection of the property and its features.

ICOMOS considers that conservation measures and monitoring are adequate. ICOMOS, however, considers that documentation should be added to monitoring indicators.

5 Protection and management

Documentation

The nominated property has been well-documented since 1936 up to the present. The Interim Report requested from the State Party information regarding the management and updating of the documentation for the restoration and conservation interventions made in the component sites of the nominated property.

The State Party submitted additional information explaining existing protocols and procedures followed for the documentation, recording and interventions reports and their archiving in accordance with the *Work Procedures for Records and Archives of National Priority Protected Sites* and the *Archive Filing and Sorting Procedures of the Hangzhou Liangzhu Archaeological Site Administrative District Management Committee*.

Legal protection

The different component parts of the nominated property are protected on three levels: national, provincial and municipal. On the national level, Yaoshan Site (01), Causeway in front of the Mountains (03-2) and City Site (04), as National Priority Protected Sites, are protected by the *Law of the People's Republic of China on the Protection of Cultural Relics*, issued on 19 November 1982 and

revised on 4 November 2017; and the *Regulations for the Implementation of the Law of the People's Republic of China on the Protection of Cultural Relics*, issued on 13 May 2003 and revised on 7 October 2017. High-dam on the Mouth of the Valley (02), as a Provincial Site of Zhejiang Province, is protected by the *Regulations on the Heritage Protection Management of Zhejiang Province*, issued on 25 April 2002 and revised on 28 November 2014; and the *Regulations for the Implementation of the Law of the People's Republic of China on the Protection of Cultural Relics*, issued on 13 May 2003 and revised on 7 October 2017.

On the provincial level, Yaoshan Site (01), Causeway in front of the Mountains (03-2) and City Site (04), as National Priority Protected Sites, are protected by the *Regulations on the Heritage Protection Management of Zhejiang Province*, issued on 25 April 2002 and revised on 28 November 2014. Low-dam on the Plain (03-1), as a Provincial Protected Site of Zhejiang, is protected by the *Regulations on the Protection and Management of the Liangzhu Archaeological Sites of Hangzhou*, issued on 25 April 2002 and revised on 22 November 2013.

On the municipal level, Yaoshan Site (01), Causeway in front of the Mountains (03-2) and City Site (04), as National Priority Protected Sites, are protected by the *Regulations on the Protection and Management of the Liangzhu Archaeological Sites of Hangzhou*, issued on 25 April 2002 and revised on 22 November 2013.

The ICOMOS Interim Report requested the State Party to provide dates of designation of component parts 02 (High-dam at the Mouth of the Valley) and component part 03-1 (Low-dam on the Plain) as "National Protection Sites".

The State Party replied in its additional information submitted in February 2019 that the procedure for the designation of these component parts was initiated on 30 July 2018 and that the declaration of approval and promulgation as National Priority Protected Sites will be finalised by the end of 2019. The 10 dams within will still be designated under Key Protection.

Management system

The 'Hangzhou Liangzhu Archaeological Site Administrative District Management Committee' (the Management Committee, known also as Zhejiang Liangzhu Archaeological Site Administration) is the responsible body for the management and conservation of the property. This Management Committee works under the administrative management of the People's Government of Hangzhou City and the professional guidance and supervision of Zhejiang Bureau of Cultural Heritage (provincial level) and the State Administration of Cultural Heritage (national level).

The Management Committee is in charge of conservation, urban and rural planning, economic development, social management and other coordination and supervision tasks. It carries out its responsibilities through five departments: Office; Planning and Construction

Department; Cultural Heritage Management Department; Cultural Industry Department; and Heritage Management Department; and four subsidiary bodies – Liangzhu Museum (Liangzhu Institute), Heritage Monitoring and Management Center of Hangzhou Liangzhu Archaeological Site, Hangzhou Liangzhu Archaeological Site Office, and Hangzhou Meilizhou Industrial Co. Ltd.

The Cultural Heritage Management Department is already established and carries out its responsibilities with 39 members of staff, specialists in historiography, archaeology, museology, administrative management, financial management and archival science.

The management of the property is carried out according to plans at three levels: the *Conservation Master Plan for the National Priority Protected Site (2008–2025)*; the *Delimitation Scheme of Protection Zone and conservation Control Zone for the Periphery Water Conservancy Project Site of Liangzhu Ancient City*, as a Provincial Protected Site of Zhejiang (2017); and the *Conservation and Management Plan for Archaeological Ruins of Liangzhu City (2017-2035)*. All three plans are approved and have been implemented by the Management Committee since 2017.

The Conservation Master Plan for the National Priority Protected Site does not apply to the High-dam at the Mouth of the Valley (02) and the Low-dam on the Plain (03-1) because they are not yet listed as National Priority Protected Sites.

Risk management is addressed with regards to floods and summer rainstorms. Flood control for the nominated property has been included in the urban flood controls system for Hangzhou. Protection from summer rainstorms has been addressed by the national-level Master Plan (*Conservation Master Plan for the Liangzhu Archaeological Site*) and the Conservation and Management Plan for the property (*Conservation and Management Plan for Archaeological Ruins of Liangzhu City*), by means of vegetation cover for the above-ground archaeological remains to prevent soil erosion.

The ICOMOS Interim Report requested further information from the State Party on whether there is a plan for risk management and disaster preparedness for the nominated property.

The State Party submitted information including the *Plan for Safety Emergencies Related to Cultural Relics in the Hangzhou Liangzhu Archaeological Site Administrative District*, which is based on the existing national-level protocols issued by China's State Administration for Cultural Heritage.

Visitor management

Specific presentation programmes have been formulated under the overall framework of the *Conservation Master Plan for the Liangzhu Archaeological Site* and the *Conservation and Management Plan for Archaeological Ruins of Liangzhu City*. Presentation plans include

component part 01 (Yaoshan Site) and component part 04 (City Site). The other two component parts (2 and 3) will not be open for visitation in the near future.

The planned infrastructure for visitation includes entrances, heritage presentation facilities, heritage interpretation facilities, tourist service facilities, and presentation routes, among others.

Besides the planned on-site presentation, the Archaeological Site Museum (Liangzhu Museum) offers further presentation and interpretation for the nominated property. Furthermore, the property will be promoted via traditional and non-traditional media. It is also promoted via academic programs, education and awareness-raising activities and publications.

ICOMOS notes that visitor service facilities and management on-site are under construction and corresponding visitor management systems are in preparation.

ICOMOS considers that tourism pressures may impact the property and the visitor management plan should be completed and implemented observing the following priorities:

- Control of visitor numbers to the property to meet carrying-capacity goals;
- Ensure that there is minimal touching and/or trampling of the artefacts and constituent site elements; and
- Promote an integrated interpretation of the property, as it is a serial site spread across four locations, with only two of these accessible to visitors.

Community involvement

The following programs were created to promote public awareness and participation, such as organizing a cultural heritage day, the signing by thousands of residents to support nominating the property for the World Heritage List, a program for volunteers to work in guiding, consultation, social education activities, exhibition planning and design, data collection and sorting, among other activities.

Since 2013, 488 households have been moved and relocated outside the nominated property, and others with adverse effects on the property will be moved gradually under the guidance of the *Compensatory Approach for Encouraging Rural Private Housing Relocation of Liangzhu Archaeological Site*. Meanwhile, households with relatively small effects on the heritage will be retained in an appropriate quantity according to relevant plans. Also, businesses and industries have already been relocated, while others are planned to be relocated.

ICOMOS considers that an environmental impact assessment is necessary to identify the social and economic impacts of the relocated as well as the remaining households.

Evaluation of the effectiveness of the protection and management of the nominated property

The management of the nominated property according to three levels of plans is in place and their implementation has started. Adequate legal protection and funding are in place. The Management Committee is formed and has been actively managing the property.

A clear section, devoted to the documentation of archaeological and conservation activities, should be added to the management plan.

A development impact assessment is required in order to assess the impact of the rapid present and future development pace of Yuhang District and Hangzhou City on the nominated property as well as the social and economic impact of the large-scale relocation plans for households, businesses and industries.

The visitor management plan should be completed taking into consideration the potential pressures from future domestic and international tourism.

ICOMOS considers that the protection and management of the property is adequate. ICOMOS recommends that a clear section on documentation and a visitor management plan be added to the management plan and an impact assessment is made with regards to the fast pace of development, and the social and economic impact of the large-scale relocation plans.

6 Conclusion

ICOMOS considers that the serial approach is justified, the selection of sites is appropriate, and the nominated property meets criteria (iii) and (iv) and conditions of integrity and authenticity. The main threats to the property are development pressures, environmental pressures and visitor pressures. Disasters may include floods and summer rainstorms.

7 Recommendations

Recommendations with respect to inscription

ICOMOS recommends that the Archaeological Ruins of Liangzhu City, China, be inscribed on the World Heritage List on the basis of **criteria (iii) and (iv)**.

Proposed statement of Outstanding Universal value

Brief synthesis

The Archaeological Ruins of Liangzhu City was the centre of power and belief of an early regional state in the Circum-Taihu Lake Area. It is located on a plain criss-crossed by river networks in the eastern foothills of the Tianmu Mountains in the Yangtze River Basin on the southeast coast of China.

The property is composed of four areas: Area of Yaoshan Site; Area of High-dam at the Mouth of the Valley; Area of Low-dam on the Plain – Causeway in Front of the Mountains; and Area of City Site.

The Archaeological Ruins of Liangzhu City reveals an early regional state with rice-cultivating agriculture as its economic base, and social differentiation and a unified belief system, which existed in the Late Neolithic period in China. With a series of sites, including the City Site built during ca. 3300-2300 BCE, the Peripheral Water Conservancy System with complex functions and socially-graded cemeteries (including an altar), and the excavated objects represented by series of jade artefacts symbolizing the belief system, as well as its early age, the property represents the remarkable contributions made by the Yangtze River Basin to the origins of Chinese civilization. In addition, the pattern and functional zoning of the capital, together with the characteristics of the settlements of the Liangzhu culture and of the Outer City with the terraces, support strongly the value of the property.

Criterion (iii): The Archaeological Ruins of Liangzhu City, as the centre of power and belief of Liangzhu culture, is an outstanding testimony of an early regional state with rice-cultivating agriculture as its economic base, and social differentiation and a unified belief system, which existed in the lower reaches of the Yangtze River in the Late Neolithic period of China. It provides unparalleled evidence for concepts of cultural identity, social and political organization, and the development of society and culture in the late Neolithic and early Bronze Age in China and the region.

Criterion (iv): The Archaeological Ruins of Liangzhu illustrates the transition from small-scale Neolithic societies to a large integrated political unit with hierarchy, rituals and crafts. It includes outstanding examples of early urbanization expressed in earthen monuments, city and landscape planning, social hierarchy expressed in burial differentiations in cemeteries within the property, socio-cultural strategies for organization of space, and materialization of power. It represents the great achievement of prehistoric rice-cultivating civilization of China over 5000 years ago, and as an outstanding example of early urban civilization.

Integrity

The four component parts of the Archaeological Ruins of Liangzhu City include all the identified attributes necessary to convey its significance as an outstanding representation of a prehistoric early state and urban civilization in the Yangtze River Basin.

The property contains all material elements of the archaeological ruins, four main man-made elements, i.e. the City Site, the Peripheral Water Conservancy System, the socially-graded cemeteries (including an altar), and excavated objects represented by jade artefacts, as well

as the natural topography that is directly linked to the function of the sites.

The buffer zone includes the historical environmental elements associated with the value of the property, such as mountains, isolated mounds, bodies of water and wetlands, but also includes scattered contemporaneous archaeological remains surrounding the ancient city, as well as the intrinsic association of value between different sites and their spatial layout and pattern.

The impact of urban development and construction and natural factors threatening the property have been properly addressed.

Authenticity

Sites in the four areas, including the City Site, the Peripheral Water Conservancy System, the socially-graded cemeteries (including an altar), preserved as archaeological sites, carry the authentic historical information of the heritage of the period ca. 3300-2300 BCE, including characteristics in site selection, space and environment, location and layout, contour of remains, materials and technologies, and historical function of the sites, as well as the internal connection between the overall layout of the property and individual elements, and the historical natural environment of the distribution region of the sites. The objects unearthed from the four areas represented by jade artefacts authentically preserve the shape, categories, decorative patterns, functions, materials and the complex processing technologies and exquisite craftsmanship of the artefacts. Together with the archaeological sites, they authentically and credibly demonstrate the degree of development of the rice-cultivating civilization in the lower reaches of the Yangtze River in the Neolithic period and provide a panorama of Archaeological Ruins of Liangzhu City as an early regional urban civilization.

Protection and management requirements

Three components sites, Area of Yaoshan Site (01), Area of Causeway in Front of the Mountains (03-2), and Area of City Site (04) of the Archaeological Ruins of Liangzhu City, have obtained the highest-level national protection and are located in the Key Protection Subzone within the protection range of "Liangzhu Archaeological Site", a National Priority Protected Site for the protection of cultural relics. The Area of High-dam at the Mouth of the Valley (02) and Area of the Low-dam on the Plain (03-1) were listed as Provincial Protected Sites of Zhejiang in 2017, and an application is being processed for listing them as National Priority Protected Sites.

The property is owned by the State and is protected by relevant laws and regulations such as the *Law of the People's Republic of China on the Protection of Cultural Relics*, *Regulations for the Implementation of Law of the People's Republic of China on the Protection of Cultural Relics*, and *Administrative Regulations of Zhejiang Province on the Protection of Cultural Relics*, and enjoys both national and provincial-level status in protection.

Special protection policies and regulations for the property have been formulated and improved, including *Regulations for the Protection and Management of Liangzhu Archaeological Site of Hangzhou (revised in 2013)*, and a series of special regulations for heritage protection has been prepared, issued and implemented, including the *Conservation Master Plan for the Liangzhu Archaeological Site (2008-2025)* as a National Priority Protected Site, and monitoring over the property and its surroundings is also strengthened.

All four areas of the Archaeological Ruins of Liangzhu City share the same buffer zone and are managed effectively in a uniform way by a common management authority – the Hangzhou Liangzhu Archaeological Administrative District Management Committee.

It has a clear system for division of work and responsibilities, complete functions, sufficient technical and management staff specializing in protection, sufficient resources of funds, and complete facilities.

Various protection and management regulations will be strictly implemented, environmental capacity and development and construction activities in the property area will be effectively controlled, and negative impacts on the property from the pressures of various developments will be curbed; demands of stakeholders will be coordinated and taken into overall consideration, and the balance between the protection of the property and developments in tourism and urban construction will be kept, both rationally and effectively.

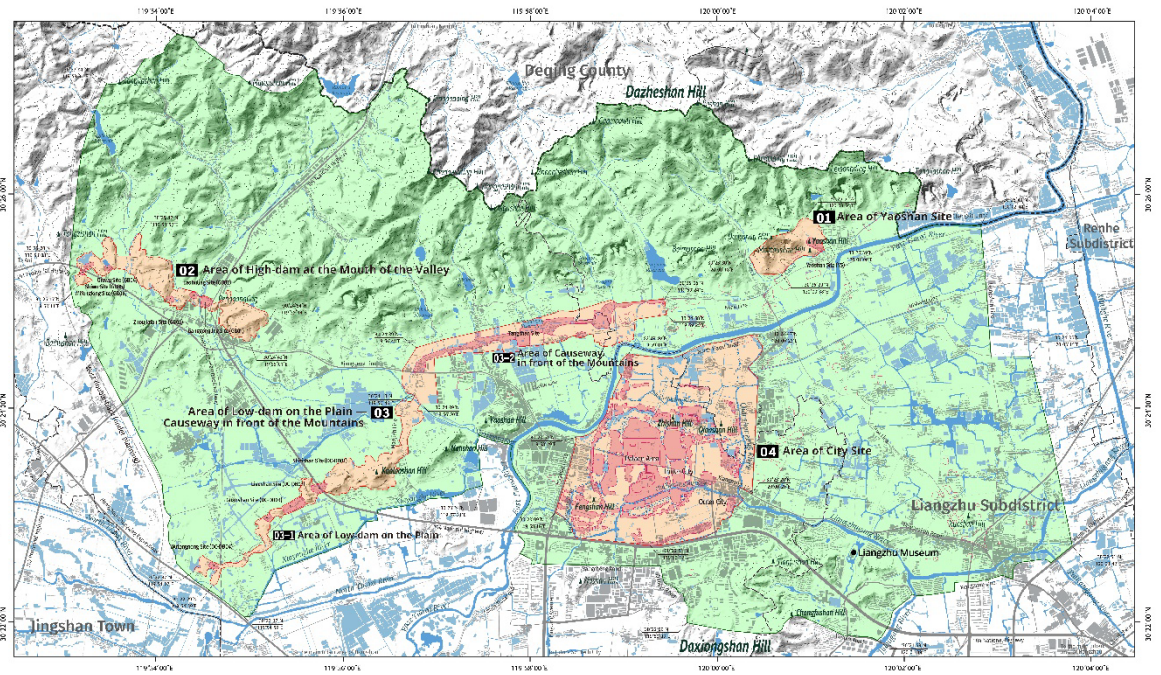
Research, interpretation and dissemination of the heritage value will be strengthened; the integrated function of the property, including cultural tourism and ecological protection, will be brought into play appropriately, and a sustainable and harmonious relationship between the protection of Archaeological Ruins of Liangzhu City and the development of Yuhang District and Hangzhou City will be maintained.

Additional recommendations

ICOMOS further recommends that the State Party give consideration to the following:

- a) Completing the designation of component part 02 of the property (Area of High-dam at the Mouth of the Valley) and component part 03-1 (Area of Low-dam on the Plain) as “National Protection Priority Sites”, as planned,
- b) Completing the management plan with a visitor management plan including the following aspects:
 - a. Controlling visitor numbers to meet carrying capacity goals,
 - b. Ensuring minimal touching and/or trampling of the artefacts and constituent site elements,

- c. Promoting an integrated interpretation of the property that includes all its four component parts;
- c) Adding updated documentation as an indicator to the monitoring system for the property,
- d) Developing and implementing Heritage Impact Assessments for development proposals, particularly infrastructure projects such as national and provincial highways and railway projects, as well as the social and economic impact of relocations of households, businesses and industries,
- e) Submitting all major projects that could impact on the property to the World Heritage Centre in line with paragraph 172 of the *Operational Guidelines for the Implementation of the World Heritage Convention*;



Map showing the boundaries of the nominated property



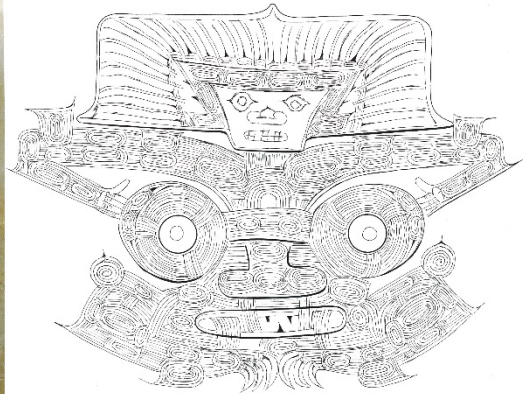
Aerial view of City Site



Yaoshan Cemetery



Archaeological Excavation of the Zhongjiagang River



0 1cm

Deity and Animal mask motif - Fanshan Cemetery

Jaipur City (India) No 1605

Official name as proposed by the State Party

Jaipur City, Rajasthan

Location

Rajasthan
India

Brief description

The historic walled city of Jaipur, located in northwestern India's Rajasthan State, was founded in 1727 CE under the patronage of Sawai Jai Singh II. Unlike other medieval cities in the region, which were typically located on hilly terrain and evolved organically, Jaipur was situated on a flat plain and deliberately planned. A walled city, it was developed in a single phase with a grid-iron plan inspired by the Prastara plan of the Vastu Shastra, but reflecting an interchange of ancient Hindu, Mughal and contemporary Western ideas. Its ordered, grid-like structure features broad streets crossing at right angles. The main markets, shops, residences and temples on the main streets were constructed by the state, thus ensuring uniform facades.

Envisaged as a trade capital, local traditions of trade, craftsmanship and guilds have continued. The nominated property also includes the Jantar Mantar astronomical observatory (1724-1730), inscribed on the World Heritage List in 2010.

Category of property

In terms of categories of cultural property set out in Article I of the 1972 World Heritage Convention, this is a *group of buildings*.

1 Basic data

Included in the Tentative List

15 April 2015

Background

This is a new nomination.

Consultations and Technical Evaluation Mission

Desk reviews have been provided by ICOMOS International Scientific Committees, members and independent experts.

An ICOMOS technical evaluation mission visited the property on 21-26 September 2018.

Additional information received by ICOMOS

A letter was sent to the State Party on 9 October 2018 requesting further information about maps, inventories, integrity, authenticity, protection and management.

Additional information was received from the State Party on 6 November 2018 and has been incorporated into the relevant sections of this evaluation report.

An Interim Report was provided to the State Party on 18 January 2019 summarizing the issues identified by the ICOMOS World Heritage Panel.

Further information was requested in the Interim Report including detailed mapping, clarification about the proposed attributes, details about the crafts and architectural inventory, an augmented comparative analysis, and further details about the legal protection, management, conservation, forward planning for the city, monitoring, heritage impact assessment and interpretation.

Date of ICOMOS approval of this report

13 March 2019

2 Description of the property

Note: The nomination dossier and additional information contain detailed descriptions of this property, its history and its state of conservation. Due to limitations on the length of evaluation reports, this report only provides a short summary of the most relevant aspects.

Description and history

Jaipur City is built on a plain in east-central Rajasthan. The nominated portion of the city has an 18th century grid plan divided into nine sectors (*chowkris*) 800 x 800m, defined by straight main streets intersecting at right angles. It was originally enclosed within a massive protective wall, remnants of which survive. The wall encircled the city, and gates – seven of which survive – were built to provide access. Many monuments and temples were constructed within the city.

Interpreted in the light of the shastras, the nominated property's grid plan is a mandala which has been adapted to the local topography. Lord Krishna, as Govind Dev, resides in the centre of the mandala, the centre of power, along with the City Palace as the home of the Maharaja. These foci are surrounded by their devotees and subjects arranged according to their rank or position.

The main streets are defined by a continuous line of shops with colonnades creating various markets. The streets form three intersections in the centre creating the important public squares called *chaupars*. The main temples, academic institutions, library and other important buildings are located along the main streets and *chaupars*.

A typical urban block traditionally consisted of number of neighbourhoods (*mohallas*) according to the caste, economic status and trade of its occupants. The block was

defined by series of shops with colonnades towards the edge; inside were clusters of houses organized along a small street or around a common space.

The basic residential unit is that of the *haveli*, a multi-storied building with rooms facing an inner courtyard or system of courtyards. These form densely built complexes – a *mohalla*, or neighbourhood – which may also contain artisans' workshops, temples and mosques. A *mohalla* typically accommodates about 40 to 50 residences.

ICOMOS requested clarification about the attributes of the nominated property in its interim report. The State Party clarified that the attributes are related to the town planning (grid iron plan of roads), three *chaupars* (public squares), nine *chowkris* (sectors – although generally not the buildings within the sectors), the alignment of the city wall and its remnants, and nine surviving city gates, urban form (eleven bazaar facades, shop typologies along bazaars, certain *havelis* and *havelis* temples along bazaars and *chaupars*, thirteen iconic buildings, and gates leading to inner streets), and craft streets and bazaars and the associated arts and crafts.

The nominated property also includes the Jantar Mantar, an astronomical observatory from 1724-1730 established by the Maharaja, which was inscribed on the World Heritage List in 2010.

Jaipur City is associated with the Rajput kingdom of the Kachchawas clan, which conquered Amber in what is today Rajasthan in northwestern India around 1037 CE. Amber became the capital of the Kachchwahas, and is 9 km northeast of what became Jaipur.

Jaipur was founded as the new capital of the Kachchwahas in 1727 by Sawai Jai Singh II, who ruled from 1699 to 1744. Increasing population, a lack of water and security had to be addressed in the new capital. Jaipur was to be the first planned city in India, and the Maharaja took a close interest in the design of the city. He consulted architectural books and architects about the planning.

Advice was sought from Vidyadhar Bhattacharya, a Brahmin scholar from Bengal, to help with the design. Vidyadhar referred to ancient Indian texts on astronomy as well as books by Ptolemy and Euclid. The city followed the principles of Vastu Shastra – a traditional Hindu system of architecture.

The city was planned with reference to the installation of an image of Govind Dev on the plain which is now the location of Jaipur, in 1715, and the axes of the city were established with reference to other sacred, secular and topographic features in the wider locality.

The new capital was intended to be a strong political statement to rival cities of the Mughal Empire elsewhere on what is now the Indian subcontinent, and to be a thriving centre for trade and commerce in the region.

Construction of the city started in 1727, and it took about four years to complete the major palaces, roads and square. The city was divided into nine sectors; two comprised state buildings and palaces, and the remaining seven were for public use. The city was surrounded by a large fortified wall with gates.

At the time Jaipur was founded, three main structures had already been completed. These were Chandra Mahal as the political centre, Govind Mahal or Surya Mahal as the religious centre and Badal Mahal, which became part of the City Palace.

Jaipur's city plan was developed with specific dimensional standards for measurements such as building heights and road widths.

The main markets, shops, *havelis* (residences) and temples on the main streets were constructed by the state, ensuring uniformity of street facades. Approximately 400 temples were built in the city.

The land for the houses of important nobles was marked on the main streets and allocated according to caste, rank and financial status.

A water supply system of underground canals and tanks was developed for the city.

The facades of Jaipur's bazaars reveal distinct stylistic layers from the 18th century to the 21st century. In the 18th century the city was realized as an integration of ancient Hindu and contemporary Western ideas with contemporary Mughal architecture, reflecting a political intention to define new concepts for a trade-oriented city.

In the 19th century the city grew rapidly and became prosperous. Its wide boulevards were paved, and lit with gas. The city had hospitals, metal and marble industries, a school of art and colleges.

This period saw a definite colonial influence in architectural styles. This included the introduction of classical elements such as semi-circular arches, small pediments, pilasters and stone railings adapted in a localized Rajput-British style that is also categorized as Indo-Saracenic. It was also the time when the colour of Jaipur's bazaars was changed from the earlier lemon-coloured lime wash to a wash the colour of red sandstone, which gave Jaipur its title of 'Pink City'.

At this time the city was extended beyond the old city walls, adopted new modes of transport such as railways, and adopted modern drainage and a piped water supply system.

The last distinct phase was during the early 20th century, when the city expanded in all directions. This period saw the introduction of the Art Deco style, which was adapted to the building typologies. The continuous verandah in front of the shops in Chandpol, Kishanpol and Tripoliya bazaars was a major contribution of this phase.

It was also during this phase that much renovation work was undertaken, including the city walls and gates.

After India became independent in 1947, Jaipur became the capital of Rajasthan State, which further strengthened its potential for trade and tourism. The modern city of Jaipur has today grown well beyond the original boundaries established in 1727.

Boundaries

The nominated property has an area of 710 ha, and a buffer zone of 2,205 ha.

The original city wall line has been adopted as the boundary of the nominated property.

ICOMOS requested good quality and detailed mapping of the boundaries and buffer zone in its interim report. The State Party provided additional mapping of a better scale and quality.

The rationale for the boundary is satisfactory and the additional mapping provides a clearer understanding of the boundary. However, the definition of this boundary on the ground is not clear in those locations where the wall no longer exists. In other locations, access to the boundary is too difficult to enable its verification because later structures obscure it.

It also appears that the boundary follows the outer surface of the wall line rather than the 5 metre setback specified in the building bylaws.

The buffer zone provides adequate protection for the property. However, it has the same problems regarding its definition on the ground. This is especially the case with the southern part of the property along the MI Road and in the area surrounding the Raghunathgarh Fort to the east.

Otherwise, the buffer zone includes the immediate setting of the property and important views, as well as important associated features such as Nahargarh Hill, Galtaji Temple, and the Moti Dungri and Hathroi forts.

State of conservation

There has been a range of conservation and urban renewal projects undertaken in the nominated property since 1971. This has included the conservation and restoration of heritage structures undertaken by the Department of Tourism in 1995, removal of encroachments in the main commercial streets in 2001, and an infrastructure project which included the re-use of wells and repair work in the city in 2001. Since 2005, the Government of Rajasthan has undertaken projects for the conservation of city gates, Jaleb Chowk in the City Palace and the Ghat Ki Ghuni heritage zones. A conservation project for the Hawa Mahal was undertaken in 2006-2007, for Jaleb Chowk, Jantar Mantar and Ghat Ki Ghuni in 2007-2008, and bazaars, Ghat Ki Ghuni and Jantar Mantar buffer zone in 2011-2013. Conservation of bazaars has been undertaken since 2014 as part of the Jaipur Smart City Plan.

Based on the information provided by the State Party, on the nominated attributes and the observations of the ICOMOS technical evaluation mission, ICOMOS considers that the state of conservation appears partly satisfactory but with substantial exceptions.

The city gates seem to have enjoyed the focus of conservation efforts in the city. The pink-coloured facades of buildings on the market streets also appear to be in good condition. However, signs of dilapidation are noticeable in many older buildings. It seems that most maintenance/face-lift projects are aimed at improving only the appearance of the main market streets. Large sections of the city wall no longer exist, and in other cases, the wall has been encroached by development. Most craft streets are still to be conserved.

ICOMOS requested in its interim report information about the state of health of the crafts which are attributes of the property. The State Party advised that four of the twelve crafts are declining or dying, with the remainder thriving.

While not attributes identified by the State Party, it is noted many of the inner areas of the *chowkris* and the old *havelis* are in poor condition, and important open spaces are being encroached.

Factors affecting the property

Based on the information provided by the State Party and the observations of the ICOMOS technical evaluation mission, ICOMOS considers that the main factors affecting the nominated property are development pressures and unauthorized constructions. These factors affect many parts of the nominated property.

Population pressure is leading to the expansion/extension of existing buildings or the redevelopment of existing buildings, sometimes in violation of the law. Any changes to the facades of buildings that face towards or are visible from any of the bazaars are not permissible unless they conform to the design features of the locality. Violations of this law appear to be widespread.

The most significant development pressure arises from two public sector initiatives – those by Jaipur Smart City Limited, and the underground metro line.

Projects such as the multi-level carpark at Chaugan Stadium (currently under construction), the proposed multi-level carpark at the Atish Market area, the multi-storey Integrated Development of Janta Market and the Jaleb Chowk redevelopment are likely to have a negative impact on the proposed Outstanding Universal Value of the nominated property, and worsen the traffic conditions within the city.

Each ongoing and proposed project by Jaipur Smart City Limited within the nominated property and beyond should be subjected to a Heritage Impact Assessment (HIA) to ensure it does not have a negative impact on the proposed Outstanding Universal Value, integrity or authenticity of the nominated property.

With regard to the underground metro line project, potential direct and cumulative impacts on the nominated property due to its operation have not been assessed. In addition, despite previous indications, many mature trees in Badi Chaupar and Choti Chaupar areas have been lost during construction.

Encroachments on the remnants of the city wall are a severe problem. According to the building bylaws, no permanent or temporary structures can be erected within 5 m of the city wall. Violations of this bylaw can be seen throughout the nominated property. While some of the structures may have been constructed before this bylaw was enacted, many unauthorized and illegal structures have been constructed in recent years. No signs of active removal of illegal structures are evident.

The development pressure on the immediate surroundings of the nominated property is also very high. Large-scale and unauthorized development in the buffer zone to the north of Brahmapuri seems to be increasing.

3 Proposed justification for inscription

Proposed justification

The nominated property is considered by the State Party to be of Outstanding Universal Value as a cultural property for the following reasons:

- Jaipur is an exemplary development in town planning and architecture that demonstrates an amalgamation and important interchange of ideas in the late medieval period. In town planning, it shows an interchange of ancient Hindu, Mughal and contemporary Western ideas that resulted in the form of the city. The plan displays a grid-iron layout which was prevalent in the West but with zoning derived from traditional Hindu concepts. In addition, the city defined new concepts for a thriving trade and commercial hub that became a standard for later towns in an adjoining region and other parts of what is now western India.
- Jaipur is an outstanding example of a late medieval trade town in South Asia which was emulated elsewhere and made into a tradition. The city planning is an outstanding response to the topography of the site that amalgamates ideas from an ancient Hindu treatise, contemporary global town plans and imperial Mughal architecture, to produce a monumental urban form unparalleled in scale and magnificence in the period. The continuity of trades and craftsmanship in the city is an intangible heritage quality of Jaipur.
- Jaipur is associated with living traditions in the form of crafts that have national and international recognition, and with a range of industries including lac jewellery, stone idols and miniature paintings, as well as building crafts.

Comparative analysis

The comparative analysis is presented in three parts: regional towns which have been influenced by the nominated property's planning; cities in India that had an influence on its planning, and cities on India's Tentative List; and cities on the World Heritage List.

The analysis considers other cities in Rajasthan, including the capitals of other principalities. These are not thought to be similar to the nominated property's careful overall planning, commercial orientation and location on the plains.

Nonetheless, there are a number of cities which followed the town planning model established by Jaipur. These include Sawai and Madhopur, dating from the 19th and early 20th centuries. None are of the scale, magnitude or complexity of Jaipur. Other comparable capitals in Rajasthan, such as Jodhpur and Udaipur, were built in earlier periods and followed the medieval practice of locating the city on hilly terrain, and had a more organic pattern of growth.

With regard to the second part of the comparative analysis, Indian cities that influenced Jaipur, the medieval period saw the development of what became known as Indo-Islamic cities. These combined the principles of traditional Hindu and Islamic town planning. Shajahanabad remains a prominent inspiration. Jaipur departed from this practice to evolve a plan with a more modern vision of a trading and commercial city of the 18th century.

In the case of examples of princely state capitals, such as Lucknow, they primarily follow Indo-Islamic architecture and planning, while Jaipur was driven by Hindu town planning principles and its more universal grid-iron plan.

The analysis also considers the World Heritage property Group of Monuments at Hampi (India, 1986, criteria (i), (iii) and (iv), which was the 16th century capital of the Vijayanagara Empire. The structure of Hampi is completely different from the walled city form of Jaipur, with its grid-iron street pattern. South Indian temple towns are also considered. However, their form is not a grid-iron pattern, nor were they developed as commercial cities.

The analysis considers cities in India on the Tentative List. Some with similarities to Jaipur are noted, such as Ekamra Shetra, which includes Hindu city planning based on the application of the mandala concept, and Chandigarh, which has a grid-iron plan.

Finally, the analysis considers cities in other parts of the world which have been influenced by Hinduism. While Hindu-influenced cities exist in a number of other countries, the analysis notes that each country had its own practice of town planning that was different from Jaipur.

The analysis notes that while grid-iron planning has been practiced since ancient times, its application has been sporadic. In the Asian context, Chinese city planning included the grid-iron layout, with a good example being the old city centre of Beijing. Seventeenth century examples prior to Jaipur are few, and include Mannheim (Germany), Historic Centre of Saint Petersburg and Related Groups of Monuments (Russian Federation, 1990, criteria (i), (ii), (iv) and (vi)) and Philadelphia (United States of America). Post-Renaissance examples include the New Town of Edinburgh (United Kingdom, 1995, criteria (ii) and (iv), Glasgow and other planned cities in Europe, the United States, Australia and elsewhere, all post-dating Jaipur.

The analysis concludes that Jaipur is a rare example of city planning based on a grid-iron model in medieval South Asia. No other earlier or contemporary city followed the model at this scale. Other examples of grid-iron plans around the world emerge from different political and socio-cultural contexts. The analysis argues that, compared to European examples, Jaipur was a trendsetter in establishing city planning principles.

The analysis considers 21 of the 192 cities inscribed on the World Heritage List at the time of the nomination. This is to juxtapose the nominated property's city plan with the town planning theories reflecting new urban forms that were emerging around the world during the Enlightenment period.

The analysis proposes that Jaipur stands as an important city for the culmination of various architectural styles and amalgamation of various cultures in an 18th century town plan form. This reflects tangible and intangible elements resulting in an exceptional architectural form, city morphology and cultural traditions.

It is also proposed that the nominated property stands out as an example of an important town plan that emerged from the amalgamation of ancient and contemporary planning principles ranging from traditional Hindu treatises to Western town planning.

ICOMOS requested in its interim report that the analysis be further augmented to consider similar arts and crafts zoning in other cities, related to criterion (vi). The State Party provided considerable additional information regarding both cities in India as well as in other countries. However, the additional information is generally descriptive and lacks any substantive analysis to support the assertions made about the values of Jaipur.

ICOMOS considers the comparative analysis justifies consideration of the nominated property for the World Heritage List with regard to an important interchange of ancient Hindu, Mughal and contemporary Western ideas related to town planning and architecture and as an outstanding architectural ensemble.

However, with regard to other values, ICOMOS considers that the comparative analysis is not adequate. It provides no meaningful supporting analysis regarding the values of arts and crafts which are central to the claims made under criterion (vi).

ICOMOS considers that the comparative analysis justifies consideration of the nominated property for the World Heritage List with regard to an important interchange of ancient Hindu, Mughal and contemporary Western ideas related to town planning and architecture and as an outstanding architectural ensemble. However, with regard to other proposed values, ICOMOS considers that the comparative analysis is not adequate.

Criteria under which inscription is proposed

The property is nominated on the basis of cultural criteria (ii), (v) and (vi).

Criterion (ii): *exhibit an important interchange of human values, over a span of time or within a cultural area of the world, on developments in architecture or technology, monumental arts, town-planning or landscape design;*

This criterion is justified by the State Party on the grounds that the nominated property is an exemplary development in town planning and architecture that demonstrates an amalgamation and important interchange of ideas in the late medieval period. In town planning, it shows an interchange of ancient Hindu, Mughal and contemporary Western ideas that resulted in the form of the city. The plan displays a grid-iron layout which was prevalent in the West, but with zoning derived from traditional Hindu concepts. In addition, the State Party contends that the city defined new concepts for a thriving trading and commercial hub that became a standard for later towns in an adjoining region and other parts of what is now western India.

ICOMOS considers that the nominated property has the potential to represent an important interchange of human values within a cultural area of the world on developments in town planning and architecture. In particular, it has the potential to manifest an interchange of ancient Hindu, Mughal and contemporary Western ideas in the urban form and architecture of Jaipur.

ICOMOS considers that the property has the potential to justify criterion (ii).

Criterion (iv): *be an outstanding example of a type of building, architectural or technological ensemble or landscape which illustrates (a) significant stage(s) in human history;*

While criterion (iv) has not been put forward by the State Party, ICOMOS considers that the nominated property has the potential to meet this criterion as an outstanding example of an architectural ensemble with city planning and an urban form reflecting ancient and modern influences to produce a commercial city unparalleled in scale and magnificence in the period.

ICOMOS considers that the property has the potential to justify criterion (iv).

Criterion (v): *be an outstanding example of a traditional human settlement, land-use, or sea-use which is representative of a culture (or cultures), or human interaction with the environment especially when it has become vulnerable under the impact of irreversible change;*

This criterion is justified by the State Party on the grounds that the nominated property is an outstanding example of a late medieval trade town in South Asia which was emulated elsewhere and subsequently became a tradition. The city planning is an outstanding response to the topography of the site that amalgamates ideas from an ancient Hindu treatise, contemporary global town plans and imperial Mughal architecture, to produce a monumental urban form unparalleled in scale and magnificence in the period, according to the State Party. The continuity of trades and craftsmanship in the nominated property is proposed as an intangible heritage.

ICOMOS considers that the nominated property does not meet this criterion. It is not a traditional human settlement, but is rather an innovative planned city for its time. The nomination argues that Jaipur created a tradition, rather than being based on an existing tradition. This approach is not based on the usual interpretation of the criterion which has been adopted in the past. However, the nominated property is not particularly representative of a culture or human interaction with the environment. While its development responded to its terrain, this is also true of most towns and cities, and it is not clear why Jaipur should be regarded as more significant in this regard than other cities. Nor is the nominated property shown to be any more vulnerable to change than most other cities in the sub-continent and Asia.

Criterion (vi): *be directly or tangibly associated with events or living traditions, with ideas, or with beliefs, with artistic and literary works of outstanding universal significance;*

This criterion is justified by the State Party on the grounds that the nominated property is associated with living traditions in the form of arts and crafts that have national and international recognition. The city is associated with a range of industries, including jewellery made of lac (a resinous substance), stone idols and miniature paintings, as well as building crafts.

ICOMOS considers that this criterion is not justified because of the weakness noted in the comparative analysis.

ICOMOS agrees that the nominated property is directly associated with longstanding arts and crafts traditions that characterize the city as a centre of artistic excellence throughout its history. Nevertheless, the comparative analysis does not position the nominated property adequately among other properties that exhibit the same or similar attributes and values related to this criterion.

ICOMOS considers that the nominated property has the potential to meet criteria (ii) and (iv), but that criteria (v) and (vi) have not been demonstrated.

Integrity and authenticity

Integrity

The integrity of the nominated property is based on the town planning and architecture that demonstrates an amalgamation and important interchange of ideas in the late medieval period, the monumental urban form of the city and the living craft traditions, and the need for the property to contain all the attributes necessary to convey the proposed Outstanding Universal Value. Integrity is also measure of the intactness of the property, and the way major pressures are managed.

ICOMOS considers that the boundary of the city wall should be sufficient to ensure that the nominated property retains all attributes reflecting any potential Outstanding Universal Value.

However, the attributes identified by the State Party reflect only part of the urban form of the city, in particular excluding the inner areas of the *chowkris* and the old *havelis*. These large exclusions undermine the nomination of the property as a historic city. The attributes reflecting the full historic urban form, including these additional features, should be considered for nomination.

Overall, the condition of the physical fabric of the nominated attributes appears partly satisfactory. However, with regard to other features which should be considered, the inner areas of the *chowkris* and the old *havelis*, the condition of these varies considerably, from good to poor. The grid pattern street layout, surviving city gates and functional zoning are mostly intact. However, unauthorized new constructions and additions to existing structures within the nominated property are widespread. Many of the new authorized and unauthorized constructions and numerous communication towers are not sensitive to the nominated property's traditional designs and materials, and therefore have a negative visual impact on the proposed Outstanding Universal Value of the nominated property. Large open areas are being developed into multi-level carparks with footprints many times larger than traditional buildings.

The city wall exists only in fragments, and long stretches no longer exist. In some places, wall segments have either been built over or made part of new constructions. While most of the visible wall segments are in an acceptable or stable physical condition, signs of neglect can be seen in many locations. Walls attached to the city gates are in good condition. The city gates and palace gates are well maintained. Most of the other gates' wooden doors show signs of neglect, and many have been damaged. While the bazaars continue in their traditional function, the design harmony of the facades above street level is severely affected in some by new construction.

Open spaces are an essential part of the city plan but are gradually disappearing. In some cases these are being built upon, as noted above.

The general condition of the protected monuments is acceptable.

Authenticity

The authenticity of the nominated property is based on the attributes that convey its potential Outstanding Universal Value, which include the overall form and design, use and function, location and setting, intangible heritage, and spirit and feeling.

ICOMOS considers that the nominated property meets the requirements of authenticity with regard to these qualities. The property maintains most of its area-based traditional trade practices, and its functional zoning.

With regard to the authenticity of materials, substance and techniques, ICOMOS is not able to confirm their authenticity because of lack of documentation.

ICOMOS considers that the requirements of integrity and authenticity have not been met at this stage. There are substantial integrity issues related to the impacts of development, the poor condition of many parts of the city wall, the inner areas of the *chowkris* and the old *havelis*, and encroachment of open spaces. In the case of authenticity, the materials, substance and techniques need to be confirmed through documentation.

Evaluation of the proposed justification for inscription

ICOMOS considers that the comparative analysis justifies consideration of the nominated property for the World Heritage List with regard to an important interchange of ancient Hindu, Mughal and contemporary Western ideas related to town planning and architecture evidenced by the city, and as an outstanding architectural ensemble. However, with regard to other nominated values, ICOMOS considers that the comparative analysis is not adequate.

ICOMOS considers that the nominated property has the potential to meet criteria (ii) and (iv), but that criteria (v) and (vi) have not been demonstrated.

ICOMOS considers that the requirements of integrity and authenticity have not been met at this stage. There are substantial integrity issues related to the impacts of development, the poor condition of many parts of the city wall, the inner areas of the *chowkris* and the old *havelis*, and encroachment of open spaces. In the case of authenticity, the materials, substance and techniques need to be confirmed through documentation.

Attributes/Features

The nomination dossier does not present a clear indication of the attributes relevant to the proposed Outstanding Universal Value. Lists of different attributes are presented at various points in the dossier, and other attributes are also implied elsewhere in the dossier.

ICOMOS requested clarification about the proposed attributes in its interim report. The State Party clarified that the attributes are related to the town planning (grid iron plan of roads), three *chaupars* (public squares), nine *chowkris* (sectors – although generally not the buildings within the sectors), the alignment of the city wall and its remnants, and nine surviving city gates), urban form (eleven bazaar facades, shop typologies along bazaars, certain *havelis* and *havelis* temples along bazaars and at *chaupars*, thirteen iconic buildings, and gates leading to inner streets), and craft streets and bazaars and the associated arts and crafts.

As noted above, the attributes identified by the State Party reflect only part of the urban form of the city, in particular excluding the inner areas of the *chowkris* and the old *havelis*. The attributes reflecting the full historic urban form and architecture of the city, including these additional features, should be considered for nomination.

ICOMOS considers that the attributes reflecting the full historic urban form and architecture of the city including the inner areas of the *chowkris* and the old *havelis* contribute to the justification for inscription.

4 Conservation measures and monitoring

Conservation measures

Active conservation measures have been aimed at improving the appearance of buildings on the main market streets – the bazaar facades, certain *havelis* and *havelis* temples. In addition, the surviving city gates and adjacent walls, and landmark buildings have been a focus of conservation efforts. One of the craft streets has been upgraded but other streets are yet to be addressed.

The nominated property is large and complex, with many historic structures being managed by numerous property owners. While there are indications that some buildings have benefitted from programmed conservation measures and regular maintenance, a large number of other buildings have not.

The situation with conservation measures and maintenance appears to be reflected in the funding available for the nominated property. In some cases, funding is available to undertake conservation work. The current project dealing with market buildings is an example. In many other cases, though, it would appear that sufficient conservation funding is not available, especially away from the main streets and within the residential areas.

Urgent measures are required to improve the state conservation of many older buildings within the nominated property that are showing signs of dilapidation. In particular, the inner areas of the sectors (*chowkris*) and many of the old residences (*havelis*) are in poor condition and require attention.

ICOMOS requested in its interim report further information about achieving an acceptable state of conservation across the whole of this large property with many attributes. The State Party provided a summary of the state of conservation of the property noting many of the conservation projects related to attributes. In addition, it noted a joint project between the Government of Rajasthan and the Archaeological Survey of India, where the ASI will provide support for conservation and heritage management, including with conservation policy and in drafting architectural control and material use guidelines for the bazaar area.

With regard to the full extent of the surviving city wall, the inner areas of the *chowkris* and the old *havelis*, and the encroachment of open spaces, it is apparent that adequate conservation measures do not exist to address the many problems and achieve an acceptable state of conservation.

Monitoring

The management system for the nominated property indicates that a range of agencies will be responsible for monitoring specified activities. The nomination provides a list of key indicators for measuring the state of conservation, and identifies who will undertake the monitoring and the timeframe envisioned. A Heritage Cell within the Jaipur Municipal Corporation will apparently have overall responsibility for monitoring.

ICOMOS requested in its interim report if the monitoring system could be improved by the addition of indicators to cover the state of conservation of the full range of attributes, and threatening processes. The State Party provided an outline of indicators to address all attributes, which to some extent also explicitly covered threatening processes. While a positive step, the indicators remain very broad, and another level of detailed implementation would be required.

ICOMOS considers that conservation measures are not adequate to address the whole of this large property with its many attributes. Programmed conservation measures and regular maintenance need to be provided for all attributes, supported by adequate funding. Urgent measures are also needed to improve the state of conservation. The monitoring system is broadly satisfactory but another level of detailed implementation is required.

5 Protection and management

Documentation

As a part of the Built Heritage Management Plan (2007), a survey was conducted to identify and list the heritage buildings located within the nominated property. It is a basic list of 1,575 buildings, and this was updated in 2018.

ICOMOS requested further information in its interim report about the level and nature of details to be included in a more detailed inventory to be completed by 2020. The State Party noted that because of conservation projects, the level of documentation available about most attributes actually goes beyond that which might be contemplated in an inventory. None the less, a detailed inventory of all built structures within the property is to be prepared, including attributes and structures which are not attributes. The work on the inventory has started, and a detailed inventory already exists from 2014-15 for 400 structures. This will be updated and extended. A sample proforma for the detailed inventory was provided.

Legal protection

The Jaipur Master Development Plan 2025 is the only document that refers to the nominated property in its entirety, though the boundaries described in this plan do not completely coincide with those of the nominated property. It does not provide any detailed plan for the nominated property. Instead, it declares it a Special Area and states that a Special Area Plan for it should be created. This is the only legal protection for the nominated property as a heritage city.

National and state level legal protection exist for individual buildings, including under the Rajasthan Monuments, Archaeological Sites and Antiquities Act 1961.

Several documents provide lists of heritage buildings and refer to them as 'listed', but these are inventories and do not provide legal protection.

The Jaipur Building Byelaws 1970 apply to the entire Jaipur Municipality. These provide height controls within the nominated property and the parts of the buffer zone that are within the municipality. Some sections contain specific provisions regarding constructions affecting the city walls and facades of buildings along the main bazaar streets.

The Devasthan Department Rules guide the management of temples and religious buildings but do not offer any heritage protection.

The City Palace Complex has its own separate management regime. The Rajasthan Municipalities Act 2009 and Jaipur Building Byelaws 1970 apply to the Palace only if an existing structure within the complex is planned for redevelopment.

The buffer zone can be divided into two categories: forested areas and urban areas. The forested areas are governed under the Rajasthan Forest Act 1953, and the Rajasthan State Forest Policy 2010 is used as a guiding document.

The urban areas fall within Jaipur Municipality and their management is governed by the Rajasthan Municipalities Act 2009 and the Jaipur Building Byelaws 1970. There is no separate or added layer of legal protection for the buffer zone to ensure that its management contributes to the protection of the nominated property, nor do the laws mentioned above make any reference to the heritage values of the nominated property.

ICOMOS requested in its interim report further information about the future of existing unauthorised and illegal constructions, and about the level of commitment that could be given about the future effectiveness of legal protection. The State Party noted there had been encroachments near the city wall and that the consensus process to resolve the encroachments is taking time. The encroachments are being documented, and monitoring is to be undertaken to detect possible future encroachments. In terms of stakeholder commitment to future protection, a consensus approach over time is proposed.

While legal protection appears adequate for some attributes, protection measures are not considered adequate and effective for all attributes, in particular the full extent of the city wall, the inner areas of the *chowkris* and the old *havelis*, and the open spaces. In addition, it is understood protection of buildings in bazaar streets only extends to one surface of the buildings. In the case of reliance for protection on the Jaipur Building Byelaws 1970, widespread and unabated violations of the bylaws calls into question the effectiveness of the bylaws overall. Accordingly, ICOMOS considers the property is facing significant threats.

Management system

The Jaipur Municipal Corporation (JMC) is the main body responsible for the general management and development control within the nominated property. Within the JMC, a Heritage Cell, reinstated in September 2018, will be responsible for monitoring all buildings, areas, city walls and gates within the property and buffer zone to ensure compliance with the bylaws – though it lacks enforcement powers. It is also responsible for providing guidelines and policy for conservation works in the nominated property. The Heritage Cell will be formed from existing JMC staff, and there is a provision for inclusion of other heritage professionals. There are no active heritage conservation training programs at the JMC.

While the nomination dossier states that the Department of Archaeology and Museums of the Government of Rajasthan has conservation expertise and that several non-governmental heritage organizations can extend their support to conservation efforts, these services can be accessed only on an individual project basis.

The Jaipur Master Development Plan 2025 is considered to be the primary heritage management plan for the property. The plan includes background to the plan itself, information on the district and region, and guidance regarding a range of issues including the conservation of built heritage. The plan is a high-level document; there are

other plans for specific monuments such as Jantar Mantar, and it proposes additional plans.

The implementation of various plans, including the Jaipur Master Development Plan 2025, within the city is dependent on the establishment of a proper management system. The establishment of the Heritage Cell is an important step towards that system.

Risk management has been a feature of previous heritage plans for Jaipur, and development of a plan for disaster risk management preparedness and its implementation are identified tasks in the nomination dossier.

ICOMOS requested in its interim report additional information on improved coordination of the management system, and how adequate tools and authority can be provided to ensure satisfactory management. The State Party provided details about the overarching State Level Heritage Committee, the municipal Technical Heritage Conservation Committee and the municipal Heritage Cell.

While these new enhanced management arrangements may prove successful, they need to be extended to cover all attributes in the property, and there is overall a lingering and serious concern given the management system for the nominated property and the buffer zone is uncoordinated and lacked adequate supportive legal and administrative tools and power. This situation also contributes to the conclusion that the property is facing significant threats.

Visitor management

Jaipur City has been a destination for domestic and international tourists for many years. Although the number of visitors is growing gradually, there is no immediate strain from tourism. The proposed Shri Krishna Smart Circuit and the redevelopment of Jaleb Chowk projects may ease visitor movements in the central areas of the city. However, these projects have no provisions to reduce the number of large tour buses or the many private automobiles, which cause severe traffic congestion.

There is no established overall interpretation and presentation policy for the nominated property. Non-governmental organizations and volunteers conduct walking tours as needed. Several proposed projects, such as the Shri Krishna Smart Circuit and redevelopment of Jaleb Chowk, may improve presentation of the nominated property. It is not clear if these projects are aimed at improving site presentation or simply improving tourism facilities.

Separate interpretation for the Jantar Mantar World Heritage property already exists.

Community involvement

Representatives of various trade and commerce, community, social and professional bodies all seem to support the nomination. The trade and commerce bodies have been the most vocal supporters, as they consider the potential inscription would benefit business.

Evaluation of the effectiveness of the protection and management of the nominated property

With regard to documentation, a basic database exists and this is being updated and extended into a more detailed form, to be completed in 2020.

While legal protection appears adequate for some attributes, protection measures are not considered adequate and effective for all attributes, in particular the full extent of the city wall, the inner areas of the *chowkris* and the old *havelis*, the open spaces, and buildings in bazaar streets. In the case of reliance for protection on the Jaipur Building Byelaws 1970, there are serious concerns about their effectiveness.

While a management system exists for the property, and this is to be enhanced regarding coordination, this needs to be extended to cover all attributes in the property, and there is overall a lingering concern given the management system for the nominated property and the buffer zone is uncoordinated and lacked adequate supportive legal and administrative tools and power.

Given this situation, ICOMOS considers the property is facing significant threats.

There is no established overall interpretation and presentation policy or program for the nominated property.

There is community support for the nomination.

ICOMOS considers that the protection and management are not adequate, and that the property is threatened. There are serious weaknesses in the protection of attributes, the previous management system had significant problems and the new enhanced management system does not extend to all attributes and is untested, and there is no established overall interpretation and presentation policy or program for the nominated property.

6 Conclusion

ICOMOS considers the comparative analysis justifies consideration of the nominated property for the World Heritage List with regard to an important interchange of ancient Hindu, Mughal and contemporary Western ideas related to town planning and architecture evidenced by the city, and as an outstanding architectural ensemble. However, with regard to other proposed values, ICOMOS considers that the comparative analysis is not adequate.

ICOMOS considers that the nominated property has the potential to meet criteria (ii) and (iv), but that criteria (v) and (vi) have not been demonstrated.

ICOMOS considers that the requirements of integrity and authenticity have not been met at this stage. There are substantial integrity issues related to the impacts of development, the poor condition of many parts of the city wall, the inner areas of the *chowkris* and the old *havelis*,

and encroachment of open spaces. In the case of authenticity, the materials, substance and techniques need to be confirmed through documentation.

The attributes identified by the State Party reflect only part of the urban form of the city, in particular excluding the inner areas of the *chowkris* and the old *havelis*. ICOMOS considers that the attributes reflecting the full historic urban form and architecture of the city, including these additional features, should be considered for nomination.

ICOMOS considers that the protection, conservation and management are not adequate, and that the property is threatened. Conservation measures are not adequate to address the whole of this large property with its many attributes. The monitoring system is broadly satisfactory but another level of detailed implementation is required. There are serious weaknesses in the protection of attributes, the previous management system had significant problems and the new enhanced management system does not extend to all attributes, is untested, and there is no established overall interpretation and presentation policy or program for the nominated property.

7 Recommendations

Recommendations with respect to inscription

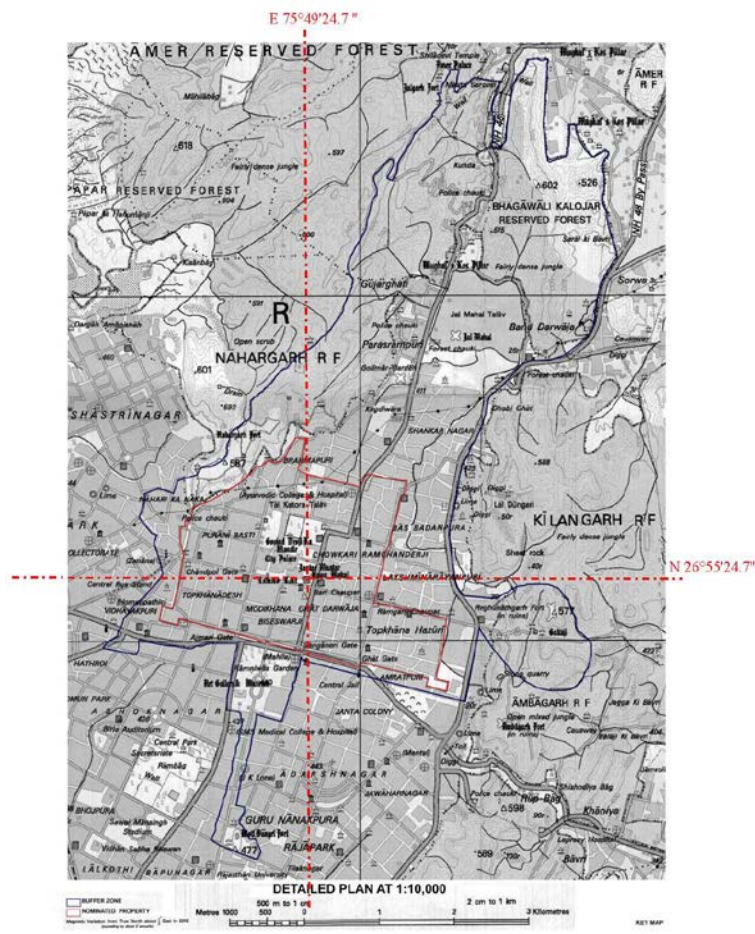
ICOMOS recommends that the examination of the nomination of Jaipur City, India, to the World Heritage List be **deferred** in order to allow the State Party, with the advice of ICOMOS and the World Heritage Centre, if requested, to:

- a) Develop a clear plan to enhance the state of conservation of the property with regard to development impacts, including those affecting the city wall, and otherwise including conservation measures for the city wall and craft streets, and commence implementation of the plan,
- b) Complete the detailed heritage inventory for the nominated property covering all attributes at a suitable level of detail,
- c) Improve the legal protection to overcome the danger to the property and ensure it is adequate and effective for all attributes, including ensuring coordination between the various protective measures,
- d) Extend the management system to cover all attributes in the property, and demonstrate the enhanced management system is effective, well-coordinated and has adequate supporting administrative tools and power,
- e) Undertake Heritage Impact Assessments for any current or planned projects which may affect the proposed Outstanding Universal Value of the nominated property, in alignment with paragraph 172 of the *Operational Guidelines*,

- f) Develop a detailed monitoring program, including more detailed indicators,
- g) Establish an overall interpretation and presentation policy and program for the nominated property;

If requested, ICOMOS is available to offer advice to the State Party on the above mentioned conservation and management processes.

Any revised nomination should be evaluated by a site mission.



- Nominated Property
- Buffer Zone

Map showing the boundaries of the nominated property



View of the City Palace Complex



City Palace Complex



View of the Main Bazaar



Jarawar Singh Gate

Ombilin Coal Mining Heritage of Sawahlunto (Indonesia) No 1610

Official name as proposed by the State Party

Ombilin Coal Mining Heritage of Sawahlunto

Location

West Sumatra Province
Sawahlunto Municipality
Solok Regency
Solok Municipality
Tanah Datar Regency
Padang Panjang Municipality
Padang Pariaman Regency
Padang Municipality
Indonesia

Brief description

Ombilin Coal Mining Heritage of Sawahlunto is a complex industrial system established for extracting, processing and transporting high-quality coal from a remote area of West Sumatra. This system was built by the Netherlands colonial government from the late 19th century until early 20th century. Mining continued under Indonesian government ownership after the colonial period until 2002.

The nominated property comprises three geographically distinct but functionally integrated areas namely the mining site and company town (Area A), the coal storage facilities at Emmahaven Port (Area C) and the railway network linking the mines to the coastal facilities (Area B).

Deep-pit mining required considerable capital investment and technological ability; and included open pit mines, tunnels, air compressor and ventilation system, river-water pumping station, coal-fired power plant, coal-processing facilities, and the company town of Sawahlunto. These elements comprise the nominated serial property, together with 155 km of railway through challenging terrain which delivered the coal to the storage and export facilities at the Indian Ocean coastal port of Emmahaven. The Mining School was an important contributor to the long-term capacity of the coal-mining enterprise, as the labour and know-how needed to establish and operate this integrated system was considerable. The many skilled and unskilled workers included local Minangkabau people, contract workers from Java and China, and convict labourers called 'chained people' or *orang rantai* from Dutch-controlled areas within present-day Indonesia.

The Ombilin coal field is known for the high quality of its coal deposits and Ombilin Mining Company quickly rose to become one of the major coal producers in Asia in the early 20th century. The property is nominated to demonstrate the

system's technological innovation, educational achievements and cultural exchanges.

Category of property

In terms of categories of cultural property set out in Article I of the 1972 World Heritage Convention, this is a serial nomination of 12 *sites*.

1 Basic data

Included in the Tentative List

30 January 2015

'Sawahlunto Old Coal Mining Town'

Background

This is a new nomination.

Consultations and Technical Evaluation Mission

Desk reviews have been provided by ICOMOS International Scientific Committees, members and independent experts.

An ICOMOS technical evaluation mission visited the property 3-7 September 2018.

Additional information received by ICOMOS

A letter was sent to the State Party on 1 October 2018 requesting further information about the comparative analysis; extent of underground elements in relation to the boundary of Area A; mining operations; impacts from the Trans-Sumatra Railway project; legal protection; sustainable tourism strategy; and the forced and Indigenous labour employed in the mining activities.

An Interim Report was provided to the State Party on 21 December 2018 summarising the issues identified by the ICOMOS World Heritage Panel. Further information was requested in the Interim Report including: legal protection, characteristics of 'fusion' between local and European knowledge, presence of mining machinery, buffer zone protection, future mining plans, social history research plans, zoning for the Sawahlunto company town, and minor adjustments to component boundaries.

Additional information was received from the State Party on 31 October 2018 and 28 February 2019 has been incorporated into the relevant sections of this evaluation report.

Date of ICOMOS approval of this report

13 March 2019

2 Description of the property

Note: The nomination dossier and additional information contain detailed descriptions of this property, its history and its state of conservation. Due to limitations on the length of evaluation reports, this report only provides a short summary of the most relevant aspects.

Description and history

The Ombilin basin is located in the inland area of the Indonesian province of West Sumatra. The extensive and high-quality coal resources had been surveyed by Dutch geologists in the 1860s, but the remoteness from transportation networks, deep deposits and mountain topography posed significant technological challenges. The Ombilin coal mining system represents an early application of deep-pit mining, requiring considerable technological ability and capital investment. In 1898, coal mining at Soengai Doerian was the biggest mining project operated by the Netherlands colonial government.

This serial property of 12 components occurring in three geographically distinct but functionally integrated areas demonstrates the complex industrial and social system established for extracting, processing and transporting coal from a remote area of West Sumatra. The serial property includes the mining compounds of the Soengai Doerian site, coal processing plant, the company town of Sawahlunto, the railway to Padang, and the coal storage facilities at the Indian Ocean port of Emmahaven.

The mining facilities for the extraction and processing of coal are located within Area A (6 components), including the rich Ombilin coal fields, mining pit compounds, approximately 10 km of underground tunnels, the coal processing plant (for coal sizing, cleaning, dewatering, workshops and transportation), air compressor and ventilation system, the water pumping station, power plant (now a mosque), the Mining School, and the company town of Sawahlunto.

A Mining School (Mijnbouw School) (A2) was established in 1916 to address shortages in skilled labour; the building now functions as the office of the Civil Service Police Unit. The School continued following Indonesian independence, and is a focus of knowledge exchanges. Mining education continues at Sawahlunto, and the Soengai Doerian Mining Pit Compound (A1.3) is used as an Underground Mine Training Centre (which is to become Underground Mine Polytechnic).

The company mining town of Sawahlunto had a population of more than 7000 inhabitants. Many buildings exhibit the characteristics of the 'Indies style' of architecture. The town provided housing for all employees of the mine and the facilities needed for their daily lives, such as food services, health, education, religious services and recreation – all organised according to the hierarchical structure of the labour force and the colonial society. This structure established the European engineers and administrators at the top, through to a range of white-collar workers, to the mine labourers that included convicts and contract workers.

The railway facilities and rail line that linked the Ombilin Mines to the Emmahaven Port are included in Area B (5 components). This rail corridor was built from 1887-1891 and made the coal mining enterprise possible. It is 155 km long and connects the remote mountain region of the Ombilin valley with the Indian Ocean coast. The terrain posed technical challenges, and the rail line features an inventive rack-railway, as well as parabolic arc rail bridges, tunnels and three stations.

The export of coal from the coastal port is demonstrated by the Emmahaven Port coal storage facility in Area C (one component). The Emmahaven Port (now called Teluk Bayur port) was built in 1888 by the Netherlands colonial government.

From the 19th century, European powers sought to access and utilise the natural resources of the region through colonisation and rapid industrial development. The Ombilin mining enterprise began with open pit mining in 1892 after the construction of the railway between Sawahlunto and the Emmahaven Port. During the Netherlands colonial period, coal production peaked in 1939 (600,000 tonnes per year). A Japanese company took over the Ombilin coal mining enterprise from 1942; and in 1945, it was taken over by the Indonesian Government. The last delivery of coal to the port by train occurred in 1999, and coal production officially ceased in 2002. Current plans aim to re-open the railway and other components for tourism. Aspects of the coal mining and transportation system at Ombilin were applied elsewhere, including in operations by the Netherlands in South Africa.

The labour and know-how needed to establish and operate this integrated system for mining, processing and transportation was considerable. During the colonial periods, Dutch or Dutch-educated Javanese (and Indo-European) workers were the administrative personnel and technical engineers of the Ombilin Coal Mining Company. Initially, the local Minangkabau people were not willing to work underground due to their cultural beliefs, and although this changed over time, Minangkabau workers tended to work in above-ground contexts such as building construction and carpentry.

There were three types of labourers: daily labourers who worked on a daily wage basis (primarily local Minangkabau people); contract labourers who worked for a fixed-term of 3 to 5 years (generally from poor areas in Java or Chinese workers recruited via Singapore and Penang); and forced labourers, convicts from Dutch prisons in Java, Bali, Makassar and other Dutch-controlled parts of the Indonesian archipelago. These were people convicted of crimes and serving prison sentences of hard labour, known as 'chained people' or *orang rantai*, for which the Ombilin mines became infamous. The Museum 'Orang Rantai' located in the Soengai Doerian component was initiated in 2018, and is due for completion in 2020.

There was considerable conflict between the three classes of labourers, due to the poor working conditions (particularly in the earlier periods). Protests about food

quality and distribution, and inadequate healthcare occurred; and there was competition for scarce privileges between ethnic and linguistic groups. From the 1920s, the company was required to improve working conditions in order to sustain the productivity of the mines. Efforts to reduce conflict included division of the workforce into discrete work crews, and the creation of separate residential accommodation for convict labourers. Over time, there were many inter-marriages between the miners and local women, and today the population of the town traces its origins widely – including Chinese Malay, Javanese and local Minang.

The Ombilin coal field was known for the high quality of its coal deposits and the company quickly rose to become one of the major coal producers in Asia in the lead up to the first World War, and in the inter-war period. The property is nominated to demonstrate the system's technological innovation, educational achievements and cultural exchanges.

Boundaries

The nominated area of 12 components totals 268.14 ha, and is enclosed by a single buffer zone of 7356.96 ha.

The State Party has aimed to represent the components as an integrated system and has aligned the boundaries of the nominated property to the location and extent of the Ombilin mining concession and associated facilities in the late 19th and early 20th centuries. The boundaries are based on historical records, consideration of the setting, and practical matters such as ownership and the designations of legal protection.

The single continuous buffer zone has been established by the State Party in order to ensure the coordination of protection across seven administrative jurisdictions, as well as recognising the environmental setting of the nominated property. Important views and topographical features have been taken into account. In some parts – particularly around the rail corridor (Area B), the buffer zone takes into account main roads and existing/proposed legal designations.

Additional information provided by the State Party demonstrates that a number of underground tunnels extended beyond the property boundary (in Area A). The State Party has advised that coal transportation tunnels that are still intact occur within the boundary of Area A, and can be utilised for education and heritage tourism purposes. Those historically located outside the property boundary occur within the buffer zone and are no longer extant as they have been closed and filled with sand.

ICOMOS considers that the boundaries and buffer zone are well-defined and appropriate. Based on a suggestion from ICOMOS, a minor adjustment to the boundary of component B2 (Babu Tabal Station) was made to incorporate the water tower, and the area calculations for the property and buffer zone have been adjusted. For the purposes of their conservation and interpretation, some elements could be better delineated within these larger

boundaries in order to clearly indicate their contributions to the proposed Outstanding Universal Value (eg. within component A1.3, and the elements associated with the railway stations B2, B3 and B5).

State of conservation

The nomination dossier presents a thorough rating of the state of conservation of the nominated components, based on condition surveys conducted in 2015 and 2017. ICOMOS considers that these have provided a good baseline for future monitoring.

Many components are in fair condition (eg. Emmahaven Coal Storage facilities in Area C); and others are in poor condition, particularly the disused mining pits and compounds in Area A (eg. A1.2, A1.5, A6.1). Some components, such as the Salak Power Plant (A6.1), have little remaining evidence of their original function and require interpretation. In general, the buildings in the town component (A5) are in good condition, due to their continuing use and opportunities for adaptive reuse.

The rail transport components included in Area B have been subject to upgrading of the tracks and stations, and many of these are in good condition as a result of the program of investment and revitalisation. The train route is maintained in its original location, within its original easement; although the timber sleepers have been replaced with cement ones, and new signalling equipment has been inserted to comply with regulatory requirements. The railroad is still functional, although only the Teluk Bayur-Kayu Tunam network is currently active. The work undertaken since 2015 between Kayu Tunam to Muara Kalaban has aimed to return it to service in anticipation of the possible World Heritage inscription; and there is anticipated future demand for a tourism train journey from Padang City to Sawahlunto. A historical railway engine (called *Mak Itam*) has been refurbished and is housed at the historic Sawahlunto Station.

ICOMOS considers that there are some inconsistencies in the assessment of the condition of some components (particularly B1, B2, B3 and C). Based on the observations of the ICOMOS mission, these seem to be in 'fair' or 'fair-poor' condition.

Aside from these adjustments, based on the information provided by the State Party and the observations of the ICOMOS technical evaluation mission, ICOMOS considers that the state of conservation is acceptable, although it is vulnerable due to the prevailing climate conditions, the large size of the property, and the diverse past and present uses of the components.

Factors affecting the property

ICOMOS considers that the main factors affecting the property are uncontrolled small-scale domestic and commercial development, and deterioration of the physical fabric of the nominated property due to high humidity levels and uncontrolled vegetation growth.

Uncontrolled small-scale domestic and commercial development is particularly evident along the rail corridors and stations. There are issues associated with the traditional clan ownership of lands and the application of regulatory frameworks that need to be sensitively addressed.

Although not identified as a factor affecting the property by the State Party, extreme weather events affected the West Sumatra Province during the evaluation of this nomination. Given that the nominated property traverses a large area, crossing various landscape types, ICOMOS considers that greater attention to disaster risk reduction is warranted.

The Sawahlunto town components (Area A) are subject to issues of new development, car parking and other decisions about new uses. Larger-scale developments include the World Maritime Axis Plan (which could affect Area C); and the Trans-Sumatra Railway to connect Sumatra from the west to the south, and involves upgrading of railway tracks and stations (Area B). The additional information reports that the Ministry of Transport is responsible for the rehabilitation of the railway, and consults with the Ministry of Education and Culture in accordance with the Law No. 11 of 2010 concerning Cultural Property for all affected elements more than 50 years old. Heritage Impact Assessment will be carried out prior to all works on rail infrastructure within the nominated property. Maintenance of these features is the responsibility of the Indonesia Rail Company.

In exchanges with the State Party, ICOMOS was concerned to clarify whether there are current mining activities in the property or its buffer zone (or any potential for mining in these areas in the future). Additional information was requested during the evaluation process. Currently there are no mining activities within the boundaries of the nominated property. There are three companies with current mining concession permits, the largest of which is the state-owned enterprise Bukit Asam Company-Ombilin Operational Unit (area 2935 ha), the direct successor to the colonial-era Ombilin Mining Company. Bukit Asam Company has been directly involved in the World Heritage nomination process, is the owner of a number of the assets identified as potential attributes of Outstanding Universal Value, and participates in the management secretariat.

The Sawah Luwung Underground Mining Tunnel was opened in 1978 and closed for mining operations in 2016 and now serves as a mining education centre facility under the operation of the Ministry of Energy and Mineral Resources. Additional mining education and mining tourism interpretation facilities at the nearby Langkok Village are planned.

The two other companies are small-scale mining enterprises: Tahiti Coal CV and Nusa Alam Lestari NAL Company with a total area of 100 ha, located outside the buffer zone. All infrastructure associated with these operations is located outside the buffer zone.

The Additional Information provided by the State Party shows that while mostly located outside the buffer zone, each of the three existing concessions has at least some area inside the buffer zone. The Nusa Alam Lestari Mining Concession appears to either abut or overlap part of Component A6 (Salak Power Plant and Rantih Water Pumping Station). A significant portion of the buffer zone is located inside the concession area of the Bukit Asam Company which also seems to overlap with Components A1 (Soengai Doerian Mining Site), A3 (Coal Processing Plant Compound) and A5 (part of the Company Town).

However, the State Party has confirmed that there is no mining in the nominated property and none is planned or will be permitted in the future. Furthermore, the State Party has clarified that coal production activities within the buffer zone of Area A are not allowable by law. On the basis of these assurances, ICOMOS agrees that mining is not a factor affecting the nominated property.

3 Proposed justification for inscription

Proposed justification

The nominated property is considered by the State Party to be of Outstanding Universal Value as a cultural property for the following reasons:

- The nominated property is an outstanding example of a pioneering technological ensemble built by European engineers in their Asian colonies in the globally important period of industrialisation in the late 19th and early 20th centuries;
- The rail system devised to transport the coal from the remote and inaccessible region involved state of the art technology including rack rail tracks, long tunnels and parabolic arc rail bridges;
- The system demonstrates the organisation of industry, and exchange and fusion between European and local knowledge and practices within the context of global industrialisation and colonisation;
- The experiences gained from this mining enterprise in Sumatra were further refined in Netherlands colonies in other parts of the world;
- The Ombilin training/education facilities formalised the transfer of knowledge within the colonial and post-colonial contexts, including coal mining within tropical climates.

Comparative analysis

The Comparative Analysis focuses on possible comparisons with other mining sites, including those on the World Heritage List, Tentative Lists and other known coal mining areas of a similar historical period. Four key aspects are considered as a basis for the analysis with other mining sites and collieries: exhibit an exchange of educational values that have empowered the local community; have introduced an exchange of social values through establishment of mining and socio-economic development; have applied a deep-pit mining technique in similar periods; and have established an integrated

technological ensemble that links the mining areas, railway network and shipping/storage facilities.

On this basis, the State Party briefly considers the property within its own national context, within southeast Asia, and worldwide. In some respects, the analysis finds common characteristics with World Heritage properties in the United Kingdom (Cornwall and West Devon Mining Landscape; Blaenavon Industrial Landscape) and France (Nord-Pas de Calais Mining Basin).

Looking more widely than the World Heritage List and Tentative Lists it suggests some useful comparisons with the Pengaron 'Oranje Nassau' site in Indonesia, the Brooketon Colliery/Maura Coal Mine in Brunei Darussalam; and sites in Chile, Alaska, Norway and Australia, including the coal mining region of the Hunter Valley/Newcastle in New South Wales.

ICOMOS considers that the method of framing the comparative analysis is unnecessarily specific, and that a more general comparison of 19th century coal mining complexes was warranted, particularly within the geocultural area and context of European colonial enterprises in Asia. Nevertheless, the comparative analysis covers the necessary ground and confirms the ability of the nominated property to represent the processes of interchange and the application of coal mining and transportation technologies.

ICOMOS considers that the comparative analysis justifies consideration of this property for the World Heritage List.

Criteria under which inscription is proposed

The property is nominated on the basis of cultural criteria (ii) and (iv).

Criterion (ii): *exhibit an important interchange of human values, over a span of time or within a cultural area of the world, on developments in architecture or technology, monumental arts, town-planning and landscape design;*

This criterion is justified by the State Party on the grounds that the property demonstrates a significant interchange of human values between Europe (Netherlands) and its colonies in the 19th and early 20th centuries, including the transfer and adaptation of a complex technological ensemble for coal mining. This was a fully-integrated system to enable efficient deep-bore extraction, processing, transport and shipment of coal. Importantly, the interchange also included the transfer of engineering knowledge and mining practices to south-east Asia. Local knowledge concerning the tropical environment, geology, and local social structures and traditional cultural practices were components of this complex exchange.

ICOMOS considers that the application of this criterion is appropriate within the context of processes of European colonisation, exploitation of natural resources and industrialisation in Asia. Traditional techniques for locating coal seams and the sand-filling mining method

are evidence of the ways in which local knowledge shaped the coal mining enterprise.

Criterion (iv): *be an outstanding example of a type of building, architectural or technological ensemble or landscape which illustrates (a) significant stage(s) in human history;*

This criterion is justified by the State Party on the grounds that the nominated property represents an outstanding example of a complex technological ensemble for the efficient extraction of industrial grade coal during the period of global industrialisation from the second half of the 19th century to the period prior to the second World War. This technological innovation is associated with the exponential expansion of industrial capacity and the associated globalisation of commerce, and consists of specific technologies for mining, processing and transportation, as well as the company organisation, division of labour, mining school, and a planned mining town for more than 7000 inhabitants.

ICOMOS agrees with the arguments proposed by the State Party.

ICOMOS considers that the 19th century industrialisation of southeast Asia, and coal mining in general are under-represented in the World Heritage List, and that the nominated serial property potentially fills this gap.

ICOMOS considers that the serial approach is justified and that the nominated property meets criteria (ii) and (iv).

Integrity and authenticity

Integrity

The integrity of the nominated serial property is based on the rationale for the selection of the components and their ability to fully convey the potential Outstanding Universal Value; the intactness of the individual components and the series as a whole (including consideration of the adequacy of their boundaries); the state of conservation and the way major pressures are managed. The State Party asserts that the integrity of the serial property is met by the inclusion of all functional components of the industrial system: the mines, company town, processing areas, rail transportation and port terminal, including a number of locations and traversing a large area within the Province of West Sumatra from the remote mining area to the port facilities in Padang. The State Party has provided additional information detailing the extant machinery within the nominated components, including: *in situ* compressor and ceiling mounted crane rails (component A1.1); *in situ* coal processing machinery (component A3); relocated turbine engines (components A4.2 and A6.1); and *in situ* water pumps (components 4.2, A6.1, and A6.2).

ICOMOS considers that each of the three areas includes the necessary attributes to understand the integrated system of coal exploitation and transportation, and to

express the proposed Outstanding Universal Value of the property. The components that comprise the company town and railway line continue to function; whereas the mining components are no longer in use. The overall integrity of the nominated serial property is currently good/satisfactory, including the visual integrity; although the tropical conditions and fast rate of growth of vegetation create significant challenges for conservation, and ad hoc small-scale development is an issue for many elements and components (such as A1.1; A1.2, A1.4; A6.1). The integrity of other components has been impacted by more recent developments and re-use (such as the Polytechnic facilities at A1.3; extraneous structures at A3, A6.1, around railway stations in Area B; and the storage facilities in Area C). Some components have been adapted for new uses, such as the mosque (A4.2), Site Management Office, and interpretation (Soup Kitchen A5.2). The integrity of the component in Area C could be improved by more clearly expressing the historical and operational relationship between the coal storage and the Emmahaven Old Wharf.

Authenticity

The authenticity of the nominated serial property is based on the 'as built' form, materials, design and function of many of the components. Where the functions have changed, the adaptations are generally sympathetic.

ICOMOS considers that the nominated serial property of 12 components is able to be understood as an integrated system for the extraction, processing and transportation of coal. The presence of the company town enables the human dimension of this system to be understood.

ICOMOS considers that the requirements of integrity and authenticity have been met for the series as a whole. Some recommendations to reduce the vulnerability of the integrity of some components are provided at the conclusion of this report.

Evaluation of the proposed justification for inscription

ICOMOS considers that the proposed justification for inscription is appropriate; and that while narrowly framed, the comparative analysis justifies the consideration of the nominated property for inclusion in the World Heritage List. ICOMOS considers that criteria (ii) and (iv) have been demonstrated, based on the complexities of the industrial system, including the contribution of local knowledges to the technological adaptations and operations of the system.

Attributes

The attributes that contribute to the Outstanding Universal Value of the nominated property are: all above and below ground evidence of coal mining; the elements of the railway transportation system (corridor, signalling equipment, stations, bridges, tunnels, water towers and associated infrastructure); the coal storage facility at the port; and the town plan and many extant buildings, structures and features of the company town.

The State Party has identified 24 attributes that convey the proposed Outstanding Universal Value of this property. ICOMOS considers that these are clearly significant, but that additional attributes and associated features can be also be identified within the nominated components. The documentation and protection of this wider suite of detailed attributes should be undertaken.

ICOMOS considers that the nominated serial property is supported by a relevant comparative analysis, meets criteria (ii) and (iv), and meets the requirements for authenticity and integrity. The identification of attributes by the State Party has omitted a number of relevant features and requires revision.

4 Conservation measures and monitoring

Conservation measures

The management plan provides policies and overarching guidance for the conservation of the property components, and a systematic maintenance plan is proposed.

The Management Plan outlines future actions, organised according to the 'Factors Affecting the Property', including monitoring, organisational responsibilities and timeframes. ICOMOS considers that this could be augmented with details of planned conservation works, and more explicit conservation principles for adaptive reuse.

The nomination dossier presents the conservation works undertaken for the nominated property over more than a decade, particularly within the Sawahlunto company town. This represents a sustained investment and coordination between various owners and stakeholders. Conservation works have been recently completed for some of the property's components, including the train stations (B2, B3 and B5), and the Soup Kitchen complex (A5.2.c). Revitalisation of the railway has included replacement of sleepers and strengthening of bridges, led by the Indonesian Railways Company heritage division in consultation with the Site Management Office.

In Sawahlunto, the Site Management Office is currently working on the conservation of the Labour Quarters Compound (A5.2) including the removal of intrusive additions. Based on the condition assessment of the structures, 10 million Indonesian rupiah has been allocated for this work. The Site Management Office is also developing planning regulations that will allow needed non-permanent elements such as carparks to be installed at the residential buildings, enabling their ongoing use.

Monitoring

A monitoring system is set out in the nomination dossier covering indicators and monitoring responsibilities. Monitoring is oriented at the state of conservation of the property as a whole; and according to the factors affecting the property (development, environmental factors, natural disasters, visitation and tourism and inhabitants).

ICOMOS considers that the monitoring system is generally adequate, but could be more directly oriented at the condition and state of conservation of the attributes.

ICOMOS considers that the conservation measures are appropriate, although actions by the different governments, private owners and communities must be well-coordinated and the Management Plan could be augmented with details of planned conservation works, and more explicit conservation principles for adaptive reuse. The monitoring arrangements are adequate, but will require coordination across a wide number of stakeholders. The indicators could be further improved by more directly monitoring the condition of the property's attributes.

5 Protection and management

Documentation

The nominated components have been adequately documented by the Site Management Office in collaboration with the Ministry of Education and Culture. The nomination dossier lists the inventory records held for the nominated property, including archaeological studies, old town database, inventory of heritage assets, and mapping of old town buildings.

ICOMOS considers that the documentation could be further enhanced to provide a good baseline for future decisions. For example, all the rail infrastructure such as the signalling equipment and the turntable in B3 should be identified and better documented. These elements were critical to the historical functioning of the rail network that enabled the Ombilin coal to be exported and should be retained.

Legal protection

The legal protection of the nominated property and buffer zone is provided through the application of national, provincial and local laws.

At the national level, the main legal instruments are the National Law no. 11 of 2010 on Cultural Property (which applies to nationally designated properties); and National Law no. 26 of 2007 on Spatial Management (which provides for the designation of national strategic areas, and strategies for the conservation, management and presentation of World Heritage properties). Also relevant are National Law no. 9 of 2015 on Regional Government guides the implementation of spatial management at the province, district and municipality levels and the duties of local governments; and Government Regulation no. 26 of 2008 on National Spatial Planning, which outlines policies to integrate national, provincial, and municipal/regency spatial planning, and the designation of National Strategic Areas.

Some components of the nominated property are designated as national cultural property within the National Law no. 11 on Cultural Property (Decree no. 345/M/2014 on the Establishment of Geospatial Unit of Old Coal Mining

Town of Sawahlunto), namely the Sawahlunto mining sites and company town (Area A). However, at least one attribute in Area A (A1.5 mining tunnel), and all of Areas B and C have not yet been awarded this national level of protection. The State Party has advised that the six proposed attributes in Components B and C were formally designated as Provincial-level Cultural Property in February 2019 (Governor of West Sumatra Province Decision 432-144-2019). The further process to achieve the designation of these components as national-level cultural property is expected to be completed by the end of June 2019.

The State Party has indicated its intentions to designate the entire nominated property as a National Strategic Area (*Kawasan Strategis Nasional*) after it is inscribed in the World Heritage List. This process is the responsibility of the Ministry of Public Works and Public Housing. The Regulation of Minister of Public Works No. 15/PRT/M/2012 identifies spatial planning for designated areas as a national priority, and establishes Guidelines for Preparing National Strategic Area Spatial Plans.

Additional information provided by the State Party confirms that the zoning study being undertaken by the Site Management office for the Sawahlunto Company Town (A5) was completed in January 2019. Company town zoning regulations to govern the designation of area boundaries and spatial utilisation based on the Cultural Property Law was established by the Letter of Decision by Mayor of Sawahlunto No. 188.45/59/WAKO-SWL/2019 (24 January 2019). Because of development pressures in the town, this mechanism to identify locations (zones) where development and other functions (such as car parking) can be located is considered by ICOMOS to be important. At this stage, there are proposals that could impact on the Labour Quarters Compound (A5.2) and Health Facilities (A5.3) that should be assessed for their heritage impact.

Heritage Impact Assessment (HIA) is required for proposals within Indonesia's World Heritage properties. The State Party has initiated training activities to implement the requirement for HIA throughout Indonesia, including at Sawahlunto.

The nominated property occurs within four municipalities and three regencies. The buffer zone is protected by a number of different legal mechanisms that are described by the State Party as a series of 'nested' layers of protection.

- In Area A, some parts of the buffer zone are within the National Heritage Area (Minister of Education and Culture Decree no. 345/M/2014); and the remainder is subject to the Sawahlunto Municipality Regulation No. 8/2012. This establishes various zones for river border and/or city forest protection, and residential, industrial, dry land agriculture and paddy field uses, supported by spatial planning documents.
- In Area B, the buffer zone is also protected by several legal mechanisms, including: Law No. 23 of 2007

and Government Regulations No. 56 of 2009 which provide for a Supervision Space around the railway tracks, infrastructure and train stations; the Minister of Forestry Degree No. 35/Menhut-11/2013 which protects some areas of buffer zone as part of a nature reserve and/or protection forest (designated for water management, flood prevention, erosion control, prevention of seawater intrusion and protection from landslides); and the Padang Panjang Municipal Regulation No. 02/2013 applies to some small areas of cultural property, river and river border, as well as a wide range of specific municipal land use designations, including the tourism zone. In the Lembah Anai area, most of the buffer zone is within the Lembah Anai Nature Reserve Area. The Law No. 5 of 1990 concerning Conservation of Biological Natural Resources and the Ecosystems provides specific protection to plants, animals and ecosystems.

- In Area C, the buffer zone is provided by the Padang City Regional Regulation No. 4 of 2012 concerning the Padang City Spatial Plan 2010-2030. Some of the buffer zone is within a green belt provided for water catchment and to create balance between the urban and natural environments (building is prohibited); and the remainder is within the Teluk Bayur Port which is designated as a Strategic Area due to its economic importance. The Decree of the Minister of Transportation No. KM74 of 2004 concerning the Teluk Bayur Port Master Plan requires an Environmental Impact Assessment prior to development. The offshore areas within the buffer zone are in zones established for marine tourism and fisheries by the Padang Municipality.

Management system

Most of the components in Area A and the coal storage facility in Area C are owned by the Bukit Asam Company; and the railway network and stations in Areas A and B are owned by the Indonesia Railway Company. The Soengai Doerian Mining Pit compound (A1.3) is owned by the Ministry of Energy and Mineral Resources; several features such as the Power Plant site (A4.2) are owned by the Sawahlunto Municipal Government; and some key features in Area A are leased to the Sawahlunto Municipal Government. Within the town, some identified attributes are privately owned or owned by other government bodies.

The Ministry of Education and Culture has overall responsibility for Indonesia's World Heritage properties. A governance and consultation framework has been established for the management of nominated property from the policy and planning levels, to the operational level. The key bodies responsible for the property's conservation and management are the Board of Directors and the Site Management Office.

The Board of Directors was established by decree in 2016. It consists of representatives of 12 ministries responsible for the conservation and management of cultural and natural heritage properties; and members

from the relevant municipalities. The Board meets once each year, and sets policies for works, approves the work plan, and allocates funds for the implementation of the work plan.

The Site Management Office (SMO) will be established according to Law no. 11 on Cultural Property. Its role is to implement the management plan and maintenance plan; develop and report on the annual action plan and budget; evaluate all development proposals (including changes to private and residential buildings); develop guidance and provide support and advice for owners and managers; and coordinate the activities of all stakeholders and the expert Advisory Board.

ICOMOS considers that the management system will be adequate when the SMO is fully operating and could be improved by a more explicit articulation of the decision-making processes. This is important given the multiple stakeholders who may have competing priorities, and the various layers of government and legal frameworks that apply.

Details of the staffing levels and expertise are provided in the nomination dossier. Archaeologists and engineers are available at the local, municipal and national government levels, including: Ministry of Education and Culture, Office of Cultural Properties and Preservation of West Sumatra, Office of Cultural Values Preservation in Padang, and the Indonesia Railway Company Heritage Unit. In addition, the Office of Cultural Affairs, Historical Relics and Museums has established a Site Management Office in Sawahlunto with 39 skilled conservation staff.

Staffing levels and expertise are adequate, however expertise in interpretation could be enhanced, and capacity building should ensure a consistent conservation and management approach across all components of the nominated property.

A management plan has been developed to provide policies and guidance for the property's conservation and management. The Management Plan outlines the coordination structure and identifies future actions, organised according to the 'Factors Affecting the Property'. The Management Plan sets out the monitoring, organisational responsibilities and timeframes for all the actions.

Although the level of engagement by diverse stakeholders is a strength of the process to develop the nomination and management system, this will be an ongoing challenge that should be addressed through ongoing capacity building activities.

The Management Plan outlines the risks of disasters from landslide, flood, fires, tsunami and earthquake. Because the property traverses a large and varied terrain, the assessed risks vary. The Management Plan outlines policies for managing natural disaster factors.

Visitor management

The State Party aims to transform Sawahlunto from a coal mining town to a heritage and tourism town. With the decline and cessation of coal mining, the local government is developing tourism as its main economic activity. Currently, the majority of visitors are domestic and numbers have steadily grown since 2004. In 2015, the number of tourists visiting Sawahlunto was 810,000, a significant and steady increase in numbers from 2006 (377,220). The most visited sites are within the town (Lapangan Segitiga, Lubang Mbah Suro, Sawahlunto Train Station and the Soup Kitchen Complex); and efforts to improve tourism facilities have focused initially on these places. There is an expectation that tourism numbers will continue to increase if the property is inscribed in the World Heritage List. The West Sumatra Provincial Regulation No. 3 includes a regional tourism development master plan 2014-2025. The State Party intends to position Ombilin as a cultural tourism destination, and to reopen the railway for tourism uses.

The management plan outlines objectives and actions to develop visitor and tourism facilities and experiences; and a Sustainable Tourism Strategy is being prepared. This Strategy has three main objectives: ensuring that development does not have a negative impact on the environment and potential Outstanding Universal Value; ensuring that sustainable tourism will empower and benefit local communities and the people of West Sumatra; and development of a visitor management system to enhance the visitor experience. Actions are being developed for each stakeholder.

The Sawahlunto municipal government has initiated programmes and activities for the interpretation and presentation of the nominated property. The Sawahlunto mining sites and company town (Area A) currently provide visitor and tourism experiences including seven local museums and a visitor centre, many of which focus on the local history and culture such as the mining museum, former Soup Kitchen, and Sawahlunto train station museum. The components are currently interpreted and presented by means of on-site signage (in both Indonesian and English) and a brochure.

No visitor and tourism facilities or experiences are provided in Areas B and C. The Indonesia Rail Company has commenced work to revitalise the railway between Padang and Solok to provide a tourism experience along the historic rail route. There is a proposal to develop the silo at the Emmahaven Port coal storage facilities as a staging point for the presentation of the property and as an entry point for visitors from outside West Sumatra.

ICOMOS considers that an overall interpretive strategy and plan is required, based on the management plan policies, that clearly defines the overarching interpretive themes and how all the components contribute to the proposed Outstanding Universal Value of the nominated property. ICOMOS considers that the histories of local people and workers from other parts of Indonesia and Asia, as well as the European and Indo-European

workers and managers should be recognised in the interpretation of the nominated property; and that interpretation and tourism strategies are of particular importance for components of the system that are difficult to read, such as the disused mining infrastructure and operations.

Community involvement

According to the State Party, there are 2514 inhabitants within the nominated property, and 22,597 inhabitants in the buffer zone. The town of Sawahlunto has grown rapidly in the past 5 years; in 2013 the total population was 58,972 citizens. The local community has been involved in the development of the nomination of this property to the World Heritage List. Consultation activities included meetings, lectures, tours and seminars at each Area, supported by printed materials and signs. The Management Plan sets out policies for ongoing community education and engagement in the conservation, management and presentation of the nominated property. Indonesia's Ministry of Education and Culture has initiated an annual programme titled 'World Heritage Camp Indonesia' which provides high school and university students to attend one to two week camps at inscribed and tentative World Heritage properties.

Evaluation of the effectiveness of the protection and management of the nominated property

All components are protected at the Provincial-level, and national cultural property designation should be completed in 2019. ICOMOS therefore considers that the legal protection is adequate. The mechanisms for protection of the buffer zone are complex and diverse, and will require a high degree of coordination and monitoring. Because these are not especially formulated for the purposes of providing further protection to the proposed Outstanding Universal Value, ICOMOS suggests that reviewing and streamlining these arrangements would be worthwhile. The management system seems appropriate. Given the coordination challenges for this large serial property, these arrangements should be implemented urgently, and monitored for their effectiveness.

ICOMOS considers that the current legal protection is adequate due to the recent completion of the designations at the provincial level, and notes that national level designations should be completed shortly. The mixture of mechanisms for buffer zone protection seems complex and should be further streamlined. The management system is considered to be appropriate, but needs to be fully implemented. Its effectiveness should be closely monitored. The approach to monitoring and implementation of conservation measures involves a number of organisations and will require significant coordination efforts. The monitoring arrangements should be improved by orienting indicators more explicitly at the condition of the attributes.

6 Conclusion

The extraction of high quality coal from the Ombilin basin for over a century is an exceptional example of a complex, technologically advanced system that was established within the context of European colonisation in Asia and continued beyond that time. Importantly, the nominated property of three major areas that span more than 155 km from the remote mountains to the coastal port via a railway system is able to demonstrate coal mining as an integrated system. Connecting the mines, processing facilities, company town, railway and port facilities allow the connections between the mining enterprise and the processes of globalisation and colonisation to be understood. ICOMOS therefore supports the serial approach taken by this nomination.

The Ombilin coal mining system is a highly significant example of the European colonial efforts at industrialisation and resource exploitation in southeast Asia, demonstrating both an important interchange of human values (criterion ii), and an outstanding example of a type of technological ensemble/township (criterion iv) within the geocultural context of colonial and post-colonial histories of Southeast Asia. ICOMOS considers that each of these criteria is demonstrated.

Based on the submissions by the State Party and the technical evaluation mission by ICOMOS, the property meets the requirements of authenticity and integrity. The boundaries of the 12 components and the single encompassing buffer zone are appropriate. Twenty-four potential attributes of Outstanding Universal Value have been identified by the State Party, but ICOMOS considers that within the 12 components that comprise the serial property there are easily more than these that carry the important identified values of the nominated property, and recommends continuing efforts at detailed inventorying and mapping within the nominated property components.

The key issues for continued work by the State Party are to complete the national-level designation of legal protection for all the nominated components (including the possibility of establishing a National Strategic Area); consider possible means of streamlining the mechanisms for protection of the buffer zone; implement the zoning plan for the Sawahlunto mining company town component (A5) in order to respond to the pressures of new development and reuse in the town; to develop sustainable tourism initiatives for the property; and ensure the continued exclusion of mining activities from the serial property and the buffer zone.

The main factors affecting the property are uncontrolled small-scale domestic and commercial development, and deterioration of the physical fabric due to high humidity levels and uncontrolled vegetation growth. Tourism and visitor pressures are not currently a major factor, but will grow if the State Party's aspirations for tourism growth are realised. There are several large-scale projects of transportation infrastructure that could have impacts on the nominated property. These are subject to Heritage Impact Assessment within the provisions of national legal

frameworks. There is no mining in the nominated property or its buffer zone and none is planned or will be permitted in the future.

The management system seems adequate, but is not yet fully implemented. This should be progressed as matter of urgency, and the effectiveness of the arrangements should be actively monitored. The Management Plan provides a useful framework, but it could be further improved by incorporating conservation measures, and the principles for decision making on conservation projects (especially for adaptive reuse of historic structures). The monitoring system will require active coordination of many stakeholders and owners, and should focus more explicitly on the state of conservation and condition of the attributes.

Finally, ICOMOS considers that in its interpretation efforts, the State Party should take the opportunity to more visibly include the many labourers and workers that contributed to the establishment and operation of this coal mining system. The story of the local population, and those that arrived to this work as convicts, day labourers, indentured labourers and company officials suggests that there is an important social history that should augment the narrative of industrial technological innovation and achievement.

7 Recommendations

Recommendations with respect to inscription

ICOMOS recommends that Ombilin Coal Mining Heritage of Sawahlunto, Indonesia, be inscribed on the World Heritage List on the basis of **criteria (ii) and (iv)**.

Recommended Statement of Outstanding Universal Value

Brief synthesis

Ombilin Coal Mining Heritage of Sawahlunto is an outstanding example of a pioneering technological ensemble planned and built by European engineers in their colonies designed to extract strategic coal resources. The technological developments demonstrate both European engineering knowledge and the contribution of local environmental wisdom and traditional practices in the organisation of labour. It also exemplifies the profound and lasting impact of the changes in social relations of production imposed by the European colonial powers in their colonies, which provided both the material and labour inputs that underpinned the world-wide industrialisation of the second half of the 19th century and early 20th century. The many skilled and unskilled workers included local Minangkabau people, contract workers from Java and China, and convict labourers called 'chained people' or *orang rantai* from Dutch-controlled areas within present-day Indonesia.

Built to exploit the exceedingly rich Ombilin coal deposits, located in the inaccessible mountains of West Sumatra, the Ombilin Coal Mining Heritage of Sawahlunto is an extensive technological ensemble consisting of twelve

components located in three functionally-related areas: Area A, consisting of open pit mines and labyrinthine underground mining tunnels together with on-site coal processing facilities, supported by a full-facility purpose-built mining town nearby at Sawahlunto; Area B an ingeniously engineered rack mountain railway together with numerous rail bridges and tunnels, linking the mines to the coastal seaport, across 155 kilometres of rugged mountain terrain; and Area C, a dredged harbour and newly-constructed seaport at Emmahaven on Sumatra's Indian Ocean coast from where the coal was shipped throughout the Netherlands East Indies and to Europe.

Criterion (ii): Ombilin Coal Mining Heritage of Sawahlunto exhibits a significant interchange of mining technology between Europe and its colonies during the second half of the 19th century and early 20th century. This complex technological ensemble was planned and built as a fully-integrated system designed to enable efficient deep-bore extraction, processing, transport and shipment of industrial-quality coal. Its overall design and staged execution shows a systematic and prolonged transfer of engineering knowledge and mining practices intended to develop the mining industry in the Netherlands East Indies. This was further shaped by local knowledge concerning geological formations in the tropical environment, and by local traditional practices.

Criterion (iv): Ombilin Coal Mining Heritage of Sawahlunto is an outstanding example of a technological ensemble designed for maximum efficiency in the extraction of a key, strategic natural resource – in this case industrial grade coal. It illustrates characteristics of the later stage of global industrialisation in the second half of the 19th century and early 20th century, when engineering technologies and complex systems of production gave rise to the globalised economy of industry and commerce. The engineering technologies included deep bore vertical tunneling of mine shafts, mechanical ore washing and sorting, steam locomotion and rack railway, inclined and reverse-arc rail bridge construction, rock-blast railroad tunnels, deep-dredge harbours, and coal storage in climate-controlled silos. These were complemented by the construction of a purpose-built, planned modern mining town of more than 7000 inhabitants complete with all facilities – housing, food service, health, education, spiritual, and recreational – designed to cater to a strictly hierarchical structure of industrialisation and division of labour.

Integrity

Each of the three areas includes the necessary attributes to understand the integrated system of coal exploitation and transportation – with its systemic linkage of shaft-and tunnel mines, a 155 km long mountain railway system, and seaport. The components that comprise the company town and railway line continue to function; whereas the mining components are no longer in use. The overall integrity of the serial property is currently good/satisfactory, including the visual integrity; although the tropical conditions and fast rate of growth of

vegetation create significant challenges for conservation, and ad hoc small-scale development is an issue for many elements and components. Some components have been adapted for new uses.

Authenticity

Ombilin Coal Mining Heritage of Sawahlunto is a technological ensemble consisting of twelve components. Despite the deterioration of many disused elements, the technological ensemble of mines, mining town, railway, and port facilities meet the requirements of authenticity in relation to their original form and design, materials and substance, location and setting.

Management and protection requirements

Located in three regencies and four municipalities of the West Sumatra Province, the property is protected through two main legal instruments, the National Law No.11 of 2010 for the protection, development and utilisation of cultural property in Indonesia at the national, provincial, and regency and municipal levels and the National Law Number 26 of 2007 for the arrangement of special plans and spatial plans at national, provincial, regency and municipal levels. As of February 2019, all components have protective designations at the provincial and/or national levels, and the national level protection for all components is expected to be in place shortly. The process for establishing the World Heritage property as a National Strategic Area (*Kawasan Strategis Nasional*) will be initiated by the State Party following its inscription in the World Heritage List.

The property's state of conservation and the condition of the material attributes contained within the property's boundaries are monitored through conservation frameworks. A governance and consultation framework has been established for the management of property from the policy and planning levels, to the operational level. The overall coordination for the management of property is undertaken by the Board of the Directors for the Ombilin Coal Mining Heritage of Sawahlunto which consists of relevant ministries and members from the relevant municipalities.

Once fully established, the Site Management Office (SMO) for the Conservation of the Ombilin Coal Mining Heritage of Sawahlunto will implement the management plan and maintenance plan; evaluate development proposals; provide guidance and support for owners; and coordinate the activities of all stakeholders and the expert Advisory Board. A Management Plan is in place and provides a useful framework that could be further improved by incorporating conservation measures and principles for decision making on conservation projects (especially for adaptive reuse of historic structures).

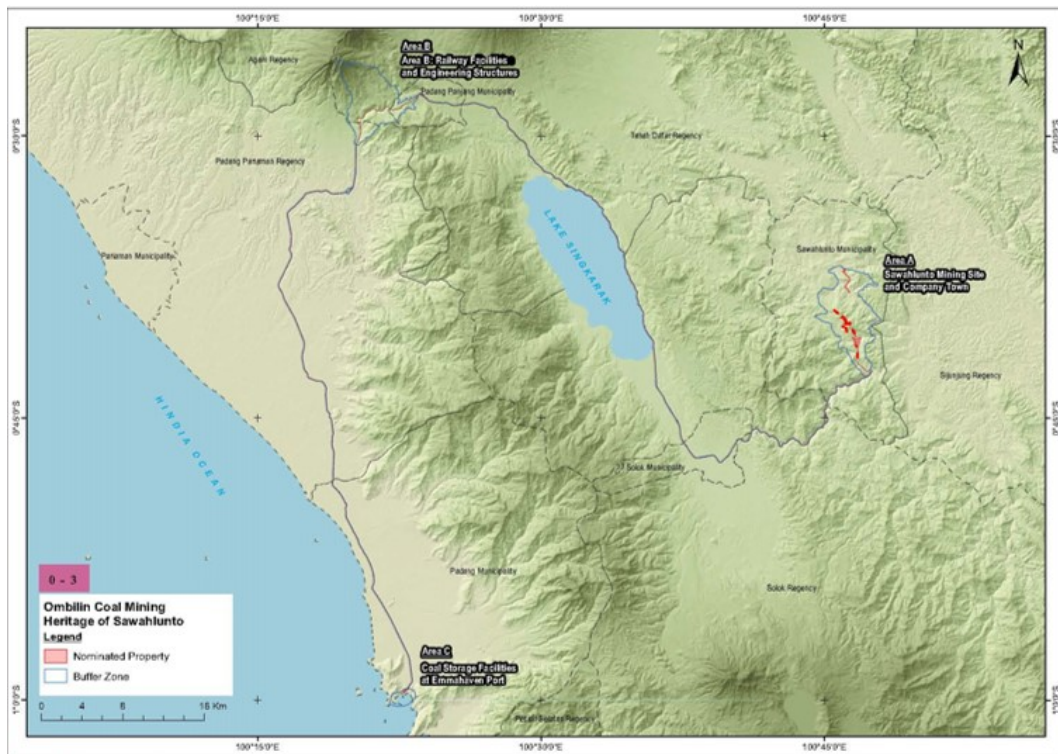
In light of the decline in coal mining, Sawahlunto is developing heritage tourism as its main economic activity, and visitor numbers are expected to increase. West Sumatra Provincial Regulation No. 3 includes a regional tourism development master plan 2014-2025. The

management plan outlines objectives and actions to develop visitor and tourism facilities and experiences; and a Sustainable Tourism Strategy with the objectives of ensuring that sustainable tourism will assist with the conservation of the property, enhance the experience of visitors, and empower and benefit local communities. The Sawahlunto mining sites and company town currently provide visitor and tourism experiences including seven local museums and a visitor centre. The Indonesia Rail Company has commenced work to revitalise the railway to provide a tourism experience along the historic rail route. There is a proposal to develop the silo at the Emmahaven Port coal storage facilities as a staging point for the presentation of the property and as an entry point for visitors from outside West Sumatra.

Additional recommendations

ICOMOS further recommends that the State Party give consideration to the following:

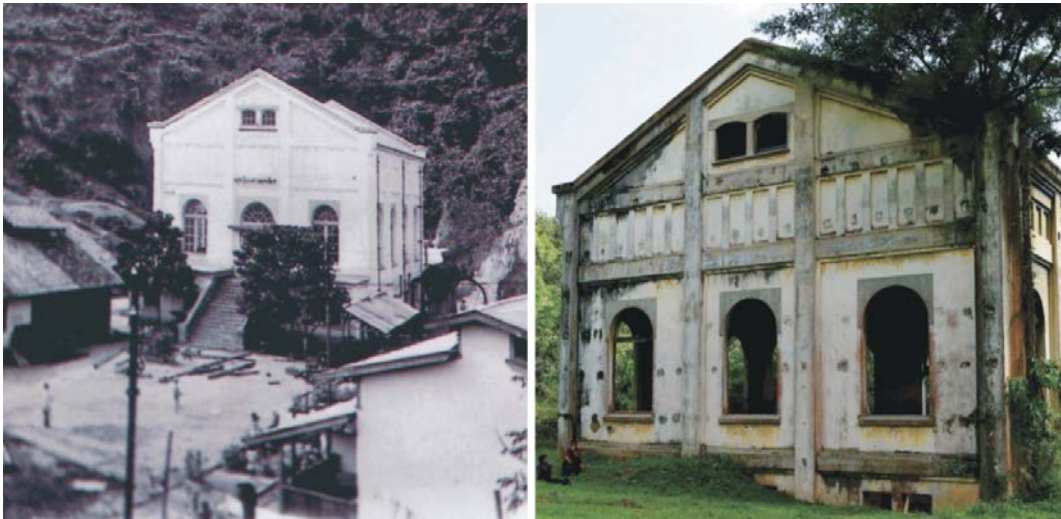
- a) Completing the processes to provide national cultural property designation and protection for the entire of the property,
- b) Considering the possibilities for streamlining the various local, provincial and national legal designations that have been used to provide protection to the buffer zone, and ensuring that these arrangements can prioritise the protection of the Outstanding Universal Value of the property,
- c) Continuing to exclude future mining operations from the property and buffer zone,
- d) Implementing the protective zoning established for the Sawahlunto Company Town, ensuring that all attributes are protected,
- e) Broadening and deepening the identification and protection of attributes within the 12 property components, including all attributes at railway stations (eg. signalling equipment and other infrastructure), and along the railway corridor prior to the approval of future works on the Trans-Sumatra Railway Project and projects to refurbish the operations of the railway,
- f) Developing and providing an updated inventory and maps of all attributes and associated elements, including areas of archaeological importance,
- g) Preparing a detailed program of conservation measures as part of the implementation of the Management Plan, including the maintenance requirements for each component and group of attributes,
- h) Developing explicit conservation principles for adaptive reuse of identified attributes, particularly in the Company Town,
- i) Developing and implementing disaster risk reduction strategies that are applicable across the different areas and terrains that are traversed by the property,
- j) Developing and implementing 'Heritage Impact Assessment' for all development proposals that could have an impact on the property (such as the World Maritime Axis Plan),
- k) Conducting further archaeological research and documentation including: tunnel entrances and airshafts (A1.1, A1.2., A1.4); functional links between the coal processing plan (A3) and Loento Mining Pit Compound (A1.4); original Padang Pandjang Station (B3); connections between the Emmahaven coal storage and old wharf (Area C),
- l) Developing and implementing capacity building programs for staff and stakeholders in order to ensure a consistent approach to conservation, management and presentation of each area and/or component,
- m) Completing and implementing the Sustainable Tourism Strategy,
- n) Developing an overall interpretive strategy and plan to clearly define the overarching interpretive themes and how all the components contribute, and ensuring that the rich social histories of local people and workers from Europe, and other parts of Indonesia and Asia are recognised,
- o) Improving the monitoring arrangements by orienting indicators more explicitly at the condition of the attributes,
- p) Ensuring that all major projects that could impact on the series are communicated to the World Heritage Centre in line with paragraph 172 of *Operational Guidelines for the Implementation of the World Heritage Convention*,
- q) Submitting to the World Heritage Centre and to ICOMOS by 1st December 2021 a report on the implementation of the recommendations set out above;



Map showing the location of the nominated components



Aerial view of Coal Processing Plant compound



Compressor building at Doerian Mining Pit Compound
Left : Historical photo dated 1920 / Right : current state



Padang Panjang Train station



Aerial view of Emmahaven Port coal storage

Mozu-Furuichi Kofun Group: Mounded Tombs of Ancient Japan (Japan) No 1593

Official name as proposed by the State Party

Mozu-Furuichi Kofun Group: Mounded Tombs of Ancient Japan

Location

Osaka Prefecture, Japan

Brief description

Located on a plateau above the Osaka Plain, this serial property of 45 components contains 49 kofun ('old mound'), a large and distinctive type of burial mound. The selected kofun are found in two major clusters, and are the richest tangible representation of the culture of the Kofun period in Japan from the 3rd to 6th centuries. This was a period before Japanese society entered into a new phase with an established centralised state under the influence of the Chinese system of law. The kofun are found in different scales, and in four shapes, the most distinctive of which is the 'keyhole' type (but there are also scallop, round and square plan forms). The kofun contain a range of grave goods (weapons, armour, ornaments); and the mounds were decorated by clay figures known as *haniwa*. Cylinder-shaped *haniwa* arranged in rows were extensively used, and there are also representations of objects, houses, animals and people. Understood as tombs for kings' clans and affiliates during this period, some of the kofun are designated as *Ryobo* (imperial mausolea) and managed today by Japan's Imperial Household. The nominated kofun have been selected from a total of 160,000 from around Japan, and represent the 'middle kofun' period (late 4th to late 5th centuries).

Category of property

In terms of categories of cultural property set out in Article I of the 1972 World Heritage Convention, this is a serial nomination of 45 *sites*.

1 Basic data

Included in the Tentative List

22 November 2010

'Mozu-Furuichi Kofungun, Ancient Tumulus Clusters'

Background

This is a new nomination.

Consultations and Technical Evaluation Mission

Desk reviews have been provided by ICOMOS International Scientific Committees, members and independent experts.

An ICOMOS technical evaluation mission visited the property from 11 to 17 September 2018.

Additional information received by ICOMOS

A letter was sent to the State Party on 1 October 2018 requesting further information about disaster risk management/typhoon impacts, legal protection issues, community awareness and involvement, 'basic improvement plans', and Heritage Impact Assessment.

The State Party provided some corrections to the nomination dossier on 13 September 2018. Additional information was received from the State Party on 13 September and 31 October 2018.

An Interim Report was provided to the State Party on 21 December 2018 summarising the issues identified by the ICOMOS World Heritage Panel. Further information was requested in the Interim Report including: importance of the Kofun period in the wider geocultural context; the Japanese concept of *seibi*; contemporary intangible heritage and rituals; the buffer zone for component 44; and the general history of tree cover on the kofun. A follow-up meeting was held to clarify some of these questions on 9 January 2019 which was followed by further written advice from ICOMOS on 16 January 2019.

Additional information was received from the State Party on 27 February 2019 and has been incorporated into the relevant sections of this evaluation report.

Date of ICOMOS approval of this report

13 March 2019

2 Description of the property

Note: The nomination dossier and additional information contain detailed descriptions of this property, its history and its state of conservation. Due to limitations on the length of evaluation reports, this report only provides a short summary of the most relevant aspects.

Description and history

The Kofun period of Japanese history (from the middle of the 3rd century to the second half of the 6th century) was one of transition in the East Asian region. Changes in regional power relations occurred as a consequence of political shifts in China, resulting in the emergence of Yamato kingly power in Japan. Following the Kofun period, Japan entered the Asuka period, characterised by an established centralised state in the 7th century, influenced by the Chinese system of law. Written records for this period are few, and are based on Korean and Chinese records of a Japanese power known as the Wa Kingdom which was able to conduct diplomatic relations with other powers in China and the Korean Peninsula.

The Kofun period is tangibly expressed by the distinctive burial mounds called kofun (or 'old mounds' in Japanese language). There are approximately 160,000 kofun found throughout Japan across a distance of 1200 km. The kofun

are understood to be the burials of kings and their associates, demonstrating the social hierarchy of the period through the variations of size and scale of the kofun, and in their spatial clustering. Despite many archaeological surveys, no other significant archaeological sites have been identified from this period, underscoring the central importance of the kofun.

The nominated series comprises 45 components occurring in two clusters that are separated by approximately 10 km – the Mozu group (in the northwestern part of Sakai City) and the Furuichi group (Habikino City and Fujiidera City) - situated on a plateau overlooking the Osaka Plain, an important political centre of the period. There are 21 components in the Mozu area, and 24 components in the Furuichi area. The 45 components contain 49 kofun which date to the Middle Kofun period (late 4th to late 5th centuries), the peak of the Kofun period.

The kofun are found according to four standardised geometric plan forms. The largest and most distinctive is the 'keyhole' type; and the smaller kofun are found in scallop, round and square shapes. The kofun vary in size - the largest of the kofun within the nominated series are close to 500 metres in length, and are significant accomplishments of earthen architecture and engineering (eg. the Nintoku-tenno-ryo Kofun (component 2-1) and the Ojin-tenno-ryo Kofun (component 33-1)). Others are in the range of 70-90 metres in length, and the smallest is approximately 26 metres in length. The design of the kofun incorporates a stage for funerary rituals, decorated with clay figures known as *haniwa*. These take various shapes – including cylinders, and a wide range of representational shapes such as houses, tools, weapons and armour, human figures and animals.

The methods and materials of construction of the mounds, and their contents are described in detail in the nomination dossier. The steep sloping sides of these complex earthen structures are paved with stones. Some of the larger keyhole-shaped kofun have one or more stage-like projections called *tsukuridashi*, interpreted as a space for ritual due to the presence of *haniwa*. Each mound was surrounded by a moat (filled with water or dry), and some of the larger and more complex kofun had double or triple moats. Rows of *haniwa* were arranged on the top of the mounds, on the terraces and around the ritual spaces. Other grave goods include bronze mirrors, bracelet-like stone objects, iron weapons and armour. Originally the earthen mounds and *haniwa* would have been exposed, unlike today's typically tree-covered appearance. Following the ICOMOS Interim Report, the State Party has advised in its additional information received in February 2019 that the history of the tree cover varies amongst the components, but in general, the original appearance of the kofun was maintained for a relatively short period and that they have long been covered by trees. Research at some kofun has revealed that black pine forests formed on the mounds from the late 5th century, and evergreen broad-leaved forests became prevalent between the 9th and 12th centuries. These areas were accessed for firewood collection, particularly from the Edo Period.

Inside the kofun are coffins containing the remains of the deceased, located within burial compartments. The nomination dossier provides an overview of the types of coffins found in the nominated components.

A number of the nominated kofun are designated as *Ryobo* (graves of the ancestors of the Imperial Family) and are managed by the Imperial Household. The other kofun are understood to be the burial places for elite members of the society, and the kofun as a whole are seen as demonstrating social and political hierarchies of the period.

All kofun are considered to be sacred places, particularly the *Ryobo*, placing importance on a respectful ambience and setting. Since the Meiji Period, access to the *Ryobo* has been restricted to the Imperial family and the Imperial Household Agency. The rituals conducted by the Imperial Family include the 'Shoshin-sai' (that marks the date of the death of the deceased emperor) and 'Shikinen-sai' (conducted every 100 years). Many of the *Ryobo* have facilities for worship (including *torii* gates, lanterns, stone fences and wash basins). There is community volunteer involvement in the care of the kofun, and local community festivals, such as an autumn festival for Emperor Ojin associated with the Ojin-tenno-ryo Kofun (component 33). The historical origins of these festivals vary in their time depth.

Field survey and repair of Imperial tombs was carried out by the Shogunate and Utsunomiya Domain in the mid-19th century. At that time places of worship were established at the *Ryobo*, giving them their current appearance. In the Meiji Period, the Ministry of Imperial Household was established and took responsibility for the management of the Imperial tombs, an arrangement that continues today through the Imperial Household Agency.

Boundaries

The area of the 45 components totals 166.6 ha, with buffer zones totaling 890 ha.

ICOMOS considers that all components are clearly delineated, aided by the boundary marking provided by the National Land Office. Boundaries of components accord with the boundaries of the designated *Ryobo* or Historic Sites.

The buffer zones are based on various factors, including topography, land use patterns and features such as roads and railways. The buffer zones are divided into two zones. The areas closest to the kofun are the 'Prioritized Zone' to which stricter provisions for building heights/designs, and advertising apply in order to protect the visual settings and sightlines. The establishment of the buffer zones has been constrained in by the proximity of the modern urban environments.

Based on a request by ICOMOS, the State Party, in its additional information received in February 2019, has agreed to enlarge the buffer zone for the Minegazuka Kofun (component 44). Although the area to be added is modest in size, it will assist in the protection of the

immediate setting of the kofun. The State Party has advised that the process of legal designation of the revised buffer zone boundary should be completed by August 2020.

State of conservation

The selected kofun are of considerable antiquity and there have been changes to the sites and their settings over this time. The kofun are vulnerable to processes of soil erosion, several have been consolidated (eg. components 20, 21), and there are plans for consolidation work at others (notably component 2-1).

Based on the information provided by the State Party and the observations of the ICOMOS technical evaluation mission, ICOMOS considers that the state of conservation is reasonable/good.

Factors affecting the property

Based on the information provided by the State Party and the observations of the ICOMOS technical evaluation mission, ICOMOS considers that the main factors affecting the property are those associated with the close proximity of urban development, creating significant potential pressures on the buffer zones. The State Party advises that intrusive elements are proposed for removal to improve the setting in a number of components.

Housing developments from the 1960s have occurred very close to the boundaries of a number of components (such as components 29 and 30), and have impacted on the settings, views and inter-relationships between the kofun. There are more than 80,000 residents living within the buffer zones. Since the 1950s, many areas in private ownership (including residential properties) have been sold to public authorities in order to strengthen the conservation and interpretation. The State Party estimates that the conversion of private land to public ownership has now occurred for 99% of the Mozu area and 85% of the Furuichi area.

A number of alterations to the kofun can be observed, some moats have been filled in, embankments have been changed, and soil has been added or removed for various reasons. A number of the components are now used as parks or playgrounds, as well as a cemetery, viewing deck and so on. These alterations and uses were established prior to the application of the current legal protection for the property.

Despite the evident pressures of urbanisation, development pressure is managed by the legal restrictions applied to the components and their buffer zones (particularly within the 'Prioritized Zone' nearest to the component boundaries). No development or public access is permitted to the *Ryobo* (other than for the officials of the Imperial Household Agency and occasionally for researchers for specific purposes). The uses of some of the nominated components as public parkland creates ongoing maintenance and management pressures, and care needs to be taken to ensure that

further parkland developments are restricted and will be subject to Heritage Impact Assessment.

There are a number of identified park development proposals including: new park pathways; re-development proposals near the station; the planned World Heritage Interpretation Centre; Bicycle Museum; Daisen Park Improvement Plan; and the Railroad Elevation Project. While ICOMOS understands that some of these have been halted to allow for the preparation of Heritage Impact Assessments and consideration by the World Heritage Mozu-Furuichi Council, the impacts on the potential Outstanding Universal Value need to be rigorously assessed. There are also other new development proposals (such as medium and high-rise apartment projects) located beyond the boundaries of the buffer zones which have potential impacts on the wider settings.

Significant pressures on the conservation of the kofun are erosion of the earthen mounds, poorly managed vegetation growth, and the need to maintain water quality of the moats (17 components have water-filled moats). Many of the kofun are covered with trees, and these require careful management to ensure the conservation of the archaeological materials. Control and removal of decaying trees is therefore an ongoing management task; and extra soil has been added to some of the components to arrest erosion and introduce grass.

Tourism is not a major factor affecting the property at present, although there are expectations that visitor numbers will grow if the kofun are inscribed in the World Heritage List.

3 Proposed justification for inscription

Proposed justification

The nominated property is considered by the State Party to be of Outstanding Universal Value as a cultural property for the following reasons:

- The selected kofun demonstrate in an outstanding way the Kofun period in Japan, a period of political turmoil in East Asia;
- The forms, scales, sizes and contents of the kofun the Kofun period in Japan express political and social hierarchies;
- The kofun of the Mozu-Furuichi group are exceptional technical achievements of earthen construction;
- The kofun of the Mozu-Furuichi group are closely clustered and demonstrate the characteristics of the kofun, including examples of the four standardised plan types, and evidence of distinctive funerary rituals (demonstrated by the form and contents of the kofun, including grave goods and *haniwa*).

Comparative analysis

The Comparative Analysis is presented in two parts: firstly, the establishment of a comparative analysis with relevant sites within the world and the geo-cultural context, including World Heritage and Tentative List properties; and secondly, the comparative analysis of kofun sites within Japan to demonstrate the rationale for the selection of the components of the series.

The State Party established its comparative analysis according to various dimensions of the kofun, namely, the range of types of mounded tombs, the standardised plan types, and evidence of elaborate and distinctive funerary rituals. These aspects are compared by the State Party with World Heritage properties in all regions and historical periods in the world, but in this case, the most relevant geo-cultural context is East Asia.

Within the context of East Asia, there are a number of World Heritage properties with significant burial mounds and tombs including from as early as the 3rd century BC (Mausoleum of the First Qin Emperor, China) and extending through to the 20th century (Imperial Tombs of the Ming and Qing Dynasties, China; Royal Tombs of the Joseon Dynasty, Republic of Korea). The examples most useful for comparative purposes are those from a similar timeframe of history in East Asia (4th-7th centuries), namely: Capital cities and Tombs of the Ancient Koguryo Kingdom, China; Complex of Koguryo Tombs, Democratic People's Republic of Korea; Gyeongju Historic Areas, Republic of Korea; and the Baekje Historic Areas, Republic of Korea. In Japan, the recently inscribed Sacred Island of Okinoshima and Associated Sites in the Munakata Region (4th-10th centuries) is also relevant. There are also several relevant comparators in the Tentative List of the Republic of Korea (Goryeong Jisandong Daegaya Tumuli and the Gaya Tumuli of Gimhae – Haman).

It can be readily appreciated that while burial mounds are not uncommon in the world or the geocultural region, there are also important differences in relation to the historical periods, cultural contexts, and tangible characteristics between these. A detailed analysis is provided by the State Party to demonstrate that the kofun are the primary tangible records available for the Kofun period in Japan, and have distinctive characteristics, including their forms (particularly the elaborate and complex 'keyhole' form), contents (including the *haniwa*), and ritual purposes.

As the comparative analysis was also required to justify the selection of the series, the kofun of the Osaka Prefecture were compared with the other areas in Japan where kofun are found (extending from Kyushu to the Tohoku region and containing 160,000 kofun); and the selected 45 components have been compared within the context of the 89 surviving kofun in the Mozu-Furuichi area. The selection of the serial components was based on the ability of the kofun to represent the historical period and the characteristics of the kofun, as well as the state of conservation and current setting. The selected

components demonstrate all forms of kofun and a range of sizes and other attributes. The Mozu-Furuichi group is the largest extant grouping of kofun in Japan in terms of size range, complexity, and concentration. For this reason, the State Party has advised that there are no intentions to further extend the series.

ICOMOS considers that the comparative analysis justifies consideration of this property for the World Heritage List.

Criteria under which inscription is proposed

The property is nominated on the basis of cultural criteria (iii) and (iv).

Criterion (iii): *bear a unique or at least exceptional testimony to a cultural tradition or to a civilisation which is living or which has disappeared;*

This criterion is justified by the State Party on the grounds that the selected kofun represent and provide exceptional testimony to the culture of the Kofun period of Japan's ancient history. While 160,000 kofun are found throughout Japan, the Mozu-Furuichi Kofun group demonstrates the period's socio-political structures, social class differences and highly sophisticated funerary system.

ICOMOS considers that the selected kofun form a coherent and well-conserved representation of the construction and use of burial mounds in the Kofun period of Japan. These burial mounds are the richest source of insight into this important stage of the human histories of the Japanese archipelago.

Criterion (iv): *be an outstanding example of a type of building, architectural or technological ensemble or landscape which illustrates (a) significant stage(s) in human history;*

This criterion is justified by the State Party on the grounds that the selected kofun demonstrate in an outstanding way a specific type of burial mound original to the Japanese archipelago. In addition, these distinctive burial mounds are the primary tangible evidence of the historical period which was turbulent and contributed to the formation of ancient kingly power. In this way, the tombs are able to represent the structures of power during this historical period. Following the ICOMOS Interim Report, the State Party has argued for the importance of the Kofun period, in the additional information submitted in February 2019, based on the political and social situation in East Asia, and the complex relationships that emerged; and the significance of the Kofun construction in Japan as a response to the political situation in East Asia.

ICOMOS considers that the nominated kofun demonstrate an outstanding type of ancient East Asian burial mound construction. The role of the kofun in the establishment of social hierarchies within this particular and significant historical period, as well as the tangible attributes such as the clay sculptures, moats and geometric terraced mounds reinforced by stone, are outstanding.

ICOMOS considers that the serial approach is justified and that the nominated property meets criteria (iii) and (iv).

Integrity and authenticity

Integrity

The integrity of the nominated serial property is based on the rationale for the selection of the components and their ability to convey the potential Outstanding Universal Value of the kofun; and the material evidence of the burial mounds and their contents. The intactness of the individual components and the series as a whole (including consideration of the adequacy of their boundaries), the state of conservation and the way major pressures are managed are also determinants of integrity.

The selection of the components of the series is justified by the State Party on the basis that the Middle Kofun period is best able to represent its historical significance; that the clustering of well-preserved kofun in the Mozu and Furuichi areas enable the significance of the kofun to be conveyed; and that the 45 components and their tangible and intangible attributes comprise the most coherent example of this period and the characteristic burial mound traditions.

ICOMOS notes that there are some issues that impact on the integrity of the serial property. Urban development has occurred in the vicinity of the nominated areas, particularly since the second half of the 20th century. Most of the significant pressures on the kofun are derived from this context, which has resulted in various historical and contemporary layers including residential areas, parks, playgrounds, orchards, farms, shrines and cemetery. Urbanisation has also inevitably resulted in the loss of some elements (such as the filling of moats), and has reduced the ability of the historically important physical and visual links between the groups to be perceived. ICOMOS considers that the integrity of the kofun also requires continuing attention to the settings of the kofuns, and the sacred nature of their role in society.

The two areas – Mozu and Furuichi - are approximately 10 kilometres apart, but ICOMOS considers that they provide a cohesive narrative of the kingly power expressed through the clustering of the 49 kofun, the range of types and sizes, the grave goods and *haniwa*, and the continuing ritual uses and high esteem that these sites hold within Japanese society.

ICOMOS considers that the integrity of the individual components is generally satisfactory, although there are issues requiring careful management. For the most part, the state of conservation, management of pressures and boundaries and buffer zones are adequate.

Authenticity

The authenticity of the property is based on the locations and settings of the selected kofun, the archaeological studies of their antiquity, construction and contents, and

the esteem these places hold in contemporary Japanese society. Through time, the kofun have been subject to various changes in use, including fortification, housing, forestry, irrigation and parklands. The *Ryobo* components are treated as sacred sites, and rituals of the Imperial family occur at these each year.

ICOMOS notes that some kofun have been the subject of archaeological studies. The authenticity of the selected components is variable, primarily due to the changes in their surrounding environments over time (including the introduction of trees and other vegetation that now cover the earthen mounds). Many of the selected kofun exhibit high levels of authenticity in relation to their form, design, construction, and their spirit and feeling. Other components located in residential areas have a reduced sense of sacredness due to a variety of uses, including: a Buddhist cemetery (component 38), viewing deck with stairway (component 27), playground or park (components 14, 15, 27, 28, 31, 32) and building/housing developments (components 28 and 30 where the houses are very close to the boundary, but also components 16 and 22). Other impacts include new or reconstructed moats (components 7, 8 and 13), alteration of the mound profile by added soil (components 13 and 17), and planting (component 17 and also 31, which features an orchard). However, the selected components are clearly readable in their landscape settings, and their authenticity is supported by archaeological research.

In conclusion, ICOMOS considers that given the antiquity of the kofun and their present state of conservation, the requirements of integrity and authenticity have been met, particularly for the *Ryobo* components. However, the authenticity and integrity varies amongst the 45 components.

Evaluation of the proposed justification for inscription

ICOMOS considers that the comparative analysis justifies the consideration of this nominated serial property for the World Heritage List. The nominated serial property demonstrates Outstanding Universal Value, in relation to criteria (iii) and (iv). The nominated serial property meets the requirements of authenticity and integrity, although various vulnerabilities have been identified which will need to be addressed through the systems of management and legal protection.

Attributes

The attributes of the property are the 49 burial mounds, their geometric forms, methods and materials of construction, moats, archaeological materials and contents (including grave goods, burial facilities and the *haniwa*). The settings of the kofun, including their visual presence in the Osaka region, and the remaining physical and visual links between the kofun are also important attributes. The evidence of the distinctive funerary practices, historical and contemporary ritual uses, and sacredness of the kofun are attributes of the proposed Outstanding Universal Value.

ICOMOS considers that the nominated serial property is supported by a relevant comparative analysis, demonstrates criteria (iii) and (iv), and meets the requirements for authenticity and integrity.

4 Conservation measures and monitoring

Conservation measures

The State Party has provided a detailed schedule of past conservation works undertaken at each of the nominated components. These include ongoing archaeological research/surveys, protection of archaeological features, maintenance of worship facilities at the *Ryobo*, and conservation treatment of archaeological materials and objects. At some components, works to improve the functioning of moats, and the repair and rebuilding of retaining walls have been carried out, as well as vegetation management and felling of trees.

Monitoring

A monitoring system is set out in the nomination dossier covering indicators, frequency of monitoring and location of records for all property components and the buffer zones. This includes monitoring of the condition of the kofun and associated vegetation, development pressures, environmental pressures (climate change, vegetation, etc), impact of natural disasters and visitor levels and impacts. Monitoring activities are allocated to owners of the component properties, the Imperial Household Agency, Osaka Prefectural Government, and the City Governments of Sakai, Habikino and Fujiidera. The Agency of Cultural Affairs oversees the implementation of the monitoring arrangements.

ICOMOS considers that the monitoring system is generally adequate, although some enhancements are encouraged. It could be necessary to introduce non-invasive techniques of periodically assessing the structural stability of the mounds, given that there is evidence of past collapse and/or subsidence. In addition, the monitoring system could better incorporate the interests of the nearby residential communities.

ICOMOS considers that the conservation measures are appropriate and well-resourced, although actions by the various governments, private owners and communities must continue to be well-coordinated. The monitoring arrangements are adequate, although ICOMOS considers that they could be further enhanced through further development of non-invasive techniques for periodically monitoring the structural condition of the mounds, and indicators for monitoring the interests and support of local residential communities.

5 Protection and management

Documentation

From the 1970s, research-oriented archaeological investigations of the kofun occurred. The outcomes of these studies have been published and utilised for interpretation and museum exhibitions. The baseline documentation needed for monitoring seems to be adequate. The use of airborne LIDAR surveys to develop the relief maps of the kofun demonstrates a good application of this technology to the needs of heritage documentation and conservation management.

ICOMOS notes that records of the locations of the imperial tombs date back to the Asuka and Nara periods, and there are texts containing provisions for their protection and management from these very early times. The 10th century text *Engi-shiki* contains records of some of the Mozu-Furuichi kofun, and sets out procedures for their maintenance. The nomination dossier outlines the history of recording and management since that time. Today the Imperial Household Agency archives the historical and administrative records of the management of the *Ryobo*.

ICOMOS is aware of debate within Japanese society regarding the naming of some of the kofun as the resting places of specific individuals, since this cannot be determined with certainty. However, it is also acknowledged that these names were applied long ago, in early records and documentation, and the names have a lengthy history. This issue can be addressed through interpretation strategies, where needed.

Legal protection

Legal protection of the nominated components is provided by national and local government laws. Two different national laws are applied, and in some instances, both laws apply to the same kofun site. The State Party has provided a summary specifying that 20 kofun are 'entirely *Ryobo*' (protected by the Imperial House Law and the National Property Act); 20 kofun are 'entirely national historic site' (managed by local governments and/or private owners and protected by the Law for the Protection of Cultural Properties). Others have a degree of shared or overlapping designation and protection: where the mound is *Ryobo* but the moat or other surrounding bank is a National Historic Site (2 kofun); the mound is *Ryobo* but the moat is a municipal Historic Site (4 kofun); or there are overlapping National Historic Site and *Ryobo* designations (3 kofun). In these cases, both systems of management and protection are applied. National level legal protection is in progress for component 20.

The Imperial House Law defines the *Ryobo* as 'graves of the Emperor, the Empress, the Grand Empress Dowager and the Empress Dowager'. The legal requirements are oriented to maintaining their serenity and dignity, and no development is permitted.

The Municipal Historic Sites are designated on the basis of the City Ordinance for the Protection of Cultural Properties, established in accordance with the Law for the

Protection of Cultural Properties. City Planning is the subject of the Southern Osaka City Planning Area Master Plan (revised 2016), the Sakai City Planning Master Plan (2012), the Habikino City Planning Master Plan (revised 2016), and the Fujiidera City Planning Master Plan (revised 2017).

Buffer zone protection includes regulations that control the height and design of new buildings, as well as outdoor advertisements. These are established through a number of local laws for city planning, building, landscape, scenic districts, and outdoor advertising. In the Prioritized Zones, building heights are restricted to under 10m or 15m, and outdoor advertising is prohibited. The other parts of the buffer zone allow new building heights to 31m, and place restrictions on building designs/colours, and limit the size of advertisements.

Management system

The Osaka Prefectural Government has established the Mozu-Furuichi Kofun Group World Heritage Council to coordinate the management of the nominated serial property. It is comprised of representatives of the Imperial Household Agency, Osaka Prefectural Government, Sakai City, Habikino City and Fujiidera City Government. The Agency for Cultural Affairs participates as an Observer. The Council discusses matters related to the monitoring, management, utilisation and conservation of the property. Advice is provided by the Mozu-Furuichi Kofun Group World Heritage Scientific Committee which is comprised of relevant academic experts.

The *Ryobo* are managed by the staff stationed at the Furuichi Regional Office for the Imperial Mausolea and Tombs, one of the five regional offices of the Imperial Household Agency. The Imperial Mausolea and Tomb Management Committee is comprised of experts that advise on repair and other works to the *Ryobo*.

The Cultural Property Protection and Promotion Committee of the Osaka Prefectural Board of Education monitors the Historic Sites.

Privately owned land included in the nominated components is managed by the owners in collaboration with the relevant local governments. There are options available for owners to turn over the management to the municipality (while still retaining ownership).

Management staff with professional and technical expertise in relevant fields are provided by the Imperial Household Agency, the Osaka Prefecture, and the City Governments of Sakai, Habikino and Fujiidera. Management of the *Ryobo* components is funded through national expenditure; and the management of the Historic Sites is funded by local governments and private owners with the help of national government subsidies where necessary. There are also funding arrangements in place through the National Property Act to support the transfer of land from private to public ownership.

The Comprehensive Management Plan outlines the implementation of the protection and management of the nominated property and the buffer zones. It establishes the responses to development pressures, environmental changes and natural disaster risks; and makes provisions for visitor management and local community involvement. An Action Plan is provided, with identified responsibilities and short, medium, and long term actions. The Mozu-Furuichi Kofun Group World Heritage Council has overall responsibility for implementing the Action Plan and ensuring coordination between different organisations.

The overarching policy for management of the components of the nominated property are to protect the attributes that convey the proposed Outstanding Universal Value. The principles for the buffer zone are to enhance the appreciation of the landscape containing kofun, and to conserve the views of the burial mounds/tombs. The *Ryobo* are managed to preserve their dignity.

In addition, the 'Historic Site' elements of each of the Mozu and Furuichi groups have 'Preservation and Management Plans' and 'Basic Improvement Plans' (*seibi*) which describe the approach to repairs, improvements and utilisation.

The State Party has explained in the additional information received in February 2019 the concept of *seibi*, which has both general and specific meanings. General meanings for *seibi* include processes such as maintenance, upkeep, improvement and development; however, in the context of the laws for cultural heritage, *seibi* is associated with requirements to enhance the environment for people to appreciate the value of cultural heritage sites, including support for local community connection and experience. Within Japanese heritage protection frameworks, *seibi* is guided by a published manual (*Shiseki-to Seibi no Tebiki*) oriented at providing basic facilities, preventing damage, environmental improvements and providing for uses by the community (such as visitor centres, interpretation, parking, rest rooms and signs). The State Party has explained that the *seibi* processes to be applied to the nominated components will be: preservation (maintenance, hazard mitigation, works associated with drainage and deterioration), and utilisation (measures to transmit value, including management and administration facilities). Basic *Seibi* Plans have been developed for some components, but are not yet finalised.

The State Party has indicated that Heritage Impact Assessments (HIA) will be conducted for all future developments within the property components and buffer zones. However, the system for HIA does not yet seem fully established and linked with the management system and the frameworks for legal protection.

The Osaka Prefecture and each of the relevant City governments have Disaster Prevention Plans. Super typhoon Jebi hit the Osaka Region of Japan in September 2018, just before the visit of the ICOMOS Evaluation

Mission. Detailed information was provided by the State Party, showing damage to trees within the nominated serial property. This event provided an opportunity for the ICOMOS Mission to observe the effective implementation of the risk preparedness arrangements.

Visitor management

Current visitor levels vary, due in part to the different present-day uses of the kofun. Overall visitor numbers were not provided by the State Party, but the Comprehensive Management Plan provides data on visitors to various public display facilities. It is important to note that 'visitors' to this serial property are diverse, including local residents and tourists. The traditional practice and management by the Imperial Household Agency do not allow for public visitation to the *Ryobo*, which are generally only accessed by the members of the Imperial family and their staff (as well as heritage experts and officials when needed).

The State Party anticipates growth in visitor numbers if the property is inscribed in the World Heritage List. The existing visitor facilities at the Historic Sites, site interpretation and public access provisions are detailed for each component in the Comprehensive Management Plan.

The relevant Prefectural and municipal governments have established a 'Vision for Regional Activation Utilizing the Mozu-Furuichi Kofun Group' (2015) to guide further actions for visitor management. Some measures have been identified and implemented, including the creation of a recommended visiting route.

There are museums and interpretation facilities in the cities of Sakai, Habikino and Fujiidera; and the Osaka Prefectural Chikatsu Asuka Museum specialises in the kofun. The Sakai City Government is planning a new interpretation facility in the Mozu area, within the buffer zone of the Nintoku-tenno-ryo kofun (component 2-1). In Additional Information, the State Party provided a brief Heritage Impact Assessment for this proposal which concluded that the impacts would be minimal. ICOMOS considers that this could be usefully reviewed in more detail following World Heritage inscription.

Community involvement

The nominated serial property occurs within a highly urbanised area, and there are a number of residential communities living very close to the nominated components. This is a source of both pressure and support for the conservation of the nominated kofun. Local residents, schools and businesses are involved in the protection of the kofun, guiding/interpretation, site cleaning, and the conservation of the settings of the kofun. This context, and the need to protect the living environment of local residents is recognised by the State Party. However, the nomination dossier and Comprehensive Management Plan do not provide extensive details on the provisions for community involvement in the management system; and there are a

range of community interests and concerns about the future management of the kofun.

Evaluation of the effectiveness of the protection and management of nominated property

The strengths of the protection and management of the nominated property are the strict legal protection of the property components and buffer zones. Management activities and protection (including both government and non-government organisations and individuals) seems well coordinated. The management system seems well considered and effective, although the integration of *seibi* processes and conservation objectives needs to be more rigorously defined to ensure that the protection of the Outstanding Universal Value is prioritised. The weaknesses derive from the pressures of the surrounding urban environment. Heritage Impact Assessment processes need to be further established in relation to the management system and the frameworks for legal protection. The formal inclusion of residential communities could be further enhanced.

ICOMOS considers that the protection and management of the nominated serial property is adequate to sustain the Outstanding Universal Value. The Heritage Impact Assessment for the proposed new interpretation centre (Sakai City) should be deepened in light of the outcomes of the World Heritage nomination (and adopted Statement of Outstanding Universal Value). The State Party is encouraged to extend the formal involvement of local residents in the management system.

6 Conclusion

Through the nomination of 45 components, the Mozu-Furuichi Kofun Group in Japan's Osaka Prefecture demonstrate in an outstanding way the burial traditions and socio-political structures of the Kofun period (3rd to 6th centuries). More than 160,000 such mounds are found throughout a large area of Japan, and remain the primary means of understanding this period of geo-political transition in East Asia that saw the emergence of kingly powers.

The justification for selecting the 49 kofun that comprise the Mozu and Furuichi clusters is based on their ability to represent the historical period and the characteristics of the kofun, as well as their state of conservation. Despite the growth of urbanisation in the immediate settings, the two major clusters kofun form a coherent grouping. The selected components demonstrate the forms, scales and contents of kofun, and exhibit a reasonable/good state of conservation. The largest 'keyhole' shaped kofun are impressive achievements of earthen construction. A number of the nominated kofun are designated as *Ryobo* (mausolea of kings) and are managed by the Imperial Household Agency. These are highly revered within contemporary Japanese society, and are the focus of rituals of worship and festivals.

ICOMOS considers that comparative analysis of other World Heritage properties in East Asia supports the potential for the kofun to be included in the World Heritage List; and that the authenticity of the individual kofun that comprise the series has been demonstrated. Although there have been changes to the kofun through the centuries, the series meets the requirements of integrity. The boundaries and buffer zones are adequate, and all the elements needed to express the Outstanding Universal Value of the kofun are present. ICOMOS considers that criteria (iii) and (iv) have been demonstrated for the nominated serial property.

Although a relatively complex and layered framework of legal protection is utilised, ICOMOS considers that the protection and management of the nominated property is well-coordinated and is implemented effectively. The works of maintenance and enhancement known as *seibi* need to be more specifically and carefully defined, and aligned with the objectives of conservation management and the protection of the Outstanding Universal Value. Further improvements should be made to Heritage Impact Assessment processes, including more direct links to the legal and management systems. The monitoring arrangements are sufficient, although some improvements could be made in relation to the structural stability of the mounds; and to better incorporate the interests of the nearby residential communities.

ICOMOS considers that the Outstanding Universal Value is demonstrated for the nominated serial property.

ICOMOS considers that the main threats to the property arise from the close proximity of urban areas, the high residential population within the buffer zones, and the processes of erosion caused by various natural and other processes. Tourism does not pose a pressure at present, but is expected to grow following inscription in the World Heritage List.

ICOMOS considers that all new development projects within the components and buffer zones (including interpretation facilities, parkland elements, infrastructure improvements and other planned constructions) should be subject to Heritage Impact Assessment and communicated to the World Heritage Centre in line with paragraph 172 of *Operational Guidelines for the Implementation of the World Heritage Convention*.

7 Recommendations

Recommendations with respect to inscription

ICOMOS recommends that the Mozu-Furuichi Kofun Group: Mounded Tombs of Ancient Japan, Japan, be inscribed on the World Heritage List on the basis of **criteria (iii) and (iv)**.

Recommended Statement of Outstanding Universal Value

Brief synthesis

Located on a plateau above the Osaka Plain, the Mozu-Furuichi Kofun Group is a serial property of 45 components which contains 49 kofun ('old mound'), a large and distinctive type of burial mound. The selected kofun are found in two major clusters, and are the richest tangible representation of the culture of the Kofun period in Japan from the 3rd to 6th centuries, a period before Japanese society became an established centralised state under the influence of the Chinese system of law. The kofun have a range of contents, such as grave goods (weapons, armour, ornaments); and clay figures used to decorated the mounds, known as *haniwa* (in the form of cylinders arranged in rows, or representations of objects, houses, animals and people). Understood as tombs for kings' clans and affiliates during this period, some of the kofun are *Ryobo* (imperial mausolea) and are managed by Japan's Imperial Household. The serial components have been selected from a total of 160,000 kofun from around Japan and represent the 'middle kofun' period (late 4th to late 5th centuries) which is considered to be the peak of the Kofun period. The attributes of the property are the 49 burial mounds, their geometric forms, methods and materials of construction, moats, archaeological materials and contents (including grave goods, burial facilities and the *haniwa*). The settings of the kofun, their visual presence in the Osaka region, and the remaining physical and visual links between the kofun are important attributes; as is the evidence of the distinctive funerary practices and ritual uses.

Criterion (iii): While 160,000 kofun are found throughout Japan, the Mozu-Furuichi Kofun Group represent and provide exceptional testimony to the culture of the Kofun period of Japan's ancient history. The 45 components demonstrate the period's socio-political structures, social class differences and highly sophisticated funerary system.

Criterion (iv): The Mozu-Furuichi Kofun Group demonstrates an outstanding type of ancient East Asian burial mound construction. The role of the kofun in the establishment of social hierarchies within this particular and significant historical period, as well as the tangible attributes such as the clay sculptures, moats and geometric terraced mounds reinforced by stone, are outstanding.

Integrity

The Mozu and Furuichi groups of kofun provide a cohesive narrative of the kingly power expressed through the clustering of the 49 kofun, the range of types and sizes, the grave goods and *haniwa*, and the continuing ritual uses and high esteem that these sites hold within Japanese society. The integrity of the serial property is based on the rationale for the selection of the components and their ability to convey the Outstanding Universal Value of the kofun. The intactness of the individual

components, the material evidence of the mounds and their context, and the state of conservation are also determinants of integrity. Issues that impact on the integrity of the serial property include loss of some features (such as moats), and changes to the uses and settings of the components due to the close proximity of urban development.

Authenticity

Despite changed uses and landscape treatments, and the high degree of 20th century urbanisation of the Osaka region, the kofun are a significant visible and historical presence within the present-day landscape. The authenticity of the selected kofun is demonstrated by their forms, materials and extensive archaeological contents, as well as the esteem which they engender in Japanese society. While the *Ryobo* generally demonstrate a high degree of authenticity, there are variations within the series. There is a need to ensure that *seibi* works are subject to impact assessment and reviewed in order to sustain the authenticity of the kofun.

Management and protection requirements

Legal protection of the components is provided by national and local government laws. *Ryobo* components are protected by the Imperial House Law and the National Property Act; and the 'Historic Site' components are protected by the Law for the Protection of Cultural Properties. Some components have both designations. The Municipal Historic Sites are designated on the basis of the City Ordinance for the Protection of Cultural Properties, established in accordance with the Law for the Protection of Cultural Properties. National legal protection is in progress for component 20, and expansion of the buffer zone for component 44. Buffer zone protection includes regulations that control the height and design of new buildings, as well as outdoor advertisements, based on a number of local laws.

The management system is based on the establishment of the Mozu-Furuichi Kofun Group World Heritage Council (comprised of representatives of the Imperial Household Agency, and the relevant Prefectural and City Governments, with the Agency for Cultural as an Observer). The Council is advised by the Mozu-Furuichi Kofun Group World Heritage Scientific Committee. The Comprehensive Management Plan outlines the implementation of the protection and management of the property and the buffer zones. The Mozu-Furuichi Kofun Group World Heritage Council has overall responsibility for implementing the Action Plan and ensuring coordination between different organisations. The Osaka Prefecture and each of the relevant City governments has a Disaster Prevention Plan; and there are museums and interpretation facilities in the cities of Osaka, Sakai, Habikino and Fujiidera. The Sakai City Government is planning a new interpretation facility in the Mozu area, which should be subject to Heritage Impact Assessment.

Factors affecting this property are those associated with the close proximity of urban development, creating significant potential pressures on the buffer zones. Pressures on the conservation of the kofun occur through the erosion of the earthen mounds, poorly managed vegetation growth, and the need to maintain water quality of the moats. These are actively managed. The conservation measures are appropriate and well-resourced, although actions by the various governments, private owners and communities must continue to be well-coordinated. The monitoring arrangements are adequate, although they could be further enhanced through further development of non-invasive techniques for periodically monitoring the structural condition of the mounds, and indicators for monitoring the interests and support of local residential communities.

Additional recommendations

ICOMOS further recommends that the State Party give consideration to the following:

- a) Continuing to document the intangible dimensions of the serial property,
- b) Completing the required legal designations for the national level protection of Component 20, and the agreed adjustment to the buffer zone for Component 44,
- c) Completing the preparation of Basic *Seibi* Plans for the components designated as 'Historic Sites', ensuring their coherence with conservation objectives and the protection of Outstanding Universal Value,
- d) Considering the future use of non-invasive techniques of assessing the structural stability of the mounds,
- e) Considering providing for greater formal involvement of local residents in the management system,
- f) Further exploring how the buffer zones relate to the broader setting and what, if anything, needs protecting in the broader setting; and implement the subsequent measures,
- g) Reviewing and deepening the Heritage Impact Assessment for the proposed new interpretation centre (Sakai City) in light of the World Heritage inscription and adopted Statement of Outstanding Universal Value,
- h) Developing and implementing Heritage Impact Assessment for all future development proposals, including: plans for park development/improvements, Bicycle Museum, Daisen Park Improvement Plan, new/improved viewing platforms and the Nankai Railway Koya Line Railroad Elevation Project; Continuing to develop processes for Heritage Impact Assessment (HIA), including more direct linkages with the management system and the framework for legal protection of the property,

- i) Ensuring that all major projects that could impact on the series should be communicated to the World Heritage Centre in line with paragraph 172 of Operational Guidelines for the Implementation of the World Heritage Convention;

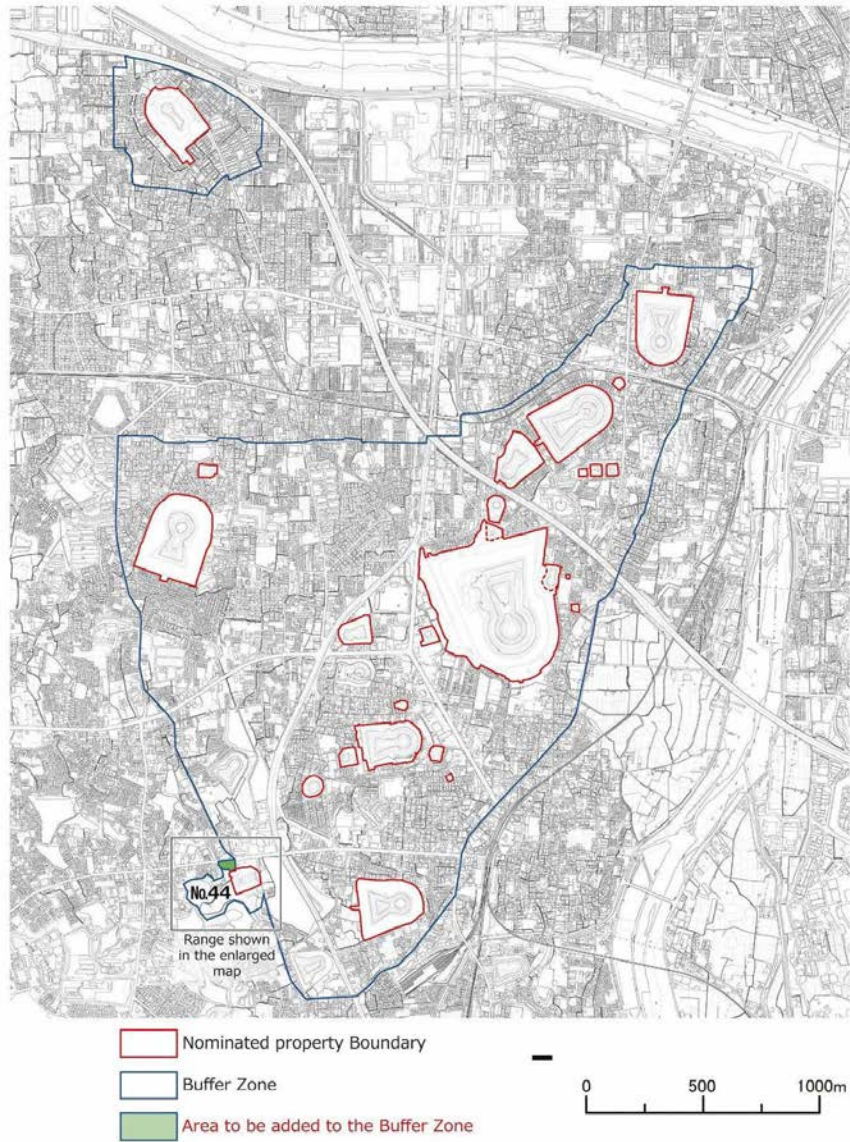


Figure 4-1 Location map of the Buffer Zone extension range around Component No. 44, Minegazuka Kofun

Revised map showing the boundaries of the nominated property (February 2019)



Aerial photo of Mozu area (from northwest)



Aerial photo of Furuichi area (from southwest)



Gobyoyama kofun



Cylindrical *haniwa* excavated from Gobyoyama kofun

Megalithic Jar Sites in Xiengkhuang – Plain of Jars (Lao People’s Democratic Republic) No 1587

Official name as proposed by the State Party

Megalithic Jar Sites in Xiengkhuang – Plain of Jars

Location

Xiengkhuang Province

Lao People’s Democratic Republic

Brief description

More than 2100 tubular-shaped megalithic stone jars used for funerary practices in the Iron Age give the Plain of Jars its name. This serial property of 15 components contains 1325 of these large carved stone jars, stone discs (grave markers, or lids for the jars), secondary burials, grave markers, quarries, manufacturing sites, grave goods and other archaeological materials and features. The jars are large, well-crafted, and require technological skill to produce and move from the quarry locations to the funerary sites. Located on hill slopes and spurs surrounding the central plateau, the jars and associated elements are the most prominent and intriguing evidence of the Iron Age civilisation that made and used them, about which little is known. The sites are dated from between 500 BCE and 500 CE (and possibly up to as late as 800 CE). The Plain of Jars is located at an historical crossroads between two major cultural systems of Iron Age southeast Asia – the Mun-Mekong system and the Red River/Gulf of Tonkin system. Because the area is one that facilitated movement through the region, enabling trade and cultural exchange, the distribution of the jars sites is thought to be potentially associated with overland routes, and demonstrate social hierarchies.

Category of property

In terms of categories of cultural property set out in Article I of the 1972 World Heritage Convention, this is a serial nomination of 15 *sites*.

1 Basic data

Included in the Tentative List

25 March 1992

Sites Mégalithiques de la province de Xieng Khouang

Background

This is a new nomination.

Consultations and Technical Evaluation Mission

Desk reviews have been provided by ICOMOS International Scientific Committees, members and independent experts.

An ICOMOS technical evaluation mission visited the property from 21 to 30 October 2018.

Additional information received by ICOMOS

A letter was sent to the State Party on 9 October 2018 requesting further information about the selection of components, disaster risk management, Heritage Impact Assessment, proposed developments, community awareness and involvement, interpretation of the Jar sites, tourism management plan and monitoring.

An Interim Report was provided to the State Party in December 2018 summarising the issues identified by the ICOMOS World Heritage Panel. Further information was requested in the Interim Report including: selection of components, management system, future development plans (particularly at site 1), research and interpretation strategies, corrections to site maps, and UXO clearance.

Additional information was received from the State Party on 7 November 2018 and 22 February 2019, and has been incorporated into the relevant sections of this evaluation report.

Date of ICOMOS approval of this report

13 March 2019

2 Description of the property

Note: The nomination dossier and additional information contain detailed descriptions of this property, its history and its state of conservation. Due to limitations on the length of evaluation reports, this report only provides a short summary of the most relevant aspects.

Description and history

The Plain of Jars is located on a plateau in Central Laos, and takes its name from the presence of more than 2100 megalithic stone jars that date from the Iron Age. The nominated property comprises 15 components that contain 1325 of these large stone jars and associated other elements (stone discs, secondary burials, grave markers, quarries, manufacturing sites, grave goods and other archaeological materials). The jars are tubular in shape, have various rim styles, and range in size from 1 to 3 metres. The jars are associated with mortuary practices, and are thought to reflect funerary practices of elites. They are the most prominent and intriguing evidence of the Iron Age civilisation that made and used them, and have been dated from between 500 BCE and 500 CE (and possibly up to as late as 800 CE). The State Party considers that the jars are evidence of a widespread culture that existed in the region – a civilisation about which relatively little is known.

Located on hill slopes and spurs surrounding the central plateau, the jars are mostly made from carved sandstone (although other stone types are also found such as granite, limestone, conglomerate and breccia). While the jars are mostly undecorated (other than one jar with a distinctive ‘frogman’ motif), the stone discs (thought to be grave markers or lids for the jars) can include carvings with animal

or anthropomorphic figures, concentric circles, circular mouldings or a central knob or loop. The jars are very large, and well-crafted, requiring technological skill to produce and move from the quarry locations to the funerary sites. In most cases, quarry sites are located near to the locations of the jars, and the stages of manufacturing can be discerned. Human remains have been found inside and buried around the stone jars. There are no discernible patterns of placement of the jars within the sites.

The larger jars sites contain a number of archaeological features and demonstrate several burial traditions. Site 1 is the most extensive in this regard and has been subject to the most archaeological research. It has terracotta jars associated with secondary burials, stone jars with human remains and glass beads, a cave that possibly functioned as a crematorium, and pit burials with various artefacts. Site 21 is associated with Site 1 and is the largest quarry site, containing *in situ* evidence of each step of the quarrying process.

Within the Plain of Jars, there are 2107 known megalithic jars (finished and unfinished), 207 discs and 672 grave markers clustered in 59 surveyed sites within Xiengkhuang. There are a further 26 sites known that are yet to be surveyed, and it is likely there will be additional jars and associated sites found.

From this larger assemblage, 11 sites within 15 components have been selected, containing 1325 jars. The major jar sites are at sites 1, 2, 3, 42 and 52 (site 3 is presented as 5 separate components). Sites 8 and 21 are quarry sites, site 12 is a manufacturing site. Sites 25 and 28 are located on the northern-most and western-most ends of the series (respectively), and Site 28 has a single very large jar impressively located at the top of a hill. Some of the sites have jars made of different materials, such as Sites 23 (sedimentary breccia) and 25 (andesite). The State Party has explained that the sites have been selected to include both large and small sites with jars, as well as manufacturing and quarrying sites in order to provide a comprehensive basis for future research on population distributions and the geographical associations with ancient trade routes. The selected components contain one or more clusters, each of which includes from one to more than 400 jars. The nominated components cover a large area that spans up to 80 km (west to east) and 40 km (north to south).

Relatively little is understood about the prehistory of Laos. It may be that Xiengkhuang was part of a Lao kingdom known as Khottaboun (from approximately 1000 BCE to 979 CE), and that it was incorporated into the Lan Xang Kingdom in the mid-14th century. The Plain of Jars is located at an historical crossroads between two major cultural systems of Iron Age southeast Asia – the Mun-Mekong system and the Red River/Gulf of Tonkin system. It is also a geographic region that facilitated movement through the region, enabling trade and cultural exchange. The distribution of the jars sites could be associated with overland routes, reflecting a network of village locations. In the 1930s, the jars were studied in depth by the French

researcher Madeleine Colani, who suggested that the locations of the jars were linked to ancient trade routes, particularly for salt. Iron ore is also a valuable historical resource which is present in Xiengkhuang.

Dating from 2016, excavations found that secondary burials date to the period 900-1200 CE; and there is evidence of human occupation and activity within the nominated property up to the 18th century. Laos came under the control of France in 1887; and Xiengkhuang and the kingdom of Vientiane fell under the control of Luang Prabang in 1941 as French control waned due to Japanese expansion. The Plain of Jars was heavily affected by bombing and other damage (trenches, foxholes, anti-aircraft positions and tank scrapes) during the Second Indochina War (1965-1975). Many of the jars within the nominated components show damage caused by bombing, and there is unexploded ordnance throughout the area; but there are also locally significant historic sites associated with this history, such as trenches and tunnels. The Lao People's Democratic Republic was established in December 1975.

Boundaries

The nominated property of 15 components has a total area of 173.56 ha, with 10 buffer zones totalling 1,012.94 ha. The boundaries have been shaped by the protective designations. The buffer zone boundaries have been drawn in order to control development in the vicinity of the selected components.

A number of the components are fenced, and efforts have been made to establish boundary markers.

There are no occupants within the nominated components; and 24 residents within the buffer zone for site 1. The State Party has indicated an intention to relocate these residents to outside the buffer zone.

State of conservation

The State Party has surveyed the condition of the jars and other elements within most of the nominated components, finding that 31% of the jars are intact (and 69% were broken); and 20% of the discs were intact (and 80% were broken). The archaeological deposits are considered to be largely intact, with few serious pressures.

While the State Party considers that the state of conservation of the nominated property is generally good, ICOMOS considers that the state of conservation is variable across the nominated components, based on the information provided by the State Party and the observations of the ICOMOS technical evaluation mission. On one hand, many of the jars are in poor condition due to natural processes of weathering by rain and wind, the impacts of cattle in these areas (now prevented), and damage caused by war-time battles and bombing during the Second Indochina War. However, the jars themselves are physically robust, and the archaeological deposits and elements are relatively intact. There are few current development pressures.

Factors affecting the property

ICOMOS considers that the main factors affecting the nominated property are the ongoing challenges of removing unexploded ordnance from surrounding areas, visitor pressures, and various site-specific pressures of development and agricultural encroachment.

As noted, the Plain of Jars was heavily affected by bombing and other damage (trenches, foxholes, anti-aircraft positions and tank scrapes) during the Second Indochina War (1965-1975). Although the nomination dossier describes ongoing work to remove UXOs, the State Party has subsequently advised that this is now complete and all components are now clear. UXO clearing in the buffer zones is continuing. This is a significant achievement to ensure the safety for visitors, local people and researchers.

Vegetation growth is a factor at some sites, particularly tree growth and tree roots. Erosion, due in part to past cattle grazing, is also a factor in some cases. Cattle grazing is no longer permitted, and fencing has helped to eliminate this problem.

Visitor pressures have been noted for some sites (particularly sites 1, 2, 3 and 21), including damage from climbing on the jars or stepping on the discs.

There are some pressures from agricultural encroachment (site 23) and development in the buffer zones (sites 1 and 25). A new high voltage transmission line runs through the buffer zone of site 3; roadworks have damaged some the elements in some components (particularly site 52); and low density residential development has occurred in the buffer zones of several components, and could be a future issue for sites 1 and 25. Logging is currently occurring in the buffer zone of site 42, but is not considered to have any detrimental impact on the proposed Outstanding Universal Value of the serial property. Mining is prohibited in the nominated property and the buffer zones. In the past, looting has been a factor affecting the property, and some jars were removed; however, the State Party considers that this is not a current issue.

Future development pressures could arise from efforts taken by the national and provincial governments to address the economic disadvantage of the people of the Xiengkhuang Province. In part, these initiatives focus on expansion of cropping and cattle grazing, but also heritage tourism.

3 Proposed justification for inscription

Proposed justification

The nominated property is considered by the State Party to be of Outstanding Universal Value as a cultural property for the following reasons:

- The jars and associated elements are an exceptional testimony to the funerary practices and the civilisation that created them, but disappeared sometime after 500 CE;

- The megalithic jars are impressive due to their large number and size, and the technical skill required to carve and transport them;
- The nominated components contain important archaeological evidence of material culture and cultural practices across several different eras and cultures.

Comparative analysis

The comparative analysis considers megalithic sites and burial monuments throughout the world, in India and southeast Asia and in Laos, taking into account the current World Heritage List and Tentative Lists. This is a wide initial sweep of comparative examples, but the most useful are considered to be found in India, Indonesia, Malaysia, Myanmar, Viet Nam and the Philippines. None of the examples from other countries in the region are currently included in the World Heritage List or Tentative Lists, and they appear to relate to different civilisations and/or periods. Other provinces within Laos that feature jar sites are also included in the comparative analysis (Jar sites in Luang Prabang Province, and the Menhirs of Hua Pan).

The comparative analysis establishes the distinctiveness of the Plain of Jars. In response to queries raised by ICOMOS in its Interim report, the State Party has provided additional information in February 2019 to clarify the selection of the components, indicating that sites with large and smaller clusters have been selected, as well as sites with jars with unusual stone types. The selection also includes quarrying and manufacturing sites. The State Party has argued that the selection also provides a comprehensive basis for future research. The components include the full range of sizes, production styles, stone types and rim styles. The sites that have been excluded from the series were omitted because of their poor condition and that they were unnecessary to convey the proposed Outstanding Universal Value.

ICOMOS considers that the comparative analysis justifies consideration of this property for the World Heritage List.

Criteria under which inscription is proposed

The property is nominated on the basis of cultural criterion (iii).

Criterion (iii): *bear a unique or at least exceptional testimony to a cultural tradition or to a civilisation which is living or which has disappeared;*

This criterion is justified by the State Party on the grounds that the jars and other elements in the nominated components are evidence of the funerary practices and are the principal and exceptional testimony to the civilisation that made them, which disappeared sometime after 500 CE. The selected sites include important archaeological evidence of cultural practices from this period. While the use of jars in funerary practices is known in other parts of Laos, northeast India and southeast Asia, the scale and number of the sites in Xiengkhuang is remarkable.

ICOMOS considers that the Plain of Jars exhibits an exceptional testimony to the civilisation that made and used the jars for their funerary practices over a period from approximately 500 BCE to sometime after 500 CE. The jars and associated archaeological features provide evidence of these ancient cultural practices, including social status hierarchies. The serial property contains a range of sites that can attest to the quarrying, manufacturing, transportation and use of the funerary jars over this period. The lack of knowledge about these histories, peoples and cultural traditions poses certain challenges within the context of the World Heritage Convention. However, ICOMOS considers that over time, the unfolding of an enhanced understanding through continuing research will further enrich the appreciation of the importance of these sites.

ICOMOS considers that the nominated property meets criterion (iii).

Integrity and authenticity

Integrity

The integrity of the nominated serial property is based on the rationale for the selection of the components and their ability to convey the potential Outstanding Universal Value; the material evidence of the jars and other archaeological evidence; the intactness of the individual components and the series as a whole (including consideration of the adequacy of their boundaries); and the state of conservation and the way major pressures are managed.

The serial approach is justified by the State Party on the grounds that the phenomenon of the megalithic jars extends over a large area, and there is a need to select sites that can represent their characteristics. ICOMOS considers that the serial approach is justified.

However, there are issues with the integrity of individual components that need to be addressed. Site 3 is a large site, broken into a number of separate components for the purposes of the nomination. This is a confusing arrangement, but more importantly, there are conservation problems in components 3-3, 3-5 and 3-7, and various intrusive elements. ICOMOS suggests that efforts be made to improve the management of these separate components as a 'whole site' to strengthen their integrity.

There are impacts on the visual integrity of some components. For example, at Site 1, new houses outside the buffer zone are visible, and a large Buddhist temple is under construction to the north-east of the component; the middle of Site 2 is divided by a road; and Site 3 (group 3) is affected by the construction of two water basins and a concrete construction to the immediate south of this group of jars.

Authenticity

The authenticity of the nominated serial property is based on the form, design, materials and locations of the jars and other elements. The sites have been the subject of archaeological research which is continuing. For the most part, the materials are original, located in their original locations, with relatively little disturbance to the archaeological deposits.

ICOMOS notes that there have been factors that have damaged the jars and their settings (such as the damage from bombing) in the past, and that these have impacted on the authenticity of the nominated property. However, given the antiquity of the jars and other elements, ICOMOS considers that the property demonstrates authenticity in relation to the proposed Outstanding Universal Value.

ICOMOS considers that while damages have occurred in the past, the requirements of authenticity and integrity have been met. The integrity of the property is vulnerable due to the impacts of natural processes, and current and past human activities.

Evaluation of the proposed justification for inscription

ICOMOS considers that the comparative analysis justifies the consideration of this nominated serial property to the World Heritage List, although the lack of knowledge of the cultural and historical context of the jars is an overall challenge, as acknowledged by the State Party. The nominated property demonstrates criterion (iii). The nominated property meets the requirements of authenticity and integrity, despite the damages that have occurred in the past.

Attributes

The attributes that convey the heritage values of the nominated property are the megalithic jars, discs, secondary burials, human remains, grave markers, quarries, grave goods and manufacturing sites, and associated archaeological deposits demonstrating the long human history of the Plain of Jars area.

In summary, ICOMOS considers that the comparative analysis justifies the consideration of this nominated serial property to the World Heritage List and criterion (iii) is demonstrated. The nominated property meets the requirements of authenticity and integrity.

4 Conservation measures and monitoring

Conservation measures

Few conservation measures have been applied to the nominated property, and a well-defined and active programme of conservation has yet to be established. The State Party recognises this need, and has developed a general set of Conservation Guidelines which forms part of the management system. This includes 'risk mapping'

and the development of a comprehensive 'Risk Map' for each component. A 'Conservation Plan' is envisaged and the State Party acknowledges that additional training will be needed.

The State Party has indicated in the additional information received in February 2019 that there are possible future plans for a 'large-scale' restoration at Site 1, including consolidation of vulnerable jars and improvements to the presentation of the site. ICOMOS considers that this will require in-depth conservation planning and Heritage Impact Assessment, and that all such restoration or other significant conservation programmes should be submitted to the World Heritage Centre for review in accordance with Paragraph 172 of the *Operational Guidelines*.

Monitoring

A system of monitoring is described in the nomination dossier, and the State Party has advised that it is still being put into operation. Village Heritage Teams provide the daily monitoring, supported by technical staff. Indicators are focused on the state of conservation of the nominated components, and the frequency and responsibility for monitoring are identified. Responsibilities are shared between national, provincial and local actors, and link with higher level national processes.

ICOMOS considers that there is no well-defined and active programme of conservation for the nominated property. This requires further attention. All major conservation and restoration proposals should be subject to Heritage Impact Assessment, and review by the Advisory Bodies. The monitoring system is adequate for the current conditions and pressures.

5 Protection and management

Documentation

Archaeological research has been undertaken at the Plain of Jars by Madeleine Colani through the *École Française d'Extrême-Orient* in the 1930s; and by the Japanese archaeologist Eiji Nitta and the Lao archaeologist Thongsasayavongkhamdy (both in the 1990s).

The UNESCO-Lao Safeguarding the Plain of Jars project (1998-2010) inventoried and mapped many of the sites, established a GIS database, developed community-based heritage management, established monitoring, drew up the community-based Heritage Tourism Plan, cleared UXOs at a number of sites, and conducted capacity building activities.

In 2016, the first major excavation at the Plain of Jars since the 1930s was conducted by the Australian National University and the Monash University, supported by funding from the Australian Research Council. This project is ongoing. A 2017 survey located new sites and elements that are yet to be included in the Department of Heritage inventory. At the end of Phase 1 of this project, mapping and inventory work was completed at sites 1, 12 and 52,

including ground-penetrating radar survey, digital modelling of Site 1, and sampling and analysis of human remains and jar contents. This work will continue in Phase 2 of the project.

A simple GPS survey and mapping serves as the baseline for the nomination dossier and its maps. However, for many of the sites, the exact number and location of stone remains is imprecise, and there are some discrepancies in the data sets between the inventory of the Department of Heritage and more recent surveys (such as the 2017 survey of Site 1). ICOMOS considers that it is an urgent priority to provide updated survey maps of all the components, starting in the short-term with the most prominent and heavily visited sites. In response to questions raised by ICOMOS in its Interim report on this matter, the State Party has advised that additional survey and updating of maps has been done for Site 25 and part of Site 23. Additional details have also been added to the maps for Sites 1 and 2. Further improvements to the mapping of the nominated components are continuing, and an application to the US Ambassador's Fund has been lodged to support this work from September 2019.

Despite these efforts (and more than 100 reports prepared in the past 20 years), many components have had no archaeological research. ICOMOS considers that the scientific research and knowledge of these sites has considerable future potential. Further survey and archaeological excavation of the nominated components has been hampered in the past by the need to clear UXOs. It is therefore promising to note the progress made in clearing UXOs, and the initiation of new international collaborations and archaeological research programmes, as detailed in the Archaeological Research Plan.

The Action Plan provided by the State Party acknowledges the need to prioritise the organisation of data management.

Legal protection

The nominated property is owned by the Ministry of Information, Culture and Tourism on behalf of the Government of the Lao People's Democratic Republic, and is designated as 'cultural land' within the Land Law. The nominated property is protected under the Law on National Heritage 2013, supported by the Decree of the President of the Lao People's Democratic Republic on the Preservation of Cultural, Historical and Natural Heritage 1997, and the Provincial Governor's Decree concerning the Management and Conservation of the Plain of Jars World Heritage Sites No. 996.

The buffer zones are also owned by the national government, although private use that is sympathetic to the proposed Outstanding Universal Value is permitted by Provincial Decree 996.

The State Party has drafted a Ministerial Decree, Order on the Protection of the Plain of Jars upon the inscription of the nominated property in the World Heritage List.

Management system

Implementation of the mechanisms of protection occurs at the national, provincial, district and village levels. Coordination is provided by the National Committee for World Heritage (coordination of activities and decisions at the national level, and interface with the province) and the Xiengkhuang Heritage Steering Committee (coordination of activities at the provincial, district and village levels).

The management system involves several agencies at the national and provincial levels of government. The national Department of Heritage provides technical roles such as research, conservation, Heritage Impact Assessment and monitoring. A 5-year action plan of specific projects has been developed by the Department, including an archaeological research plan.

Provincial decrees establish the funding base and the Plain of Jars Heritage Technical Division which manages site 1, and supports the day-to-day management of the other components which is provided by nearby villages. In practice, ICOMOS considers that there is considerable reliance on village communities to ensure effective management.

Development planning is guided by the Provincial Strategy for the Department of Information, Culture and Tourism 2016-2020. This provides financial resources for further survey of the jars sites, fencing, basic visitor facilities, road improvements, implementation of the national heritage law, production of interpretive materials.

The Plain of Jars Heritage Technical Division has a minimum guaranteed funding, but this can be augmented by ticket sales. The State Party has established a formula for sharing income from ticket sales between the Plain of Jars Heritage Technical Division, villages and district administrations, including a province-wide heritage fund. Some recent initiatives have been financially supported by New Zealand and Australian aid. This outside funding has allowed a number of key improvements to be made in the documentation, protection and presentation of the nominated property.

The State Party has taken steps to ensure sufficient expertise in archaeological research, and heritage conservation and management. Staff are located in the national and provincial organisations that comprise the management system, but at present, not all key staff positions have been filled, and the office of the Plain of Jars Heritage Technical Division is not yet fully established. Furthermore, ICOMOS notes that the capacity of the State Party in this regard is modest, and that training of Lao heritage practitioners is an ongoing need and challenge that could be assisted through mechanisms of international cooperation.

The State Party has not prepared a consolidated Management Plan for the overall property. The operationalisation of the management system is therefore based on the framework of legal protection (at national and provincial levels), together with the approved 5-year

Action Plan, Archaeological Research Plan, Conservation Guidelines, and the Heritage Impact Assessment Guidelines. While all proposals, designs or plans for regional development or infrastructure implementation from other arms of government must be forwarded to the World Heritage Office for Heritage Impact Assessment, it is not clear whether this is fully functioning. A range of further policies are foreshadowed in the Action Plan, including policy for conservation of the jars and a policy for dealing with broken jars.

Site guidelines orient day-to-day activities at the village level, and are supported by village contracts. These seem sufficiently detailed in relation to the specific roles and responsibilities, existing land uses, and the actions to be undertaken to maintain the components and monitor their condition. However, conservation measures, research and improvements to the presentation of the overall property are not prominent at this level of management planning.

Guidelines for Heritage Impact Assessment have been developed as part of the management system, but these are not yet included in the legal framework, and the State Party notes that they are not yet consistent with the management system that has been presented. ICOMOS considers that this is a rather hypothetical response to the need for HIA, and recommends further work to activate these as a priority. The existing Guidelines are a good basis for this, and will be useful for training purposes.

The State Party considers that the nominated property has few risks associated with natural hazards and so no risk preparedness measures have been developed. The jars are physically robust, and generally located in elevated locations. In 2018, the Province of Xiengkhuang was affected by the collapse of a dam followed by heavy storms, causing a slight postponement of the ICOMOS evaluation mission. Few areas within the nominated serial property were directly affected, although Site 1 experienced some flooding, and the access road to Sites 52 and 12 was impacted. As a result of these recent events, the State Party has recently been in contact with the Heritage and Disaster Risk Reduction Programme at Ritsumeikan University (Japan) to organise capacity building for risk preparedness.

UXO clearance has been a significant ongoing activity within the nominated property, and the State Party advises that this is now completed in the nominated components, and that the work to clear UXOs in the buffer zones is continuing as a high priority. A protocol has been developed to guide UXO clearance in archaeologically sensitive locations. In response to a question from ICOMOS, the State Party indicated in the additional information submitted in February 2019 that it aims to complete the removal of the white concrete markers that once indicated safe pathways through areas not yet cleared of UXO by the end of 2019.

Visitor management

Tourism to the nominated property is minimal and visitor pressure is low. The sites that are most visited are 1, 2, 3, and 21, although there is some organised access to sites 23 and 52 as well. In 2017, the Province had 130,000 international visitors, and the Plain of Jars is the main attraction. Visitor numbers to the nominated sites have fluctuated from year to year. The figures for 2015 are available for sites 1, 2, 3, and 21, and range from 38,000 visitors per year to Site 1, and totals that range between approximately 3000-6000 per year to the others. The patterns are therefore uneven. There are several peak periods such as Hmong New Year and Lao New Year. World Heritage inscription is anticipated to support growth in visitor numbers, but the projections are relatively modest due to the distance from Vientiane, Luang Prabang and other tourism routes. An Interpretation Plan for the Plain of Jars has been developed with support from the Tourism Development Department of the Ministry of Information, Culture and Tourism.

Site 1 is the major tourism destination within the nominated serial property, due in part to its closer proximity to Phonsavan. It has a large visitor centre staffed by the provincial Plain of Jars Heritage Technical Division, with an electric shuttle service, interpretive displays, ticket booth and tourist shops. There are plans to train local guides. Site 2 has a small information kiosk; and site 3 (which also services site 8) has a ticket booth, restaurant and information kiosk. Changes are planned for upgrading the road and relocating visitor facilities at site 3. Access and ticket sales at Sites 2 and 3 are managed by local villages. Site 21 also has ticketed entry, and Site 52 has a community-based tourism operation. Many of the remaining sites have limited or no visitor facilities, and some are remote and difficult to access, with no visitation. Some interpretation signs have been recently installed, and further signs are part of the 5-year Action Plan. The newly rebuilt Provincial Museum in Phonsavan has some exhibitions with recent archaeological findings.

There are intentions that tourists should be accompanied by local guides, but ICOMOS notes that this is not always the case (other than at Site 3), and many visitors guide themselves. ICOMOS considers that the interpretation of the nominated property needs strengthening. The availability of printed information is limited, and while many visitors are from Laos, visitors without Lao language would find it difficult to gain a good understanding of many of the sites they visit.

There is a provincial tourism strategy, a campaign for '2018 Visit Laos Tourism', and a Tourism Management Plan is currently under preparation and should be completed during 2019.

Community involvement

Local community involvement is crucial to the successful implementation of the management system, and the State Party has worked to build effective partnerships with individual villages associated with the nominated

components. Given the expanse of the area in which the nominated components are found, the management system is designed to involve 9 local villages. Village Contracts have been signed to establish 'Village Heritage Teams' to undertake routine monitoring, cleaning, guarding and maintenance of the nominated components. According to the Provincial Governor Decree 995, part of the tourism income from the Plain of Jars will be distributed to all villages associated with the nominated components.

ICOMOS has observed that there is a good awareness within these local communities of the World Heritage nomination processes and the local implications, especially in relation to future land uses. The establishment of the boundaries and buffer zones appears to have involved consultation with affected communities. ICOMOS also notes the community-based programming of the UNESCO-Lao Plain of Jars project over a long period.

Evaluation of the effectiveness of the protection and management of the nominated property

The State Party has completed an impressive amount of work to prepare the documents that support the management system, and has recently achieved the clearance of UXOs from the nominated components (with clearing of the buffer zones continuing and given a high priority). ICOMOS considers that the engagement and active custodianship of local communities is a strength of this nomination; however, the devolved approach taken to the management system will require considerable and active coordination. A number of key components of the management system are general (such as the Conservation Guidelines) and do not indicate how conservation measures will be applied. The principles and objectives for advancing major strategic initiatives (such as the improvement of the presentation of the nominated components to visitors) are not clearly indicated in the explanation of the management system, and the Heritage Impact Assessment Guidelines need to be fully implemented. A Tourism Management Plan is currently being developed and will guide new interpretation actions. For these reasons, ICOMOS considers that a Management Plan should be developed to ensure that the management system is coordinated for the nominated property, and has made suggestions for improvements to the accuracy of the documentation.

ICOMOS considers that the framework of legal protection is adequate. While there is no consolidated management plan, the management system seems able to maintain the components. In practice there is considerable reliance on village communities to ensure effective management, and long-term capacity building is therefore critical. The conservation approach is not elaborated or applied at this stage; and the present standards of interpretation and availability of information about the sites are also limited. While tourism planning and visitor pressures are not urgently required, they should be a medium-term priority, and all new visitor infrastructure (including access roads) should be subject to Heritage Impact Assessment.

6 Conclusion

Despite the limited knowledge of their cultural origins, the nominated series of 1325 megalithic jars presents an impressive achievement of an ancient civilisation of southeast Asia. This serial property of 15 components with carved stone jars, stone discs (possibly lids for the jars), secondary burials, grave markers, quarries, manufacturing sites, grave goods and other features (including human remains) are the most prominent and intriguing evidence of the civilisation that made and used them, about which little is known. ICOMOS considers that there is a potential for sites with these megalithic jars to be inscribed in the World Heritage List, and agrees that the Plain of Jars contains an unusual and impressive array of such sites.

ICOMOS accepts the conclusions of the State Party concerning the comparative significance of the Plain of Jars, especially within the context of comparisons with India, southeast Asia and other provinces of Laos. Additional information provided by the State Party in February 2019 has strengthened the justification for the inclusion of each of the 15 components. Together, the components demonstrate the range of site types (including topographic and locational contexts, stone types, density and sizes of jars and other archaeological evidence). The selected components also ensure the protection of the substantial archaeological potential of these sites. There is relatively little knowledge about the civilisation which created these sites and objects, and there is a need for accurate documentation and continuing archaeological research.

Despite these challenges, ICOMOS considers that the nominated serial property demonstrates criterion (iii) and the requirements of authenticity and integrity have been met.

The main factors affecting this property are processes of natural deterioration and future development pressures. Most of the key factors that have damaged the elements of the property in the past – such as the damages caused by war in the 20th century and cattle grazing – are no longer affecting the sites. Visitor pressure is not a serious issue at present, but development pressure could increase in the medium-term. A Tourism Management Strategy is in preparation and will augment the provisions of the Interpretation Plan for the Plain of Jars.

The framework of legal protection is adequate. Active conservation measures are lacking, interpretation needs improvement, and the documentation requires updating. However, ICOMOS considers that the management system is workable in the short-term for maintaining the components. The direct involvement of the Village Teams and associated agreements with government agencies is commendable. Nevertheless, ICOMOS considers that a management plan is needed, due to the heavy reliance on coordination and legal frameworks. Many dimensions of the management system do not seem to be fully operationalised, and the Heritage Impact Assessment is

yet to be fully functioning and is unrelated to the legal frameworks.

In practice there is considerable reliance on village communities to ensure effective management and monitoring, and long-term capacity building is therefore critical. While tourism planning and visitor pressures are not currently urgent, this should be a medium-term priority, and all new visitor infrastructure (including access roads) should be subject to Heritage Impact Assessment.

In conclusion, ICOMOS sees considerable promise for this property to be inscribed in the World Heritage List, despite the research, documentation and management challenges that remain.

7 Recommendations

Recommendations with respect to inscription

ICOMOS recommends that the Megalithic Jar Sites in Xiengkhuang – Plain of Jars, Lao People's Democratic Republic be inscribed on the World Heritage List on the basis of **criterion (iii)**.

Recommended Statement of Outstanding Universal Value

Brief synthesis

More than 2100 tubular-shaped megalithic stone jars used for funerary practices in the Iron Age give the Plain of Jars its name. This serial property of 15 components contain 1325 of these large carved stone jars, stone discs (possibly lids for the jars), secondary burials, grave markers, quarries, manufacturing sites, grave goods and other features. Located on hill slopes and spurs surrounding the central plateau, the jars are large, well-crafted, and required technological skill to produce and move from the quarry locations to the funerary sites. The jars and associated elements are the most prominent evidence of the Iron Age civilisation that made and used them, about which little is known. The sites are dated from between 500 BCE and 500 CE (and possibly up to as late as 800 CE). The jars and associated archaeological features provide evidence of these ancient cultural practices, including associated social hierarchies. The Plain of Jars is located at an historical crossroads between two major cultural systems of Iron Age southeast Asia – the Mun-Mekong system and the Red River/Gulf of Tonkin system. Because the area is one that facilitated movement through the region, enabling trade and cultural exchange, the distribution of the jars sites is thought to be associated with overland routes.

Criterion (iii): The Plain of Jars exhibits an exceptional testimony to the civilisation that made and used the jars for their funerary practices over a period from approximately 500 BCE to sometime after 500 CE. The size of the megalithic jars, and their large number and wide distribution within the Province of Xiengkhuang is remarkable, and the serial property of 15 components contains a range of sites that can attest to the quarrying,

manufacturing, transportation and use of the funerary jars over this lengthy period of southeast Asian cultural histories.

Integrity

The integrity of the serial property is based on the material evidence contained in the 15 components, the intactness of the individual components and the series as a whole, and the relatively stable state of conservation of the attributes. There are impacts on the visual integrity of some components, such as the construction of new houses and Buddhist temple outside the buffer zone for Site 1; poorly sited roads/tracks within several components; and conservation problems and intrusive constructions within Site 3. Some attributes have been damaged in the past by bombing and other effects of war, and by cattle grazing.

Authenticity

The authenticity of the serial property is based on the form, design, materials and locations of the megalithic jars and other attributes such as lids, secondary burials and archaeological deposits. For the most part, the materials are original, located in their original locations, with relatively little disturbance to the archaeological deposits. While past factors have damaged the jars and their settings, their abundance, antiquity and condition support the authenticity of the serial property.

Management and protection requirements

The serial property is protected under the Law on National Heritage 2013, supported by the Decree of the President of the Lao People's Democratic Republic on the Preservation of Cultural, Historical and Natural Heritage 1997, and the Provincial Governor's Decree concerning the Management and Conservation of the Plain of Jars World Heritage Sites No. 996. Implementation of the mechanisms of protection occurs at the national, provincial, district and village levels. Coordination is provided by the National Committee for World Heritage and the Xiengkhuang Heritage Steering Committee. A 5-year action plan of specific projects has been developed, including an archaeological research plan, as well as resources for fencing, basic visitor facilities, road improvements, implementation of the national heritage law, and production of interpretive materials. The day-to-day management of most components is provided by nearby villages based on contracts established with the Provincial Government; and a formula for sharing the income from ticket sales with local communities is in place.

The main factors affecting this property are processes of natural deterioration and future development pressures. The State Party has recently achieved the clearance of UXO from the components, commendably removing a challenging barrier to access, research and safety.

The management system requires further development, including the establishment of a management plan and a conservation plan to ensure coordination and consistent

conservation approaches, and to pursue needed longer-term strategic improvements. A number of aspects of the management system are yet to be fully implemented, such as the arrangements for Heritage Impact Assessment. Interpretation and provision of information about the sites to visitors are modest and should be enhanced in the longer term, particularly in light of continuing archaeological research and sustainable tourism initiatives for the Province.

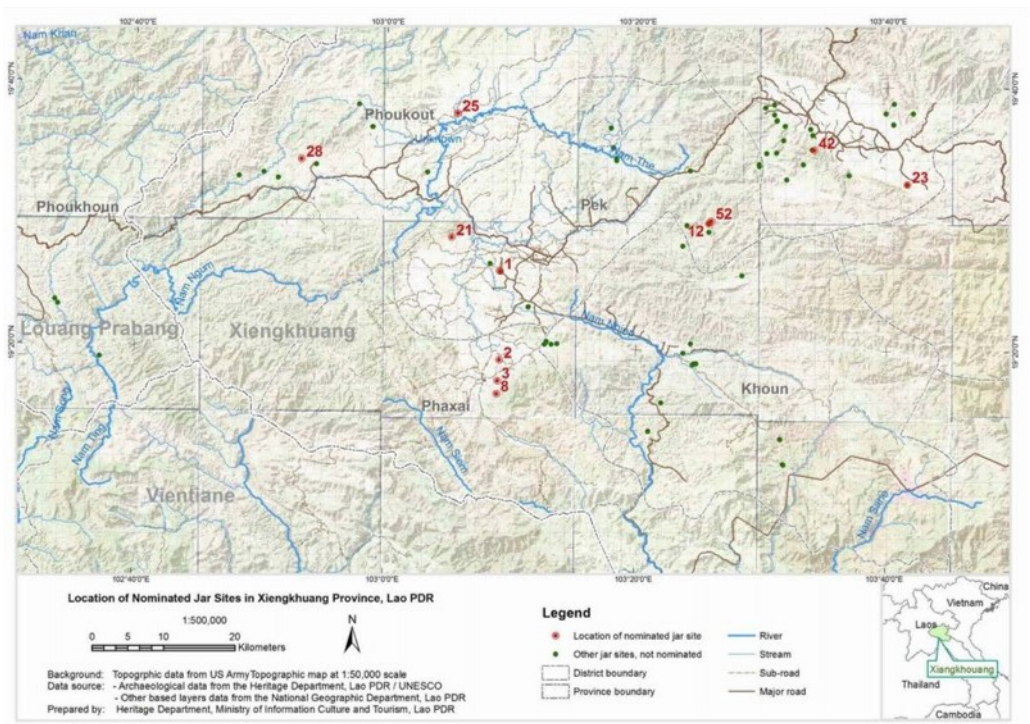
Additional recommendations

ICOMOS further recommends that the State Party give consideration to the following:

- a) Using the themes and implicit principles of the Action Plan, developing a Management Plan for the entire serial property in order to ensure the needed coordination of management activities, clearly directing active conservation measures, and providing for a strategic approach to new initiatives,
- b) Developing the envisaged 'Conservation Plan' and implementing a well-defined and active programme of conservation,
- c) Improving the management and conservation of the different component parts of 'Site 3' to strengthen their integrity,
- d) Urgently and professionally backfilling the excavation trench dug in the 1930s by Colani in Site 28,
- e) Closing the various dirt-roads within Site 52 and rehabilitating the setting to avoid continuing erosion problems,
- f) Continuing the work of clearing UXOs in the buffer zones and areas surrounding the components of the property, guided by the protocols for minimising the impacts on archaeological deposits and features; and completing the removal of the concrete boundary markers that indicate safe paths in areas cleared of UXOs once these are no longer needed,
- g) Completing the Tourism Management Plan for the Plain of Jars, ensuring its consistency with the management system, and incorporating visitor experience and visitor management into a wider framework of tourism destinations in the area,
- h) Continuing to improve the accuracy and detail of the mapping of all property components, including the location of jars, other archaeological features and attributes, particularly for the most heavily visited components. The mapping should also indicate all management structures, land tenures (for Site 1), and other topographic and management-related elements of these sites,
- i) Continuing to conserve and interpret other historic sites and elements within the serial components even though they are not attributes associated with

the Outstanding Universal Value (such as the Palaeolithic, Neolithic and modern era archaeological sites, and locally significant historic sites associated with the Second Indochina War),

- j) Developing and implementing strategies for disaster reduction, including capacity building activities,
- k) Further developing and implementing 'Heritage Impact Assessment' for development proposals and incorporate these processes into the systems for management and legal protection of the property,
- l) Ensuring that all major projects – including restoration projects – that could impact on the property are communicated to the World Heritage Centre in line with Paragraph 172 of *Operational Guidelines for the Implementation of the World Heritage Convention*,
- m) Submitting to the World Heritage Centre and to ICOMOS by 1st December 2021 a report on the implementation of the recommendations set out above.



Map showing the location of the nominated components



Jars - site 1



Group of Jars – site 52



Quarry – site 21



Single very large Jar – site 28

Bagan (Myanmar) No 1588

Official name as proposed by the State Party

Bagan

Location

Mandalay Region
Magway Region
Myanmar

Brief description

Located on a bend in the Ayeyarwady River in the central dry zone of Myanmar, Bagan is a sacred landscape which features an exceptional array of Buddhist art and architecture, demonstrates centuries of the cultural tradition of Buddhist merit-making, and provides dramatic evidence of the Bagan civilisation (Bagan Period 11th – 13th centuries). Intangible attributes of the property are reflected in Buddhist worship and merit-making activities, traditional cultural practices and farming. The serial property of eight components consists of 3,595 recorded monuments – including stupas, temples and other structures for Buddhist spiritual practice, extensive archaeological resources, and many inscriptions, murals and sculptures.

Category of property

In terms of categories of cultural property set out in Article I of the 1972 World Heritage Convention, this is a serial nomination of 8 sites.

1 Basic data

Included in the Tentative List

4 October 1996

Background

This is a revised nomination. 'Bagan (Pagan) Archaeological Area' was nominated to the World Heritage List in 1995. An ICOMOS evaluation mission visited the property in February 1996, and provided an evaluation report in March 1997. ICOMOS recommended that the nomination be referred back to the State Party requesting clarification of the precise area proposed for inscription, the buffer zone(s), and details of the management plan and the provision of infrastructure and tourism developments. Concerns were also raised about the quality of the restoration work, materials and archaeological investigations, the shortage of trained personnel, and the documentation of the works being undertaken. Several developments were also the subject of comments from ICOMOS. Pending the satisfactory provision of these, ICOMOS recommended that the property could be

inscribed on the World Heritage List on the basis of criteria (i), (ii), (iii), (iv) and (v).

Consultations and Technical Evaluation Mission

Desk reviews have been provided by ICOMOS International Scientific Committees, members and independent experts.

An ICOMOS technical evaluation mission visited the property from 15 to 24 September 2018.

Additional information received by ICOMOS

A letter was sent to the State Party on 1 October 2018 requesting further information about development projects, management system components, ungraded monuments, community involvement, private ownership, and amendment to cultural heritage legislation. Additional information was received from the state Party on 21 June and 5 November 2018.

An Interim Report was provided to the State Party in December 2018 summarising the issues identified by the ICOMOS World Heritage Panel. Further information was requested in the Interim Report including: Justification of Components 5, 6 and 7; Boundary of the buffer zone for Component 4; Legal Protection; Development Pressures; and a Landscape Approach to Management and Presentation.

Additional information was received from the State Party on 25 and 28 February 2019 and has been incorporated into the relevant sections of this evaluation report.

Date of ICOMOS approval of this report

13 March 2019

2 Description of the property

Note: The nomination dossier and additional information contain detailed descriptions of this property, its history and its state of conservation. Due to limitations on the length of evaluation reports, this report only provides a short summary of the most relevant aspects.

Description and history

Bagan is a sacred cultural landscape which features an array of Buddhist art and architecture, demonstrates centuries of the cultural tradition of Buddhist merit-making, and provides important evidence of the Bagan civilisation.

The serial property of eight components is located on a bend in the Ayeyarwady River in the central dry zone of Myanmar. Seven of the components are located on one side of the River, and one (component 8) is located on the opposite side. There is a dense cluster of monuments for approximately 15 km along the River, reaching approximately 5 km inland at its centre. Altogether, there are 3,595 surviving monuments within Bagan.

The serial property is a vast, complex and layered landscape of tangible elements of different historical periods, styles/designs and scales. These include numerous stupas and temples for Buddhist spiritual practice, monasteries, halls and corner markers/stupas; pilgrimage sites, fortifications, inscriptions, murals, cloth paintings and sculptures. There are extensive associated archaeological resources, including Palaeolithic sites, and a pre-Bagan palace and reservoir. These elements are set within a landscape shaped by the river, lakes, caves, hills and farmlands. Intangible dimensions of the nominated property are reflected in Buddhist worship and merit-making activities, traditional cultural practices and farming. Numerous objects of movable heritage associated with Bagan's history and spiritual functions are cared for by the Bagan Archaeological Museum (located within the nominated property).

The property incorporates seven villages or parts of villages, and parts of two towns. For the most part, these have been excluded from the nominated components, but occur within the buffer zone.

The historical period of greatest relevance in this nomination is the Bagan period (11th – 13th centuries) of the region's history. Prior to this period, archaeological evidence demonstrates the human history of Bagan through its Palaeolithic and Neolithic periods, and the Pyu period (first millennium CE), which is represented on the World Heritage List through the inscription of Myanmar's Pyu Ancient Cities, located further downstream on the Ayeyarwady River. The Pyu period aligns with the introduction of Buddhism to southeast Asia; but the history of Bagan during this earlier period is the subject of needed further research.

The Bagan period marks changes from the 11th century, when redistributive Buddhism became a mechanism of political control, with the king effectively acting as the chief donor. Bagan's history is known from a range of sources, including modern histories, inscriptions, the evidence of monuments and objects, and oral traditions/legends. Bagan gained control of the river transport, extending its influence over a large area. Because Bagan was a substantial city located in a relatively resource-poor region, it was dependent on a strong flow of goods through religious exchanges from its wider networks of influence. The traditions of merit making resulted in a rapid increase in temple construction, peaking in the 13th century.

The State Party has provided a detailed inventory, and sequencing of the construction of the monuments during the primary period of historical significance. During this period, a system of laws and administration was codified, and there was a steady flow of tribute and goods to Bagan due to the integral relationship between Buddhism and the State. Diversity in architecture, painting and inscriptions is evident in this period. By the mid-14th century the locus of power moved upriver, nearer to current day Mandalay, under pressure from Mongol incursions. There was an expansion of Mon in the south

and the rise of Mrauk-U on the west coast. Despite the decline in Bagan's power, building constructions, monastic activity and pilgrimages continued until the British colonial period in the 19th century and into the modern era. Independence was achieved in 1948, and the country was under military rule between 1962 and 2010. Buddhism remains very strong in Myanmar, with continuing donation of money to support the monks, and the construction and maintenance of Buddhist structures.

Many earthquakes have affected Bagan throughout its history and have been recorded since the 12th century. The most recent severe earthquakes occurred in 1975 and 2016, and many structures today show the damages caused and/or the repairs that followed these disasters (with the assistance of UNESCO and United Nations Development Program). Conservation works and repairs have also been recorded throughout Bagan's history – from the 13th century to the present day.

Boundaries

The nominated area of the eight components originally totaled 4,987.88 ha as presented in the nomination dossier, with a single buffer zone of 17,821.97 ha.

The component boundaries and buffer zone have been based on the topography, legal designations and management considerations. Care has been taken to include critical elements, such as the four boundary ('relic') stupas, but also to define component boundaries in a way which encapsulates the thousands of monuments in their landscape setting.

As a result of discussions with ICOMOS, the State Party agreed to revise the boundaries of several components: the boundary of component 6 has been extended at its northeast corner to include the foundations of a residential building used by monks; and the boundary of component 7 has been extended at its southeastern corner, effectively joining it to component 1. In addition, the buffer zone at component 4 has been extended at its southern end to include a larger visual setting for Tuyin Hill. The State Party has advised that the administrative processes to finalise these revisions should be completed by June 2019.

Based on these changes, the State Party advises that the overall area of the property is 5,005.49 ha, and the buffer zone has an area of 18,146.83 ha.

The buffer zone has been established in order to provide a sufficient area within which to control development and other factors that might have a negative impact on the proposed Outstanding Universal Value of the nominated property. The two main towns are included in the buffer zone and each surrounds and is surrounded by nominated property components.

ICOMOS considers that the proposed boundaries and buffer zone (as revised) have been carefully considered and, adequately incorporate attributes relevant to the proposed Outstanding Universal Value of the nominated

property. However, there are some instances requiring future management actions (such as re-location of illegal houses).

The Bagan Airport is located close to the township of Nyaung U within the buffer zone for the nominated property. Currently, ICOMOS does not consider that the Airport is intrusive, although two phases of future works (runway extension and re-location of the terminal and aircraft parking areas) are proposed and should be subject to a Heritage Impact Assessment and the Bagan National Coordinating Committee (BAGANCOM) approval.

The State Party has commenced a program of installing markers along the boundaries of the property components and the buffer zone. ICOMOS supports this measure along with removal of the redundant boundary markers of the former 'Heritage Protection Zone' to avoid confusion.

State of conservation

The State Party has outlined the long history of conservation and repair of the monuments of Bagan, emphasising the complexity of portraying the state of conservation simply across such a large and complex property. The major focus at present is the response to the damages that occurred as a result of the 2016 earthquake; however, the State Party considers that, in general, the property is in a reasonably intact condition due to the well-constructed and robust character of the monuments and other structures. The major monuments are in the care of Department of Archaeology and National Museum or temple trustees and are regularly maintained. However, others show signs of their age and the environmental and human factors affecting their condition. Past interventions to a number of structures have introduced cement mortar, and this is being progressively removed. Guidelines are provided in the Integrated Management Framework.

ICOMOS also notes that due to the vast number, scale and age of the physical features that comprise the nominated property (ie. the stupas, temples and monasteries), the state of conservation is varied. Considered as a totality, the Bagan landscape is largely intact, albeit with some individually intrusive elements. The condition of archaeological resources is also varied, although major sites have been conserved.

Based on the information provided by the State Party and the observations of the ICOMOS technical evaluation mission, ICOMOS considers that the state of conservation is good/acceptable, noting that many of the factors that have negatively impacted on some elements in the past are being progressively addressed by the State Party.

Factors affecting the property

Based on the information provided by the State Party and the observations of the ICOMOS technical evaluation mission, ICOMOS considers that the main factors affecting the property are past conservation interventions, tourism and development pressures, environmental pressures and natural disasters.

As outlined above, the property has been affected by the introduction of hard masonry and cement to many of the pagodas. These changes have adversely affected the physical integrity of individual buildings and the property overall, and many are being addressed progressively through current and future conservation programmes.

The property is also at risk from development pressures, particularly those related to tourism. There are some large-scale modern hotels within component 1 which are intrusive and inconsistent with the historical and visual setting of the Buddhist monuments. Hotel construction continues, both at new sites and through extensions to existing hotel facilities. There are also a number of smaller scale structures which intrude upon the setting of particular monuments. These include commercial premises and shops and infrastructure installations.

In June 2018, the State Party provided a short list of developments planned within or near to the nominated property. In response to request for further information from ICOMOS the State Party provided more detail about 15 projects, some of which are already implemented, and others that are still in the planning stages. In addition to these, there are several hotel development projects which urgently require rigorous Heritage Impact Assessment. Some projects have been subject to the 'interim Heritage Impact Assessment' process outlined in the nomination dossier, which has now been endorsed by BAGANCOM. Training of DANM staff (Department of Archaeology and National Museum) in Heritage Impact Assessment processes has commenced.

The property features brick monuments, many of which are a millennium old, the original fabric of which is at risk from ongoing environmental processes. The quantity of moisture delivered into the masonry by monsoonal downpours is therefore a factor. The property is also likely to be affected by climate change; particularly increases in the frequency or intensity of severe weather events, or greater variation in relative humidity, which may affect masonry elements. Along the Ayeyarwady River, erosion presents a significant threat, particularly in the northern areas of component 1 and the river edge of component 2. In some places, the river bank has moved inland by significant distances, threatening the stability of monuments. The State Party has carried out significant stabilisation works, but in some places the situation remains precarious.

The major threats from natural disaster arise from earthquakes, as has already occurred with very significant impacts in 1975 and 2016.

The property currently receives substantial visitation, and is a 'must see' for inbound international visitors to Myanmar. However, at present visitor pressure is not a major threat, due to the large scale of the property and capacity of major temples. Visitor numbers are likely to increase once the property is inscribed on the World Heritage List, so in the medium-term, it will be important to recognise that some of the popular buildings and

locations within the property have limits on their physical capacity. If effective visitor management is not put into practice, there is a future potential for damage to the values, authenticity and integrity of the property – including disruption to traditional religious activities. Careful monitoring and adaptive management is required.

3 Proposed justification for inscription

Proposed justification

The nominated property is considered by the State Party to be of Outstanding Universal Value as a cultural property for the following reasons:

- Bagan provides an exceptional testimony to the peak of the Bagan civilisation when it was the heart of the largest Buddhist empire of the medieval world, with economic and political functions supported by religious and royal exchanges;
- Bagan is an outstanding example of a rich ensemble of Buddhist architecture;
- Bagan demonstrates in an exceptional way the 'Bagan Period' between the 11th to the 13th centuries, and its primary focus of religious activity;
- Bagan is an exceptional and early testimony of the Buddhist practice of merit-making on an impressive scale, both as a powerful historical force and continuing practice.

Comparative analysis

The Comparative Analysis is presented in three major parts that accord with the primary arguments presented in the State Party's justification for inscription. In each part, the analysis includes comparisons with relevant World Heritage and Tentative List properties and other areas within Myanmar and in other countries.

The Bagan Kingdom is briefly discussed within the context of neighbouring kingdoms during this historical period, many of which are represented on the World Heritage List in India, Viet Nam, Laos, Cambodia and Sri Lanka. The differences between these roughly contemporaneous kingdoms are briefly outlined. More detail is provided in the comparative analysis of the ensemble of Buddhist architecture. Various specific elements are discussed including the widespread use of the 'voussoired vault' above the rooms and corridors of all temples and monasteries, affecting the arrangements of the internal spaces. The analysis also considers the survival of a large corpus of mural paintings at Bagan, due in part to the dry climate.

The State Party has presented a detailed comparative analysis with other Asian Buddhist properties on the World Heritage List and/or Tentative Lists (in Sri Lanka, India, Nepal, China, Afghanistan, Pakistan, Cambodia, Republic of Korea, Thailand and Japan), clearly demonstrating the great diversity of expressions of Buddhism in the region. This diversity relates to the different historical periods represented, the attributes that express these values and particular traditions of

Buddhism. In relation to the arguments about the significance of Bagan as an exceptional testimony to the Theravada Buddhist practice of merit making (Kammatic Buddhism), the comparative analysis also provides a very detailed comparison with other areas within Myanmar. Bagan's practice of merit making served as a model for subsequent Theravada kingdoms in the region, and is a continuing tradition, with a reinvigoration of pilgrimage.

ICOMOS considers that the comparative analysis justifies consideration of this property for the World Heritage List.

Criteria under which inscription is proposed

The property is nominated on the basis of cultural criteria (iii), (iv) and (vi).

Criterion (iii): *bear a unique or at least exceptional testimony to a cultural tradition or to a civilisation which is living or which has disappeared;*

This criterion is justified by the State Party on the grounds that Bagan is an exceptional and continuing testimony to the Buddhist cultural tradition of merit making, and to the peak of Bagan civilisation in the 11th-13th centuries when it was the capital of a regional empire.

ICOMOS considers that Bagan is an exceptional example of this important regional historical period and its cultural traditions.

ICOMOS considers that criterion (iii) is justified.

Criterion (iv): *be an outstanding example of a type of building, architectural or technological ensemble or landscape which illustrates (a) significant stage(s) in human history;*

This criterion is justified by the State Party on the grounds that Bagan contains an extraordinary ensemble of Buddhist monumental architecture, reflecting the strength of religious devotion of an early major Buddhist empire.

ICOMOS considers that within the context of the very rich expressions and traditions of Buddhist architecture and art found throughout Asia, Bagan is distinctive and outstanding.

ICOMOS considers that criterion (iv) is justified.

Criterion (vi): *be directly or tangibly associated with events or living traditions, with ideas, or with beliefs, with artistic and literary works of outstanding universal significance;*

This criterion is justified by the State Party on the grounds that Bagan is an exceptional example of the living Buddhist beliefs and traditions of merit making, expressed through the remarkable number of surviving stupas, temples and monasteries, supported by continuing religious traditions and activities.

ICOMOS considers that while the evidence of practices of merit-making are common in many Buddhist sites and areas, the influences established in the Bagan period, and the scale and diversity of expressions, and continuing traditions make Bagan exceptional.

ICOMOS considers that criterion (vi) is justified.

ICOMOS considers that the serial approach is justified and that the nominated property meets criteria (iii), (iv) and (vi).

Integrity and authenticity

Integrity

The integrity of the nominated serial property is based on the rationale for the selection of the components and their ability to convey the potential Outstanding Universal Value; the material evidence of the landscape, archaeological sites, monuments, inscriptions, sculptures, murals, cloth paintings and the overall setting; and the continuing intangible heritage and cultural practices. The intactness of the individual components and the series as a whole (including consideration of the adequacy of their boundaries), the state of conservation and the way major pressures are managed are also determinants of integrity.

The State Party has presented this nomination as a series of 8 components, and argues that the integrity of the property rests on their ability to represent the significance of Bagan. ICOMOS considers that the extent to which this rationale is readable within the property, and whether all components are necessary to portray the proposed Outstanding Universal Value varies.

Bagan is a complex, layered cultural landscape which also incorporates living communities and contemporary urban areas. ICOMOS considered that the rationale for the selection of components 1, 2, 3, 4 and 8 was justified in relation to the proposed Outstanding Universal Value, and engaged in further dialogue with the State Party concerning the inclusion and boundaries of components 5, 6 and 7.

Component 5 raised questions because it does not contain attributes related to the justification of Outstanding Universal Value provided by the State Party. This component comprises a remnant reservoir, part of the ancient hydraulic system of Bagan, with little physical evidence other than some obscured stone walling. A stele with a significant inscription has been removed from this site and is now in the Bagan Archaeological Museum. In discussion with the State Party, the importance of the water management system in the historical functioning of urban system of Bagan has been given greater prominence. ICOMOS notes that historical water management system elements are present within several components, and can be considered as attributes of the Outstanding Universal Value of Bagan. Further research

and documentation of the historical water management system is recommended.

ICOMOS notes that components 6 and 7 are located within mixed urban contexts. While component 6 traverses a main road, includes a high proportion of monuments with substantial reconstruction and has an awkward physical and visual relationship with the modern town of New Bagan, the State Party has provided additional information to strengthen the rationale for its inclusion. There is one stele with a historically significant inscription and an important cluster of stupas, temples, monuments and unexcavated archaeological sites. In exchanges with ICOMOS, the State Party agreed to extend the boundary of this component to the northeast to include the foundations of a residential building used by monks. Component 7 also contains an area of largely reconstructed brick stupas near the southern edge of New Bagan. To improve the integrity of this component, the State Party has agreed to a suggestion by ICOMOS to extend its boundary at its southeastern corner, effectively joining it with component 1.

In general, ICOMOS considers that the components of the nominated property retain a high degree of visual integrity, including the broader physical settings. Many monuments are ancient and some, understandably suffer from deterioration arising from natural processes, notwithstanding the continuing practice of repair and maintenance as part of traditional Buddhist merit-making activities.

The nominated property occurs in an earthquake prone area and there is substantial evidence of earthquake damage. Repairs made in the 1970s, together with work undertaken by the national government in the 1990s introduced new design elements and hard masonry components that have affected the visual character, design and physical integrity of the nominated property. Some of this work has been able to be rectified by the conservation programme initiated after the 2016 earthquake. Notwithstanding the impressive efforts made to address the impact of the 2016 earthquake, many built structures remain damaged and vulnerable.

The property suffers from some adverse effects of inappropriate developments. In particular, there are some large-scale modern hotels within component 1 which are intrusive and inconsistent with the historical and visual setting of the Buddhist monuments. Other intrusive developments can be identified throughout the nominated property including hotels (some unlawfully constructed), public infrastructure and a few residential buildings. The State Party has indicated a willingness to address such intrusions through a staged process involving assessment of the heritage impact and site-specific circumstances of particular developments. A long-term program for removal and relocation of inappropriate structures is proposed. ICOMOS supports these initiatives noting the sensitivities involved and the need to take account of the interests and well-being of the affected workers and residents.

While there has been significant intensification of development in urban areas and a growing focus on new hotel, retail, commercial and other facilities arising from increased tourism, these uses are predominantly located in discrete areas. In both Nyaung U and New Bagan, there are modern buildings and urban forms, but the scale and location of these precincts and the buildings within them do not currently impact significantly upon the nominated property components. These also reflect the aspirations and needs of the contemporary community.

Much of the nominated property and its buffer zone are used for agricultural purposes. Farmed fields and the way in which agricultural activities are managed help maintain the visual and functional setting for the pagodas, monasteries and other significant built elements. Buddhist practices remain prevalent and appear to co-exist with the current levels of tourist activity, although this aspect will require ongoing monitoring and strict implementation of development controls.

Despite many continuing challenges, ICOMOS considers that the property is of such scale and complexity that many built elements retain a high degree of integrity and, by their very nature reflect hundreds of years of merit-making through physical improvement, including repair and maintenance. Many murals remain in the temples and the attributes of the nominated property also include thousands of movable sculptures and other artworks which are conserved in the Bagan Archaeological Museum.

ICOMOS considers that the integrity of the nominated series is adequately demonstrated. The integrity of the individual components is generally satisfactory, although many are vulnerable. There are issues requiring careful management and continued work on current conservation programmes.

Authenticity

The authenticity of the property is based on the landscape of Buddhist monuments of diverse sizes, scales, materials, designs and antiquity; the architectural and archaeological studies of Bagan; and the rich and continuing religious and cultural traditions.

The major built elements within the property, particularly the very large temples and stupas, retain a high degree of authenticity in their form and design, both internally and externally. The decorative elements of many of the individual monuments survive in their original form.

The materials of the major structures demonstrate varying degrees of authenticity, due in part to the extensive introduction of hard mortars and bricks as part of the reconstruction activities in the late 20th century.

The period between 1975 and 2008 saw extensive levels of intervention, which has altered the form of some pagodas, and introduced inauthentic hypothetical reconstruction of elements such as finials. Although repair

and changes to the pagodas is a traditional merit-making activity, the manner in which such interventions have varied from historical evidence has impacted the authenticity of the individual monuments and the ensemble as a whole. Following the 2016 earthquake, actions are being taken to remove such interventions, especially where the newly-introduced hard masonry has itself cracked or fallen, causing additional damage.

Many built elements (including the monasteries and ancillary structures at major stupas and temples) remain in ongoing use and have been subject to changes in response to the operational needs of religious communities. Other changes include the introduction of modern lighting of statues, and installations of close circuit monitors and fire detection systems to assist with security or protect the fabric.

Some traditional uses and functions have continued over centuries, including agricultural production, domestic life, religious practices, and merit-making. The monasteries, temples and major stupas are cared for by communities of monks and nuns, whose numbers remain strong, supported by local community members serving as temple trustees. The predominant form of intangible heritage at the property is the continuing Buddhist traditions reflected in the *sangha* and their religious activities, everyday worship by the majority of local people, and an ongoing commitment to merit-making through donations and good works.

Overall, the components of the property enjoy intact physical and visual settings, despite localised impacts from new developments or other interventions. However, there are some localities, such as parts of the riverside, interfaces with urban areas and some hotel precincts where the setting of the property is marred by relatively new built forms or inappropriate structures. Decision making processes for all new developments are therefore critical to the future integrity and authenticity of Bagan.

ICOMOS notes that while documentation is an immense ongoing activity, Bagan has been extensively researched and the overall authenticity of the landscape of monuments is demonstrated when the full range of tangible and intangible attributes is considered, despite many changes over time. Many individual monuments exhibit high levels of authenticity in relation to their form, design, construction, spirit and feeling. Other individual elements have been subject to changes that have impacted adversely on their authenticity.

ICOMOS considers that the requirements of authenticity have been met, although the authenticity of some elements have been adversely affected by past interventions, deterioration and damage to some structures. ICOMOS considers that the integrity is vulnerable due to the multiple factors affecting the nominated property; and considers that the changes to the boundaries of components 6 and 7, and the buffer zone of component 4 should help to strengthen the integrity of the serial property. Rigorous decision making

processes for all new developments are critical to sustaining the future integrity and authenticity of Bagan.

Evaluation of the proposed justification for inscription

ICOMOS considers that the comparative analysis justifies the consideration of this nominated serial property to the World Heritage List. The property has demonstrated criteria (iii), (iv), (vi) and it meets the requirements of authenticity and integrity. The authenticity of some elements has been adversely affected by previous interventions; and the integrity is vulnerable due to the multiple factors affecting the nominated property.

Attributes

The attributes of the Outstanding Universal Value of Bagan include: the overall setting of Bagan (hills, plain, river and corner stupas), the landscape of more than 3000 monuments, the monuments themselves, inscriptions, murals, cloth paintings, sculptures, the Old Bagan wall, archaeological sites of the palace and other features, water management features, and artefacts and objects held by the Bagan Museum. The continuing religious and cultural practices are also attributes of the potential Outstanding Universal Value of the nominated property.

In conclusion, ICOMOS considers that the nominated serial property demonstrates Outstanding Universal Value according to criteria (iii), (iv) and (vi). The authenticity of the nominated serial property is variable but acceptable given its vast scale; and that the integrity is vulnerable due to the multiple factors affecting the nominated property. Changes to the boundaries of components 6 and 7, and the buffer zone for component 4 have provided a stronger rationale for the delineation of the components and strengthened the integrity of the property.

4 Conservation measures and monitoring

Conservation measures

Major earthquake damage occurred in 1975, followed by an extensive phase of repair, with consequent changes to earlier fabric and introduction of new structural elements. During the 1990s, the national government undertook a widespread programme of rebuilding and reconstruction, often using hard masonry and incorporating design elements for which there was no historical evidence. While this activity also occurs within the context of 'merit-making', it has affected both the design integrity and physical integrity and altered the visual character of the landscape.

While there is a high degree of technical expertise available and deployment of national and international resources, the extent of the challenge is considerable and the remedial conservation processes will be ongoing for the foreseeable future.

In 2016, there was another major earthquake, which resulted in major damage to more than 400 pagodas (including damage to internal murals). In many cases, fracturing has occurred where hard mortar had been introduced in the 1990s. Since this most recent earthquake, a major conservation programme has commenced with assistance from UNESCO and the international community, rapid assessment and response using a structured triage and, in many cases, repair and stabilisation of earlier forms.

The majority of built structures within the components of the property are subject to repair and maintenance activity which has increased following the 2016 earthquake. However, the cracking which has occurred to the hard masonry additions from the 1990s has, in many cases, exacerbated water ingress. This is particularly problematic because of heavy monsoonal rains and the effect of internal moisture on softer masonry and fragile sculptures and murals inside the temples.

Bagan poses obvious challenges for prioritising conservation works and deciding on the degree of intervention. The overarching approach is provided in the Integrated Management Framework and Conservation Guidelines. These have been prepared with the benefit of national and international advice, and represent a well-resolved approach to the conservation challenges at Bagan. The guidelines distinguish between active and inactive monuments and between original and rebuilt fabric. There is also recognition of the implications of structural damage and principles that apply to the introduction of new materials or structural elements, in contrast to stabilisation, replacement or repair using original or traditional fabric and techniques.

There is an acknowledgement that removal of past cement mortar repairs is needed. This work is a long-term initiative and the practical reality is that in many cases, previous hard masonry or cement mortar repairs cannot be effectively removed without causing additional damage to significant fabric. However, in many cases the 2016 earthquake has fractured or damaged late 20th century hard masonry interventions and, in accordance with the Conservation Guidelines, major monuments are being stabilised in their pre-intervention state. Completion of post-earthquake urgent repairs will continue for several years.

Monitoring

Monitoring arrangements are described in the nomination dossier and in the Integrated Management System (IMS). The primary focus is on the condition of the main monuments (which have been graded according to their significance from outstanding, exceptional, important and ungraded). Monitoring of the monuments, archaeological sites and important objects and artworks are the responsibility of teams from the Department of Archaeology and National Museum (Bagan Branch). Other aspects of the monitoring system are implemented by the District Administration Office, and local government at the township or village level. Monitoring of the landscape is the

responsibility of the NyaungU/Pakokku District Level Working Committees. Monitoring is therefore described by the State Party as a collaborative effort. A table of key monitoring indicators has been developed by the State Party. These focus on the condition of the tangible attributes, and the disturbances arising from specific factors affecting the property. Monitoring outcomes are reported to ensure that needed activities can be included in the Action Plans; and the overall monitoring of implementation of the management system is monitored by BAGANCOM.

ICOMOS considers that the monitoring system is able to facilitate urgent responses and central collation of data. It appears that the elements within the components which are actively used for Buddhist ritual are subject to regular inspection and monitoring, but that monitoring of other elements is more sporadic and reactive. Additional resources are needed to achieve a proactive and systematic monitoring system, with relevant indicators.

ICOMOS considers that while many challenges remain, including the sufficient resourcing of the monitoring system, the conservation measures and monitoring systems are satisfactory.

5 Protection and management

Documentation

A number of inventories are cited in the nomination dossier, and the legal protection rests on several of these. Through its 'One Map' initiative, the State Party is bringing the different legal maps of Bagan into a single system. This work has been supported by Italian funds and DANM is expected to complete the data collection for the ownership and land use phase by the end of 2019. The overall project is expected to be completed in 2022. ICOMOS supports this important initiative as it will help to establish a coherent and integrated approach to decision making, and provide a benchmark for monitoring.

Data management is identified as a major tool for managing the nominated property. ICOMOS agrees that this is a pressing priority given the vast amount of data that has been collected by different agencies and in different time periods. There has been a substantial effort to collate and cross-reference this information, but many of the datasets – for example folders related to individual monuments – have yet to be integrated into the cross-referenced datasets. Information on the physical condition and significance of individual elements is not linked to the property GIS. The scale of the work to be done and the limited resources mean that this is a significant and longer-term objective. Better documentation of the geography and setting of the nominated property, including the workings of the water management system are other suggested longer-term improvements.

Legal protection

Legal protection is provided by the Law for Protection and Preservation of Cultural Heritage Regions No. (20/2019), (formerly the Law on the Protection and Preservation of Cultural Heritage Regions 1998, amended 2009, with updated regulations 2011), Protection and Preservation of Ancient Monuments Law 2015 (with updated bylaw 2016), and Protection and Preservation of Antique Objects Law 2015 (with updated bylaw 2016). These laws are administered by DANM.

The Law for Protection and Preservation of Cultural Heritage Regions establishes Cultural Heritage Regions (such as Bagan) that can then be divided into protection zones. In 2018, a new zoning order was established by DANM, with the result that the nominated property is designated as equivalent to the 'Ancient Monumental Zone', the highest level of available protection. The proposed buffer zone is equivalent to the 'Preserved Zone' which is the lowest level of protection within this legal framework. A more detailed zoning plan is provided in the Integrated Management Framework. This provides for 'settlement areas with a town character', 'settlement areas with a village character', and the remaining landscape. Development Guidelines and Building Bylaws apply to each of these zones.

Amendment to the Protection and Preservation of Cultural Heritage Regions Law 1998 had been foreshadowed by the State Party in order to provide a number of critical elements of the legal protection of Bagan including recognition of intangible attributes and traditional cultural practices, authority for BAGANCOM, the ability to require Heritage Impact Assessments, the ability to collect and apply funds for conservation, and specific connection to the obligations of the World Heritage Convention. The State Party advised that the Amendment was finalised and in place on 28 February 2019.

ICOMOS considers this amendment to be critical to achieving the adequate and sustainable protection and management of the nominated property. In light of the recent practice of approval of different development projects within both the buffer zone and the property by a range of different government agencies, it is essential that there is a single cohesive management and decision-making process within the framework of the (amended) Protection and Preservation of Cultural Heritage Regions Law and the Integrated Management Framework. This will assist in preventing the recurrence of approvals of projects which affect the potential Outstanding Universal Value of the property without reference to the appropriate Union Government agency (as has occurred in the past). Crucial to this process is clarity about the ultimate authority in case there are matters about which the regional governments and BAGANCOM disagree.

The monuments within the nominated property have been graded according to their relative significance, and this has implications for the management approach, because many are 'ungraded'. Grading of monuments is a time consuming work-in-progress and it is recognised that

completion of the relative grading underpins long-term decision-making. In response to the 2016 earthquake, a systematic triage process has been applied, which has regard to public safety, structural integrity, potential for further damage, aesthetic, architectural and historic values and contemporary importance for religious practice. Post-earthquake conservation works are guided by 'Post-disaster Rehabilitation Procedures and Guidelines' and appear to function well.

Protection and management arrangements for the landscape are established by a combination of ownership, regulation and procedures. The Bagan Heritage Urban and Regional Plan, as well as the over-arching authority of BAGANCOM are the principal mechanisms for regulating development.

The State Party acknowledges that its enforcement of development controls in the past has not been fully effective, particularly for hotels. Approximately 85 hotels and guesthouses have been approved by DANM, and around 50 have been approved by the Regional Government. For the future management, ICOMOS considers the role of BAGANCOM in these decision-making processes to be very important.

ICOMOS considers that enforcement of development controls is an issue, especially in relation to hotels; and acknowledges that the removal of hotels could have impacts on the livelihoods of local employees (as advised in a submission received from the International Union of Food, Agriculture, Hotel, Restaurant, Catering, Tobacco and Allied Workers' Associations (Asia/Pacific)). Many of the longer-established hotels are of a modest height and set in landscaped grounds; however, some newer hotels and other tourism facilities (such as restaurants) are intrusive and inconsistent with the visual character of the nominated property.

While the nomination dossier asserts that hotels within the nominated property will be phased out by 2028, there does not appear to be any mechanism in place to achieve this, and this does not necessarily seem warranted in all cases given that some of the existing hotels do not seem to have a high-degree of adverse heritage impact. Some of the new and under-construction hotels within the buffer zone are similarly benign, particularly in light of the growing tourism market. However, there are some new projects, including projects under construction, which do not have the required government consent and appear to have adverse heritage impacts. ICOMOS considers that addressing the issues concerning hotels requires a long-term strategy based on heritage impact assessment, having regard to the general principle of avoiding new development within the property components, the legality of the existing facilities, reasonableness for the owners and employees, and long-term consequences for the property.

There are some relatively new structures within the nominated property along the river which are visually intrusive. The Bagan Viewing Tower is prominent in close

views, but its scale, form and colour mean that it is not visually intrusive within the wider landscape. The State Party is also aware of the need to implement mechanisms for controlling commercial signage.

Heritage zoning plans have been established and integrated into regional plans to ensure coordination. A further protective zone of 100 km x 100 km around the property has been established to control development.

All developments within the protected zones are currently subject to site-specific archaeological assessment and input from DANM. However, the statutory and institutional arrangements rely on a proposed Archaeological Risk Map which is in preparation. This commenced in 2017 and two pilot projects have been undertaken. Additional information received from the State Party indicates that the process will be completed for the nominated property area in 2019, the buffer zone in 2022, and the wider setting of Bagan in 2025. The State Party also plans to conduct a magnetometer survey as part of this work.

The Integrated Management Framework refers to an interim system for Heritage Impact Assessment (HIA). In its Additional Information, the State Party explained that HIA has been implemented since 2015. However, the necessary legal basis for HIA relies on the recently finalised amendment to the national legislation. In addition, capacity building to properly apply the HIA process has just commenced. ICOMOS therefore considers that this is not yet fully operational in relation to the need to rigorously assess the impacts on the Outstanding Universal Value of World Heritage properties. The framework for undertaking HIAs is consistent with current best practice and resources are being deployed to train DANM staff to undertake them. Any development requiring consent will require a Heritage Impact Assessment.

Management system

BAGANCOM has been established by the national government as the decision-making body for Bagan, ensuring inter-agency coordination. According to Additional Information received from the State Party, it had its first meeting in August 2018, and approved the Integrated Management System.

There are also regional management committees for the Mandalay and Magway regions that are responsible for coordinating local organisations. The Ministry for Religious Affairs and Culture and the Department of Archaeology and National Museum have responsibility for monitoring and for drafting new regulations. Some monuments are under the custodianship of the sangha (monastic community) through lay Pagoda Trustee Committees.

While there are some privately owned lands within the property, the majority is public land, areas of which are made available to local farmers. These arrangements are long-standing. The Integrated Management Framework policies are binding on these farmers and they tightly

control land use, extent of agriculture, depth of excavation, manual rather than mechanical processes, and crop type (eg. sugarcane is prohibited). The proposed amendments to the national legislation will strengthen the statutory basis of these controls, although there do not appear to be any pressures to vary existing arrangements.

The 'Bagan Agriculture Sector Strategy' is to be collaboratively prepared between DANM and the Department of Agriculture. It appears that this is yet to be commenced, but the State Party has advised that it should be completed ready for consideration by BAGANCOM in 2019. The liaison between DANM and the Department of Agriculture appears to be effective.

Farming is allowed within five feet of monuments, but no closer, and no mechanical equipment is allowed. Only seasonal crops are permitted (peanuts, beans, sesame, etc). ICOMOS considers that this approach is currently working well. For the smaller pagodas, this form of agriculture provides a traditional, simple and appropriate visual setting. At the larger temples, agricultural activities only take place a considerable distance away, as the forecourts are occupied by stalls, parking areas and other activities associated with temple visitation.

There has been a substantial increase in the staff levels of DANM. The State Party has advised that available resources within DANM and the property will be further enhanced, as a result of ongoing allocation of a proportion of entry receipts to management and conservation. The site managers do intend to seek and facilitate further international support; there is already a conservation laboratory which is funded by the Archaeological Survey of India. A new memorandum was signed with the Chinese Government; and discussions are at an advanced stage with the Getty Conservation Institute. The International Coordination Committee, which will report to BAGANCOM has been established to coordinate, manage and guide international support, which will extend across buildings, murals and movable heritage items.

The management system and framework of policies is provided in the Integrated Management System, which was initiated in 2013 and developed through a consultative process. An Integrated Plan of Actions (IPA) supports the implementation of the management system. Other documents that make up the management system are the Conceptual Regional Plan, Sustainable Tourism Strategy, and the Disaster Risk Management Strategy. All of these have been formally adopted at the national level.

Many additional guidelines, strategies, manuals and interim documents have also been developed and incorporated into the management system: Manual for the Conservation of Monuments and Historic Buildings; Guidance Note in Approaches for Conservation of Mural Paintings and Architectural Decorative Works; Guidelines for Post-Earthquake Temporary Structural Stabilisation of Monuments; and the Interim Procedures for HIA. The State Party has stated that the key documents that

comprise the IMS have been adopted at the national level, and function as statutory legal instruments.

In the Additional Information provided by the State Party, the commitment to apply a landscape approach to the management and presentation of the nominated property was confirmed. According to the State Party, the goal of the management of the property is to ensure that Bagan's heritage is safeguarded while enabling the local communities to improve their well-being. The long term management expectations include: strengthened community understanding and support; enhanced conservation of monuments especially in response to earthquake damage; removal or mitigation of adverse developments; harmonious tourism development; and increased monitoring and conservation capacity.

In addition, a Conceptual Regional Plan is in place to guide the overall development within the larger protective zone around Bagan (approximately 30 km beyond the buffer zone).

The State Party and the international community, including the World Bank, have been active since 2018 in development of the Bagan Disaster Risk Management Plan which includes both policies and actions aimed at risk reduction and risk preparedness across a full range of hazards. The Plan is expected to be completed by the end of 2020.

The 2016 earthquake has served to harness and focus considerable expertise and resources, including a small Advisory Team and a more extensive Technical Experts Team. These teams have supervised a coordinated triage process in which property-specific guidelines have been prepared for conservation works: 'Bagan Archaeological Area and Monuments Post-disaster Rehabilitation Procedures and Guidelines 2016'. At a practical level, the triage and prioritisation process has careful and logical regard to critical factors such as public safety, prevention of further damage, relative significance and a values-based decision-making. ICOMOS notes that there is a focus on 'original' fabric, but not always a consistent approach to what is considered 'original'. As noted above, in the aftermath of the 2016 earthquake, the opportunity is being taken to remove and/or revise inappropriate interventions from the 1990s.

According to Additional Information received from the State Party, Seismic Hazard Map and Seismic Risk Assessment Map is being prepared for the Bagan-Nyaung U Area with the involvement of various professional organisations for engineering, earthquakes and geoscience. This project commenced in mid-2018 and should be completed in the first half of 2019.

Visitor management

A range of visitor services have been established at Bagan, including the visitor centre and some tourism infrastructure. It is important that the carrying capacity of the more heavily visited pagodas and other parts of the

property be assessed so that proactive visitation management can occur.

The 'sunset view' of Bagan is an attractive opportunity for some visitors, and the State Party acknowledges that there are some issues arising from inappropriate visitor behaviour (such as climbing on the temples). The Bagan Sunset Tower receives a relatively modest proportion of overall visitors. Sunsets are also observed from four different constructed 'mounds'. ICOMOS considers that the location of at least one of these is inappropriate (and was not subject to the required consent processes). There are opportunities to improve the sunset experience of visitors, while simultaneously improving site management/operations – for example, by making information about sunset vantage points more readily available to visitors.

The current levels of interpretation offer considerable scope for improvement. Basic information is provided at most major temples, but interpretation for visitors relies on tour guides. There are approximately 400 tour guides, with more being trained. ICOMOS recommends the preparation and implementation of an Interpretation Strategy to extend and complement existing initiatives.

A Sustainable Tourism Strategy is being jointly implemented by the Hotel and Tourism Department and DANM. While the Strategy has been adopted, and some initiatives are being implemented concerning transportation and accessibility, it has yet to be fully incorporated into annual action plans, and budget allocations, and there are some variances with the overall management system. For example, the Strategy suggests that Nyaung U Airport 'shall not be extended', yet there is a current program to widen the runway and re-locate the terminal and aircraft parking areas. ICOMOS considers that this is an example of the challenges associated with cohesive, integrated management.

Community involvement

This nomination traverses a large area, involving a number of townships, communities and ongoing cultural and religious practices. ICOMOS has observed that there is a high degree of community support for the World Heritage inscription of Bagan, although an ongoing and highly interactive consultation about the long-term implications for a wide range of affected stakeholders is needed.

The components of the property have multiple owners, with different levels of knowledge and resources. The suite of guidance and regulatory documents (both existing and proposed) is appropriate, but more resources need to be directed towards better information about requirements, and greater practical support for private owners. Additional Information received from the State Party indicates intentions to develop a strategy for appropriate community livelihood and sustainable development, marketing of Bagan-made products, and promotion of livelihoods based on traditional skills. The State Party has also undertaken to ensure that local

communities are not displaced due to economic, political or technical reasons.

ICOMOS has also observed that religious communities, senior monks and monasteries are informed about the nomination and support it, particularly because of the emphasis is placed on the continuation of traditional cultural practice and specific activities such as merit-making. There is also an expectation that inscription will result in improved economic circumstances for local communities. Continuing religious activities are strongly supported through the property management systems and genuinely permeate all aspects of day-to-day management. Pilgrims are actively encouraged as are Buddhist practices generally. At this stage, no conflicts were observed between the needs of pilgrims and other visitors, but this could become an issue as tourism numbers increase.

Evaluation of the effectiveness of the protection and management of nominated property

The State Party has completed an immense amount of work to prepare the Integrated Management System and the various associated documents. Considerable progress towards long-term and sustainable management of the property has been made. For example, ICOMOS notes that risk reduction, preparedness and responses have been significantly improved as part of the response to the 2016 earthquake. However, it is also evident that most of the elements in the management system have not yet had time to be implemented and prove their effectiveness. The management system seems well-conceived, and the State Party is provided the needed resources.

ICOMOS commends the State Party for finalising the Amendment to the Law for the Protection and Preservation of Cultural Heritage Regions, as it is considered crucial for ensuring sufficient legal protection of the nominated property. ICOMOS considers that while there has been insufficient time for the effectiveness of the management system to be established, the approach seems sound, and there are guidelines that have been developed to support the most pressing activities.

6 Conclusion

Bagan is an extraordinary sacred cultural landscape which features an exceptional array of Buddhist art and architecture, demonstrates centuries of the cultural tradition of Buddhist merit-making, and provides dramatic evidence of the Bagan civilisation. There are more than 3000 Buddhist temples, stupas and other structures. Intangible attributes of the nominated property are reflected in Buddhist worship and merit-making activities, traditional cultural practices and farming.

Physical attributes of the nominated property are in varying condition. The landscape is largely intact, despite some individually intrusive elements. Extensive

archaeological resources remain. There is huge diversity in the physical condition of the stupas, temples, monasteries and other buildings. Many were extensively damaged by earthquakes in 1975 and 2016. Interventions between the 1990s and 2008 used inappropriate materials and included hypothetical reconstruction, impacting on their authenticity. Nevertheless, the nominated property retains its authenticity, through the presence of extensive original historic fabric, archaeological resources, murals and sculptures, combined with ongoing traditions of Buddhist worship and merit-making.

The State Party has proposed the World Heritage inscription of Bagan as a serial property of eight components with a single buffer zone. ICOMOS considers that the nominated property has the potential to be inscribed in the World Heritage List on the basis of criteria (iii), (iv) and (vi) because it is an extraordinary ensemble of Buddhist monumental architecture and art; its ability to demonstrate the importance of the Bagan Period (11th-13th centuries), in an exceptional way; and because it is an exceptional example of the living Buddhist beliefs and traditions of merit making.

While many changes have occurred that have impacted on the authenticity of a number of individual monuments. ICOMOS considers that the nominated property of eight components meets the requirements of authenticity and integrity. Agreed changes to the boundaries of components 6 and 7, and to the buffer zone for component 4 are considered desirable in order to ensure the protection of the setting and the strengthening of the integrity of the serial property.

The property receives protection through statutory controls, provisions of an Integrated Management Framework, specific strategy documents and the efforts of BAGANCOM and government agencies. The property is also protected through practices and commitment of the religious communities and local people. The statutory protection measures for the property depend significantly on the full implementation of the recently finalised amendments to the Protection and Preservation of Cultural Heritage Regions Law.

Factors affecting the property are many and somewhat interrelated, posing many long-term challenges for the State Party, stakeholders and partners. These include urbanisation, future tourism growth, inappropriate development (particularly of hotels and other tourism infrastructure), natural deterioration of attributes and earthquake damage.

The Integrated Management Framework for the property is soundly conceived, well-structured and comprehensive, but its effectiveness is largely untested. Other key strategic and policy documents, including the Sustainable Tourism Strategy are yet to be operationalised. Significant gaps in management include the Archaeological Risk Plan and Agriculture Sector Strategy which are not yet completed, and crucial procedures such as the 'Heritage

Impact Assessment System' and Sustainable Tourism Strategy, which are yet to be fully implemented. The property contains a number of intrusive elements, such as hotels, which are apparently to be removed, but there is no specific strategy or program in place to do so.

7 Recommendations

Recommendations with respect to inscription

ICOMOS recommends that Bagan, Myanmar, be inscribed on the World Heritage List on the basis of **criteria (iii), (iv) and (vi)**.

Recommended Statement of Outstanding Universal Value

Brief synthesis

Bagan is a sacred landscape which features an exceptional array of Buddhist art and architecture, demonstrates centuries of the cultural tradition of the Theravada Buddhist practice of merit making (Kammatic Buddhism), and provides dramatic evidence of the Bagan Period (Bagan Period 11th – 13th centuries), when redistributive Buddhism became a mechanism of political control, with the king effectively acting as the chief donor. During this period, the Bagan civilisation gained control of the river transport, extending its influence over a large area. The traditions of merit making resulted in a rapid increase in temple construction, peaking in the 13th century. The serial property of eight components is located on a bend in the Ayeyarwady River, in the central dry zone of Myanmar. Seven of the components are located on one side of the River, and one (component 8) is located on the opposite side. Intangible attributes of the property are reflected in Buddhist worship and merit-making activities, traditional cultural practices and farming. The serial property of eight components consists of 3,595 recorded monuments – including stupas, temples and other structures for Buddhist spiritual practice, extensive archaeological resources, and many inscriptions, murals and sculptures. Bagan is a complex, layered cultural landscape which also incorporates living communities and contemporary urban areas.

Criterion (iii): Bagan is an exceptional and continuing testimony to the Buddhist cultural tradition of merit making, and to the peak of Bagan civilisation in the 11th-13th centuries when it was the capital of a regional empire.

Criterion (iv): Bagan contains an extraordinary ensemble of Buddhist monumental architecture, reflecting the strength of religious devotion of an early major Buddhist empire. Within the context of the rich expressions and traditions of Buddhist architecture and art found throughout Asia, Bagan is distinctive and outstanding.

Criterion (vi): Bagan is an exceptional example of the living Buddhist beliefs and traditions of merit making, expressed through the remarkable number of surviving stupas, temples and monasteries, supported by

continuing religious traditions and activities. While the evidence of practices of merit-making are common in many Buddhist sites and areas, the influences established in the Bagan period, and the scale and diversity of expressions, and continuing traditions make Bagan exceptional.

Integrity

The integrity of Bagan is based on the ability of the 8 components to convey the Outstanding Universal Value; the material evidence of the landscape, archaeological sites, monuments, inscriptions, sculptures, murals, cloth paintings and the overall setting; the continuing intangible heritage and cultural practices; and the management of pressures on the state of conservation. The integrity is vulnerable due to the multiple factors affecting Bagan, tourism and development pressures, environmental pressures and natural disasters.

Authenticity

The authenticity of Bagan is demonstrated by the landscape of Buddhist monuments of diverse sizes, scales, materials, designs and antiquity; and the rich and continuing religious and cultural traditions. The major built elements within the property, particularly the very large temples and stupas, retain a high degree of authenticity in their form and design, both internally and externally. The decorative elements of many of the individual monuments survive in their original form. The authenticity has been impaired by inappropriate interventions from the 1970s and 1990s, and by the extensive damages that resulted from earthquakes.

Management and protection requirements

Legal protection of Bagan is provided by the newly amended Law for Protection and Preservation of Cultural Heritage Regions No. (20/2019), Protection and Preservation of Ancient Monuments Law 2015 (with updated bylaw 2016), and Protection and Preservation of Antique Objects Law 2015 (with updated bylaw 2016). These laws are administered by the Department of Archaeology and National Museum (DANM). Effective legal protection is dependent on the full implementation of the Protection and Preservation of Cultural Heritage Regions Law. The property is also protected through practices and commitment of the religious communities and local people.

Heritage zoning plans have been established and integrated into regional plans to ensure coordination. A further protective zone of 100 km x 100 km around the property has been established to control development. All developments within the protected zones are currently subject to site-specific archaeological assessment and input from the Department of Archaeology and National Museum (DANM).

The Bagan National Coordinating Committee (BAGANCOM) has been established by the national government as the decision-making body for Bagan,

ensuring inter-agency coordination. The main factors affecting Bagan are past conservation interventions, tourism and development pressures, environmental pressures and natural disasters.

The management system is based on the Integrated Management Framework. While some aspects of the management system have recently established, and others are not yet fully implemented, the approach is sound. Guidelines that have been developed to support the most pressing activities. In particular, risk reduction and disaster response have been significantly improved as part of the response to the 2016 earthquake. Further elaboration of the management system should be based on a landscape approach to the management of the serial property.

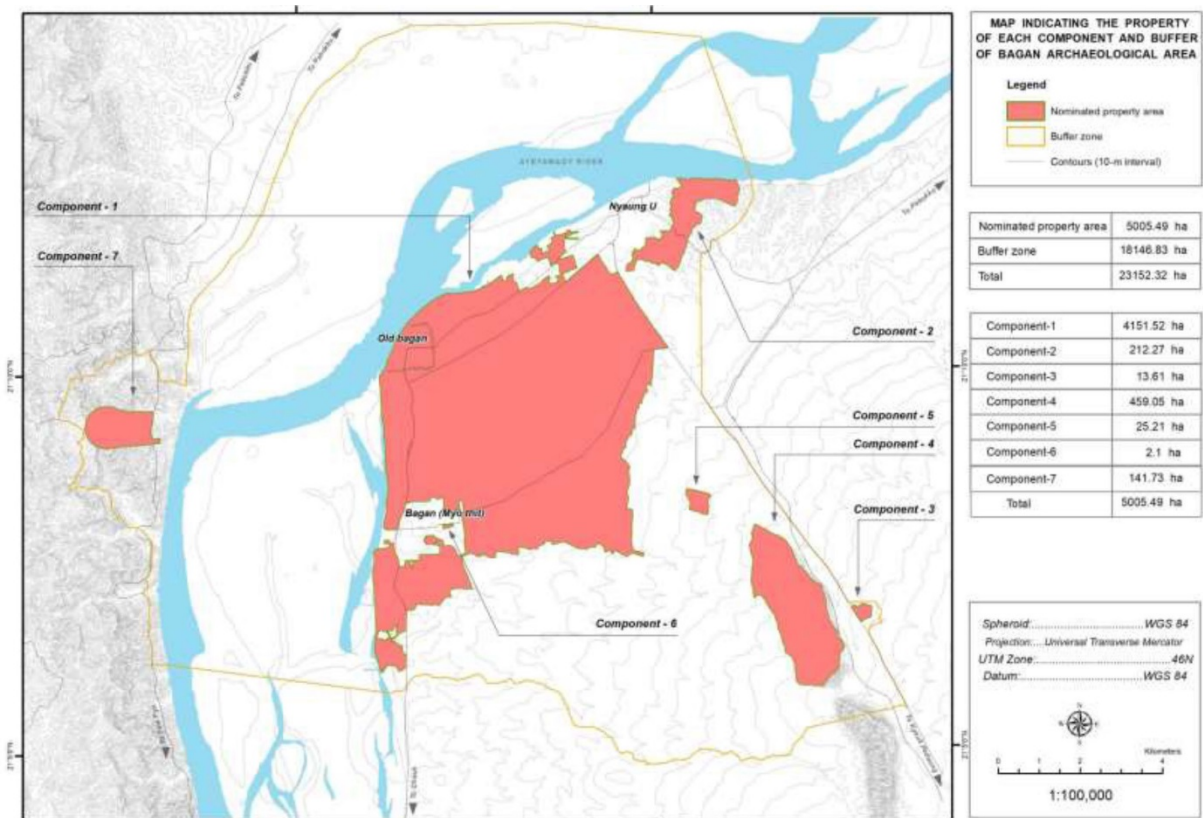
Some key strategic and policy documents, including the Sustainable Tourism Strategy, Archaeological Risk Plan, Agriculture Sector Strategy and Heritage Impact Assessment System are yet to be completed and/or fully operationalised. The property contains a number of intrusive elements, such as hotels. Rigorous Heritage Impact Assessment and clear decision making processes about development are critically important to the future management of Bagan. A long-term Hotels Strategy that identifies zones where hotels can be developed in the future has been recommended.

Additional recommendations

ICOMOS further recommends that the State Party give consideration to the following:

- a) Completing the administrative processes to revise the boundaries of components 6 and 7, and the buffer zone for component 4, and submitting the revised maps to the World Heritage Centre,
- b) Conducting further research and documentation of the historical water management system of Bagan, and ensuring that the elements of this system are conserved and managed as attributes of the Outstanding Universal Value of the inscribed property,
- c) Completing as a priority the 'One Map' initiative to bring the legal maps into a single GIS, completing the Bagan monument inventory and grading of monuments, and working to bring all the site datasets into an integrated data management system,
- d) Completing the program of installation of markers along the boundaries of the property components and the buffer zone, and removing the redundant boundary markers of the former 'Heritage Protection Zone' to avoid confusion,
- e) Completing the proposed Archaeological Risk Map and ensuring that its findings and associated procedures are communicated to all relevant stakeholders,

- f) Requiring all international missions working at Bagan to enter into formal agreements that include compliance with the provisions of the Integrated Management Framework, BAGANCOM decisions and advice from the Bagan ICC,
- g) Reviewing the current planning and development controls and associated approval processes, including the Urban and Regional Plan of the Environs of the Bagan Heritage Zone, to ensure that it is no longer possible to construct new buildings within the property or the buffer zone that are of an inappropriate height, scale or form,
- h) Ensuring that a landscape approach is incorporated into the continuing development and implementation of the management system,
- i) Further developing the Heritage Impact Assessment system to rigorously evaluate the potential impacts of change and development on the Outstanding Universal Value of Bagan, and ensuring that 'HIA' are compulsorily required for all new developments within Bagan, in accordance with the amended framework of legal protection. In the immediate timeframe, ensuring that this is required for all new tourism infrastructure developments and the expansions to Bagan Airport,
- j) Further evaluating the 'carrying capacity' and management of the future growth in tourism for Bagan, including consideration of the constraints arising from the physical and social circumstances of each component,
- k) Establishing and convening a regular forum between officers of BAGANCOM, the regional governments and representatives of the hotel and tourism industries to facilitate dialogue, communicate regulatory requirements and conservation programs, and identify tourism management issues,
- l) In addition to the removal of intrusive hotels and tourism facilities, and taking account of the need for a phased approach and longer-term strategy for hotels in Bagan, preparing a Hotel Strategy in consultation with ICOMOS and the World Heritage Centre which creates zones within which hotels can be developed (including all changes to existing facilities). All new developments should be subject to heritage impact assessment, and the establishment of zones where hotel developments can occur should be accompanied by regulations concerning building heights and other site and design issues, and be integrated into the regional Tourism Strategy,
- m) Placing a moratorium on the construction of new viewing mounds or other purpose-built viewing structures/buildings pending a review of visitor facilities and needs and finalisation and implementation of the Bagan Sustainable Tourism Strategy,
- n) Allocating additional resources to further develop the monitoring system,
- o) Providing professional development opportunities in cultural heritage management to staff of BAGANCOM and relevant regional government officials,
- p) Allocating the needed resources to ensure the comprehensive implementation of the actions specified in the Bagan Disaster Risk Management Plan,
- q) Completing and implementing the proposed Bagan Agriculture Sector Strategy following review by BAGANCOM, the World Heritage Centre and ICOMOS,
- r) Following a process of consultation and careful consideration of the interests and welfare of residents, establishing a staged plan for the progressive removal of dwellings that have been illegally constructed within the property boundary,
- s) Ensuring that all major projects that could impact on the series should be communicated to the World Heritage Centre in line with paragraph 172 of *Operational Guidelines for the Implementation of the World Heritage Convention*,
- t) Submitting to the World Heritage Centre by 1st December 2021, a report on the implementation of the above-mentioned recommendations for examination by the World Heritage Committee at its 45th session in 2022;



Revised map showing the boundaries of the nominated property (February 2019)



Landscape of Bagan with monuments



Shwe-zigon



Old Bagan city wall and Tharaba gate



Scenes from the Buddha's life, Loka-hteikpan

Seowon, Korean Neo-Confucian Academies (Republic of Korea) No 1498

Official name as proposed by the State Party
Seowon, Korean Neo-Confucian Academies

Location

Youngju City, Gyeongsangbuk-do Province
Hamyang County, Gyeongsangnam-do Province
Gyeongju City, Gyeongsangbuk-do Province
Andong City, Gyeongsangbuk-do Province
Jangseong County, Jeollanam-do Province
Dalseong County, Daegu Metropolitan City
Andong City, Gyeongsangbuk-do Province
Jeungeup City, Jeollabuk-do Province
Nonsan City, Chungcheongnam-do Province
Republic of Korea

Brief description

This serial property comprises nine seowon representing a type of Neo-Confucian academy of the Joseon Dynasty (15th – 19th centuries CE). The components are Sosu-seowon, Namgye-seowon, Oksan-seowon, Dosan-seowon, Piram-seowon, Dodong-seowon, Byeongsan-seowon, Museong-seowon and Donam-seowon, and these are located across the central and southern parts of South Korea. Located near mountains and water as part of appreciating nature and cultivating the mind and body, their essential functions are learning, veneration and interaction with their environment. While based on common architectural forms, the components have been creatively developed with individual characteristics to maximize links to the surrounding environment and understanding of Neo-Confucian ideals.

Category of property

In terms of categories of cultural property set out in Article I of the 1972 World Heritage Convention, this is a serial nomination of 9 *groups of buildings*.

1 Basic data

Included in the Tentative List
9 December 2011

The name of the property included in the Tentative List is *Seowon, Confucian Academies of Korea*.

Background

This is a new nomination. A previous nomination was submitted in 2015 but was withdrawn before consideration by the World Heritage Committee.

At the request of the State Party, an ICOMOS Advisory process was conducted on October 2016 – March 2017. Based on the recommendations of the ICOMOS advisory report, the State Party has submitted a revised nomination dossier.

Consultations and Technical Evaluation Mission

Desk reviews have been provided by ICOMOS International Scientific Committees, members and independent experts.

An ICOMOS technical evaluation mission visited the property on 2 to 8 September 2018.

Additional information received by ICOMOS

A letter was sent to the State Party on 10 October 2018 requesting further information about mapping, comparative analysis, integrity, authenticity and management. Additional information was received on 6 November 2018 from State Party, and has been incorporated into the relevant sections of this evaluation report.

An Interim Report was provided to the State Party on 21 December 2018 summarising the issues identified by the ICOMOS World Heritage Panel.

Further information was requested in the Interim Report including: the justification of criterion (iv), the protection of the landscape and distant views, overall integrated management, and enhanced interpretation of the overall property.

Additional information was received from the State Party on 27 February 2019 and has been incorporated into the relevant sections of this evaluation report.

Date of ICOMOS approval of this report

13 March 2019

2 Description of the property

Note: The nomination dossier and additional information contain detailed descriptions of this property, its history and its state of conservation. Due to limitations on the length of evaluation reports, this report only provides a short summary of the most relevant aspects.

Description and history

The nominated property comprises nine seowon which demonstrate how this type of Neo-Confucian academy developed and flourished in Korea and reflecting the crystallisation of the function and architectural type of the seowon.

Following the withdrawal of the previous nomination dossier, an Advisory process was undertaken between ICOMOS and the State Party, assisted by an Advisory mission, which concluded in March 2017. Expert advice has been provided in relation to the comparative analysis, framing of the rationale of the selection, identification and justification of features/attributes, and boundaries.

The components are Sosu-seowon, Namgye-seowon, Oksan-seowon, Dosan-seowon, Piram-seowon, Dodong-seowon, Byeongsan-seowon, Museong-seowon and Donam-seowon, and these are located across the central and southern parts of South Korea.

Learning, veneration and interaction are the essential functions of seowon which are closely reflected in their design. The seowon are organised around two main factors, which are the veneration of scholars, and the landscape, both of them linked to the interpretation of the universe. They are located near mountains and water as part of appreciating nature and cultivating the mind and body.

The use of pavilions as the form of building created a new way to interpret the surrounding landscape and facilitate connections to it within the architecture of the seowon. Oksan-seowon adopted a two-story pavilion to allow a better appreciation of nature, becoming an early version of a seowon pavilion. The standard planning layout of most components is evident in their division into veneration, learning and interaction areas arranged along a central axis, and in a descending vertical order down the slope of a hill. Sosu-seowon, the first to be built, is an exception and does not display a central axis in its planning.

The seowon were also designed in response to the local topography. Dodong-seowon is a typical example of a layout on mountainous land in which the seowon is gradually elevated from the entrance to the back of the complex. Piram-seowon is a model for a seowon located on flat land.

The layout of the components is an adaptation of the yeje principle of propriety. The property specifically translates this theory into an architectural type for educational institutes. The original prototype for seowon architecture was established by Namgye-seowon in its veneration, learning and interaction areas creatively arranged in an organic hierarchical order. Developed out of the fundamental arrangement of Namgye-seowon, subsequent seowon experimented with variations on the central axis, such as twisting the linear arrangement to emphasize the reverence towards the shrine.

The interaction area features a pavilion in the typical architectural form for the seowon. Elements known as hamabi dismounting stele and hongsalmun red spiked gate mark the entrance area of the seowon. Commemorative steles are erected inside and outside of the academy. Other facilities at the seowon include a caretaker's house and modern educational facilities.

The veneration area is a place for the veneration of distinguished figures, and is the most important part in the seowon. As a result, this area is placed at the innermost of the central axis. Buildings in this area are composed of a shrine, veneration preparatory chamber, and storage room for utensils and vessels used for rites. Spiritual tablets or portraits of venerated scholars and an observance altar are found inside the shrine. The learning area generally

includes a lecture hall, dormitory, library and repository for woodblocks.

While based on common architectural forms, the components have been creatively developed with individual characteristics to maximize links to the surrounding environment and understanding of Neo-Confucian idealism.

All the buildings are generally wooden structures. The nominated property includes traditional Korean architectural techniques such as ondol, an under-floor heating system, and maru, an open wooden floor, reflecting the national floor culture.

The nominated property includes a wide range of documents, such as regulations on lectures, curricula, and lecture formalities, as well as printing woodblocks, providing a glimpse into the education at each academy.

The nominated property of private Neo-Confucian educational academies or seowon were established in the period from the mid-16th century CE through to the end of the 17th century CE. This period saw the creation of the first seowon and their development with experiments in architectural layouts and techniques, through to a standardisation of architectural types featuring veneration, learning and interaction areas.

The education at the academies was designed to cultivate Neo-Confucian values among future scholars, rather than producing public servants or preparing people for the state examination. This orientation arose because the practical operations and educational activities were led by sarim or the class of local intellectuals. The seowon developed and flourished as centres for the interests of the sarim.

The founding dates for the components are: Sosu-seowon – 1542 CE, Namgye-seowon – 1552 CE, Oksan-seowon – 1572 CE, Dosan-seowon – 1574 CE, Piram-seowon – 1590 CE, Dodong-seowon – 1605 CE, Byeongsan-seowon – 1613 CE, Museong-seowon – 1615 CE and Donam-seowon – 1634 CE. Many of the seowon were developed over a long period of time. For example, Museong-seowon was expanded with a dormitory in 1887 and a pavilion in 1891.

Sosu-seowon was the first to be built in Korea and adopted the concept of veneration, learning and library functions from China's Bailudong-shuyuan (White Deer Cave Academy). While basic ideas were borrowed from shuyuan (private Confucian institutes in China), Sosu-seowon was created as a re-interpretation of architectural functions where the shrine was dedicated to a local scholar rather than to the great Chinese philosopher, Confucius. The veneration area became the central element of the academy in terms of both building arrangement and function.

Namgye-seowon was the first seowon to be established and operated solely by the efforts of the sarim, and it established the architectural standards for the academies that followed.

Out of Dosan-seowon came suggested guidelines for the educational values seowon must pursue, which was to learn Neo-Confucianism on an individual basis in order to envision the creation of an ideal world. Dosan-seowon also gave birth to the profound study of yehak, or propriety.

One of the distinguishing characteristics of the nominated property is that its role was not limited to education and veneration but expanded to include social participation, which made seowon comprehensive political and social institutions. Seowon became intellectual leaders in society and developed scholastic lineages, which started in the property.

The nominated property is also a birthplace of the sarim's cultural activities. For example, they held regular or special lectures, and poetry writings to promote intellectual exchanges. Literary works and documents created by the sarim were preserved in libraries or they were published for wider distribution.

Each seowon was deeply involved in the milestones of Korean history. The nominated property took a role in collecting public opinions for delivery to the king, symbolizing the sarim's intellectual activities. Byeongsan-seowon was the hub for local opinion in Gyeongsangbuk-do Province since the 17th century CE, while Dosan-seowon and Oksan-seowon took the lead in establishing maninso, or a ten thousand-signature petition in the 19th century CE. Piram-seowon and Namgye-seowon initiated the mobilisation of militia to combat the Japanese invasions of Korea in 1592 CE, and Museong-seowon collected militia troops to oppose the Japanese colonisation in the early 20th century CE.

After Sosu-seowon and Namgye-seowon, the composition and layout of seowon buildings became standardised. None the less, later seowon reflected a continuing degree of experimentation.

During the 17th century CE when the general typology had been standardised for seowon, other architectural modifications were introduced in an attempt to improve certain functions. Byeongsan-seowon, for example, erected a large pavilion from which to better appreciate nature. This variation evolved out of the original plan for the pavilion at Oksan-seowon, which was the first seowon to adopt the use of a pavilion as an integral part of architecture. Donam-seowon established the Eungdodang lecture hall, which is the largest in Korea and is well-known for reflecting the architectural theory of propriety. This spacious lecture hall reflects the commitment to the teachings of Neo-Confucianism and related discussions.

Another conspicuous change was to consider accessibility and the participants in seowon, when selecting a location for an academy. Museong-seowon is a prime example

where the academy was established in the heart of a village, suggesting the expansion of Neo-Confucianism from upper-class sarim to local villagers.

Structures within the property have been added to or expanded since the 17th century CE. In some cases, a new library was added to accommodate the increasing number of books and woodblocks. Parts of the architecture have had to be restored due to the impacts of natural disasters or wars in the case of some seowon. There have also been attempts to erect new buildings, as in the case of Namgye-seowon and its new pavilions from 1779 CE and 1849 CE.

Piram-seowon was relocated to its current site in 1672 CE. Donam-seowon followed a strict principle of maintaining authenticity when it was relocated to its current site in 1881 CE because of flooding. However, it was not until 1971 CE that the Eungdodang lecture hall from the original Donam-seowon was moved to the current location.

Through the various architectural changes, traditional architectural techniques have been upgraded and passed down to new generations.

Seowon generally faced difficulties maintaining their traditional way of teaching due to the influx of western values in the late 19th century CE. The King had also ordered the demolition of seowon in the 19th century CE, leading to losses. However, the nominated property has preserved its values through the efforts of the sarim. The nominated property continues to disseminate Neo-Confucian values by offering classes and conducting veneration services.

Boundaries

The area of the 9 components totals 102.49 ha, with buffer zones totalling 796.74 ha.

In ICOMOS' view, the nominated property boundary incorporates all features of potential Outstanding Universal Value, such as the building complexes, immediate settings and visual catchments. The boundary is also practical, featuring the use of legal protection to the farthest extent possible. The boundary uses the natural topography, administration boundaries, landmarks such as roads and rivers, and land plot boundaries. In many instances, the state-designated heritage area actually exceeds the proposed property boundary and/or buffer zone. These areas were designated many years ago for purposes not directly related to protection, and the excess areas make no contribution to potential Outstanding Universal Value or its protection.

ICOMOS requested further information about the identification and protection of links to distant landscape elements, beyond the buffer zones, in its interim report. The State Party provided satisfactory information in February 2019 about the elements related to each component, and the legislation which protects the links to the elements.

State of conservation

Through their long history and before the modern conservation era, the seowon have been repaired and restored at various times.

From the 17th to the 19th centuries CE, Sosu-seowon underwent a series of repairs. Gyeongryeomjeong pavilion was rebuilt in 1657 CE and an extensive restoration of the structures, including the shrine and lecture hall, was undertaken in 1677 CE. The lecture hall and Jeonsacheong veneration preparatory chamber were restored in 1730 CE, and Jiraekjae was rebuilt in 1799 CE. There were many cycles of restoration, including of the dormitories and shrine in 1805 CE, and the veneration preparatory chamber and wall fence in 1813 CE. The library was rebuilt in 1819 CE.

Namgye-seowon was burned in 1592 CE but recovered in 1605 CE. At some stage pavilions had been converted to dormitories, and then returned to a state more faithful to their original purpose. The library was reconstructed in 1922 CE.

The lecture hall at Oksan-seowon was destroyed by fire in 1839 CE and rebuilt in the following year. The pavilion was extensively restored in 1843 CE, and the lecture hall and shrine underwent minor restoration in 1905 CE.

Dosan-seowon was apparently not affected by major damage or former repairs.

Piram-seowon was severely damaged in 1592 CE but re-established in 1624 CE. It was relocated to its current site in 1672 CE. A shrine was rebuilt in 1886 CE, the lecture hall, two dormitory buildings and a pavilion were repaired in 1887 CE, the shrine reconstructed in 1941 CE, and the pavilion, two dormitory buildings and the caretakers' house were restored after 1945 CE.

Dodong-seowon was renovated and expanded in the historic era.

Byeongsan-seowon was damaged in 1592 CE and restored in 1605 CE. The lecture hall was repaired in 1921 CE and the shrine in 1937 CE.

Museong-seowon was frequently repaired in the historic era and a major restoration was organised in 1828 CE. Repairs were also undertaken in 1904 CE and 1917 CE.

Donam-seowon was relocated to its current location in 1881 CE because of flooding. The lecture hall was repaired in 1927 CE.

In the modern era, after 1963 when Sosu-seowon was designated a Historic Site, Gyeongryeomjeong pavilion underwent restoration in 2009, and the roof of the lecture hall was repaired in 2015. At Namgye-seowon, Pungyeongru pavilion was restored in 2011 and the Gojiksa caretaker's house was renovated in 2016. In the case of Oksan-seowon, the pavilion, lecture hall, and two dormitories underwent restoration in 1991, the printing

blocks repository and stele were refurbished in 1998. The main gate was also restored and a relic exhibition hall was constructed.

During the 1990s, the triple inner gate, two dormitories, lecture hall and pavilion were restored at Piram-seowon. Suwollu pavilion at Dodong-seowon was destroyed by fire in 1888 and was finally reconstructed in 1973. The pavilion and west dormitory at Byeongsan-seowon were repaired in 1971, and a systematic restoration of the entire compound took place from 1978 until 1981. Museong-seowon underwent continuous repair works after the 1980s, especially the dormitory, stele, shrine, lecture hall and pavilion. At Donam-seowon the Eungdodang lecture hall was moved from the original seowon location to the current location in 1971.

Based on the information provided by the State Party and the observations of the ICOMOS technical evaluation mission, ICOMOS considers that the state of conservation is good. The comprehensive archives on conservation activities support the view on the current state of conservation of the buildings, layouts and settings. Interventions have been carried out following internationally accepted principles.

Factors affecting the property

ICOMOS considers that the main factors affecting the property are development pressures, insect damage to trees and buildings, fire, earthquake and visitor pressures.

Given most of the seowon are located in rural areas, development pressure is considered to be minor. In the case of Museong-seowon, surrounded by a village, there is the possibility of development pressure having an impact. However, village development has been well controlled by legal and planning measures. In addition, the local community has a long tradition of considering itself to be the responsible custodian of the seowon.

Pine trees are a major feature in the areas related to the seowon. These trees are threatened by a nematode, and this threat is being closely monitored. Termites have also been found in the past at Donam-seowon, and active measures have been taken to prevent damage to the wooden structures.

Natural fires and arson are a threat to the property, and these are a high priority issue for site managers. All seowon are equipped with fire monitoring systems and firefighting facilities. Fire drills are also regularly performed, and close relations are maintained with local fire stations. The monitoring system can send alerts to the nearest fire station in the event fire is detected.

Earthquakes were detected in the vicinity of Oksan-seowon in 2016 and 2017, but these caused no damage to the seowon. The situation is closely monitored.

The number of visitors to the seowon has been well below the carrying-capacity for the property, even at peak times such as during a veneration ceremony. While the

possibility of a surge in visitors is expected should the property be inscribed, measures have been prepared to avoid or minimise impacts.

In summary, ICOMOS considers that factors affecting the property are well understood and managed.

3 Proposed justification for inscription

Proposed justification

The nominated property is considered by the State Party to be of Outstanding Universal Value as a cultural property for the following reasons:

- It is outstanding testimony to the prevalence of Neo-Confucianism in educational and social practices in the Joseon Dynasty of Korea. Local intellectuals, sarim, created an educational system and tangible structures conducive to Neo-Confucian learning. The sarim chose their own figures to be venerated at the shrine, rather than the great Chinese philosopher, Confucius. They also created a strong academic lineage through continued veneration. As a result, the seowon or academies promoted principles of Neo-Confucianism through various social and political activities at the property.
- It is also outstanding testimony to the architectural prototype of Neo-Confucian academies and each stage of their development. The development of the typology of the architectural layout progressed rapidly during the early establishment stage of the seowon movement, and this was shared by subsequent academies. The property is conducive to the practices of learning, veneration and interaction with corresponding buildings of the lecture hall, shrine and pavilion. A hierarchy is displayed by the layout of buildings, use of the natural topography, outdoor space, stylobates, wall fences and gates.

Comparative analysis

The comparative analysis is presented in three parts: it begins with a consideration of the values relevant to the analysis; a comparison with similar properties in other countries; and consideration of similar properties in Korea. Comparisons with World Heritage and Tentative List properties and those in other areas throughout the world with a comparable combination of proposed Outstanding Universal Value and attributes are integrated within these parts.

The analysis considers the broader scope of Confucian properties, especially across East Asia. Several Confucian properties have been inscribed on the World Heritage List, mostly in China, Korea, Japan and Viet Nam, and the analysis identifies 21 properties which are considered in terms of the qualities of veneration towards heaven, veneration, governance, education or otherwise.

For example, the Temple of Heaven: an Imperial Sacrificial Altar in Beijing (China) and Esplanade of Sacrifice to the Heaven and Earth in the Complex of Hue

Monuments (Viet Nam) are World Heritage properties portraying imperial veneration towards heaven. Other properties are governing facilities based on Confucianism (eg. Changdeokgung Palace Complex, Republic of Korea, and Tu Cam Thanh (Forbidden Purple City), in the Complex of Hue Monuments, Viet Nam). Jongmyo Shrine (Republic of Korea) is a Confucian ritual property. Other Confucian educational institutes of veneration in East Asia have mostly been included as component parts of listed properties. Examples include Byeongsan-seowon and Oksan-seowon (Republic of Korea), Sungyang-seowon (Sungyang Sowon) (Democratic People's Republic of Korea), Songyang-shuyuan (Songyang Academy of Classical Learning) and Bailudong-shuyuan (White Deer Cave Academy) (China), and Shokasonjuku (Japan). However, the analysis notes that none of these examples independently recognise the values of the Confucian educational institutes.

In addition to two existing World Heritage properties in the Republic of Korea noted above, the Royal Tombs of the Joseon Dynasty relates to veneration, and the Historic Villages of Korea: Hahoe and Yangdong include residences that demonstrate the everyday practice of Confucianism. The analysis considers the spatial characteristics of architecture related to Confucianism, and the role of properties in veneration and education. A distinction is made between the role of Confucian education institutes founded by government, and those which are private academies.

A range of Confucian education properties on the World Heritage List has been considered, including the Bailudong-shuyuan (China), Shokasonjuku academy (Japan), Sungyang-seowon (DPRK) and the Historic Villages of Korea: Hahoe and Yangdong (Republic of Korea) which includes two of the nominated components, Oksan-seowon and Byeongsan-seowon.

The analysis considers in further detail private Confucian institutes in China, shuyuan, and in Japan, shijuku. In the case of shijuku for example, the analysis notes that the architecture and curricula do not display any typical patterns or principles. It also notes that the seowon honour venerated figures based on an association with the seowon, instead of venerating ancient sages such as Confucius.

The seowon developed a shared architectural typology, and were influenced by the Chinese shuyuan in their functions of learning and veneration, but in terms of their architectural typology, seowon differ from shuyuan.

The analysis concludes that the seowon developed distinctive attributes compared to similar venerational or educational institutes in East Asia, within the context of the broader theme of Confucianism.

As regards the internal selection of the components, the selected components are presented as playing a critical role in development of seowon as blossoming educational

institutes, and they exhibit a wide range of characteristic aspects of seowon overall.

Within Korea, the analysis considers Neo-Confucian educational institutes established by government to prepare civil servants – seonggyungwan and hyanggyo. The analysis also considers other seowon within Korea not included within the nominated property. The criteria for selection include an association with the early stages of seowon development continuing through to the late 19th century CE, authenticity, integrity, the presence of attributes to enable a comprehensive understanding of seowon, and the inclusion of each element (component) of the architectural type. The analysis presented by the State Party argues that the nine components of the nominated property satisfy all four criteria for selection of the components.

The analysis argues the nominated components collectively represent the blossoming of Neo-Confucianism and the development of seowon since the mid-16th century CE. Sosu-seowon is the first example in Korea; Namgye-seowon is the first to be established purely through the support of sarim; Oksan-seowon is a demonstration of seowon curricula and housing literary works and documents, as well as the introduction of seowon institutions; Dosan-seowon has been developed as the centre of a scholastic genealogy; Piram-seowon is providing reference to financial aspects of seowon; Dodong-seowon is a demonstration of the systemization of education through its detailed regulations; Byeongsan-seowon is the birthplace of sarim's public opinion outreach; Museong-seowon is a centre for the edification of the local community; and Donam-seowon is an illustration of how seowon expanded from political and social aspects into a major research centre for Neo-Confucianism by dedication to yehak, or the study of propriety.

The significance of the Korean seowon is that they were localized versions of an institution that can be found in different variations all over East Asia. As the concept of the Confucian academy came to Korea, it was contextualised according to needs of the local intellectuals and the local conditions, and it therefore reflects Korean thought and culture. This is the important characteristic of seowon.

ICOMOS requested consideration of a greater number of Chinese shuyuan, and a consolidated and more detailed analysis of them in relation to seowon. The State Party provided in February 2019 substantial additional information about shuyuan, including a wider range, and about their historical, functional, planning and architectural characteristics. The State Party notes the influence of and some similarities between shuyuan and seowon, but it also convincingly argues that the seowon were a substantial transformation and local adaptation of a type of Confucian academy in functional, planning and architectural terms. It is also noted that shuyuan displayed considerable planning and architectural variation throughout China.

ICOMOS considers that the comparative analysis justifies consideration of this property for the World Heritage List.

Criteria under which inscription is proposed

The property is nominated on the basis of cultural criteria (iii) and (iv).

Criterion (iii): *bear a unique or at least exceptional testimony to a cultural tradition or to a civilization which is living or which has disappeared;*

This criterion is justified by the State Party on the grounds that the nominated property is outstanding testimony to the prevalence of Neo-Confucianism in educational and social practices in the Joseon Dynasty of Korea. Local intellectuals, sarim, created an educational system and tangible structures conducive to Neo-Confucian learning. The sarim chose their own figures to be venerated at the shrine, rather than the Chinese philosopher, Confucius. They also created a strong academic lineage through continued veneration. As a result, the seowon or academies promoted principles of Neo-Confucianism through various social and political activities at the property.

ICOMOS considers that the nominated property is exceptional testimony to cultural traditions associated with Neo-Confucianism in Korea, in the form of educational and social practices, many of which continue. It also exhibits outstanding testimony of the localisation of Neo-Confucian concepts – the seowon illustrate an historical process in which Neo-Confucianism from China was tailored to Korean local conditions resulting in academies which are exceptional testimony of this transformative and localising process.

ICOMOS considers that criterion (iii) has been met.

Criterion (iv): *be an outstanding example of a type of building, architectural or technological ensemble or landscape which illustrates (a) significant stage(s) in human history;*

This criterion is justified by the State Party on the grounds that the nominated property is an outstanding testimony to the architectural prototype of Neo-Confucian academies and each stage of their development. The development of the typology of the architectural layout progressed rapidly during the early establishment stage of the seowon movement, and this was shared by subsequent academies. The nominated property is conducive to the practices of learning, veneration and interaction with corresponding buildings of the lecture hall, shrine and pavilion. A hierarchy is displayed by the layout of buildings, use of the natural topography, outdoor space, stylobates, wall fences and gates.

ICOMOS considers that the State Party does not justify the nominated property as representing an outstanding example in a World Heritage context of a Neo-Confucian educational ensemble. ICOMOS notes the influence from China, and the transformative and localising process, but does not consider the justification demonstrates the exceptional qualities required by this criterion.

ICOMOS considers that criterion (iv) has not been met.

ICOMOS considers that the nominated property meets criterion (iii) but that it does not meet criterion (iv).

Integrity and authenticity

Integrity

According to the nomination dossier, the integrity of the nominated property is based on the evidence related to Neo-Confucianism expressed through the form of the seowon. The nominated serial property contains all the features necessary to convey the potential Outstanding Universal Value. This includes the immediate landscape attributes of the seowon being within the property boundaries. The nominated property is also represented as intact, and the major pressures are managed.

ICOMOS considers that the nominated property retains all features that reflect the proposed Outstanding Universal Value of the nominated property.

The features of the nominated property are generally in excellent condition.

The major pressures on the nominated property, development, insect damage, fire, earthquakes and visitors, are being adequately managed. However, they should continue to be monitored.

Authenticity

According to the nomination dossier, the authenticity of the nominated property is based on its features of potential Outstanding Universal Value, which include the form and design, materials and substance, use and function, traditions, location and setting, intangible heritage, and spirit and feeling.

ICOMOS considers that the nominated property meets the requirements of authenticity. The form and design, and materials and substance are basically intact. The use and function of the seowon, and their traditions, are largely as they were through history, although noting that the educational role has been largely diminished. The location and setting of the seowon have been generally retained, although it is noted that two components have been relocated in the historical past. These relocations are not considered an issue because of the lengthy period since they were undertaken. The intangible heritage, and the spirit and feeling of the seowon have been generally retained.

ICOMOS considers that the requirements of integrity and authenticity have been met.

Evaluation of the proposed justification for inscription

ICOMOS considers that the comparative analysis justifies consideration of this nominated property for the World Heritage List.

ICOMOS considers that the nominated property meets criterion (iii) but that it does not meet criterion (iv), and that the requirements of integrity and authenticity have been met.

Attributes

The attributes of the nominated property are related to the central theme present in the potential Outstanding Universal Value – cultural traditions associated with Neo-Confucianism in Korea.

The location, topography and the built elements largely define the overall composition of the nominated property. In many cases, this includes a sloping site for the seowon. The careful layout, form and details of the buildings are all important attributes. Other built elements include wall fences, gates, paths, stairs and stele. The seowon have an important connection to the surrounding landscape, especially because of views from pavilions, and the landscape with trees and other plants is an attribute.

The intangible attributes include the learning, veneration, interaction and other sarim activities. Neo-Confucian values are still disseminated through classes and veneration ceremonies.

ICOMOS considers that the identified attributes contribute to the justification for inscription.

4 Conservation measures and monitoring

Conservation measures

Current active conservation measures are only related to monitoring and environmental improvement, as all of the buildings are in very good condition. Environmental improvements are currently being carried at some seowon, in some cases to correct past mistakes, and in other cases to improve visitor facilities. An example of a previous environmental improvement was the removal of electricity poles at Museong-seowon in 2015.

A Manual on the Conservation and Management of Seowon has been established in 2011 for the conservation of the nominated property, as well as the Design Guidelines for Landscape Management for Seowon and Hyanggyo, dated of 2012. The manual contains the guidelines for the management, conservation procedures, and the other one details the characteristics of seowon.

Specific “Guidelines for seowon preservation and management” are under preparation.

Each seowon has established a comprehensive maintenance plan. Because the seowon are in constant use for veneration and daily activities, the nominated property receives attentive maintenance from caretakers for Namgye-seowon, Oksan-seowon, Piram-seowon and Dodong-seowon, and for the others, there is a day and night rotation by the managing staff living outside.

Conservation interventions undertaken have followed internationally accepted principles, and have been completed to a high standard.

Sufficient funding for conservation interventions is provided by the central and local governments.

Monitoring

Monitoring is undertaken by seowon caretakers on a daily basis, by the Seowon Foundation on a quarterly basis, and by the National Research Institute of Cultural Heritage every 3 to 5 years.

Monitoring indicators are divided into three categories: general, core and special indicators. General indicators relate to daily management of the property and daily monitoring. Core indicators address factors that could pose a threat to the nominated property such as fire and natural disasters. Special indicators relate to diverse areas of expertise such as earthquake impacts and structural engineering.

ICOMOS considers that conservation measures are generally adequate, and the monitoring approach is satisfactory.

5 Protection and management

Documentation

A comprehensive archive is maintained for each seowon. This includes survey documentation, a detailed inventory, comprehensive maintenance plan, and records on conservation proposals and implementation. The seowon have a very good tradition of recording in detail any major projects, including building reconstruction or large-scale repair.

Legal protection

The primary protection of the nominated property is provided by the *Cultural Heritage Protection Act*, with additional protection offered by other heritage laws enacted by the Cultural Heritage Administration of Korea. These other laws are the *Act on Cultural Heritage Maintenance, Etc.* and the *Act on the Safeguarding and Promotion of Intangible Cultural Heritage*. The laws are supported by Presidential decrees and ministerial orders.

The nine components are all state-designated heritage.

These legal instruments play a major role in ensuring the systematic conservation of the nominated property in terms of carrying out repairs and safeguarding venerations.

In addition, there are other legal instruments that impact the conservation of the nominated property – the *National Land Planning and Utilization Act* and the *Framework Act on the Management of Disasters and Safety*.

ICOMOS requested further information about the protection of links to distant landscape elements, beyond the buffer zones, in its interim report. The State Party provided information in February 2019 about the legislation which protects the links to the elements – the *Mountainous Districts Management Act*, *River Act*, *Farmland Act* and related City Urban Planning Ordinances, as well as providing assurances these offer sufficient protection.

The relevant provinces have also prepared heritage protection ordinances based on the *Cultural Heritage Protection Act*. These ordinances also offer a basis for the establishment and operation of an organisation for the integrated management of the nominated property.

Management system

The management system comprises the Seowon Foundation, seowon steering committees, and central and local (provincial and municipal) governments. The *Cultural Heritage Protection Act* requires the nominated property to be managed by the relevant local government or seowon community. The Seowon Foundation is in charge of integrated management of the nominated property. The components are managed on a daily basis by government and seowon personnel, with the seowon steering committee responsible for operations and management.

The Seowon Foundation is a coordinating body, it also has a role in undertaking research on the nominated property and it conducts regular monitoring.

The central government Cultural Heritage Administration provides support and supervision. Local governments also provide support to the Foundation. Conservation expertise is available from the Cultural Heritage Administration as well as the relevant local governments.

Sufficient funding is provided for conservation, landscape improvement, facilities such as museums and educational centres, management, monitoring, car parking and tourism infrastructure. This funding is provided by the central and local governments.

Previously there were difficulties with funding for the conduct of veneration ceremonies at some seowon. However, these difficulties have been overcome, and adequate funding is now available.

Each seowon has its respective management plan, and relevant plans also exist for their repair and landscape management. In addition, there is a *Manual on the Conservation and Management of Seowon*, as well as *Guidelines for Conservation and Management of Seowon* and *Guidelines for Establishment and Implementation of Historic Site's Comprehensive Maintenance Plan*.

However, there is currently no cohesive plan or equivalent document for managing the seowon as a single property. ICOMOS requested information about the timeframe for completion of an overarching management document for the property. The State Party provided details about the staging of the integrated management document, with integrated management to be fully implemented from July 2020.

Some risk preparedness plans exist for the nominated property, such as in the case of the threat of fire. Relevant local governments are drawing up additional disaster and risk preparedness plans, and establishing a disaster prevention system for each seowon.

Visitor management

There is no current serious tourism pressure at the seowon. The main visitation is by organised group tours of students. Current visitor management arrangements are designed to cope with this visitation, and estimated future visitation is far below the carrying capacity of components.

Visitor facilities at seowon generally include an information centre and car parking, and in some cases an exhibition centre. Most seowon have their own trained guides and interpretive materials are available. Improvements to visitor interpretation are planned, including a better integrated presentation of the nine components as a single nominated property.

Community involvement

Local communities are strongly involved in the traditional management of the nominated property. This includes veneration ceremonies, interpretation programs, visitor, financial and property management.

Each component has a local seowon community and they have been strong supporters of the World Heritage nomination.

Evaluation of the effectiveness of the protection and management of the nominated property

There is good documentation for the nominated property including a detailed inventory for each component. Legal protection of the nominated property under national and other laws is satisfactory, with all components being state-designated heritage.

The management system is generally satisfactory with the Seowon Foundation responsible for integrated management of the nominated property. A cohesive plan or equivalent document for managing the seowon as a single nominated property is planned to be put in place in the short future.

Visitor management is adequate and an integrated presentation of the nine components as a single nominated property and is planned.

The property has strong local community involvement and support.

ICOMOS considers that the requirements for protection and management are generally adequate. Nonetheless, ICOMOS recommends that an overarching management plan be put in place. In addition, integrated presentation of the nine components as a single nominated property should be better developed, as currently planned.

6 Conclusion

ICOMOS considers that the comparative analysis for the Seowon, Korean Neo-Confucian Academies justifies consideration of this property for the World Heritage List.

ICOMOS considers that the nominated property meets criterion (iii) but that it does not meet criterion (iv), and that the requirements of integrity and authenticity have been met.

ICOMOS considers that the requirements for protection and management are generally adequate. Nonetheless, an overarching management document should be prepared. In addition, integrated presentation of the nine components as a single property should be better developed.

The proposed boundaries and buffer zones are adequate, and the protection of links to distant landscape elements is adequate.

The property displays a good state of conservation, and the monitoring approach is satisfactory.

The main factors affecting the nominated property include fire, development pressures and insect damage, however, all factors are well understood and managed.

7 Recommendations

Recommendations with respect to inscription

ICOMOS recommends that the Seowon, Korean Neo-Confucian Academies, Republic of Korea, be inscribed on the World Heritage List on the basis of **criterion (iii)**.

Recommended Statement of Outstanding Universal Value

Brief synthesis

The Seowon, Korean Neo-Confucian Academies is a serial property which comprises nine seowon representing a type of Neo-Confucian academy of the Joseon Dynasty (15th-19th centuries CE). It is an exceptional testimony to cultural traditions associated with Neo-Confucianism in Korea.

The components are Sosu-seowon, Namgye-seowon, Oksan-seowon, Dosan-seowon, Piram-seowon, Dodong-seowon, Byeongsan-seowon, Museong-seowon and Donam-seowon, and these are located across the central and southern parts of the Republic of Korea.

The property exhibits an outstanding testimony to thriving Neo-Confucian academies that promoted learning of Neo-Confucianism, which was introduced from China and became fundamental to every aspect of Korea.

The local literati at seowon created educational system and tangible structures conducive to fully commit themselves to learning. Learning, veneration and interaction were the essential functions of the seowon which are closely reflected in their design. The seowon were led by sarim or the class of local intellectuals. The seowon developed and flourished as centres for the interests of the sarim.

The primary factor in siting the seowon was the association with venerated scholars. The second factor was the landscape, and seowon are located near mountains and water as part of appreciating nature and cultivating the mind and body. Pavilion style buildings in the seowon facilitated connections to the landscape.

The scholars studied Neo-Confucian classics and literary works and endeavoured in understanding the universe and becoming ideal person. They venerated late contemporary Neo-Confucian figures, and formed strong academic lineage spearheaded by venerated scholars. Furthermore, local literati made significant contribution to disseminating principles of Neo-Confucianism through various social and political activities based on the property.

Criterion (iii): The Seowon, Korean Neo-Confucian Academies are exceptional testimony to cultural traditions associated with Neo-Confucianism in Korea, in the form of educational and social practices, many of which continue. The seowon illustrate an historical process in which Neo-Confucianism from China was tailored to Korean local conditions resulting in academies which are exceptional testimony of this transformative and localising process in terms of function, planning and architecture.

Integrity

The property retains all attributes that reflect the Outstanding Universal Value of the property. These are the buildings and constructions constituting the seowon, ancillary buildings, entrance gate, dismounting stele, commemorative stele, immediate environments including hills, streams, roads, plantings and visual catchments. The attributes of the property are generally in excellent condition.

The major pressures on the property, development, insect damage, fire, earthquakes and visitors, are being adequately managed. However, they should continue to be monitored.

Authenticity

The property meets the requirements of authenticity. The form and design, and materials and substance are basically intact. The use and function of the seowon, and their traditions, are largely as they were through history,

although noting that the educational role has been largely diminished. The location and setting of the seowon have been generally retained, although it is noted that two components have been relocated in the historical past. The intangible heritage, and the spirit and feeling of the seowon have been generally retained.

Management and protection requirements

The primary protection of the property is provided by the *Cultural Heritage Protection Act*, with additional protection offered by other heritage laws enacted by the Cultural Heritage Administration of Korea. These other laws are the *Act on Cultural Heritage Maintenance, Etc.* and the *Act on the Safeguarding and Promotion of Intangible Cultural Heritage*. The laws are supported by Presidential decrees and ministerial orders.

The nine components are all state-designated heritage.

These legal instruments play a major role in ensuring the systematic conservation of the property in terms of carrying out repairs and safeguarding venerations.

The relevant provinces have also prepared heritage protection ordinances based on the *Cultural Heritage Protection Act*. These ordinances also offer a basis for the establishment and operation of an organisation for the integrated management of the property.

The management system comprises the Seowon Foundation, seowon steering committees, and central and local (provincial and municipal) governments. The *Cultural Heritage Protection Act* requires the property to be managed by the relevant local government or seowon community. The Seowon Foundation is in charge of integrated management of the property. The components are managed on a daily basis by government and seowon personnel, with the seowon steering committee responsible for operations and management.

The central government Cultural Heritage Administration provides support and supervision. Local governments also provide support to the Foundation. Conservation expertise is available from the Cultural Heritage Administration as well as the relevant local governments.

Each seowon has a comprehensive maintenance plan which is equivalent to a management plan. In addition, there are a range of key conservation and management manuals and guidelines. An integrated management document is being developed.

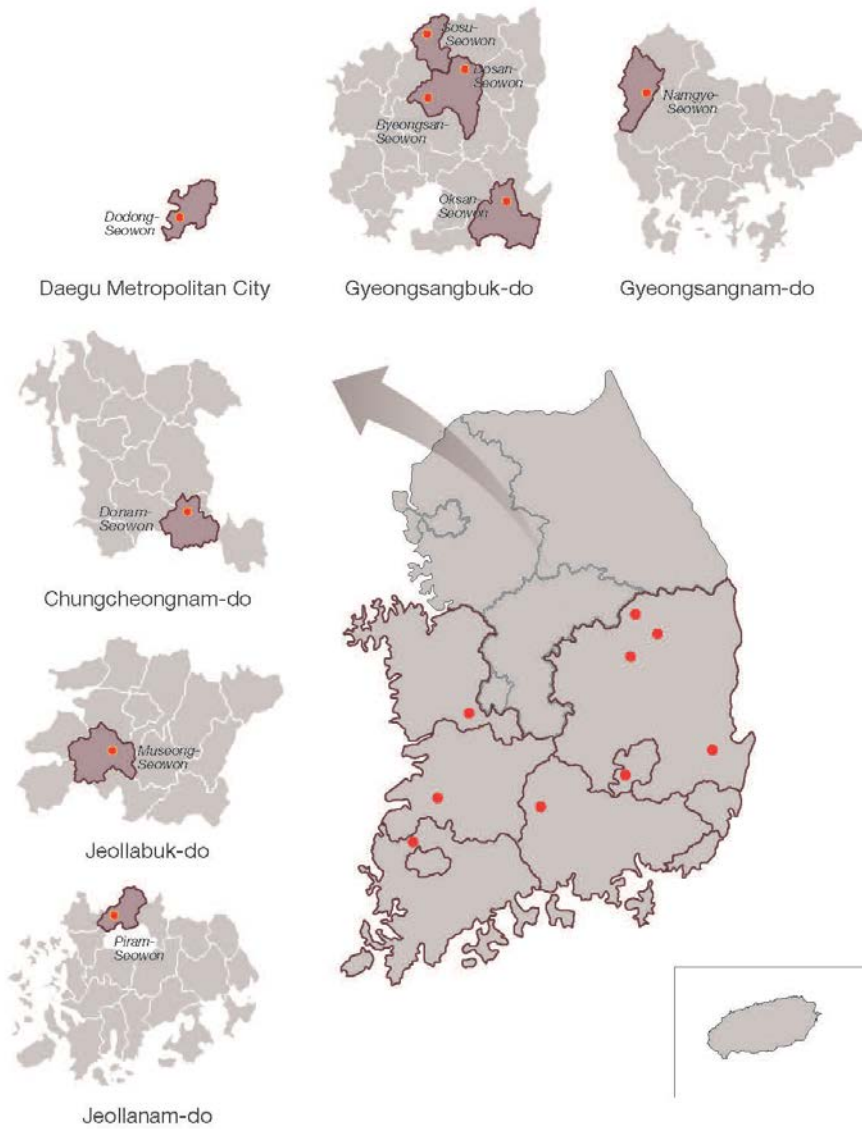
Some risk preparedness exists, and additional planning and systems are being developed.

Current visitor management arrangements are satisfactory although a better integrated presentation of the nine components as a single property is needed.

Additional recommendations

ICOMOS further recommends that the State Party give consideration to the following:

- a) Completing the development of an overarching management document for the seowon Academies,
- b) Further developing an integrated presentation of the nine components as a single property;



Map showing the location of the nominated components



Aerial View of Byeongsan-seowon



Eungdodang Lecture hall at Donam-seowon



Learning area of Dosan-seowon



Veneration area of Dodong-seowon

IV Cultural properties

- A Africa**
New nomination

- B Arab States**
New nominations
Nomination deferred by previous session of
the World Heritage Committee

- C Asia – Pacific**
New nominations

- D Europe – North America**
New nominations

- E Latin America – Caribbean**
New nominations

Großglockner High Alpine Road (Austria) No 1556

Official name as proposed by the State Party

Großglockner High Alpine Road

Location

Federal Provinces of Carinthia and Salzburg
Austria

Brief description

The Großglockner High Alpine Road in the southern Austrian federal provinces of Salzburg and Carinthia was designed to allow tourists to experience and enjoy the scenic qualities of the Hohe Tauern mountain landscape of the eastern Alps, as well as the driving experience itself. Designed and built between 1924 and 1936 under the supervision of civil engineer Franz Wallack, the Großglockner road demonstrates technological expertise in road construction as well as the expansion and exploitation of tourism in a spectacular high-mountain landscape. In addition to the entire 48 km course of the two-lane road (with its 36 hairpin bends), the nominated property includes the road's terminal points, two access roads, viewpoints, bridges, tunnels, shelters, drainage structures, retaining walls and peripheral structures and buildings.

Category of property

In terms of categories of cultural property set out in Article I of the 1972 World Heritage Convention, this is a *site*.

1 Basic data

Included in the Tentative List

12 January 2016

Background

This is a new nomination.

Consultations and Technical Evaluation Mission

Desk reviews have been provided by ICOMOS International Scientific Committees, members and independent experts.

An ICOMOS technical evaluation mission visited the property from 10 to 14 September 2018.

Additional information received by ICOMOS

A letter was sent to the State Party on 12 October 2018 requesting further information about maps, boundaries, proposed justification of Outstanding Universal Value, authenticity, protection and management.

Additional information was received from the State Party on 9 November 2018 and has been incorporated into the relevant sections of this evaluation report.

An Interim Report was provided to the State Party on 21 December 2018 summarizing the issues identified by the ICOMOS World Heritage Panel. Further information was requested in this Report regarding the comparative analysis, justification for criterion (i), changes to the road over time, landscape protection, visitation and measures to address the impacts of climate change.

Additional information was submitted to ICOMOS on 27 February 2019 and has been incorporated into the relevant sections.

Date of ICOMOS approval of this report

13 March 2019

2 Description of the property

Note: The nomination dossier and additional information contain detailed descriptions of this property, its history and its state of conservation. Due to limitations on the length of evaluation reports, this report only provides a short summary of the most relevant aspects.

Description and history

Located in Austria's federal provinces of Carinthia and Salzburg, the Großglockner High Alpine Road is a scenic road through alpine areas with a range of associated features.

The 48 km of road has a bitumen surface 7.5 m wide providing two lanes of traffic. The road was designed to maximize the aesthetic experience of driving through and viewing the high alpine landscape of the Hohe Tauern, which includes the highest mountain in Austria, the Großglockner. This design includes a constant gradient of 9 percent on the main route and 12 percent on the access roads, and includes 36 hairpin bends.

In addition to the road itself, the associated features include kerbstones, distance markers, crash barriers and other safeguards, embankments, stone retaining walls, parapets, bridges, buildings, tollgates, tunnels, telephone shelters, viewpoints and rest and parking areas.

Early roads in the vicinity date back as far as the Roman era. In the Middle Ages these roads came to be used as trade routes to and from Venice as well as for local traffic.

From the middle of the 19th century, mountain tourism had already become an important activity in the vicinity of the Großglockner – the highest mountain in what is today Austria.

Early modern roads in the vicinity date from the early 20th century. Initial planning of the Großglockner High Alpine Road began in 1922 and was further developed by a team of architects headed by civil engineer Franz Wallack

in 1924-1925. It was constructed between 1930 and 1935. The road represents the popularization of discovery tourism in the high mountains of Europe at a time when motor vehicle-based tourism was first developing in the 1920s and 1930s.

At the time of planning the road, the strongest political supporter for it was the then-Governor of Salzburg, Franz Rehrl, who obtained broader political support for the project and funding from the federal level of government. The road project was undertaken with the particular support of the Provincial Parliament in Salzburg, although funding ultimately came mostly from the federal government of Austria. In part, political support was tied to the employment opportunities this project promised during a period of high unemployment. Securing the political and financial support for the project was difficult because of construction challenges in the high alpine environment.

The overall concept for the road, its detailed planning and its construction management were all originally overseen by Wallack, who was awarded the contract in 1924. He also developed the project's preservation concept, marketing concept and corporate identity.

The road, which was carefully planned and built into the alpine landscape, was developed as a toll road for tourists. From the start, the project included provisions for restaurants, hotels and other facilities.

The road was designed and managed according to specific guidelines related to signage, road structures and building construction, as well as maintenance of the road itself. Construction of the road relied on geological investigations and the use of large-scale structures for avalanche protection. Use of local materials in construction was an important consideration.

The road was designed with maximum regard for the landscape while remaining technically feasible and economically viable. The road was intended to blend harmoniously into the landscape and provide as many beautiful views as possible. The road, landscape and views were conceived of as a connected entity.

An earlier Glockner road existed prior to the creation of Wallack's new High Alpine Road. Wallack was originally contracted to renovate this existing road into an alpine pass. Realizing the potential of this road, Wallack instead proposed to construct an entirely new form of road. The road as originally proposed was to be 3 m wide, but Wallack provided plans for a two-lane road more than 5 m wide. In the end, the new High Alpine road followed only a part of the old road's route.

Because of financial restrictions on government spending, the project was to be formulated and undertaken by a public limited company which could use private funds. However, it was not until 1931 that the company was actually formed.

On 3 August 1935, the road was officially opened by the President of Austria, although it was not until 1936 that the last section of road was actually completed. The initial road had a gravel surface.

At the time the road was constructed, it was a flagship for the young Austrian republic, helping to define its identity in the period after the First World War. The road was publicized, and represented Austria at a number of international exhibitions.

After the opening and until the Second World War the importance of the road increased, and it was featured in mountain racing events. After the war, the road was enlarged to adapt to growing visitor interest. Visitor numbers continued to grow into the early 1970s. The road was also regularly used from the 1950s onwards as a test track for European automobile manufacturers.

The history of the road after completion includes its widening, begun in 1938, re-finishing with bitumen by 1939, maintenance and safety work, new car park and rest areas, a new multi-storey car park, several museums, new viewpoints, and cooperation with the Hohe Tauern National Park, which was established in 1971.

That year, the road posted a record 1.2 million visitors. The road currently brings about 800,000 to 900,000 tourists into the National Park each year. It continues to play a significant role in regional tourism, as a test track for the automobile industry, for rallies and as a venue for recreational as well as competitive cycling.

The company Großglockner Hochalpenstrassen AG (GROHAG) has operated since 1931 when it first managed construction of the road, and it manages the nominated property to the present day, with marketing and conservation programs that are consistent with its original planning.

Boundaries

The nominated property has an area of 126.35 ha, and a buffer zone of 15,930.03 ha.

The nominated property's boundary incorporates all features related to the claimed Outstanding Universal Value and generally corresponds to a linear corridor which includes the road for its full extent from tollgate to tollgate. The boundary corridor has an irregular form of variable width.

The buffer zone is generally delimited by the mountain ranges and peaks that are visible from the road. It provides adequate protection for the nominated property. In particular, it protects views from the road to the high alpine environment.

State of conservation

As noted in the history above, the nominated property has been managed in accordance with specifications developed at the time of its original planning. This has included ongoing repairs and maintenance as needed. In

one sense, this adherence to original specifications could be considered a form of conservation. At the same time, the road has been subjected to a number of adaptations to accommodate increasing numbers of visitors as well as to address changing standards for road safety.

Based on the information provided by the State Party on 9 November 2018 and the observations of the ICOMOS technical evaluation mission, ICOMOS considers that the state of conservation is generally good. There are some detailed issues, which would benefit from improved procedures, such as adopting a conservation approach for the retaining walls and parapets. In addition, each building and structure listed as a monument would benefit from a detailed condition report and the development of an associated maintenance schedule.

Factors affecting the property

Based on the information provided by the State Party and the observations of the ICOMOS technical evaluation mission, ICOMOS considers that the main factors affecting the nominated property are the possibilities of inappropriate tourism development, infrastructure development, and severe weather and climate change.

As regards tourism activity, there is the potential for new tourism facilities to be proposed, and such facilities need to be fully justified, carefully located and sensitively designed so as to sustain the proposed Outstanding Universal Value, authenticity and integrity of the nominated property.

ICOMOS requested additional information in its Interim report on the potential increase in traffic numbers and current or future measures to manage traffic. The State Party advised in February 2019 that it is not expecting a significant increase, that current numbers are well below peak visitation in the 20th century, and that a range of measures are already in place to manage traffic at peak times.

In the same way, ICOMOS considers that various forms of infrastructure development may be proposed that could have a negative impact on the proposed Outstanding Universal Value of the nominated property, including infrastructure related to transport, electrical distribution and telecommunications.

The high alpine environment is obviously subject to severe weather events and related effects, especially in the form of snowfall and avalanches, and melt water or rainfall causing erosion or even landslides.

Related to such weather events is the larger issue of climate change. As the road has been conceived as a scenic road around the mountains, climate change may have a great impact on the purpose of the road itself by affecting directly the landscape. In the case of the nominated property, another issue is the possibility that the permafrost line may rise in altitude, which could lead to less stable mountain slopes.

ICOMOS requested additional information in its interim report on measures to deal with the potential effects of Climate Change on the landscape. The State Party provided information in February 2019 about awareness raising activities, research, and the contribution of vehicle use of the road to greenhouse gas emissions. However, no information was provided about measures to deal with these potential effects.

In each case, ICOMOS noted that the State Party is well aware of these factors that could affect the property

3 Proposed justification for inscription

Proposed justification

The nominated property is considered by the State Party to be of Outstanding Universal Value as a cultural property for the following reasons:

- The Großglockner High Alpine Road is a complete work of art and masterpiece of civil engineering and economic technology. The planning, design and realization of the road represents a highlight and testimony of scenic and high mountain road construction. The solution deliberately sought the best combination of aesthetic, technical and economic issues. The innovative character is found in many structural measures and specifications which continue to be implemented. The construction is supported by an exemplary form of management developed as part of the overall design of the road. The road is a prototype of a functioning historical scenic road in Europe, and it became a model for future mountain passes. It represents an innovative planning achievement and an attraction in the field of scenic high-mountain road construction and management in Europe.
- The road presents an important intersection of human values in areas of civil engineering, architecture, technical innovation and landscape aesthetics. It played a decisive role in shaping scenic road construction in the Alps and elsewhere in Europe. The road forms the most homogenous and most complete implementation of scenic road construction. The road combines the movements related to scenic roads, autobahns and scenic highways, and further interprets concepts developed for alpine railways.
- The road is the prototype of a scenic road reflecting an important moment in the history of the use of motor vehicles in society. The road corresponds to the lifestyle of an entire generation which enjoyed weekend excursions by automobile to experience driving and the landscape. It is one of the most popular scenic roads in Europe. The road reflects best practice design at the time of its creation. In addition, the importance of the design is reflected in its use by automobile manufacturers as a test road.

Comparative analysis

The comparative analysis is presented in three parts: European high alpine roads, including those in Austria; other European mountain and scenic roads; and mountain, scenic and coastal roads outside Europe. These three parts include World Heritage properties, properties on the Tentative Lists, and other properties that are comparable to the nominated property's proposed Outstanding Universal Value and attributes.

The focus of the analysis is on comparable national and international tourist roads. It includes alpine, scenic and coastal roads, as well as other roads used for tourism. The comparative analysis draws a sharp distinction between roads where the associated landscape forms a panoramic backdrop but is not part of the site, as is the case with the Großglockner High Alpine Road, and other roads where the landscape is part of the site, as is the case, for example, with the United States of America's scenic parkways.

The analysis notes that the era when the Großglockner road was created includes the building of German autobahns, the German Alpine Road, the Vienna High Road and the scenic parkways in the United States of America. It notes the contrast with the sculpted highway landscapes in America and the German Reichsautobahn, both examples of road construction where technology was used to overcome the impediments of nature. It also notes a distinction between scenic roads built for the purpose of enjoying the landscape and utilitarian roads built to provide the fastest possible connection between points.

The analysis further notes that the Großglockner High Alpine Road triggered a movement for scenic roads which resonated internationally, examples being the Susten Pass (Switzerland) and the German Alpine Road (Germany).

Significant early alpine roads are noted, including the Simplon Road (Switzerland) from around 1800 and the Stelvio Pass (Italy) from 1820-1840.

The analysis is based on a range of characteristics relevant to the nominated property, including whether the compared road was a prototype; whether a complete construction, operating and branding concept existed; technical equipment, gradients and accessibility; transport engineering, policy and strategic importance; influence on the surroundings; whether the road was a new construction for a purely scenic purpose or an adaptation of an existing route into a scenic road; and whether the road was a hybrid form of scenic and regular road without a tourism-related background.

The analysis identifies 37 comparable properties, mainly from Europe but also from other parts of the world.

The analysis notes that the World Heritage List contains no properties inscribed as alpine or scenic roads as such. One of the roads included in the analysis, the Great Dolomite Road, is partly within the buffer zone of The Dolomites World Heritage property (Italy, 2009, criteria (vii) and (viii)).

However, the road itself is not identified as an attribute supporting the Outstanding Universal Value of the property.

The analysis also considers two examples of railways in alpine regions which are on the World Heritage List, the Semmering Railway (Austria, 1998, criteria (ii) and (iv)) and the Rhaetian Railway in the Albula / Bernina Landscapes (Switzerland and Italy, 2008, criteria (ii) and (iv)). The comparative analysis suggests the development of alpine railways has some parallels with the development of alpine roads.

The analysis considers that many of the identified properties are not comparable to the Großglockner High Alpine Road for various reasons. For example, in the case of the Gaisberg Road in Austria from 1929, while built for tourism the road is much smaller than the Großglockner road and has no comparable overall concept in its planning, operation and branding. The Silvretta High Alpine Road (Austria), while a scenic road today, was originally built for normal transport. The Gerlos Pass (Austria) was never intended to be purely for tourism-related purposes, was not a prototype, and did not have a comparable overall concept, as was the case with the Großglockner road. On the other hand, the Gerlos Pass shows the great influence wielded by the Großglockner High Alpine Road. The Vienna High Road (Austria), completed in the 1930s, was conceived from the start as a scenic road. It also had a comparable focus on landscape conservation. However, it was not a prototype for alpine panoramic roads, and it did not have a complete planning, building and management concept.

In the case of Skyline Drive in Virginia, United States of America, while the period and background are comparable and it was built for the purpose of creating a scenic experience, it differs from the Großglockner road in the greater extent to which the parkway's landscape was shaped and altered, and that it was not a prototype. Similar comments are made about the Blue Ridge Parkway in Virginia and North Carolina, United States of America.

The analysis concludes that many roads are now designated as scenic roads, but they are very often based on regional and national transport routes which were only later turned into scenic roads, or marketed in this way. Other roads differ vastly in their basic function and historical importance from a military-strategic point of view, and these are not purely scenic roads. Other differences relate to their historical roles. Many roads originated as tracks and were developed into roads in the 19th century. They were limited to postal, military and commercial uses. Additionally, some of the roads have changed greatly over time.

ICOMOS requested in its interim report that the comparative analysis be developed to consider a wider historical cultural context in relation to the broader theme of designed scenic routes of the period. The State Party provided in February 2019 a summary of the existing comparative analysis, highlighting that some of the roads considered were built as scenic roads, while others became scenic or tourism roads. The State Party also

stressed the influence of the Großglockner road as a model for later roads.

ICOMOS considers that the comparative analysis is too constrained by limiting the scope to scenic alpine roads. While a broad range of roads globally and in a range of environmental contexts are initially considered in the comparative analysis, all but scenic alpine roads are considered comparable to the Großglockner road. This context is too narrow and not sufficiently developed to support claims of Outstanding Universal Value.

The most appropriate comparative geo-cultural area, according to the potential Outstanding Universal Value of the nominated property, would be global rather than regional, since the use of motor vehicles in society was and continues to be a global phenomenon.

The comparative analysis also fails to fully consider the philosophical ideas inherited from European Romanticism which underpin the concept of scenic roads, which can be conceived and constructed as integrating the road into sublime natural landscapes for the development of motorized tourism.

The broader scope that should be considered would be designed scenic routes of this era, in a global context. While roads in alpine landscapes have some distinctive features, overall there is much in common with historic scenic roads of the 1920s and 1930s from a range of environmental contexts beyond alpine areas, and in parts of the world beyond Austria and Europe. This context would need to be better explored in a global thematic framework, to develop the scope, typology and comparable examples. In particular, examples such as the Blue Ridge Parkway, Skyline Drive and Columbia River Highway in the United States of America would need more careful consideration.

Among the main arguments made in the analysis regarding other comparable properties is that they involved significant changes to the landscape, and/or followed earlier paths or routes, and/or were not purposefully designed as scenic roads. ICOMOS considers these arguments are not compelling. For example, the scale of landscape intervention required to construct the Großglockner High Alpine Road was itself substantial.

In addition, the suggestion that other examples are not comparable because they had simply followed earlier routes in part or whole, rather than being purpose-built, minimizes the extent to which the Großglockner High Alpine Road also partly follows earlier paths and roads.

ICOMOS does not consider that the comparative analysis justifies consideration of this property for the World Heritage List at this stage.

Criteria under which inscription is proposed

The property is nominated on the basis of cultural criteria (i), (ii) and (iv).

Criterion (i): *represent a masterpiece of human creative genius;*

This criterion is justified by the State Party on the grounds that the Großglockner High Alpine Road is a complete work of art and masterpiece of civil engineering and economic technology. The planning, design and realization of the road represents a highlight and testimony of scenic and high mountain road construction. The solution deliberately sought the best combination of aesthetic, technical and economic issues. The innovative character is found in many structural measures and specifications which continue to be implemented. The construction is supported by an exemplary form of management developed as part of the overall design of the road. The road is a prototype of a functioning historical scenic road in Europe, and it became a model for future mountain passes. It represents an innovative planning achievement and an attraction in the field of scenic high-mountain road construction and management in Europe.

ICOMOS requested in its interim report a reinforced understanding of the innovative work of the road's designer. The State Party provided additional information in February 2019 about the contribution of Wallack in many aspects of the realisation of the road, highlighting his creativity in the design of the rotary snow plough, and the development of maintenance standards (Glocknernorms). The views of a famous architectural critic are also offered, referring to the road as an *"imposing pioneering feat of high alpine road construction... [and] a very special kind of technical and architectural complete work."*

ICOMOS considers that the nominated property illustrates the coherence and overriding influence of a single designer, and is to some extent a creative achievement. The coherence of the whole property includes its historic management structure, distinctive badging and long-standing conservation effort. However, the creativity regarding the engineering design of the road itself, and weaknesses in the scope of the comparative analysis cannot support the claimed justification under this criterion.

The nomination does not make a convincing case that Wallack rose above conventional engineering competence to endow this road with an interpretation of a romantically inspired revelation of a sublime natural setting to the degree that the nominated property can be said to have Outstanding Universal Value. A more complete analysis of drawings, writings and other documentation of the period would need to be carried out to demonstrate precisely how the design and construction of the Großglockner road could be considered innovative and outstanding.

ICOMOS considers that this criterion has not been justified.

Criterion (ii): *exhibit an important interchange of human values, over a span of time or within a cultural area of the world, on developments in architecture or technology, monumental arts, town-planning or landscape design;*

This criterion is justified by the State Party on the grounds that the road presents an important intersection of human values in areas of civil engineering, architecture, technical innovation and landscape aesthetics. It played a decisive role in shaping scenic road construction in the Alps and elsewhere in Europe. The road forms the most homogenous and most complete implementation of scenic road construction. The road combines the movements related to scenic roads, autobahns and scenic highways and further interprets concepts developed for alpine railways.

In its development of the comparative analysis in response to ICOMOS' request in the interim report, the State Party noted the Großglockner road was a model for most alpine roads built after 1935, including many examples in Austria, several in Switzerland and a few in other countries such as Germany. Most of the examples date from after 1970. The State Party also provided similar information as part of additional information offered in November 2018.

ICOMOS considers that this criterion is not yet justified in the context of the proposed Outstanding Universal Value. While the influence of the Großglockner High Alpine Road on scenic road construction in the Alps and elsewhere in Europe is documented in the nomination, this is not considered to be a sufficiently important interchange of human values within the meaning of the criterion. The geographic and thematic scope of influence is too narrow.

ICOMOS considers that this criterion has not been justified.

Criterion (iv): *be an outstanding example of a type of building, architectural or technological ensemble or landscape which illustrates (a) significant stage(s) in human history;*

This criterion is justified by the State Party on the grounds that the road is the prototype of a scenic road reflecting an important moment in the history of the use of motor vehicles in society. The road corresponds to the lifestyle of an entire generation which enjoyed weekend excursions by automobile to experience both driving and the landscape. It is one of the most popular scenic roads in Europe. The road reflects best practice design at the time of its creation. In addition, the importance of the design is reflected in its use by automobile manufacturers as a test road.

ICOMOS considers that the Großglockner High Alpine Road is a prototype, as noted above, and an important example of a scenic road, and welcomes the additional information submitted in this regard in November 2018. The stage in human history related to the emergent use of motor vehicles in society is significant, and global in extent. However, the weaknesses in the scope of, and issues considered in, the comparative analysis cannot

support the claimed justification under this criterion. Many of the identified qualities of the Großglockner road are also found in the other examples of early 20th century designed scenic roads in many different environments and regions around the world. Accordingly, a broader and more comprehensive comparative analysis would be very important to demonstrating whether the Großglockner road is an outstanding example, as required by this criterion.

ICOMOS considers that this criterion has not been justified at this stage.

ICOMOS does not consider that any of the cultural criteria have been justified at this stage.

Integrity and authenticity

Integrity

The integrity of the nominated property is based on the scenic alpine road and its features associated with the rise of motor vehicle-based tourism, and the need for the property to contain all the attributes necessary to convey the proposed Outstanding Universal Value. Integrity is also a measure of the intactness of the property, and the way major pressures are managed.

ICOMOS considers that the nominated property does not suffer from the adverse effects of development and/or neglect. However, it is noted the road and other features have been subject to change, especially adaptations to accommodate increasing numbers of visitors as well as to address changing standards for road safety. While there is a continuing need for care in the consideration of any repair work, adaptations and new developments, adequate preventative and other measures exist.

Authenticity

The authenticity of the nominated property is based on the attributes that convey its potential Outstanding Universal Value, which include the location and setting, form and design, materials and substance, use and function, spirit, and management system.

ICOMOS considers that the nominated property meets the requirements of authenticity with regard to its location and setting, use and function, spirit, and management system. The high alpine location and setting of the nominated property is unchanged, and it has been in continuous use as a scenic road since its creation. Its spirit continues to reflect motor vehicle-based tourism in a sublime natural landscape. Großglockner Hochalpenstrassen AG (GROHAG) has managed the property from 1931, during the period of its construction, to the present day.

With regard to the form and design, and materials and substance of the property, there have been changes made over time. ICOMOS requested further information in its interim report about the changes made to the road, including analytical documentation comparing the original

and widened road. The State Party provided additional documentation in February 2019 about these and other changes, noting the widening began as early as 1939, and otherwise the use materials sympathetic to the original. None the less, it is still unclear how extensive some changes have been.

Aspects of the design remain almost entirely original, including the general alignment of the road and its constant gradient. However, the road width and radii of hairpin bends have been altered, along with some other elements. The materials related to these changes are not original, as well as the road surface which is generally modern.

ICOMOS considers that the requirements of integrity and authenticity have not been met at this stage.

Evaluation of the proposed justification for inscription

ICOMOS does not consider that the comparative analysis justifies consideration of this property for the World Heritage List at this stage. The context for the analysis is too narrow, being ultimately limited to scenic alpine roads, and in other ways the context is not sufficiently developed to support claims of the proposed Outstanding Universal Value.

Accordingly, ICOMOS does not consider that any of the cultural criteria have been justified at this stage.

ICOMOS also considers that the requirements of integrity and authenticity have not been met at this stage.

Attributes/Features

The identified features are all related to the claimed Outstanding Universal Value of the nominated property as a scenic alpine road.

The road location running through the high alpine environment defines the overall property. The primary feature is the road itself. The associated features include kerbstones, distance markers, crash barriers and other safeguards, embankments, stone retaining walls, parapets, bridges, buildings, tollgates, tunnels, telephone shelters, viewpoints and rest and parking areas.

ICOMOS considers that the features conveying the value of the property have been well identified, but that the nominated property cannot be said to demonstrate Outstanding Universal Value at this stage.

4 Conservation measures and monitoring

Conservation measures

The nominated property has been managed in accordance with specifications developed at the time of its original planning, including ongoing repairs and maintenance as needed. This adherence to original specifications can be considered a form of conservation. At the same time, the road has been subjected to a number of adaptations in

order to address changing needs, standards for road safety and other operational issues.

There is also a monument conservation plan for the overall property developed with the Federal Monuments Office. However, ICOMOS notes that this plan does not provide detailed guidance regarding important elements within the property, and consideration should be given to the preparation of conservation plans for each monument, including condition reports and recommended conservation actions.

Some specific issues would benefit from improved procedures, such as adopting a conservation approach for the retaining walls and parapets. In addition, each building structure listed as a monument would benefit from a detailed condition report and the development of an associated maintenance schedule.

Regular programmed maintenance is generally undertaken on the nominated property, in addition to repairs undertaken in response to issues identified through regular inspections.

Funding for conservation measures appears to be adequate.

While improvements can be made to conservation measures and maintenance work, there are apparently no urgent actions required.

Monitoring

There is a monitoring program for the nominated property. In particular, the property manager has been monitoring its condition since 2014-2015 in cooperation with the Federal Monuments Office, within the framework of the Monument Protection Act, conservation plan and an integrated management system for the nominated property.

Monitoring relates to the road itself, to visitors and to the surrounding landscape. The timeframe for monitoring various indicators has been established.

ICOMOS considers that the conservation measures are generally adequate, although some specific aspects should be improved. In addition, ICOMOS considers the monitoring approach to be satisfactory.

5 Protection and management

Documentation

Apart from the road itself, there is an inventory of the associated features of the nominated property maintained by the property manager. In addition, Großglockner Hochalpenstrassen AG (GROHAG) maintains an extensive archive on the property which dates back to the origins of the road.

An aspect that could be improved relates to the development of an inventory of all the walls and parapets, with an emphasis on materials, coursing and mortar composition. This would assist the improved conservation of these features.

Legal protection

The nominated property and buffer zone are comprehensively protected.

The nominated property is protected by both national and provincial legislation. At the national level, the road is protected as a National Monument under the Monument Protection Act 2015. At the provincial level, the road is protected by the Carinthian Nature Conservation Act 2002 and the Salzburg Nature Conservation Act 2013.

Legislation related to Hohe Tauern National Park plays a central role in protecting the buffer zone. The relevant provincial legislation is the National Park and Biosphere Park Act 2007 in Carinthia, and the National Park Act 2015 in Salzburg.

ICOMOS requested in its interim report further explanation on the legal mechanisms to ensure effective landscape protection. In response received in February 2019, the State Party provided explanations as regards landscape protection. The surrounding landscape contained into the Buffer zone is fully protected, on federal level (National Park designation, Natura 2000) and national level (nature conservation acts). The surrounding landscape is protected as part of the Hohe Tauern National Park.

Management system

Großglockner Hochalpenstrassen AG (GROHAG) is a public company (though government-owned) that was established near the beginning of the road project. It is responsible for the operation and management of the road.

The nominated property has an integrated management system which includes quality management procedures covering 15 areas, as well as environmental management. There is also a monument conservation plan developed with the Federal Monuments Office.

The management plan includes a range of World Heritage management information, the monument conservation plan, and a number of the relevant processes from the integrated management system. Risk management is addressed in the integrated management system.

ICOMOS noted that the management plan is mainly based on the original design of the road, without taking into consideration the changes that occurred and will occur, by nature, to this road. It would be necessary that the State Party integrate the changes dimension of the road into its Management plan, in order to better ensure the conservation and management of the property.

The nomination dossier refers to the possible development of a separate World Heritage management plan. However, in discussions during the ICOMOS technical evaluation mission it was indicated by the State Party that such an additional plan was not necessary, and rather the integrated management system could be modified to include World Heritage-related responsibilities.

While GROHAG has considerable expertise in the management of the nominated property covering a wide range of matters, there is scope to enhance staff heritage conservation expertise by additional training.

There appears to be sufficient funding available for the management of the nominated property.

The company appears to be well-managed with a clearly articulated mission and objectives, and a strong emphasis on cooperation with stakeholders.

Visitor management

Interpretation of the nominated property for visitors is undertaken through a range of methods, including indoor and outdoor exhibitions, interpretive panels, pamphlets and a website.

The road and its facilities are well equipped to handle tourists and other visitors.

ICOMOS requested additional information in its interim report on the potential increase in traffic numbers and current or future measures to manage traffic. The State Party advised that it is not expecting a significant increase, that current numbers are well below peak visitation in the 20th century, and that a range of measures are already in place to manage traffic at peak times.

The planning and maintenance of tourism infrastructure is addressed in the integrated management system.

Community involvement

Through the development of the World Heritage nomination, a steering group was established involving municipalities representing residents, agriculture and forestry landowners, and industry, tourism and environmental groups. The nomination process has also involved providing information to the public through a variety of means.

There are indications of considerable pride about the nominated property at the community level.

GROHAG places considerable emphasis on cooperation with stakeholders.

On the other hand, it is noted that some natural environment organizations are concerned about the impact of the road on the surrounding National Park, especially given the possibility of increased tourism activity.

Evaluation of the effectiveness of the protection and management of the nominated property

Documentation related to the nominated property is generally satisfactory, though it could be improved with regard to inventories and conservation plans.

The nominated property and buffer zone are comprehensively protected, including the landscape in the buffer zone.

Management of the nominated property appears to be satisfactory, although there is scope to enhance staff conservation expertise and integration of the changes dimension of the road into its management plan.

Visitor management and community involvement are satisfactory, including arrangements for traffic management. It is noted some natural environment organizations are concerned about the impact of the road on the surrounding National Park.

ICOMOS considers that the requirements for protection and management are adequate, but improvements should be made regarding documentation, staff conservation expertise and integration of the changes dimension of the road into its management plan.

6 Conclusion

ICOMOS does not consider that the comparative analysis justifies consideration of this property for the World Heritage List at this stage. The context for the analysis is too narrow, being ultimately limited to scenic alpine roads. While a broad range of roads globally and in a range of environmental contexts are initially considered in the comparative analysis, all but scenic alpine roads are considered comparable to the Großglockner road. In other ways the context is also not sufficiently developed to support claims of Outstanding Universal Value. The broader theme that should be considered in a global thematic framework is that of designed scenic routes of this era, in a global context and in a range of environmental contexts. The analysis also needs to be revised to present more compelling arguments about the outstanding qualities of the nominated property.

Accordingly, ICOMOS does not consider that any of the cultural criteria have been justified at this stage. There is also doubt about the creativity of the engineering design of the road itself under criterion (i), and doubt about the influence of the road being sufficiently important under criterion (ii).

ICOMOS also considers that the requirements of integrity and authenticity have not been met at this stage. In particular, it is important to better understand the extent of changes to the road over time.

While conservation measures are generally adequate, some detailed aspects should be improved, such as by adopting a conservation approach for the retaining walls and parapets, and preparing a conservation plan including a detailed condition report with an associated maintenance schedule for each listed monument. In addition, ICOMOS considers the monitoring approach to be satisfactory.

The requirements for protection and management are adequate, but improvements should be made regarding documentation including inventories and conservation plans, and enhancing staff conservation expertise. It would be necessary as well that the State Party integrate the changes dimension of the road into its Management plan, in order to better ensure the conservation and management of the property.

7 Recommendations

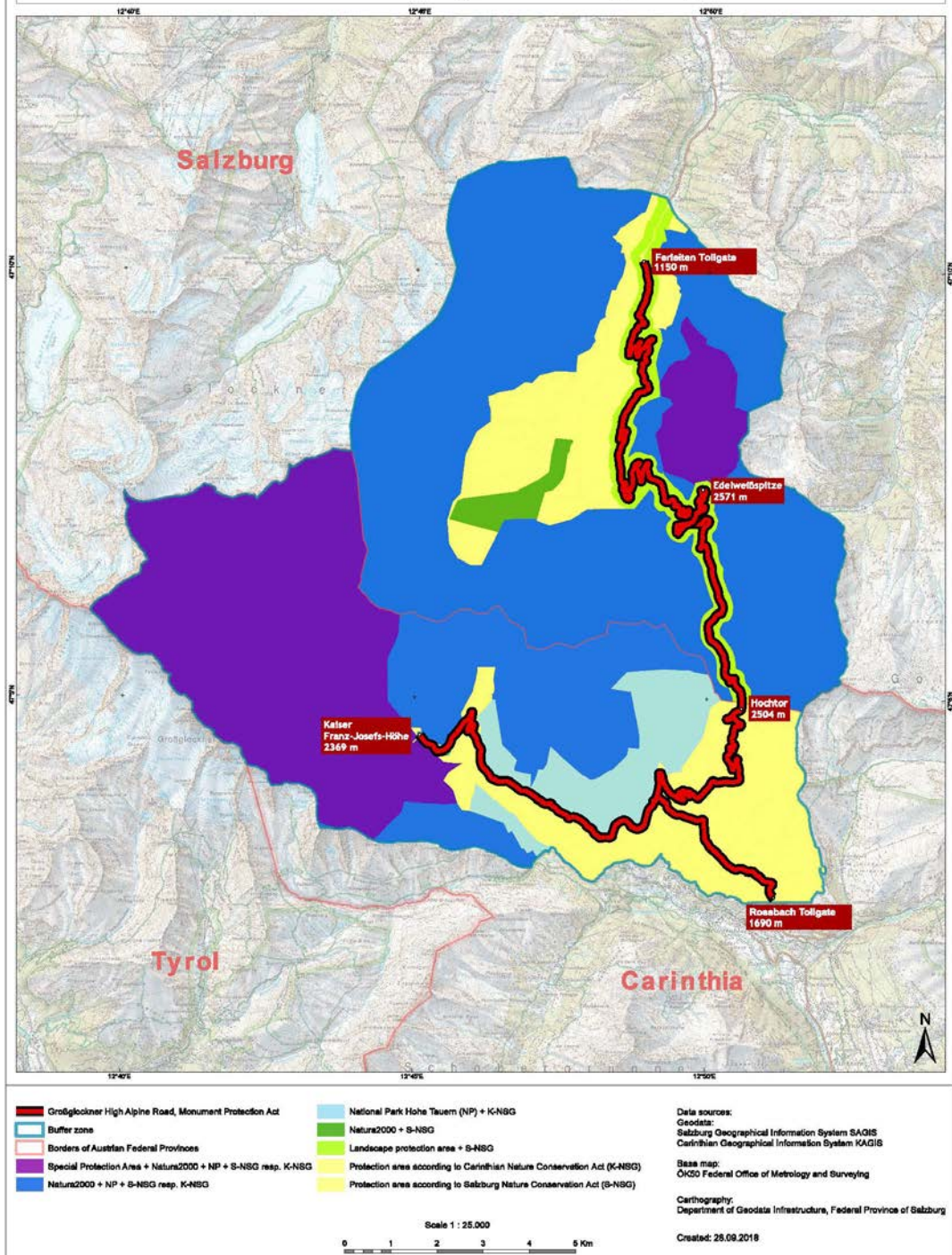
Recommendations with respect to inscription

ICOMOS recommends that the examination of the nomination of the Großglockner High Alpine Road, Austria, to the World Heritage List be **deferred** in order to allow the State Party, with the advice of ICOMOS and the World Heritage Centre, if requested, to:

- Reconsider if a robust case can be made based on a global thematic framework of designed scenic routes in a global context and in a range of environmental contexts which underpins a thorough and compelling comparative analysis, in order to bring into focus the potential significance of the nominated property.

Any revised nomination should be visited by a mission to the site.

Protection layers Nomination site Großglockner High Alpine Road



Revised map showing the boundaries of the nominated property (November 2018)



View to the Edelweißspitze



Panorama of the Fuscher Törl



Edelweißstraße and Edelweißspitze



Kaiser-Franz-Josefs-Höhe

Frontiers of the Roman Empire (Austria, Germany, Hungary, Slovakia) No 1608

Official name as proposed by the States Parties

Frontiers of the Roman Empire – the Danube Limes
(Western Segment)

Location

AUSTRIA

Federal State of Upper Austria (*Oberösterreich*):

Administrative districts (*Verwaltungsbezirke* and *Städte*)
of Schärding, Grieskirchen, Eferding, Linz-Land, Linz

Federal State of Lower Austria (*Niederösterreich*):
administrative districts (*Politische Bezirke*) of Amstetten,
Melk, Krems, St. Pölten-Land, Tulln, Wien-Umgebung,
Bruck an der Leitha

City of Vienna (*Wien*): administrative district (*Bezirk*) of
Innere Stadt

GERMANY

Free State of Bavaria (*Bayern*):

Regions (*Regierungsbezirke*) of Lower Bavaria
(*Niederbayern*), Upper Palatinate (*Oberpfalz*); counties
and municipalities (*Landkreise* and *Städte*) of Kelheim,
Regensburg, Straubing, Deggendorf, Passau

HUNGARY

Counties (*megyék*) of Győr-Moson-Sopron, Komárom-
Esztergom, Pest, Fejér, Tolna, Bács-Kiskun, Baranya
Budapest capital (*főváros*) and its III, V, XI, XXII districts
(*kerületek*)

SLOVAKIA

Bratislava Self-governing region (*Bratislavský
samosprávny kraj*): administrative district of Bratislava
Nitra Self-governing region (*Nitriansky samosprávny
kraj*): administrative district of Komárno

Brief description

The Danube Limes (Western Segment) extends to some 997km along the upper reaches of the River Danube. It encompasses those part of the frontiers of the Roman Empire that formed the northern and eastern boundaries of the Roman provinces of Raetia (eastern part), Noricum and Pannonia.

First defined in the Flavian dynasty (69–96 AD) and later further developed, the fortifications along the Western Segment consisted of a continuous chain of military installations along the southern banks of the river rather than a continuous artificial barrier. Legionary fortresses, forts, fortlets, and watchtowers were laid out between 10 and 30 kilometres apart. They were linked by an access road and serviced by the Pannonian fleet that patrolled the River Danube. Around the six legionary

fortresses and some forts, sizeable civilian towns were developed to serve the soldiers and to spread Roman culture to the edges of the Empire.

Although primarily for defence, in peaceful times the Limes also controlled trade and access across the river with, in the west, Germanic tribes and, in the east, Iranian Sarmatians with whom the Roman Empire had diplomatic treaties.

What characterises this section of the Roman Frontiers in contrast to others, apart from its riverine setting, is the way the military strategies that evolved to counter threats emanating from sustained large-scale migrations, particularly in the later years of the Roman Empire, are reflected in surviving remains, such as temporary camps, bridgeheads and closely spaced watchtowers in what is now Hungary.

The remains of 175 structures have been nominated, including those of all six Legionary fortresses.

Over the last 2000 years the river has changed its course in places as a result of natural causes, interventions to improve the flow of water, and, more recently, the construction of dams and reservoirs. This has led to the partial or total destruction of a few forts and in places the separation of sites from the river. During the same time, many of the forts have become the nucleus of later settlements.

Category of property

In terms of categories of cultural property set out in Article I of the 1972 World Heritage Convention, this is a serial trans-national nomination of 175 component sites.

1 Basic data

Included in the Tentative Lists

Austria: 09 February 2015 as “Frontiers of the Roman Empire”;

Germany: 04 February 2015 as “Frontiers of the Roman Empire - Danube Limes”;

Hungary: 26 June 2009 as “Frontiers of the Roman Empire – Ripa Pannonica in Hungary”;

Slovakia: 16 June 2002 as “Limes Romanus - The Roman antique monuments on the Middle Danube”.

Background

This is a new nomination.

Consultations and Technical Evaluation Mission

Desk reviews have been provided by ICOMOS International Scientific Committees, members and independent experts.

An ICOMOS technical evaluation mission visited the property from 25 September – 08 October 2018.

Additional information received by ICOMOS

An Interim Report was provided to the State Parties on 21 December 2018 summarising the issues identified by the ICOMOS World Heritage Panel. Further information was requested in the Interim Report including:

- Revision of boundaries of 12 nominated components in relation to the way they express their proposed outstanding Universal Value;
- Revision of the Buffer zone for 12 components and for many of the component sites in Hungary;
- Links between the components sites and the River Danube;
- Legal Protection for *Carnuntum Legionslager*;
- Conservation statements for component sites in Hungary;
- Summary Action Statement for components sites in Austria and Germany (Bavaria).

Date of ICOMOS approval of this report

13 March 2019

2 Description of the property

Description and history

The Danube Frontier (Western Segment) covers just less than half (997km) of the whole Danube frontier that extended around 2,400km from its source in what is now Germany to the Black Sea. And the Danube frontier was just one part of a much larger frontier of the whole Roman Empire that encircled the Mediterranean Sea.

Under the Emperor Augustus in 1st century CE, most of the regions along the southern flanks of the river Danube were annexed by the Romans and boundaries of new provinces were demarcated along the river. The Western Segment of the Danube Frontier constitutes the northern and eastern boundaries of those new provinces of Raetia (eastern half), Noricum, and Pannonia. The first permanent legionary fortresses were established at the time of the creation of these provinces in the early 1st century CE at Vindobona (Vienna), Carnuntum (Bad Deutsch-Altenburg, Brigetio (Komárom) and Aquincum (Budapest).

During the Marcomannic Wars (167–180 CE) against incursors, two further legionary fortresses were established at Regensburg and Enns. After this war, the frontier was repaired and strengthened at a time of considerable prosperity. During the 3rd century CE the frontiers were again damaged as a result of more major invasions from the north and east, and subsequently again repaired and re-organised. A century later, in expectation of more severe assaults, the military fortifications were remodelled and strengthened, with new watchtowers and bridgeheads being added. The last significant overall military building process took place at the end of the 4th century, when massive watchtowers, such as Bacharnsdorf, were constructed. The Western

Segment is characterised, especially, by this significant phase of late Roman activity.

In spite of these reinforcements, by the early 5th century, the frontiers finally succumbed to attacks by the Huns. And after the fall of the Western Roman Empire in 476CE, this Western Segment of the Danube Frontier was completely abandoned. Many partially destroyed Roman fortifications were subsequently occupied and reused and served as the nuclei for villages and towns.

Disposition of forts

The form and disposition of the Roman fortifications along the River Danube reflects the geo-morphology of the river as well as military, economic and social requirements. For most of its length the Danube frontier crosses wide floodplains, separated from each other by high mountain ranges that force the meandering river into deep, narrow gorges. These natural conditions are reflected in the size and positioning of military installations, with the gorges being secured by small elevated posts, and the plains by larger forts at river crossings or other strategic points overlooking the plains.

The backbone of the defence system was a string of six legionary fortresses. Each housed some 5,500 to 6,000 citizens. The provinces of Raetia and Noricum had one legion, while there were four in Pannonia. This larger number reflected Roman anxiety about powerful neighbouring tribes: the Germanic peoples in the north and the Sarmatians in the east.

Between the main legionary fortresses (*castra legionis*) were forts (*castella auxiliariorum*) for auxiliary troops built at an average distance of 15 to 20 km and between these the border was supervised by watchtowers or signal towers. The density of watchtowers varies according to the topographical and political conditions. In Hungary, for instance, particularly during the uncertain later Roman period, they were built only 1 to 2 km apart.

At some legionary fortresses there were also counter-forts' built on the opposite side of the Danube such as at Iza or Komárom, and Budapest and probably Carnuntum. Bridgeheads were also erected in the late Roman period on both sides of the Danube and served as fortified river ports.

A particular characteristic of this segment of the frontier is the evidence of more than 40 temporary camps around Kelemantia and Brigetio built to house troops during military offensives and the density of watchtowers in what is now Hungary.

The first defences constructed in the 1st century CE were earthen ramparts with a timber front and timber towers/gates. From the 2nd century the walls were rebuilt in stone, as were those of auxiliary forts, and their roofs covered with clay tiles.

All these structures were linked by a military Limes road and by the Pannonian fleet that patrolled the River Danube. There is evidence for harbours at Straubing, Regensburg, and Aquincum.

A chain of civilian settlements developed near or around the main bases to house camp followers and traders, and these had all the accoutrements of Roman towns such as baths, religious shrines and, at the largest settlements of Aquincum and Carnuntum, amphitheatres. Governor's palaces were also constructed near fortresses, and the one in Budapest, the Hercules Villa, is highly decorated with mosaics. A further palace at Carnuntum has recently been defined by aerial photography.

Choice of component sites

The 175 selected component sites have been chosen to represent all aspects of the frontier system, both military and civilian, and all its main periods of construction from the establishment of the frontier on the line of the Danube in the 1st century CE until its disintegration after the fall of the Western Roman Empire in the 5th century CE.

The overall series of sites thus reflects the diversity of functional military responses to different topographic conditions that evolved in different sectors of this part of the frontier over its long period of use, and the settlements that both supported the military and fostered trade.

Although a great effort has been made to set out how each of the component sites contributes to the defined Outstanding Universal Value, a few of the statements need improvement/modification (see below).

Boundaries

The 175 nominated component sites have an area of 1,580.0483 ha, and buffer zones of 4485.1674 ha.

A general shortcoming of the nomination document is that it is difficult to relate the extent of archaeological features and monuments that have been nominated to the cadastre maps that delineate component site and buffer zone. Integrated base maps are needed that combine the plan of the archaeological features and monuments with the boundaries of the component sites and its buffer zone. Such maps should also identify areas of high research potential. It should be noted that the *Operational Guidelines* emphasise that boundaries should include *'those areas which in the light of future research possibilities offer potential to contribute to and enhance such understanding'* of the Outstanding Universal Value of the property.

Nominated components

As presented in the nomination dossier, there was some inconsistency in the way that the different States Parties have defined the boundaries of the nominated sites. Generally, however, the boundaries have been drawn very tightly around the known and recorded extent of each individual component as confirmed by existing documentation and survey.

For some sites, this approach led to evidence for functions being relegated to the buffer zone which means that not all of the features that convey their significance were included within the nominated area. Additionally, it was not always clear that the nominated areas define areas of known high archaeological potential. In many but by no means all sites, areas of high potential were included in the buffer zone.

The States Parties were requested to address this situation in the Interim Report by amending the boundaries for 12 component sites and these have been addressed in the additional information submitted on 28 February 2018.

As nominated, there was considerable variation and inconsistency in the way in which buffer zones were applied for all the sites and in some cases it was not clear how they supported the component sites. In Hungary the buffer zone had been defined as extending the boundary of property 'lots' that contain elements of the nominated component sites. This may be administratively convenient but generally does not provide a coherent or logical protection around the component sites. Following a request in the Interim report, considerable effort has been made to improve many of the buffer zones. For some sites in Hungary, the constraints of plot definition have to be accepted.

State of conservation

The present state of conservation of the component sites varies considerably across the Danube Limes nomination. This is set out in detail in the nomination dossier. A significant factor is that many of the component parts have been subjected to considerable change and undergone significant reuse in the intervening period since the frontier fell out of use. In some cases, this has involved fundamental changes to the setting of the component sites as well as major alteration to their original form (including removal and/or alteration of structural elements).

The majority of the component sites visited by the ICOMOS missions were seen to have adequate state of conservation, although in certain instances the condition of conservation set out in the nomination dossier may have been a little overestimated.

Condition of exposed/conserved walls

At a number of nominated component sites visited by the mission, including some under protective covering structures, previously conserved and restored walls on display were in less than good condition and clearly require renewal as part of ongoing regular/cyclical conservation and maintenance programmes. These sites are: Rusovce – Gerulata (ID32), Iža - Kelemantia (ID46), Nyergesújfalu Sánc-hegy – Crumerumm (ID49), Tokod (ID50), Esztergom Búbánatvölgy – Solva 8 (ID52), Pilismarót Kis-hegy – Ad Herculem (ID56), Visegrád Gizellamajor (ID58), Lepence – Solva 35 (ID59), Sibrikdomb (ID61), Leányfalu Benzinkút – Cirpi 2 (ID 65), Szentendre – Ulcisia (ID68), Budapest district 22

Nagytétény – Campona (ID 73), Százhalombatta-Dunafüred – Matrica (ID75b), and Dunaújváros Öreghegy – Intercisa (ID78). In some but not all cases assurances were provided that such work was already funded and programmed; for the remainder, this work will need to be incorporated into the management planning process. Some of the sites not visited will undoubtedly need to be added to this list.

Based on the information provided by the States Parties and the observations of the ICOMOS technical evaluation mission, ICOMOS considers that the overall state of conservation of the majority of archaeological remains and structures is good, while the conservation of the setting of the component sites is highly variable.

Factors affecting the property

Based on the information provided by the States Parties and the observations of the ICOMOS technical evaluation mission, ICOMOS considers that the main factors affecting the property, which all relate to the setting of the component sites, are the following:

Wind farms

A large existing wind farm at Carnuntum has a considerable adverse impact on the setting of this component site in terms of reducing the way it dominates the landscape as was originally intended.

When these turbines come to the end of their useful life, they should not be replaced. Regulations also need to be put in place to ensure that the landscape settings of other component sites are not compromised by new wind farms.

Views

The River Danube as the Roman boundary is the essential dynamic link between all the component sites but its visibility has in place been compromised and some components have lost entirely their original relationship with the river. Although this is in part as a result of the way the river has changed its course, or of long-standing urban development, in other places it relates to of lack of appropriate land management or lack of appropriate protection.

The Interim Report requested the States Parties to analyse precisely where views of the river exist, or could exist if vegetation were differently managed and to strengthen protection and management of such views either by extending the buffer zone or defining protected views. In response received in February 2019, links to the River Danube have been addressed where feasible and measures added to management plans. There is still a need for more action in this sphere to identify all views and put in place appropriate improvements and protection.

Recognition has been provided by States Parties of the need for more research into the historic course of the Danube.

Infrastructure

The setting of many of the component sites of the Aquincum legionary fortress and its associated civilian settlement are severely impacted by transport infrastructure such as flyovers. Some component sites are impacted by water management constructions (e.g. dams and dykes) and other flood prevention or flood management measures (water retention zones) as well as active measures to control the flow of the Danube (dredging etc.). In Hungary a number of sites are impacted by flooding.

Although formal and legal mechanisms are in place that identify heritage considerations, these issues require effective coordinated management with the appropriate water and river authorities.

Agricultural activities

The nomination dossier suggests that if past agricultural activity is sustained at the same level as previously, then generally there will be no further damage to archaeological deposits. This may generally be true, but a proportion of the rural component sites under continued cultivation are extremely fragile and close to the surface - sometimes surviving as slight earthworks (e.g. fort platforms, watchtowers, roads). In these circumstances, even if deep ploughing is prohibited, such features can be vulnerable to damage and erosion by shallow ploughing. Use of chemical fertilisers and pesticides will also have an impact on buried archaeological material.

There is a need for a long term strategy to allow all sites and their buffer zones to be taken out of ploughing.

3 Proposed justification for inscription

Proposed justification

The proposed justification put forward by the States Parties consists of two parts, a justification for the series as a whole and detailed text on how each of the 175 components contributes to Outstanding Universal Value.

The justification for the series suggests that the Western Segment of the Danube Frontier can demonstrate Outstanding Universal Value for the following reasons:

- The river Danube formed a frontier from the 1st century AD for more than 400 years.
- The military infrastructures at carefully chosen sites consisted of fortifications of legionary fortresses and auxiliary forts with their associated civil structures, located at irregular intervals according to the regional topography.
- Clusters of temporary camps, fortlets, bridgeheads on both sides of the Danube and a chain of watchtowers along the river and the parallel Limes road are special assets of this property.
- The varying sizes and compositions of the garrisons recruited all over the Roman Empire

attempted a well-balanced system of linear survey and interaction with the hinterland and the areas beyond the river.

- The river itself belonged to Rome and was a transport route in military and civil, commercial sense.
- The frontier reflects the evolution of military strategies to counter the threats emanating from sustained large-scale migration. The wars of AD 66–180 and those in the middle of the 3rd century AD caused a serious disruption of the development of this frontier with the result of a strengthening of the military installations afterwards. The last significant overall military building process took place in the 4th century

This justification describes well the characteristics of this segment of the Frontier but does not quite articulate why it might be considered as having Outstanding Universal Value in terms of how much remains of the frontier, its ability to demonstrate how it operated, and most significantly the specificities of the military responses of this segment over time, combined with evidence for social and economic organisation. Most of these aspects are picked up in the justification for the criteria.

ICOMOS considers that the nomination dossier demonstrates the potential to justify Outstanding Universal Value. Despite some differences in the approach to selection by the various States Parties, the overarching rationale for the selection of the nominated components is broadly appropriate.

The Interim Report identified the need for a consistent approach to how the two temporary camps at Kelemantia and Brigetio are nominated: Brigetio was initially nominated while Kelemantia was in the buffer zone. These sites are clearly linked and part of the same general ensemble albeit on different sides of the river and are an exceptional phenomenon that directly contributes to the proposed Outstanding Universal Value.

The State Party of Slovakia has responded by including several camps in a new component site of Kelemania. The State Party of Hungary has separated the temporary camps at Brigetio into three groups surrounded by a single buffer zone.

Although only 21 of the 34 examples known at Brigetio are nominated, this is justified by the fact that the only nominated ones are those that are firmly dated while the existence and limits of the others are said to be only partially known. As the whole area is a significant archaeological landscape that was used by the Roman army to construct temporary camps at this point on the Danube, in due course the entire ensemble should be surveyed and documented.

In the nomination dossier, the boundaries of a few other sites were drawn too tightly to allow full reflection of their contribution to Outstanding Universal Value. Given that one of the attributes of proposed Outstanding Universal

Value is the interchange of human values expressed by the movement of peoples along and across the frontier illustrated in part by the introduction of military installations and related civilian settlements, it is essential that the boundaries should cover the necessary civilian remains.

The main sites where the boundaries needed adjusting relate to two of the six legionary fortresses, as well as the Gerulata Fort at Rusovce, the Hoher Markt site in Vienna (ID30), Rusovce – Gerulata (ID32) and Kelemantia (ID46). These boundary adjustments were undertaken by the State Parties after requests in the Interim Report.

At *Regensburg Legionslager ID6* only part of the fort had been nominated while the significance of the component is said to reflect the fact that Regensburg was the only legionary fortress in Raetia and its related civilian settlement was the second largest in the province. Three new component parts have been added representing associated extra-mural activities.

The *Wien Legionslager zentralbereich ID30: Hoher Markt site in Vienna (ID30)*, did not support Outstanding Universal Value as substantially as perhaps it might. The historical description clearly demonstrates the importance of the Roman fortress and civil settlement in relation to the Danube limes. The nominated component amounted to 2% of the area of the legionary fortress and less than 0.5% of the area of the combined area fortress, *canabae* and cemeteries. The site supports one aspect of the proposed Outstanding Universal Value – the importance of Roman lifestyles to the edge of the empire. The tightness of the boundaries did not ensure that the area is of adequate size to ensure the necessary representation of the site's significance.

New components have been added within the fortress and its defences and the *canabae* and cemetery.

Rusovce – Gerulata ID32:

The component site was nominated to reflect the entire gradual and long term development of Roman fortification architecture in this section of the Danube limits from the beginning of its construction up to the building of the late-antique fortification in the post-Valentinian period around 380 AD. What was nominated though only covers the fort's post-Valentinian construction stage (4th century AD) which consisted of a stone tower built into corner of the older fort which is in the buffer zone. New component sites have been added to reflect extra-mural activities such as the hypocaust and *vicus*.

Within Hungary, a number of the nominated component parts categorised as fort and *vicus* included at least some of the extra-mural activity and associated features (the so-called *vicus* or military *vicus*) in the boundaries. For some, however, the area of extra-mural activity that was included was very limited, and does not appear to reflect a sufficiently significant proportion of the elements necessary to convey the totality of the values represented by the combined ensemble of fort and extra-mural features.

As a result, the area of the following component sites needed to be re-considered to ensure it includes a sufficient proportion of extra-mural activity to reflect adequately the integrity of the ensemble: Nyergesújfalu Sánc-hegy – Crumerum ID49; Nagytétény-Campona ID73; zázhalombatta-Dunafüred – Matrica ID75a-b; Dunaújváros Öreghegy – Intercisa ID 78 a-d; Ócsény Gábor-tanya – Alisca ID 92. The boundaries have been modified by the State Party of Hungary for all except ID 78 a-d where the surrounding area is largely built over.

In a small number of forts in Hungary, no area of related extra-mural activity or associated features was included. These are: Bum-Bum kút – Ad Mures ID42; Dunabogdány Váradok-dűlő – Cirpi ID64; Szentendre Ulcisia ID68; Budapest XI kerület Albertfalva ID72; Kölked Hajlok-part – Altinum ID98. For these sites, consideration needed to be given to extending the nominated component sites to include a sufficient proportion of extra-mural activity so that the integrity of the fort/*vicus* ensemble is properly and consistently reflected. These extensions were carried out by the State Party of Hungary where feasible.

Other components where minor adjustments were needed were Straubing ID6, Kunzing ID8, Passau ID9, Wallsee ID16 and Zeiselmayer ID28 and these have been carried out by the States Parties.

And in a few other cases, the interpretation of sites in the nomination appeared to have less than convincing support. At Eining-Weinberg (ID2) the interpretation of the site is based on excavations undertaken 100 years ago. The use of at least part of the site as a shrine is clear and justifies the inclusion of the site within the nomination. However, the initial identification of other structures as a barracks and watchtower no longer seem viable. The site would benefit from targeted re-excavation using modern methods.

At Straubing, the evidence for the extent of the late defended site conjectured as St Peter's church (ID 7b) was not strong. Excavations have been limited to small areas within the existing cemetery and only a small part of the northern defensive wall has been found. The defined extent of the component site is highly conjectural although given the topography not improbable. The site would undoubtedly benefit from further investigation.

Comparative analysis

An extensive comparative analysis is offered but the starting point for the comparisons is not set out clearly in terms of what is being compared in the property and its proposed Outstanding Universal Value.

For this segment of the Frontier what is needed is evidence to support the assertion that nowhere else exhibits substantial evidence for a riverine military strategy of non-linear barriers that persisted over an extensive period of time, was adapted to changing circumstances, and also offers evidence of supportive civil settlements.

The analysis is in two parts: an analysis of sites not connected to the Roman Empire, all inscribed sites, and an analysis of frontiers in other parts of the Empire.

The first part includes comparison on non-military properties, such as Rhaetian Railway in the Albula/Bernina Landscapes (Italy, Switzerland 2008; Ref: 1276), WHS Prehistoric Pile Dwellings around the Alps (Ref: 1363), Qhapaq Ñan, Andean Road System (Argentina, Bolivia, Chile, Colombia, Ecuador, Peru 2014; Ref: 1459) which are not relevant. It then considers military defences such as the Great Wall (China 1987; Ref: 438) which is clearly a linear barrier.

More relevant are comparisons with the Venetian Works of Defence between the 16th and 17th Centuries: *Stato da Terra* – Western *Stato da Mar* (Croatia, Italy, Montenegro 2017; Ref: 1533) which consisted of a series of forts. These are seen as not being part of continuous linear frontier for an Empire, being in use for a much shorter period than that Danube limes and much less sophisticated and comprehensive as an overall defensive system.

A further section on river frontiers is the most relevant. This outlines various river boundaries such as parts of the Rhine between France and Germany, the Oder between Germany and Poland, the Danube between Hungary and Slovakia, Croatia and Serbia, Serbia and Romania, Bulgaria and Romania and Romania and the Ukraine, the Amur and the Ussuri between the Russian Federation and China, the Jordan between Israel and Jordan, the Saint Lawrence between the United States of America and Canada, the Rio Grande between the United States of America and Mexico. It concludes that none of these historic borders along rivers was as sophisticated as the western segment of the Danube Limes created almost 2000 years ago. And that only in most recent times have modern states developed similar systems in order to control or intercept the exchange of people, goods and ideas across the rivers – but examples are not provided.

The second part of the analysis on internal comparisons with other parts of the Roman frontier is detailed and exhaustive – being based on the Thematic Study of the Frontiers of the Roman Empire.

That was undertaken in 2016 with the advice of ICOMOS.

The analysis considers to what degree there are similarities or dissimilarities between the nominated segment and other parts of the frontier. First the frontiers of the three continents (Africa, Near East and Europe) encompassed by the Roman Empire are compared, with a clear focus on the 2nd century CE. Then comparisons are offered between sections of the European river frontiers. Each part comprises a summary of the main characteristics of the sections involved, an assessment of similarities and dissimilarities and a conclusion. Particular links between the frontier and boundaries of Roman provinces are highlighted.

This concludes that the North African provinces, Egypt, Arabia and southern Syria have much in common. A large part of the military infrastructure in these areas, consisting of forts and towers was primarily aimed at controlling nomadic movement and caravan routes. The areas were all relatively peaceful, and the provincial armies accordingly small, comprising no more than three legions by the middle of the 2nd century with troops garrisoned in towns.

There were differences in terms of disposition of forts and some linear barriers were constructed near towns. In Egypt military posts in the barren Eastern Desert protected accesses to Red Sea ports, quarries and mines.

The military deployment in northern Syria is of an entirely different nature. The forts on the south-east shores of the Black Sea were vital to securing the supplies of corn, while the fortifications of Dacia are unique in terms of their mixture of linear barriers and river forts and the number and density of towers.

The disposition of troops along the Euphrates and in the mountains to the north at first sight resembles that along the Rhine and Danube and in Dacia, but there is a fundamental difference. In the East army units were often garrisoned in towns and villages – as in many other parts of the Empire. On the Rhine and Danube, however, the military infrastructure had to be built from scratch, in the absence of such centres. The military installations along the rivers were built almost exclusively on the Roman['] bank with additional protection provided by fleets.

The river frontiers of Europe are thus seen to be a phenomenon of their own.

The analysis then concludes with comparisons of the three river frontiers in Europe divided into the Lower Rhine, and the Upper, Middle and Lower Danube.

The Lower Rhine is clearly distinctive for the way it reflects early military bases, unique military engineering works, involving canals and water regulatory mechanisms, and remarkable survival of timber constructions in wetland conditions.

The Upper Danube, covers the western part of Raetia province. At the beginning of the 2nd century Roman control was extended beyond the river in western Raetia, and the new frontier was eventually to be protected by the Upper German Raetian Limes linear fortification which spanned two sections of the river and has already been inscribed.

The Middle Danube covers the provinces of Raetia (eastern part), Noricum and Paninia and includes the nominated sites. The Lower Danube covers the Roman province of Moesia. Although this segment has similarities with the Middle and Upper Danube it is has distinct differences. It is characterised by its longevity as it survived the collapse of the Western Roman Empire in the 5th century, becoming part of the surviving Eastern Roman

Empire with its fortifications being restored in the first half of the 6th century and finally collapsed following the invasions of Avars and Slavs in the early 7th century. It is also distinguished by the near absence of fortlets and towers, with the exception of the Iron Gate.

Thus while there are overall similarities between the Upper and Lower Danube segments, there are also considerable differences in terms of the type of defensive structures and the longevity of the system. The Western Segment of the Danube can thus be seen as a coherent segment of the overall frontiers, well differentiated from others.

The final part of the analysis considers the selections of component sites. This sets out clear criteria for the selection of sites that can be fully supported.

ICOMOS that the comparative analysis justifies consideration of this property for the World Heritage List.

Criteria under which inscription is proposed

The property is nominated on the basis of cultural criteria (ii), (iii) and (iv).

Criterion (ii): *exhibit an important interchange of human values, over a span of time or within a cultural area of the world, on developments in architecture or technology, monumental arts, town-planning and landscape design;*

This criterion is justified by the States Parties on the grounds that western segment of the Danube Limes did not constitute an impregnable barrier, but controlled and allowed the movement of peoples: not only the military units, but also civilians and merchants and thus triggered the exchange of cultural values. This entailed profound changes and developments in terms of settlement patterns, architecture and landscape design and spatial organisation in this part of the frontier.

Thus the legionary fortresses, forts, fortlets, watchtowers, linked infrastructure and civilian architecture exhibits these important interchange of human and cultural values at the apogee of the Roman Empire, through the development of Roman military architecture, and extending technical knowledge of construction and management to the very edges of the Empire.

The frontier reflects the imposition of a complex frontier system on the existing societies of the northern part of the Roman Empire, introducing for the first time military installations and related civilian settlements, linked through an extensive supporting network based on the river Danube.

ICOMOS considers that this criterion has been justified.

Criterion (iii): *bear a unique or at least exceptional testimony to a cultural tradition or to a civilization which is living or which has disappeared;*

This criterion is justified by the States Parties on the grounds that the Western Segment of the Danube Limes has an extraordinarily high cultural value as it shows the interaction of occupying force with local people and circumstances. It bears an exceptional testimony to the maximum extension of the power of the Roman Empire, through the consolidation of its northern frontiers, and thus constitutes a physical manifestation of Roman imperial policy to dominate the world in order to establish its law and way of life there in a long-term perspective.

The segment witnessed Roman colonization and the spread of Roman culture and its different traditions – military, engineering, architecture, religion management and politics – in the large number of settlements associated with the defences, which contribute to an understanding of how soldiers and their families lived in this part of the Roman Empire. The property also adds some specific features to the variation and evolution of the military strategies applied by the Roman Empire to control external ‘barbarian’ societies.

ICOMOS considers that this segment of the frontier does demonstrate a specific military responses of the Roman Empire to persistent incursions from the north together with evidence for the social organisation of military forces and that this criterion can be justified. It does though consider that the artistic dimension of the some of the sites, especially Brigetio and Hercules Villa, ought to be given more attention for their frescoes, mosaics, and sculptures as these well illustrate the way the Roman frontier was not only a place for soldiers and oppression, but the full range and breadth of human activities.

ICOMOS considers that this criterion has been justified.

Criterion (iv): be an outstanding example of a type of building, architectural or technological ensemble or landscape which illustrates (a) significant stage(s) in human history;

This criterion is justified by the States Parties on the grounds that the Western Segment of the Danube limes is an outstanding example of Roman military architecture and technological development through four centuries, adapting standardized approaches to various geographical and strategic conditions.

Following different needs in some parts the military installations controlled mainly sections of the river. Other sectors are characterized by a dense chain of watchtowers following the Danube between the forts over hundreds of kilometres connected by the Limes road. This demonstrates the similarity in purpose and design of the river frontier with artificial linear frontiers. Military campaigns are reflected by temporary camps built by troops drawn together around existing forts. For the sake of a more effective defence a series of bridgeheads were built on both river banks. In Late Roman times the

Frontiers of the Roman Empire – The Danube Limes show the changes of warfare through new developments in military architecture (horseshoe- and fan-shaped towers; strongly fortified fortlets). Many of these constructions became the nuclei of later settlements. Through their continuous use till today they are eminently accountable for our impression of Medieval towns along the Danube.

ICOMOS considers that the materials and substance of this segment of the Frontier can be seen as vivid testimonies of the way Roman military approaches were developed and adapted to meet changing threats to imperial fortifications over four centuries. In terms of construction and layout, these Danubian fortifications are some of the most important ancient fortifications not just in central Europe but anywhere. The remains also show how important landscape was to site selection:

ICOMOS considers that this criterion has been justified.

ICOMOS considers that the nominated property meets criteria (ii), (iii) and (iv).

Integrity and authenticity

Integrity

The chosen components together are sufficient to reflect the proposed Outstanding Universal Value, as the adjustments outlined above have been undertaken to the boundaries and buffer zones.

They reflect all elements of the designed fortification – that is the continuous chain of military installations along the southern banks of the river consisting of six legionary fortresses, the backbone of the system, around which forts, fortlets, and watchtowers are laid out between 10 and 30 kilometres apart, as well as and all its main periods of construction from its establishment in the 1st century CE until its disintegration in the 5th century CE.

The changes undertaken in response to the Interim report have ensured that the boundaries of all component sites encompass the relevant attributes necessary to support their contribution to Outstanding Universal Value.

Authenticity

The western segment of the Danube Frontier clearly reflects the specificities of this part of the overall Roman Frontier through the way selection of sites has encompassed all the key elements from the legionary fortresses and their associated settlements to small forts and temporary camps, and the way structures relate to topography.

All the nominated component sites have been well researched and the sources deployed include the full array of archaeological research techniques (past and present excavation, field survey, aerial photography, geophysics etc.). The component sites have the capacity to clearly

reflect their inherent value and their contribution to the Outstanding Universal Value.

The one area where the value is less well articulated is in terms of the relationship of the component sites to the River Danube, as the frontier and as a longitudinal transport artery for military support, goods and people. All the component sites originally had a dynamic relationship with the river. As the Danube in places has shifted its course considerable since Roman times, some components have lost this link where the original course has not been identified. The nomination dossier places great emphasis on location as the *raison d'être* of all the component sites, but in many cases pays less attention to the importance of sightlines (views) along and to and from the river or the line of its original course. The contribution to authenticity of long views from watchtowers, forts, and hillforts above the Danube to the way they convey their meaning is hardly referred to in the nomination dossier. This aspect is now being addressed by the States Parties but will need more research on the original course of the river.

Reconstruction has been undertaken at 21 components and in most cases it is slight. The most extensive reconstruction has taken place at the legionary fortress of Carnuntum on the footprints of buildings excavated in the 19th and 20th centuries, and some work is still in progress. The reconstructions are fully reversible and clearly indicated as such, but in places conjectural. Currently the reconstructed buildings comprise less than 0.5% of the total site.

At Passau Haibach the reconstruction replaced material apparently removed during the insertion of medieval brick kilns; in the light of current practice the extent of reconstruction is not ideal. At Iža (Kelemantia) part of the south wall and south gate of the fort have been rebuilt to a height of 1m or more with imported material which is not obviously distinguishable from original material. This approach has not been followed in presenting more recently exposed structures. At Kunzing a timber structure has been erected to give an indication of the form of the temporary amphitheatre. This structure does not seek to replicate the original in the way the reconstructed practice ring at Carnuntum does. Rather it seeks to indicate the outline form and position of the original structure. The foundations of the new wooden structure can be removed without damage to the remaining deposits at Kunzing.

At most sites in Hungary where reconstruction has been carried out this has merely involved raising the heights of surviving walls by a few courses (usually using original materials). This has been carried out on the basis of full documentation and none of the work is conjectural. All such work is to a lesser or greater extent distinguishable from the original structure but in some instances the differences are quite slight. Because such work has been carried out at different times over the past 50 years, the approaches to showing the difference between original and reconstructed work vary, and there is little consistency. Much of this reconstruction work requires

renewing and replacing as part of ongoing regular/cyclical conservation and maintenance programmes.

When limited reconstruction is needed for purposes of consolidation, conservation or presentation, a clear and consistent approach should be developed and agreed for all the component sites. This should ensure that reconstruction above original materials is avoided as a general rule and is adequately justified; that reconstruction should not dominate any of the component sites; and that differences between original and reconstructed material should be distinguished in a consistent manner. Any further reconstruction work at Carnuntum should be halted until this agreed approach is in place.

The landward side of some of the component sites has not always been protected adequately. At Carnuntum the close proximity of an extensive windfarm is visually intrusive, while at Budapest the setting of many of the very significant components of Aquincum Municipium, legionary fortress, amphitheatre, bathhouse, aqueduct etc. are severely impacted by transport infrastructure (flyovers).

ICOMOS considers that the requirements of integrity and authenticity have been met but authenticity should be strengthened through the development of an agreed reconstruction approach for all component sites, and thorough improvements to the protection and management of views and settings for some component sites.

Evaluation of the proposed justification for inscription

The attributes that convey the Outstanding Universal Value are the remains of all fortifications their associated civilian settlements and the Limes road; the evidence conveyed by the fabric relating to military strategy, architectural ideas and construction techniques; artistic and religious associations; and the landscape siting of the component sites (including visibility and inter-visibility) their symbiotic relationship with the River Danube.

ICOMOS considers that the criteria have been demonstrated and integrity and authenticity have been met.

4 Conservation measures and monitoring

Conservation measures

Below ground remains

In Hungary, it is noteworthy that only just over 20% of the nominated component sites survive as visible ruins (either on the surface, or partially excavated), and around 32% are either built-over or subsumed in other (later) structures, which means that around 46% are below ground as archaeological features (41.4%) or are located in forests (5.6%). The proportion of components that are visible and appreciable is therefore low. In comparison the

proportion of components with visible elements are higher in Bavaria (72%), Austria (65%) and Slovakia (100%).

The very fragile nature of some of these below-ground rural components and their vulnerability to damage and erosion from continuing cultivation has already been noted under potential threats. For rural sites in Hungary the state of conservation has often been assessed solely on the evidence of aerial photography and/or geophysical survey without any 'ground-truthing' by archaeological test excavation. The condition of the following component sites may not always be as stable or benign as anticipated in the nomination documentation: Lébénye (ID34), Abda (ID37), Rácalmás Szesszió II. – Vetus Salina 8, Kisapostag – Intercisa 5, 6, 10 (ID79), Baracs – Annamatia (ID80), Dunaföldvár – limes road (ID81), Bölske Leányvár – Annamatia 7 (ID83), Dunaszentgyörgy – Lussonium 12 (ID88), Ördögvetetés – limes road (ID91), Ócsény Gábor-tanya – Alisca (ID92), Ócsény Soványtelek – Alisca 3 (ID93), Dunaszekcső Halena – brick kilns (ID97), and Kölked Hajlok-part – Altinum (ID98).

The relevant management plans should include long-term objective to take the relevant areas out of cultivation. Some of the sites not visited by the mission may need to be added to this list. It should be noted that there are already examples in Hungary where the local municipality has taken fragile rural archaeological components out of cultivation (by the process of swapping ownership of the site in question with land owned by the municipality).

Monitoring

A detailed set of monitoring indicators has been developed that encompass physical attributes, views and setting, and pressures and risk factors.

Monitoring is undertaken at most components sites. Where management plans are yet to be developed, the format for monitoring is in the process of being defined. Such monitoring needs to be based on clearly defined conservation statements – as set out under Management above.

Clear lines of responsibility for monitoring have been set out.

ICOMOS considers that the monitoring arrangements are satisfactory.

Documentation

All the component sites have been fully inventoried, described, and documented as part of the nomination process. Work is continuing on the development of a common database as well as on the development of a comprehensive research framework.

Legal protection

Each of the four States Parties has a discrete legal system and administrative processes for heritage protection at national, regional, and local levels, and in the federal states of Germany and Austria there are also discrete

statutory frameworks for each federal component (the German component sites are confined to the Federal State of Bavaria).

Although the detailed legal provisions and terminology for designation and protection vary in each State, the function and effect of the different national provisions is the same: they should ensure adequate long-term protection of the nominated component sites and their setting, if both are appropriately defined and if landowners are cooperative.

All the States Parties have well-developed and strong systems in place for spatial planning, monitoring development proposals and plans, and for development control.

Details for individual States Parties are as follows:

Germany

Germany has a federal system of legislation. At national level there are regulations for building, spatial planning, nature conservation, water management and the cross-border movement of cultural property. Care and preservation of ancient monuments are the responsibility of the individual federal states, in this case Bavaria. The most important provision for the protection of monuments is the Bavarian Monument Protection Law which inter alia defines the responsibilities of various federal and local agencies when applying the law. Bavarian variations on central government legislation on building control etc. also serve to provide protection to the nominated components.

Austria

Austria has a federal system of legislation, but the protection of its historic monuments is a central government responsibility according to the Austrian Constitution. The federal states therefore do not play any part in the legal protection of historic or archaeological sites.

Protection of historic monuments derives from the Monument Protection Act, operation of which rests with the *Bundesdenkmalamt*, a central government body. There is also legal provision for the protection of previously unknown finds. In addition, upon inscription, properties inscribed on the World Heritage List are protected through a link to European Union Environmental Directives in the form of provision for the preparation of Environmental Impact Assessment. The Monument Protection Act also serves to regulate archaeological excavations and surveys on historic monuments.

The nomination dossier notes that at Carnuntum (ID31) parts of the nominated component have yet to be protected under the Monument Act. The area awaiting protection amounts to more than 50% of the nominated component site. The administrative action required to extend Monument Act protection has now been started and it is anticipated that it will be complete by the summer or autumn of 2019.

Slovakia

Slovakian legal regulations for the protection of monuments and historic sites is a central government function. Protection is applied to cultural monuments, historic sites and archaeological finds. Regulations for urban planning and the conservation of nature and landscape also serve to protect the nominated components. At municipal level there is a requirement for spatial plans to record protected monuments.

Hungary

The Hungarian legal regulations for the protection of heritage are complex but extremely comprehensive. In particular there is a legal regulation related specifically to World Heritage Areas and Tentative World Heritage Areas that applies provisions for protection to the World Heritage Sites (including, where appropriate, their component parts) and the related buffer zones. Legal regulations specifically for the preservation of the archaeological heritage are strong at a national level and supported by the legal system and regulations for regional and town development and planning, nature and landscape conservation, infrastructure development, and land use (including agriculture, forestry, mining etc.). The National Land Use Plan recognises the importance of World Heritage Sites and controls potential changes in land use in order to sustain the values of Outstanding Universal Value (but this does not apply to setting).

The legal provision for protection in Hungary is therefore comprehensive and very strong indeed. However, Hungarian administrative structures related to heritage have undergone considerable change in recent years. Elements of the current structures for heritage management are fairly new (including Budavári), and will inevitably require some bedding in.

Management system

The four States Parties contributing to the nomination have different histories of monument management which have led to slightly different approaches. No components in Bavaria have site specific management plans. In Austria on the other hand site specific management plans have been prepared for component sites which are under conservation monitoring by regional museums but not for sites where museums are not involved. In Slovakia there are only two component sites and since 2011 there has been a management plan in place for those two components. The 2011 management plan for Slovakia identified specific interventions at each location. The proposed interventions had been carried out by the time the Evaluation Mission took place. In Hungary, site specific management plans are at present the exception. However, the recently established Limes World Heritage Management Body (Budavári) has now embarked on the process of coordinating the development of full management plans for each of the nominated component sites in Hungary (including regular, cyclical inspection at least every six months).

It should be noted that integrated management involving other agencies that have an interest in, or whose work may impact on the nominated components (water, forestry etc.) is not yet an approach for all component sites. In Bavaria and Austria there is a relatively close relationship between heritage management and other agencies which are often located in the same government office. In Hungary although the state run Local (County) Heritage Protection Offices are part of the same national (but County organised) structure as other functions, a close working relationship with regard to joint management issues has yet to be fully developed.

In Hungary generally, the day-to-day management of the nominated components is appropriate and works well. However, with the exception of a few components where excellent and structured management systems are already in place (often but not all of the components in urban contexts), day-to-day management, especially of the rural sites is fairly informal and appears quite unstructured in terms of anticipating and responding to the range of management needs. In the long-term this will clearly be addressed by the development of full management plans co-ordinated by Budavári. In the Interim report, simple, structured summary conservation statements for each nominated component site have been prepared that set out the fundamental conservation and management issues related to each component part as an essential precursor to the development of management plans.

National Management Plans

The four States Parties have prepared national management plans for submission with the nomination dossier. In the case of Slovakia this comprises an update of the 2011 plan to cover the period 2017-2021.

The aim of the national plans is to ensure that individual parts of the nominated property are managed within an agreed overall framework of co-operation to achieve common standards of identification, recording, research, protection, conservation, management, and presentation in an interdisciplinary manner and within a sustainable framework (as set out in the Joint declaration for running and expanding the nominated World Heritage Site Frontiers of the Roman Empire – The Danube Limes).

Germany

The Management Plan 2019-2025 for the Danube Limes in Bavaria is based on the 2017 management plan for the Upper German – Raetian Limes property. The Management Plan would take effect if the nominated property is inscribed. The Management Plan addresses the values of the component parts and the general problems, needs and threats facing them. It sets out the roles and responsibilities of the Bavarian State Conservation Office and the German Limes Commission as well as other bodies and institutions. Understanding of the interaction of the various bodies would have been helped by a graphic or organogram.

Although high level analysis of risks is included in the plan it did not initially provide an action plan for intervention on a component by component basis. This lack has now been addressed and action plans defined.

Austria

The Management Plan for Austria presented in the nomination dossier addresses the values of the component parts and the general problems, needs and threats facing them. It lays out the legal basis for managing the components and proposes an aspirational management structure. Although a high level action plan with examples of best practice was included in the plan it did not initially provide an action plan for intervention on a component by component basis. This lack has now been addressed. The management plan is expected to be reviewed at intervals of seven years. The copy of the management plan supplied with the nomination dossier does not indicate the years of operation it is expected to cover.

Slovakia

The 2011 Management Plan for the Danube Limes in Slovakia comprehensively set out values of the component parts and the problems, needs and threats facing them. It laid out the legal basis for managing the components, management structures and finances. It drilled down into the detail of the component site requirements/opportunities and proposed an action plan to deal with them. The 2017 update to the management plan addressed changes required by the current transnational approach to the nomination and reviewed and updated the action plan.

The Slovakian management plan demonstrates a model approach and should be commended.

Hungary

The Hungarian national management plan is in Hungarian, and it was only possible to examine an English summary (the Director's Summary included in the nomination documentation). It is clear from this that the national management plan incorporates much, if not all of the data and information included in the comprehensive Hungarian nomination documentation. The current plan is a new document that utilises information from an earlier draft (2011) document but takes as a model the World Heritage management plans for sections of the Frontiers of the Roman Empire sites that have already been inscribed on the World Heritage List; it also reflects the radical alterations in Hungary since 2011 in the institutional system and legal environment of heritage preservation and town planning. The plan sets out the nominated component parts (extent and selection criteria) and the overarching attributes, an overall strategy for management, the different components of the management system, and the structure and operation of the monitoring process. Summary action plan statements have now been added for each nominated component.

Resourcing

Resources being made available to operate the existing management systems and plans appear to be reasonable.

As far as future arrangements are concerned, the aspirational nature of the management organisation proposed in the management plan for Austria needs to be confirmed. A firm commitment to funding the proposed structure is also needed.

Transnational Co-ordination

The four States Parties have agreed and signed the Joint Declaration for running and expanding the nominated property. This sets out the terms of reference for an Intergovernmental Committee to coordinate at an international level the management and development of the whole World Heritage property and to work to common aims and objectives and a Danube Limes Management Group, which assembles those directly responsible for the site management of the property and provides the primary mechanism for sharing best practice.

The States Parties already participate in the international scientific advisory body which shares knowledge and experience of Roman frontiers and their identification, protection, conservation, management and presentation (Bratislava Group). The Bratislava Group provides an effective mechanism to share practical experience and promulgate common management standards and approaches within the framework of different national administrative structures and legal systems. The Group also functions as a self-help group for site-managers, and it is essential that the informal online aspects of this supportive network are maintained.

Buffer Zones

Buffer zones have been deployed for most but not all component sites.

The underlying principle set out in the nomination dossier is that buffer zones *'are defined only for those component parts where they are technically justified and promise long-term success in the mediation with stakeholders and the future management of the component parts'*. The application of this approach could in some cases actually constrain the effective protection and management of some sites and place a limit on any ambition to achieve better protection and understanding in the long-term. Moreover, it does not offer the effective protection of the immediate setting of the component sites. Those sites without a buffer zone need to be provided with one as a support for the way they contribute to the Outstanding Universal Value of the series. These buffer zones should be submitted as Minor Boundary modifications.

Visitor management

At present significant visitor numbers are concentrated at only a few key locations, the most prominent of which is Carnuntum that receives several hundred thousand people a year. In the Bavarian and Upper Austrian section of the Danube the number of visitors delivered by

riverboat cruises is becoming a problem. If numbers increase elsewhere in the short term, long term issues may develop and will need to be actively managed.

The Danube Limes Interpretation Framework acts in part as a tourism management tool. There is a proposal for Limes Interpretation Centres (LIC) which are intended as 'low-threshold supra-regional gateways' to the various component sites. These are planned for Straubing, Enns and Carnuntum. The centres could allow visitor numbers to be spread out by making a larger number of sites clearly available. Slovakia and Hungary are not yet participants in the DLIF and may need to consider developing potential LICs in each country. In Hungary for the great majority of nominated components, the current tourist potential is relatively undeveloped.

Community involvement

Although there is some evidence of beneficial community engagement at some sites, such initiatives remain site based and should be expanded.

Evaluation of the effectiveness of the protection and management of the nominated property

ICOMOS considers that overall the protection in place for the overall series is adequate; and although the management structures are adequate, management plans need to be completed for component sites in Hungary, which currently have summary conservation statements.

6 Conclusion

This trans-boundary serial nomination is the first stage of implementation of a Nomination Strategy set out in the Thematic Study of the Frontiers of the Roman Empire collectively provided by the involved States Parties of Europe in 2016. This strategy effectively justified major differences between the frontiers in Africa, the Middle East and Europe and, within Europe, between the linear fortifications and those along rivers. It thus allowed a segmental approach to nominations that was notified to the World Heritage Committee in 2017.

The current nomination is for the upper part of the River Danube frontiers, nominated as the Danube Limes (Western Segment). In the nomination dossier, it is stated that if it is inscribed it would be the intention to submit in the future a major extension to this property, to encompass the lower reaches of the Danube in the Roman province of Moesia that is the Eastern Segment. It is indicated that the nominations of further segments in Europe will follow in the near future, as these are already being worked on, while there is considerable interest in nominating segments in countries bordering the eastern and southern Mediterranean once appropriate circumstances prevail.

This nomination is thus setting the scene for what participating States Parties hope will be many future nominations of segments of the overall Roman Frontiers

which could in the long-term ensure that all major aspects of the frontiers are represented on the World Heritage List as separate properties, linked by the concept of an overall unified frontier.

That being the case, ICOMOS considers that this current nomination needs to demonstrate an exemplary approach that others can follow.

The four States Parties have worked closely together in the preparation of the nomination and, considering the scale and scope of the property extending to almost 1,000km and encompassing 167 component sites, the results are impressive. The States Parties have demonstrated their commitment to coordinated management and have created appropriate mechanisms to develop and support this in the future.

Despite inevitable differences in national perspectives and management approaches, there is a good degree of coherence. There were nevertheless a few, important, inconsistencies that needed addressing. These related mainly to the selection and delineation of some component sites and their buffer zones, and to the relationship between the component sites and the River Danube, all of which have ramifications for authenticity and integrity and thus Outstanding Universal Value.

Following the submission of the Interim Report, all these issues have been satisfactorily addressed by the States Parties and detailed documentation provided.

This extra material has ensured a coherent approach to site selection has been applied across State boundaries, an approach that should be followed across the whole of the Danube and in other future nominations of other segments of the frontiers. The overall series of sites reflects the specificities of this part of the frontier in terms of encompassing all the elements of the planned continuous chain of military installations along the southern banks of the river consisting of six legionary fortresses, the nodal points around which were arranged forts, fortlets, and watchtowers mainly laid out between 10 and 30 kilometres apart. The sites also clearly reflect the different military strategies that evolved to counter threats emanating from sustained large-scale migrations, particularly in the later years of the Roman Empire, in this part of the frontier, as evidence by the remains of large numbers of temporary camps and bridgeheads, and the density of small watch-towers - often only 1-2km apart - in what is now Hungary.

ICOMOS considers that the two areas where improvements need to be made relate to reconstruction and setting.

Although reconstructed elements are mostly slight and reflect historical approaches, when limited reconstruction is needed for purposes of consolidation, conservation or presentation, an approach to any future reconstruction should be defined and agreed that can be implemented across all component sites. Meanwhile any further

planned reconstruction work should be halted until this approach is in place.

The setting of component sites needs to be protected to allow them to reflect as far as possible their siting and inter-visibility with other sites or with the River Danube, or its historical river bed.

The resilience of this large complex nomination ultimately relies on the ability of local management to protect individual component sites, and of the Advisory Group to promote coordination to allow a consistent management approach across all component sites. It is also essential that the on-line supportive network of the Bratislava Group is maintained to ensure connection between the various related Roman Frontier properties.

7 Recommendations

Recommendations with respect to inscription

ICOMOS recommends that the Frontiers of the Roman Empire – the Danube Limes (Western Segment), Austria, Germany, Hungary and Slovakia, be inscribed on the World Heritage List on the basis of **criteria (ii), (iii) and (iv)**.

Recommended Statement of Outstanding Universal Value

Brief synthesis

The Frontiers of the Roman Empire – The Danube Limes (Western Segment), ran for almost 1000 km along the Danube, along the northern and eastern boundaries of the Roman provinces of Raetia (eastern part), Noricum and Pannonia, from Bad Gögging in Germany through Austria and Slovakia to Kölked in Hungary.

For more than 400 years from the 1st century BP, it constituted the middle European boundary of the Roman Empire against what we called 'barbarians'.

First defined in the Flavian dynasty (69-96 BP) and later further developed, the fortifications consisted of a continuous chain of military installations almost all along the southern banks of the river. The backbone of the defence system was a string of six legionary fortresses, each housing some 5,500 to 6,000 citizens. The provinces of Raetia and Noricum had one legion, while there were four in Pannonia. The larger number reflected Roman anxiety about powerful neighbours: the Germanic peoples in the north and the Sarmatians in the east. Between the legionary fortresses, were forts, fortlets, and watchtowers linked by an access road and serviced by the Pannonian fleet that patrolled the River Danube under the control of Rome. To serve soldiers and civilians, sizeable civilian towns were developed around the legionary fortresses and some forts, and these towns also spread Roman culture to the edges of the Empire.

The form and disposition of the fortifications reflects the geo-morphology of the river as well as military, economic and social requirements. For most of its length the Danube frontier crosses wide floodplains, separated from each other by high mountain ranges that force the meandering river into deep, narrow gorges. These natural conditions are reflected in the size and positioning of military installations, with the gorges being secured by small elevated posts, and the plains by larger forts at river crossings or other strategic points overlooking the plains. Although primarily for defence, in peaceful times the Limes also controlled trade and access across the river with, in the west, Germanic peoples and, in the east, Iranian Sarmatians with whom the Roman Empire had diplomatic treaties.

The Danube Limes finally broke down the 5th century BP. During the Middle Ages, many still standing Roman buildings were reused and served as nuclei for the development of villages and towns many of which exist today.

The 175 component sites, selected from a far larger number that still remain, together reflect in an outstanding way all elements of the well balanced complex River Danube defensive system, linked by the military road parallel to the river. They also offer a clear understanding of the way military strategies evolved over time to counter threats emanating from sustained large-scale migrations in the later years of the Roman Empire, particularly through the remains of bridgeheads that served as fortified river ports, more than 40 temporary camps on both sides of the river, and the closely spaced watchtowers in what is now Hungary.

The large number of civilian settlements present a profound and vivid understanding of the lives of the military and civilians, and how defensive installations became the focus for trade and engagement with areas beyond the frontier, all of which brought about profound and long lasting changes to the landscape of this part of Europe.

Criterion (ii): The legionary fortresses, forts, fortlets, watchtowers, linked infrastructure and civilian architecture that made up the Roman military system of the western segment of the Danube Limes extended technical knowledge of construction and management to the very edges of the Empire.

This segment did not constitute an impregnable barrier, but controlled and allowed the movement of peoples: not only military units, but also civilians and merchants. This triggered profound changes and developments in terms of settlement patterns, architecture and landscape design and spatial organisation in this part of the frontier which has persisted over time. The frontier landscape is thus an exceptional reflection of the imposition of a complex military system on existing societies in the northern part of the Empire.

Criterion (iii): The Frontiers of the Roman Empire – The Danube Limes (Western Segment) presents an exceptional manifestation of Roman imperial policy and the Empire's ambition to dominate the world in order to establish its law and way of life in the long-term. The segment reflects specifically how the Empire consolidated its northern frontiers at the maximum extension of its powers.

It also witnesses Roman colonization through the spread of culture and different traditions – military engineering, architecture, art, religion management and politics—from the capital to the remotest parts of the Empire.

The large number of human settlements associated with the defences, contribute to an exceptional understanding of how soldiers and their families, and also civilians lived in this part of the Empire, with all the accoutrements of Roman culture such as baths, religious shrines and, at the largest settlements of Aquincum and Carnuntum, amphitheatres and governor's palaces, decorated with frescoes and sculpture.

Criterion (iv): The materials and substance of the Frontiers of the Roman Empire – The Danube Limes (Western Segment) can be seen as a vivid testimony to the way Roman military systems were influenced by geography and, over four centuries, were developed and adapted to meet changing threats to the Empire.

Military campaigns are reflected by temporary camps built around existing forts, a series of bridgeheads built on both banks of the Danube River, and horseshoe and fan-shaped towers and strongly fortified fortlets developed as a response in Late Roman times to changes in warfare.

In Mediaeval times, many of the defensive constructions became the nuclei of later settlements and, through their continuous use until till today, have shaped the form of medieval towns along the Danube.

Integrity

The series of component sites as a whole reflects all the elements which once constituted the frontier system— that is the continuous chain of military installations along the southern banks of the river consisting of six legionary fortresses, the backbone of the system, around which forts, fortlets, and watchtowers are laid out at varying distances – as well as the civilian settlements.

The ensemble of sites represents the long period in which the Western segment of the Danube formed part of the frontiers of the Roman Empire as well as all its main periods of construction from its establishment in the 1st century CE until its disintegration in the 5th century CE, and the extraordinary complexity and coherence its frontier installations.

Although some individual component sites have been affected by changes of land use, natural processes, and in some cases over-building, and are fragmentary, the

visible remains and buried archaeological features are both sufficient in scope to convey their contribution to the overall series.

The boundaries of all individual component sites encompass the relevant attributes necessary to support their contribution to Outstanding Universal Value. Later development overlaying parts of the frontier remains are treated as vertical buffer zones.

In a few component sites, integrity is impacted by infrastructural development and windfarms and these impacts need to be addressed, when opportunities arise, and further impacts prevented.

Authenticity

The western segment of the Danube Frontier clearly reflects the specificities of this part of the overall Roman Frontier through the way selection of sites has encompassed all the key elements from the legionary fortresses and their associated settlements to small forts and temporary camps, and all the way they relate to topography.

All the component sites have been subject to intensive study and research. Sources deployed include the full array of archaeological research techniques (past and present excavation, field survey, aerial photography, geophysics etc.) as well as archival evidence. The component sites have the capacity to clearly reflect their inherent value and their contribution to the Outstanding Universal Value.

The one area where the value is less well articulated is in terms of the relationship of the component sites to the River Danube, as the frontier and as a longitudinal transport artery for military support, goods and people. All the component sites originally had a dynamic relationship with the river. As the Danube in places has shifted its course considerable since Roman times, some components have lost this link where the original course has not been identified. This link needs strengthening on the basis of more research on the original course of the river.

Overall the fabric of the upstanding remains is in a good state of conservation. Some of the underground components are very fragile and highly vulnerable to damage and erosion from continuing cultivation.

Reconstruction has been undertaken at 21 components and in most cases it is slight and historical. There is though little consistency of approach to how the difference between original and reconstructed fabric is revealed. The most extensive reconstruction is at of Carnuntum, where work is still in progress and, although reversible, is in places conjectural. At Iža (Kelemantia) parts of the fort have been rebuilt in a way that is not readily distinguishable from original material.

There is a need for a clear and consistent approach to reconstruction across the whole series. Large-scale conjectural reconstruction on top of original fabric needs to be avoided. As much reconstruction work will require renewal as part of ongoing conservation programmes, there are opportunities for improvement.

The landward side of some of the component sites has not always been protected adequately. At Carnuntum the close proximity of an extensive windfarm is visually intrusive, while at Budapest the setting of many of the very significant components of Aquincum Municipium legionary fortress are severely impacted by transport infrastructure.

Management and protection requirements

Each of the four participating States Parties has a discrete legal system and administrative processes for heritage protection at national, regional, and local levels, and in the federal states of Germany and Austria there are also discrete statutory frameworks for each federal component (the German component sites are confined to the Federal State of Bavaria). Although the detailed legal provisions and terminology for designation and protection vary in each State, the function and effect of the different national provisions is the same: they should ensure adequate long-term protection of the nominated component sites and their setting, if both are appropriately defined, if landowners are cooperative and if the measures are effectively implemented by regional and local governments.

Within each State Party an appropriate management system has been developed, expressed through national Management Plans. The aim of these plans is to ensure that individual parts of the nominated property are managed within an agreed overall framework of co-operation to achieve common standards of identification, recording, research, protection, conservation, management, and presentation in an interdisciplinary manner and within a sustainable framework.

The plans will be regularly updated. The national management systems address also the interests and involvement of all stakeholders and the sustainable economic use of the property.

At the international level the participating States Parties have agreed a Joint Declaration for running and expanding the property. This sets out the terms of reference for an Intergovernmental Committee to coordinate at an international level the management and development of the whole World Heritage property and to work to common aims and objectives and a Danube Limes Management Group to provide the primary mechanism for sharing best practice for those directly responsible for site management.

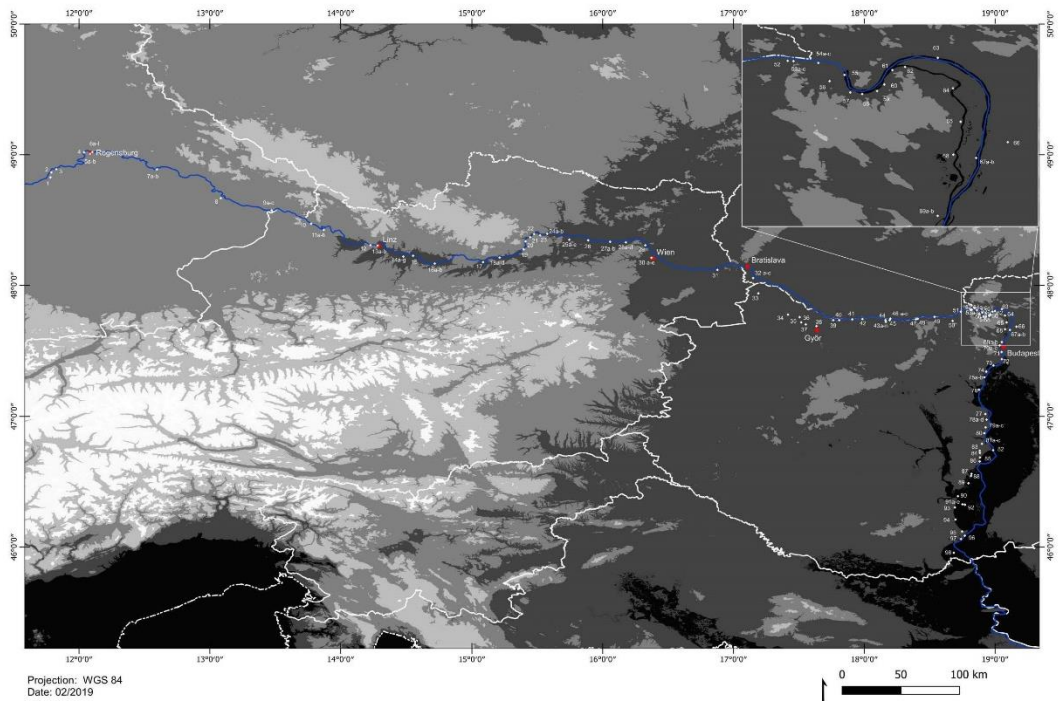
On a supra-national level, the Frontiers of the Roman Empire – The Danube Limes aims to cooperate intensively with the existing Frontiers of the Roman Empire properties, to create a cluster. The existing Bratislava Group, an international advisory body for the Frontiers as a whole, will also provide a supportive technical network.

Additional recommendations

ICOMOS further recommends that the States Parties give consideration to the following:

- a) Completing the legal protection for the component site of Carnuntum (ID31),
- b) Completing the management plans for the component sites in Hungary,
- c) Providing buffer zones for the small number of component sites without them and submit these as Minor Boundary Modifications,
- d) Continuing research and documentation on the Roman course(s) of the River Danube, and encouraging where possible connections between relevant component sites and the original river course to which they were related,
- e) When limited reconstruction is needed for purposes of consolidation, conservation or presentation, developing a clear and consistent approach for all component sites in order to ensure that reconstruction above original materials is avoided as a general rule and is adequately justified; that reconstruction should not dominate any of the component sites; and that differences between original and reconstructed material should be distinguished in a consistent manner; this approach should be submitted to ICOMOS for review; any further reconstruction work at Carnuntum (ID31) should be halted until this agreed approach is in place,
- f) Developing and approving a long term strategy to allow all sites and their buffer zones to be taken out of ploughing,
- g) Strengthening coordinated management with the appropriate water and river authorities to develop flood prevention or flood management measures (such as water retention zones) as well as active measures to control the flow of the Danube (dredging etc.) to prevent the flooding of component sites,
- h) Continuing the on-going work on the development of a common database as well as a comprehensive research framework,
- i) Surveying and documenting the entire ensemble of temporary camps as an archaeological landscape,

- j) Undertaking targeted re-excavations at Eining-Weinberg (ID2) and further investigations at St Peter's church (ID 7b),
- k) Ensuring that when wind turbines in the setting of Carnuntum (ID31) come to the end of their useful life, that they are not replaced; and introducing regulations to ensure that the landscape settings of other component sites are not compromised by new wind farms or other infrastructure projects,
- l) Expanding the current site-based community engagement to more component sites;



Map showing the location of the nominated components



Roman watch tower at Visegrád Sibrik-domb – magaslatierőd (Hungary)



Fort at Gerulata (Slovakia)



Carnuntum Amphitheater (Austria)



Legionary Fortress of Regensburg (Germany)

Hoge Kempen (Belgium) No 1583

Official name as proposed by the State Party

Hoge Kempen Rural-Industrial Transition Landscape

Location

Municipalities of As, Bilzen, Dilsen-Stokkem, Genk, Lanaken, Maaseik, Maasmechelen, Meeuwen-Gruitrode, Opglabbeek, and Zutendaal.

Province of Limburg

Flanders

Belgium

Brief description

Hoge Kempen Rural-Industrial Transition Landscape is an organically-evolved relict cultural landscape, which stretches over ten municipalities in the Province of Limburg in Flanders. The landscape is proposed to illustrate a large-scale transition landscape where an industrial mining system was introduced into a landscape that had been characterized by a small-scale rural economy for centuries. The initially submitted 36 serial components, which have been combined to 4 components, date to between 1850 and 1950 and show the juxtaposition and connection of a traditional, rural subsistence and a rapidly industrialized mining landscape. Testimonies of the mining industries include warehouses, bathhouses, administration buildings, shaft towers, slag heaps (*terriils*) and workers' housing, especially in garden cities created for this purpose, which stand side-by-side with representations of the natural and agricultural environment, including farms, creeks, lakes, mills, fields, meadowlands, heathlands, pine trees and rural settlements.

Category of property

In terms of categories of cultural property set out in Article I of the 1972 World Heritage Convention, this was initially submitted as a serial nomination of 36 components, including 17 *monuments*, 2 *groups of buildings* and 17 *sites* and has with the additional information provided on 27 February 2019 been reduced to 4 components of 4 *sites*.

In terms of the *Operational Guidelines for the Implementation of the World Heritage Convention* (July 2017) paragraph 47, it has also been nominated as a *cultural landscape*.

1 Basic data

Included in the Tentative List

25 May 2011

The Hoge Kempen Rural-Industrial Transition Landscape was included on the Belgium Tentative List as a mixed nomination based on criteria (iv), (vi) and (viii). The natural component considered at the time referred to the geological land formation, a gravel sediment cone formed during the Ice Ages with very pronounced plateau edges to the river Meuse. The tentative list entry was less focused on the juxtaposition of the rural and industrial landscapes but was rather centred on the evidence of mining (dating to 1902-1980s) and its intercultural migrant labour force.

Background

This is a new nomination.

Consultations and Technical Evaluation Mission

Desk reviews have been provided by ICOMOS International Scientific Committees, members and independent experts.

An ICOMOS technical evaluation mission visited the property from 3 to 7 September 2018.

Additional information received by ICOMOS

A letter was sent to the State Party on 9 October 2018 requesting further information about the rationale of selection of the serial components, the composition of the series, the discernible contribution of each component to the proposed Outstanding Universal Value, the reasons for the overly complex boundary definition leading to 36 components and the status as well as recent updates on the legal protection of the property.

The State Party responded on 9 November 2018 providing responses as well as additional material to each of the questions raised. ICOMOS notes that these responses have been very constructive and detailed and have significantly clarified the matters of concern. The additional information has been incorporated into the relevant sections of this evaluation report.

An Interim Report was provided to the State Party on 24 January 2019 summarising the issues identified by the ICOMOS World Heritage Panel.

Additional information was received from the State Party on 27 February 2019, including a revised comparative analysis and a revised composition of the serial property. This information has been incorporated into the relevant sections of this evaluation report.

Date of ICOMOS approval of this report

13 March 2019

2 Description of the property

Note: The nomination dossier and additional information contain detailed descriptions of this property, its history and its state of conservation. Due to limitations on the length of evaluation reports, this report only provides a short summary of the most relevant aspects.

Description and history

The Hoge Kempen Rural-Industrial Transition Landscape is presented in 4 serial components located within ten municipalities. These are As, Bilzen, Dilsen-Stokkem, Genk, Lanaken, Maaseik, Maasmechelen, Meeuwen-Gruitrode, Opglabbeek, and Zutendaal, all in the Province of Limburg, in Flanders and in the eastern part of Belgium. The landscape is presented as the representation of three interconnected narratives: the rural traditional land-use and industrial production chain development within the local environment, as well as the documentation of the radical transition between the two. As the 4 components are rather diverse in terms of their features, the following brief presentation will focus on two groups of elements juxtaposed in the nomination. These are the elements related to traditional farming and land-use mechanisms, and the features related to mining testimony and infrastructure, which include workers housing in the form of garden cities.

Traditional small scale rural economy

Features of the traditional rural economy were a system of outfields, meadows and heathland for grazing livestock, combined with infields, meadows in creek valleys and small-scale arable lands situated close to the settlements. Such features are located along a north-south axis and within the centre of the overall property between the two complexes of mining sites and associated garden cities. These are mostly found in Duinengordel, Kempens-Haspengouws overgangsgebied and the National Park Hoge Kempen. These features constitute the large majority of the surface area of the nomination proposal.

Hoge Kempen North includes dry heathlands with common heather, connected by a dune belt of parabolic sand dunes, a creek valley with three historic water mills, a fen and the rural settlement of De Houw. Hoge Kempen South describes the geological formation of a plateau divided by a creek, which illustrates dry heathlands, small-parcelled meadows and associated watering systems, juniper trees and fish ponds. It includes the Hoge Kempen National Park, which contains expansive dry and wet heathlands, moist and swampy zones, fens, juniper, pine and birch trees, examples of historic afforestation, creek valleys and water mills. The park also contains elements representing the industrial economy, which shall be described in the following section.

Industrial economy mining sites

Elements of the industrial system include four mining sites with their associated garden cities: Eisden, Winterslag, Waterschei and Zwartberg, located at the western and easternmost ends of the property within the Hoge Kempen Middle and West components. Further testimony of

industrial mining activities are located in the Hoge Kempen National Park. The industrial system presented at these locations is based on the impact of coal mining activities as well as fir and pine tree plantations. In addition to the sites of resource extraction and industrial land-use, the industrial economy context also includes the garden cities, which were purpose-built for worker accommodation. Railway tracks to transport coal, related train stations and slag heaps (*terris*) complete the features showing the industrial footprints on the Hoge Kempen landscape. The Pietersheim estate and English Garden in the Hoge Kempen South component provides an example of a mansion and garden created by those who benefitted most from the industrial economy, in this particular case the pine plantation owners.

Five time-frames are said to have influenced the Hoge Kempen transition landscape historically. These range from the history of its geological landscape formation (up to 10,000 years ago) and the evolution of the rural system (up to 1750), to the time-frames represented in the nomination. Between 1750 and 1850 the rural system reached its peak and remains well documented by the map of Ferraris and landscape paintings of the time. Starting from 1850 the so-called mosaic landscape of the rural-industrial transition developed. From the mid-19th century following the central government-driven privatization of municipal lands, private large-scale agriculture and, due to lack of success of agriculture, afforestation, played a major role. Coal was discovered in 1901, and most mining concessions granted in 1906, the single event with the most extensive impact on the landscape.

The scale of mining activities increased rapidly. In Winterslag alone, 66,593,000 tons of coal were exploited and a maximum of 6,250 miners employed in 1953. Exploitation rates in Waterschei or Eisden were even higher. The mines remained active until the 1980s. Soon after the houses of the garden cities were bought by private owners, which led to a significant wave of individual adjustments of the houses' original designs. The 1990s initiated a new valorisation of part of the landscape through the preparation of the Hoge Kempen National Park, which was opened to the public in 2006.

Boundaries

The nominated property was initially proposed with 36 components totaling 5,863 ha, and with buffer zones of 4,090 ha. The boundaries were tightly drawn around those areas which, based on the comparison with historic maps – in particular the Ferraris map - could be said to be authentic in terms of the former use and appearance. These boundaries were clearly readable except at Dorpermolen, which was located in the buffer zone although presented in the nomination dossier as contributing to the proposed Outstanding Universal Value. This situation happened as well with the Waterschei mine buildings, located in the buffer zone while the Flanders inventory marks the position in the nominated area. Other elements, such as lakes that were excluded on grounds of authenticity or the water mill and millpond at Theunissmolen, could have been theoretically added to

the property to provide a more harmonious connection of elements.

In the additional information provided at the request of ICOMOS on 9 November 2018, the State Party acknowledged that its intention to delineate as meticulously as possible those elements which had been authentically preserved, and the multitude of components thereby created, has diverted attention from the fact that what is presented should be seen as a single and continuous cultural landscape. ICOMOS agrees with this view in being concerned that the restriction to boundary choices including very high levels of authenticity has been made at the expense of integrity of the overall landscape, as is discussed in the respective sections of this evaluation report.

In the additional information received on 27 February 2019, the State Party presented a recomposed serial property through combination of previous components and hence a reduction from formerly 36 to 4 component sites. The revised total area of the property is not specified by the State Party but estimated by ICOMOS as approximately 8,000 hectares, which implies an addition of roughly 2,200 hectares. It should be noted that due to the limitations of the time frame in evaluation, ICOMOS could not evaluate these new boundary proposals and additions on the ground, which would be necessary in order to judge their appropriateness. However, this combination and component reduction appears to have addressed a minor concern regarding the two components mentioned above and previously located outside the boundaries.

The buffer zone designation continues to appear complex and has been defined on the basis of spatial planning tools. It does not consistently surround all areas of the nominated property. The current buffer zone aims at adding additional protection to areas in the immediate environment and specific visual relationships. The latter will also be covered by specific view protection policies in addition to the formal buffer zone protection.

It appears that the buffer zone is designed to restrict future development, as it requires Heritage Impact Assessments to be undertaken for each and every development proposed. In practice, this may appear a far too restrictive approach to buffer zone regulation which often aims at preventing inappropriate height developments or apply use restrictions. ICOMOS would recommend including additional areas in the buffer zone, ideally a larger and less restrictive buffer zone approach entirely surrounding the property.

State of conservation

The state of conservation is generally good, also as a result of the meticulous boundary selection, which excludes areas of concern in terms of authenticity or condition. Despite the loss of the actual functioning of both, the rural and the industrial system, which includes in most cases the economic meaning and with it the traditional management practices, the typical landscape layouts, industrial remains

and the juxtaposition of both, remains well preserved. Among the few architectural structures, which raise concerns is a derelict school building in Waterschei, which requires urgent attention.

Landscape and natural heritage conservation has largely been guided by the establishment of the Hoge Kempen National Park. The state of conservation of architectural elements has been extensively documented by the Flanders Heritage Agency in cooperation with the organisation Monuments Watch. In this recent project, repair or restoration works of every single structure within the past 20 years was recorded together with a condition assessment to stipulate if future works are deemed necessary.

Factors affecting the property

Based on the information provided by the State Party and the observations of the ICOMOS technical evaluation mission, ICOMOS considers that the main factors affecting the property are alternative energy projects (in particular wind turbines), as these might affect the important visual relationships of the property, and infrastructure developments. The nominated property is further affected by environmental pressures including climate change and wild fires might endanger the heathland vegetation. The current and future expected visitor numbers can be handled without negative impacts on the proposed attributes.

3 Proposed justification for inscription

Proposed justification

The nominated property is considered by the State Party to be of Outstanding Universal Value as a cultural property for the following reasons:

- The Hoge Kempen Rural-Industrial Transition Landscape mirrors a particular phase in history, during which a large-scale industrial system was introduced into a landscape dominated for centuries by a small-scale rural economy;
- As such, the property is an exceptional example of the Industrial Revolution, a radical turning point in Western Europe, which exerted strong impacts on land-use and reshaped traditional European landscapes.

Comparative analysis

The comparative analysis included in the nomination dossier aimed at comparing transition landscapes and identifying as comparators four types of landscape sites: industrial landscapes, rural landscapes, so-called social landscapes, and transition landscapes. The authors of the nomination consider only the later examples, which contain both rural and industrial features, as comparable. The comparisons were made on the basis of these types of properties which were included on the World Heritage List and Tentative Lists, and then focusing on other sites within a European context. However, this subsequent analysis, beyond the World Heritage framework, lists very

few properties, which are often only broadly defined as regions, such as Southern provinces in Norway and Sweden or the North German plain.

In the additional information received on 27 February 2019, the comparative analysis of World Heritage properties has been further expanded upon, considering all cultural landscapes inscribed on the World Heritage List and more specifically 57 cultural landscapes inscribed in reference to criterion (iv). Special attention within this comparison has been given to those properties which are perceived to illustrate the transition of two episodes with visible elements of both.

The methodology of aiming to examine those properties which can be seen as transition landscapes with both rural and industrial components appears problematic, as it creates an undue focus, disregarding many places which may not have documented or addressed their transitional qualities. The large majority of mining and in fact industrialization sites and landscapes are situated in what were formerly rural landscapes. What should have accordingly been compared are all potentially outstanding mining or industrialization sites, including their level of preservation and interaction with the rural landscapes surrounding them. This requires data which is not even documented for most other industrialization sites. As these landscapes have rarely been recognized in their own right, being seen as merely setting and environment of the mining relics, such comparison would require in-depth research, including by means of empirical data gathering.

The revised comparative analysis provides tables of comparable World Heritage properties, which are analysed for their inclusion of specific features found in Hoge Kempen, such as fields, meadows, heathlands, watermills, production sites, waste and workers housing. However, as the transition of industrialization appears in specific local contexts of previous land-use, some of these comparators are already too specific to Hoge-Kempen to provide meaningful results. In addition, there is no comparison of features, attributes and states of conservation, also considering authenticity and integrity, which could have substantiated any comparative analysis.

In ICOMOS' view, Hoge Kempen does not prove to be exceptional as representative of the particular phase of introduction of a large-scale industrial system into a landscape dominated by a small-scale rural economy, nor as a testimony of mining or industrialization. It was a rather late and small-scale mining area when compared in a central European context. Its garden cities, which according to the concepts of the founder of the garden city movement, Ebenezer Howard, should rather be considered as worker settlements or garden suburbs, cannot compete with the earliest and most famous examples of garden cities, such as Letchworth, United Kingdom and Hellerau, Germany, or even garden suburbs, like Hampstead, United Kingdom. Lastly, the rural system, although still closely related to the mining sites, does not compare with other traditional rural landscapes in other parts of Europe.

The question remains whether the combination or juxtaposition of the two elements, neither being exceptional in themselves, in what the State Party calls a mosaic and transition landscape, can then be seen as exceptional. ICOMOS notes that while the connection of the two landscape components is visible in Hoge Kempen, there is already a certain amount of fragmentation in this landscape illustrated by the complex boundary definition, despite the positive changes made to its delineations. ICOMOS further notes that some essential elements in the juxtaposition, such as the food production on arable lands around the farms by means of agriculture, are missing, as well as with only one exception, the traditional settlements of farm buildings.

ICOMOS considers that the Hoge Kempen Rural-Industrial Transition Landscape does not stand out in an international or even regional comparison. ICOMOS therefore concludes that the comparative analysis does not demonstrate potential for Outstanding Universal Value.

ICOMOS does not consider that the comparative analysis justifies consideration of this property for the World Heritage List.

Criteria under which inscription is proposed

The property is nominated on the basis of cultural criterion (iv).

Criterion (iv): *to be an outstanding example of a type of building, architectural or technological ensemble or landscape which illustrates (a) significant stage(s) in human history;*

This criterion is justified by the State Party on the grounds that Hoge Kempen is an outstanding example of the type rural-industrial transition landscape. The State Party argues that in Hoge Kempen the evidence of the transition from rural to industrial economy is exceptionally well preserved. This transition is said to be most strongly expressed in the presence of contrasting rural and industrial features standing side-by-side as a mosaic.

ICOMOS considers that this landscape typology cannot be considered as a landscape type in the strict sense but is a combination of two different land-use concepts which shaped at different times a shared territory and, at times, even competed. As these two land-use systems, however, are not exceptional in their own right and their combination appears fragmented in spatial terms and lacks conditions in terms of integrity, ICOMOS considers that the nominated serial property cannot be seen as an exceptional type of landscape illustrating a stage in human history.

ICOMOS does not consider that criterion (iv) has been demonstrated.

Integrity and authenticity

Integrity

The State Party considers that the nominated property demonstrates integrity since the components comprise all identified attributes of a mid-19th to mid-20th century transition landscape. These attributes, according to the nomination dossier, are located in a rather small surface area and hence illustrate the dense mosaic of the two interrelated landscapes.

ICOMOS considers difficult to understand the property as a complete landscape combining different economic systems. Despite the commendable efforts made by the State Party to drastically reduce the number of components and refine the boundary delineations in the additional information provided in February 2019, the nominated property still appears fragmented in what is a stretch of, at times, interrupted rural landscapes from north to south, with mining vestiges located to both sides in east and west. These aspects make it difficult to perceive a continuous mosaic landscape and therefore the combination of the different economic systems.

Beyond this lack of integrity on a larger landscape level, the level of the thematic components, the conditions of integrity are globally adequate. The four mining towns are well represented with their essential features. Similarly, the rural landscape is illustrated with key elements. However, the historic farmsteads and fields, described in the nomination dossier as essential components of the rural landscape structure are almost not present in the property, with the exception of farm houses in De Houw and very rare agricultural field examples in KEHA.

There are no serious adverse effects of development or visitation to the property. The state of conservation is overall adequate and only one building, the state school building in Waterschei, is in a serious state of neglect. ICOMOS recommends giving this building attention in the near future and to ensure that after its recent closure, the Girl's School at Winterslag does not face the same situation.

The mining testimony has had an important impact on the visual perception of the landscape, as the mine shaft towers and churches (called mining cathedrals) are the only elements which rise above the tree line and hence constitute markers in the wider landscape. Their undisturbed visual connections constitute a factor for the visual integrity of the property, which at present is still high. ICOMOS therefore recommends the strict control of any developments above the tree line, at times even beyond the currently designated buffer zone, as for example in the case of wind turbines, in order to preserve the landmark references of this mining testimony.

Authenticity

The overall authenticity of the nominated property in relationship to its various characteristic features is adequate, even if at a more detailed level some changes could have been avoided. For example, windows of the garden city houses have been replaced in unsympathetic materials and colours, mostly plastic, and plastic window shutters have been added on the outer facades of ground floor windows. The Winterslag director's villa has lost its authenticity in setting due to the neighbouring highway, which divides it from the other site components. ICOMOS would therefore recommend removing this component from the serial property due to its authenticity lost, and its non-convincing contribution to the proposed Outstanding Universal Value. ICOMOS considers that for the other components authenticity is sufficient, when judged at a landscape level against the respective characteristic features.

In conclusion, ICOMOS considers that the requirement of integrity has not been met for the overall series or individual components and that authenticity is adequate in relation to some of the features proposed.

Evaluation of the proposed justification for inscription

Based on the information provided in the nomination dossier and in the additional information submitted in November 2018 and February 2019, ICOMOS does not consider that the Hoge Kempen Rural-Industrial Transition Landscape has made a case for exceptionality or uniqueness at a larger regional or even global level. The proposed mining sites, as well as the rural landscape and the garden cities cannot be said to be exceptional at international, national or regional level. The proposed category of 'rural-industrial transition landscape' is difficult in terms of comparisons, as most other mining and industrialization sites have surrounding rural landscapes but these have merely defined their setting or environment, without detailed documentation. In ICOMOS' view, it is unlikely that Hoge Kempen would stand out if all other industrialization sites of comparable or higher value were reinterpreted as rural-industrial transition landscapes. ICOMOS therefore concludes that criterion (iv) has not been justified and exceptionality in comparative terms has not been demonstrated.

Features

Following the definition of the State Party, the rural-industrial transition landscape is defined by a separate set of features for each of the two economic systems. The rural landscape structure is identified by creeks, meadowlands, watermills, farmsteads, fields, coppiced woods, heathlands, fens and dunes. The industrial economic system on the other hand is illustrated by the collieries, slag heaps (*terriils*), pine tree plantations, railway tracks, sometimes with stations, garden cities and underground exploitation areas. In addition to these contributing elements the visual relationships between these and the dominance of the shafts and cathedrals in the larger landscape are an important feature.

ICOMOS considers that the proposed justification for inscription is neither supported by the comparative analysis, which has not succeeded in demonstrating how the nominated property may be seen as outstanding among its comparators, nor by criterion (iv), which have not been demonstrated.

4 Conservation measures and monitoring

Conservation measures

Conservation measures are anticipated in the “Heel de Hoge Kempen” strategic plan, which aims at reducing discordant elements within and between the property components. These include a smaller industrial area, and a former orphanage and sanatorium currently used as temporary residences for asylum seekers. There is also a global approach to the prioritization of conservation activities in the garden cities. The initiative, commenced in 2002, covers seven garden cities from Beringen to Eisden and hence is not exclusively focused in the proposed Outstanding Universal Value.

As larger parts of the property belong to the public sphere, the participating municipalities play an important role in the maintenance of landscape and public streetscape features. Trees, for example, form important features of the garden cities and are covered by inventories and maintenance schemes.

Unfortunately, the landscape contains some examples of inappropriate conservation results, such as the almost reconstructed Shaft II headgear at Eisden, which would today be professionally conserved using the latest technologies. More conservative approaches were utilized at Shaft I, which accordingly provides a more authentic condition in a direct comparison. Architectural conservation measures currently underway were judged as skilful by ICOMOS.

Monitoring

A monitoring system has been established and is coordinated by the Regional Landschap Kempen and Maasland. This is based on a few generic indicators continuously monitored, which include number and profile of visitors, occurrences of vandalism, trespassing and littering as well as traffic flows, and specific indicators related to the state of conservation of the nominated property. The latter are monitored, from annually to every five years, and relate to levels of stability, authenticity, negative impacts, land-use changes, floral and faunal diversity and water quality.

ICOMOS considers that the conservation and monitoring arrangements for the property are adequate.

5 Protection and management

Documentation

Detailed inventories were compiled for the nominated property components between 1993 and 2018, with the active involvement of multiple stakeholders. A summary of the information these contain was submitted with the nomination dossier and in the additional information provided at the request of ICOMOS. The data seems largely appropriate as a baseline for the future monitoring of the property. In particular, the survey recently undertaken by STEBO, which assessed the condition of each architectural structure in a red, yellow and green traffic-light guided assessment, provides further guidance on the state of conservation in this process.

Legal protection

The nominated property components are protected at federal, provincial and municipal level. At the federal level of Flanders, all components are part of the Flanders inventory, a spatial planning database which affects all planning and decision-making processes for the area. Regardless of their precise legal status they are marked as special protection zones. In legal terms, the cultural and architectural testimonies such as mining sites are protected as monuments; slag heaps and the Pietersheim Estate as cultural landscapes; and garden cities as protected village-scapes, according to the Immovable Heritage Decree of Flanders. Some natural features are protected by habitat directives, as public nature reserves, or as semi-public nature reserves in line with the Nature Decree of Flanders.

The large majority of serial components are protected by the various recognitions at federal level named above; however, a few remain, in particular areas of the former components 21, 22 (now in component 4) and 29 (now in component 3), which are merely protected by spatial planning ordinances. In addition, former components 13, 14 (now in component 2) and 27 (now in component 2) as well as parts of previous component 1 and 4 (now in components 1 and 2) do not seem covered by any protective designation. The legal protection status of the 2,200 hectares added to the property according to the additional information provided on 27 February 2019 has not been documented. ICOMOS considers that these gaps of formal legal protection should be filled, even if they are presented as included in the overall recognition as part of the Flanders Inventory.

The buffer zone is legally defined by means of special planning instruments. It is designed to heavily restrict future development, as it requires Heritage Impact Assessments to be undertaken for each and every development proposed. In practice, this may appear a far too restrictive approach to buffer zone regulation, which often aims at preventing developments of inappropriate height or impose use restrictions. ICOMOS recommends developing a larger buffer zone, which is mostly focused on protection against developments which rise above the tree line.

Management system

Based on the involvement of ten municipalities and both nature and cultural heritage agencies, the network of partners and stakeholders in the management system is broad. To facilitate the multiple fields of expertise and legal responsibilities these partners bring, the management system is not in a classical sense hierarchical. Instead, what was opted for is what is described as a circular structure, a network of 'cogwheels', used as a metaphor for the close relationship between all parties, which strive towards a shared goal. ICOMOS considers this a commendable approach for a joint management of the multiple stakeholders.

A General Assembly of all partners divides these into working groups around common issues and concerns and allows for all stakeholders to interact with a Steering Committee, which directs the project office. All levels of this circular structure are advised by an external Scientific Board. The General Assembly maximises the participatory approach and provides a platform for information exchange. It is designed to facilitate such information exchange in both directions. The Steering Committee is the true driver and decision-maker of the management system. The project office is the institution responsible for the day-to-day management of the property. It is hosted by the NGO Regionaal Landschap Kempen en Maasland, which is already engaged with coordination of activities at the overall landscape scale and took the lead in the preparation of the management plan. One full and one part-time post are planned to be designated exclusively for the management coordination.

A management plan was drafted and submitted with the World Heritage nomination. It is based on three strategic targets centred on full protection, strengthening of the attributes of proposed Outstanding Universal Value, and valorisation. While the plan, apart from the overall strategies, proposes a few concrete actions, it does not stipulate a timeframe within which it is to be implemented. Some actions suggest that it is intended to guide management actions up to 2050.

In terms of risk management, only fire prevention and fire-fighting plans for the dry heathlands are in place. ICOMOS therefore recommends including a risk preparedness and disaster response planning component into the overall management strategy. In addition to wild fires, this should include fires of underground or architectural structures, landslides or subsidence.

Visitor management

The interpretation provided in the Hoge Kempen National Park is of a very high standard and the three entrance gates designed to approach it from three directions are exemplary in diverting visitor flows. Visitor centres provide basic information at these gateways and playgrounds and cafés offer rest places.

In other areas of the nominated property, visitor management and interpretation is less prominent, although visitor centres and interpretation services also exist at some of the mining sites. An overall interpretation approach to the complete rural-industrial transition landscape would be necessary, as the property is not presented as such on the ground. The management plan, however, addresses the provision of visitor infrastructure and proper communication to visitors as a future area of action.

Community involvement

Community involvement was an important challenge in the preparation of the nomination, given the 13,000 inhabitants within the proposed property boundaries. Several mayors of the concerned municipalities took lead roles in the preparation and in the process assured themselves of the continuous support of their communities. A series of public meetings was arranged to allow the citizens to better understand the motivation and possible consequences of a World Heritage initiative.

Evaluation of the effectiveness of the protection and management of the nominated property

ICOMOS considers that the management system is sophisticated and the circular structure a commendable approach to involving partners and stakeholders at different levels. Although the system has yet to demonstrate its operational success, ICOMOS considers that the management system will be adequate once fully implemented. Only risk preparedness and disaster management arrangements need to be augmented and integrated into the management plan. In terms of protection, ICOMOS recommends that all areas within the property enjoy legal protection, preferably also for their cultural values.

ICOMOS considers that legal protection of cultural heritage features should cover the entire nominated property and that management arrangements are adequate but risk preparedness arrangements need to be strengthened.

6 Conclusion

The Hoge Kempen Rural-Industrial Transition Landscape presents a new typology of landscape which aims at highlighting the interconnections, in spatial proximity, of the landscape features characterized by 19th century rural economic systems and 20th century industrial economies. While both elements are indeed represented in the property, it is difficult to perceive a continuous rural-industrial transition landscape, captured by the 4 serial components with fragmented boundaries.

The State Party was very cooperative throughout the evaluation process and changed – at ICOMOS inquiry – the boundaries and composition of serial components. However, despite this commendable willingness for cooperation in developing a revised approach, ICOMOS finds it difficult in principle to confirm the legibility of a

connection in the rural-industrial landscape, and hence the suggested transitional elements of this landscape. Such legibility would, however, be required to make the two landscape systems go beyond being merely located next to each other and thereby coexisting.

In comparative terms, the Hoge Kempen Rural-Industrial Transition Landscape did not succeed to prove the exceptionality or outstanding value at a regional or global level. While the individual elements, mining sites, rural landscapes and garden cities, are not the most outstanding among other examples to be found in central Europe, the combination of the three has hardly been theorized or described in other locations – although it undoubtedly exists in multiple industrialization sites. To demonstrate exceptionality, it would have been appropriate that Hoge Kempen looked at many other mining and industrialization sites in rural surroundings, not limited to World Heritage properties, to judge whether what was previously merely considered as the natural environment or setting, could also be interpreted as the juxtaposition of industrialization with an earlier, rural economic system. Based on the material and research evidence presently available, ICOMOS considers that the Hoge Kempen Rural-Industrial Transition Landscape does not stand out, when other industrialization sites are considered within their environmental setting. ICOMOS considers that none of the cultural criteria have been justified.

While authenticity has for most components been confirmed in relation to the proposed features, integrity of the overall series remains negatively affected by its level of fragmentation. ICOMOS considers that visual integrity is based on the prominent landmark character of the mine shaft towers, slag heaps and cathedrals in the wider landscape, the visual reference function of which is essential and should be preserved.

Although ICOMOS recommends the property not be inscribed on the World Heritage List, protection, conservation and management are key for the transmission of all heritage properties to future generations. In this regard ICOMOS notes that the property presents issues that would need to be addressed.

ICOMOS recommends establishing an enlarged zone of visual integrity management, preventing all developments which rise above the tree line, in particular wind turbines, which would negatively affect the prominent landmark character of the mine shaft towers, slag heaps and cathedrals. In terms of conservation, ICOMOS recommends to prioritise conservation interventions at the state school building in Waterschei, which is in a serious state of neglect and ensure that after its recent closure the Girl's School at Winterslag does not face a similar situation.

The design of the management system is commendable and ICOMOS gives it a good chance for success, once the system becomes fully operational. The involvement and cooperative approach, which underlies the system is

a good example for other heritage sites which expand across several municipalities. The legal protection of the property should be extended to cover all areas on the basis of their cultural values in addition to their protection as natural heritage sites.

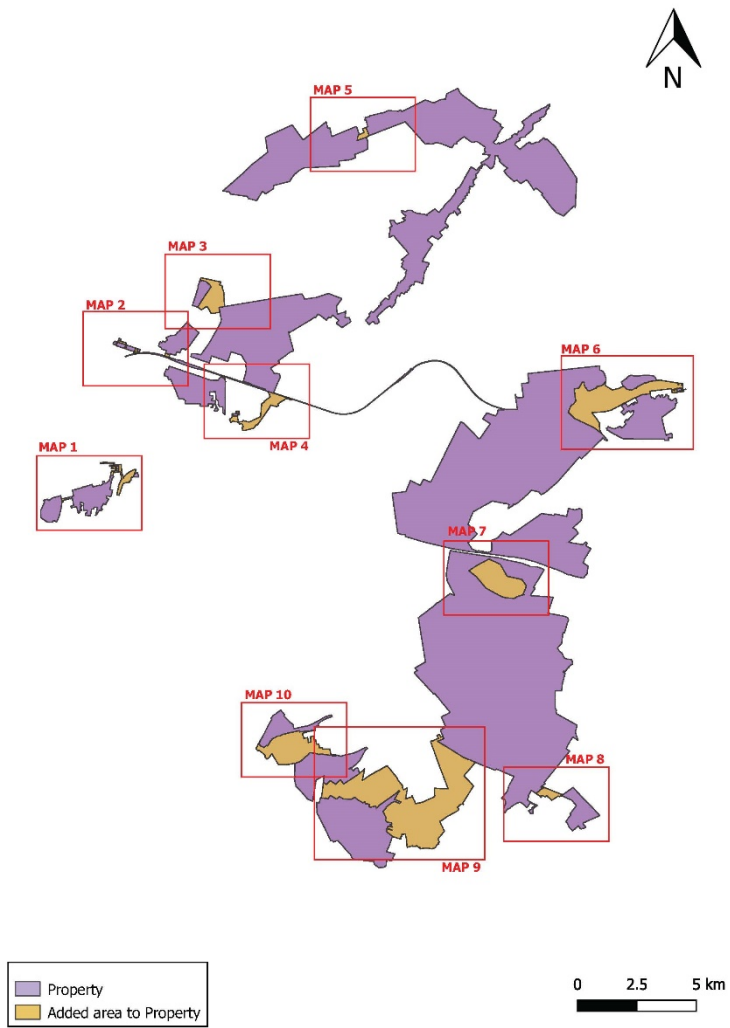
The management plan is ambitious and relevant but lacks considerations of risk preparedness and disaster response strategies which should be integrated. The contemporary approaches to conservation are skilled and the proposed monitoring system appropriate. The baseline documentation created over the past years will be a very helpful tool in the future management and monitoring operations. ICOMOS considers that, with additions in terms of legal protection, the overall management system is really strong, also considering its participatory components and public support base.

The critical aspect of this nomination however remains the lack of conviction as to its ability to demonstrate Outstanding Universal Value.

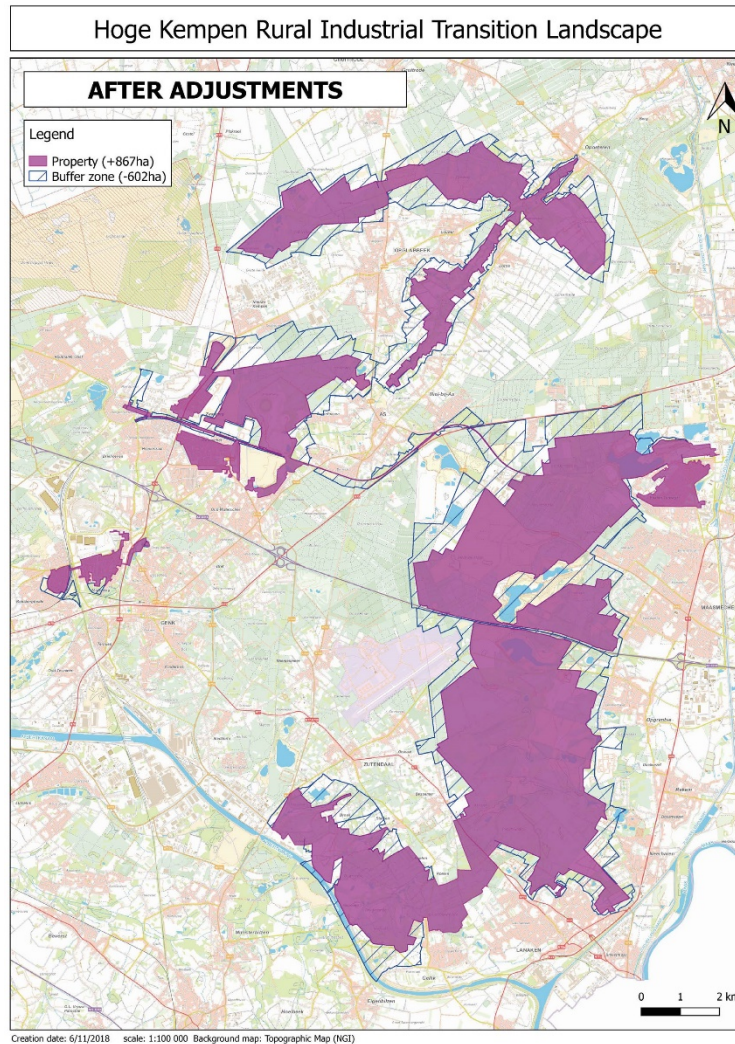
7 Recommendations

Recommendations with respect to inscription

ICOMOS recommends that Hoge Kempen Rural-Industrial Transition Landscape, Belgium, should **not be inscribed** on the World Heritage List.



Revised map showing the boundaries of the nominated property
(February 2019)



Revised map showing the boundaries of the nominated property (November 2018)



National Park Hoge Kempen south



Mechelse Heide



Aerial view – Garden city Winterslag



Mining site Eisdén

Writing-on-Stone/ Áísínai'pi (Canada) No 1597

Official name as proposed by the State Party

Writing-on-Stone/ Áísínai'pi

Location

Province of Alberta
Canada

Brief description

Writing-on-Stone/ Áísínai'pi is located in a region of mixed prairie grasslands near the northern edge of the Great Plains. Milk River Valley and the tributary coulees dominate the topography of this cultural landscape, whose geological features include numerous pillars (hoodoos) with spectacular forms, sculpted by erosion.

This landscape is held to be sacred by the Blackfoot people (Siksikáitsitapi), which has left engravings and paintings on the sandstone walls of Milk River, bearing testimony to messages from Sacred Beings. Centuries-old traditions are still perpetuated today in ceremonies and in the respect in which these places are held.

The property consists of three components - the main component Áísínai'pi, and some 10 km away Haffner Coulee and Poverty Rock - and contains thousands of rock art images. Most of the dated archaeological remains cover a period from 1800 BCE up to the beginning of the post-contact period. The rock art has been made in the valley for thousands of years, and most of the images date from the pre-contact period, around 3000 BP.

Category of property

In terms of categories of cultural property set out in Article I of the World Heritage Convention of 1972, this is a serial property of three *sites*.

Under the terms of the *Operational Guidelines for the Implementation of the World Heritage Convention* (July 2017), section 47, it is also nominated as a *cultural landscape*.

1 Basic data

Included in the Tentative List

1st October 2014

Background

This is a new nomination.

Consultations and Technical Evaluation Mission

Desk reviews have been provided by ICOMOS International Scientific Committees, members and independent experts.

Comments on the natural attributes of the property, and their conservation and management were received from IUCN on 20 December 2018 and have been incorporated into relevant sections of this report.

An ICOMOS technical evaluation mission visited the property from 24 to 28 September 2018.

Additional information received by ICOMOS

A letter was sent to the State Party on 12 October 2018, requesting further information about documentation, research, the selection of components, dating, development projects, factors affecting the property, management and monitoring. A reply was received on 14 November 2018 and the information provided has been included in the following.

An Interim Report was provided to the State Party in December 2018, summarising the issues identified by the ICOMOS World Heritage Panel. Further information was requested in the Interim Report including: the rock art sites, Blackfoot cultural practices, the buffer zones, management and the relocation of the rodeo.

Additional information was received from the State Party on 28 February 2019, and has been incorporated into the relevant sections of this evaluation report.

Date of ICOMOS approval of this report

13 March 2019.

2 Description of the property

Note: The nomination dossier and additional information contain detailed descriptions of this property, its history and its state of conservation. Due to limitations on the length of evaluation reports, this report only provides a short summary of the most relevant aspects.

Description and history

Writing-on-Stone/ Áísínai'pi is situated in the Province of Alberta, in the north of the semi-arid Great Plains of North America, at the border between Canada and the United States of America. The property consists of three components: the main component Áísínai'pi, together with Haffner Coulee and Poverty Rock, lie along the Milk River, which forms part of the Missouri River drainage system.

One of the unusual geological features of Writing-on-Stone/ Áísínai'pi is the concentration of hoodoos. The topography and the associated elements are extremely significant for the Blackfoot people.

The landscape is held to be sacred, and centuries-old traditions are still being perpetuated today in a variety of ceremonies. The Blackfoot people believes that the region is inhabited by powerful spirits, which have left engravings and

paintings on the sandstone sides of the Milk River valley, setting out messages from Sacred Beings. The Blackfoot have a tradition of vision questing, and have returned to these sites for hundreds of years to seek spiritual guidance.

The 138 rock art sites listed are predominantly located at Áísínai'pi (122), with others at Haffner Coulee (12) and Poverty Rock (4), and include thousands of rock engravings and paintings. The oldest representations are believed to date from 2000 BP up to the end of the Middle Pre-contact period (ca. 7500–1800 BP). The material culture portrayed in most of the dateable images at Writing-on-Stone/ Áísínai'pi indicates that these images date from the Late Pre-contact period (1800–250 BP), the time after the introduction of the bow and arrow and before the arrival of items of European origin. Three great traditions of rock art have been identified at Writing-on-Stone/ Áísínai'pi. The *Plains Biographic Tradition* consists of a historical record of scenes of contact between humans who are riding horses and in most cases engaged in warfare. The battle scene at Writing-on-Stone/ Áísínai'pi is the most complex narrative rock art scene, with nearly 200 representational figures, detailed interactions between groups of figures, and numerous pictograms. Closely related in timeframe to the Biographic tradition, the *Plains Ceremonial Tradition* originated in the Pre-contact era, with scenes portraying, for example, a ceremony with warriors carrying shields and rectangular-body humans, some of whom wear large headdresses. The *En Toto Pecked Tradition*, which is only rarely represented at Writing-on-Stone/ Áísínai'pi, consists of enigmatic groups of pecked human and animal figures.

The archaeological sites are very numerous and are of different types. In all, 115 archaeological sites are recorded, covering several millennia. They bear witness to the past lifestyles of traditional hunter peoples living in the Great Plains, whose characteristic artefacts, primarily stone projectile points, have been found. Certain sites, such as bison jumps and bison kill-sites at the foot of cliffs, bear witness to the hunting of large herbivores, and primarily bison.

The earliest dated *in situ* archaeological evidence dates from 4500-3500 BCE. However, most of the dated archaeological evidence ranges from 1800 BCE to the early Post-contact period. At the foot of the decorated panels, excavations were made, unearthing a pointed bone implement that may have been used for carving, and which has been dated to about 2700 BP.

ICOMOS notes however that it would be important to better understand the past sacred practices of the Blackfoot people, and those sacred practices that are still carried out nowadays.

In the additional information provided in February 2019, the State Party indicates that the Blackfoot cultural practices that are still being perpetuated inside the nominated property include the transmission of oral history and traditional knowledge, the maintaining of links with the landscape and the spirits, offerings, traditional dances, the gathering of plants and ochres, the creation of rock formations and

effigies, sweat lodge ceremonies, sacred bundle opening ceremonies, vision-questing, the making of rock art images, and the completion of the birth ceremony. The State Party also notes that, in the past, the Blackfoot people deliberately went to the property to consult rock art images, pray and make offerings to the sacred beings, but that these visits could take place at any time of year. Most of the Blackfoot today visit the property in the spring, summer and autumn, and most of the cultural traditions are carried out in early summer and in the autumn.

ICOMOS underlines that it would be necessary to have details about the use of the property as a burial place, and about the importance of the sweet grass prairies for the Blackfoot.

The additional information provided in February 2019 indicates that the nominated property has been an important Blackfoot burial place for generations. Oral traditions indicate that, during the contact period and in the early 20th century, the traditional way of burying a body was to wrap the corpse in a bison skin, and to place it in a crevasse in the rock walls, together with funerary objects. When Christianity was imposed on the First Nations, possibilities of traditional burials outside the reserves were limited. No traces have been found of burial places since the nominated property became a provincial park in 1957. Today the Blackfoot are in favour of scattering incinerated remains in the park.

The State Party also indicates that the high prairies around the Sweet grass Hills form an integral part of the Blackfoot people's seasonal round and traditional way of life. They were an important place for camps, journeys, hunting and the gathering of plants. The Blackfoot today still gather plants for consumption and for ceremonial and medicinal reasons.

However, from the end of the 19th century, the permanent settlement of Europeans, combined with the introduction of oppressive governmental policies, reduced or even prohibited access to Writing-on-Stone/ Áísínai'pi for the Blackfoot people for traditional purposes. From the mid-20th century onwards, some of the more repressive regulations introduced under Canada's law relating to Indians were repealed. The Blackfoot were able to gradually resume their traditional activities at Writing-on-Stone/ Áísínai'pi. Over the last fifty years, traditional practices and ceremonies have taken place with increasing regularity, and the creation of rock art by the First Nations is no longer prohibited. Traditional practices are today being integrated into many aspects of the Park's management.

Efforts were made to protect the property before the Park was opened in 1957. In 1974, the Parks Division carried out the first archaeological survey. In 1977, a ministerial order implementing the Alberta Parks Act restricted access to a substantial proportion of the park, and the restricted access zone was designated. In 1981, the level of legal protection was increased when the bulk of the Archaeological Preserve was declared a Provincial Historic Resource. Writing-in-Stone Provincial Park, comprising the Áísínai'pi component of the nominated property and the associated buffer zone,

was officially designated Áísinaí'pi Historic Site of Canada in 2005. In 2011, three other non-adjacent parcels of land along Milk River, west of the Áísinaí'pi component, were added to the Park. These new parcels, and a small parcel added to the initial Park in 2011, mean that the total surface area of Writing-on-Stone Provincial Park is currently 2689 ha. The Blackfoot communities are stakeholders in the management of the park, and are consulted for all decisions that could change the cultural landscape. The traditional use of the site is carried out in conjunction with the park authorities, for offerings, sweat lodge ceremonies and vision-questing, and for gathering certain plants and fruits.

Boundaries

The area of the three components totals 1106 ha, with buffer zones totalling 1047 ha.

The nominated zone contains the various sacred valleys containing rock art, ending at the rim of the depression formed by the Milk River and its tributaries. The State Party indicates that the main rock art panels are located along the course of the river, which is situated exactly in the centre of the nominated zone. The buffer zones, consisting mainly of the grasslands of the plateau, coincide with the boundaries of the Provincial Park (except for Coffin Bridge, which forms part of the Park, but is not included in this nomination).

The additional information provided in February 2019 mentions 158 documented rock art sites, including 115 inside the nominated property, 43 in the surrounding area (with 1 site at Coffin Bridge). In response to the ICOMOS request, the State Party points out that the rock art sites located outside the boundaries of the nominated property represent the same rock art traditions, styles, techniques and scenes as those inside the property. The nominated property contains all the most significant examples of rock art motifs and scenes, with the exception of a single site outside the property boundaries. The State Party adds that the inclusion of the excluded sites would not significantly improve the proposed Outstanding Universal Value.

In the additional information, the State Party also indicates that the discussions and consultations about the nomination, which began in 2005, required public involvement on a vast scale, and wide-ranging consultations of the Blackfoot and of the local community. Only the Áísinaí'pi component was being considered at the time. A larger zone, including privately and publicly owned land to the south of the park had been identified as a possible buffer zone. As other parcels were included in the park in 2011, the proposed Outstanding Universal Value and the buffer zone boundaries were revised. Although the current buffer zone is not as large as the options initially studied, the State Party stresses that it has been devised to provide the most effective buffer zone possible.

The State Party also indicates that two categories of viewsheds have been identified by referring to the Blackfoot people's traditional conceptions: viewsheds obtained from high vantage points in the direction of Katoyíssiiksi (Sweetgrass Hills) to the south and southeast, and viewsheds obtained from the main rock art sites and other

culturally important places. The State Party adds that the provisional management directive prohibits all new development inside the boundaries of the nominated property and its buffer zones, and that the Historical Resources Act of the State of Alberta applies to these areas to protect important viewsheds.

ICOMOS stresses the importance of the viewshed Katoyíssiiksi (Sweet grass Hills), located in the United States of America. ICOMOS recommends that collaboration should be set up with the United States government, in order to consider the protection of this viewshed.

State of conservation

The State Party indicates that the vast majority of the landscape has been maintained intact. Only a few hoodoos have been damaged by human action or by nature (natural collapse as a result of freeze/thaw, or undermining by the river). The State Party points out however that all these geological formations are constantly monitored by the park.

The State Party emphasises that the rock carvings and paintings are located in extensive cliff zones, usually beneath a small overhang, which has partly contributed to their conservation. The State Party also notes that tests have been carried out to consolidate the rock on surfaces without rock art images. The evolution of the tests has been monitored over a period of ten years or so, and the State Party notes that the product used seems to be working. Opinions vary amongst the Blackfoot community about the implementation of active conservation measures.

As for the archaeological sites, most are no longer visible, as they were filled in at the end of the excavations. The tipi stone circles are still visible, but are located in restricted access zones which the public is not allowed to enter.

The layout of the landscape prevents extensive views towards the north of the property, where facilities affecting landscape quality may be built. The panorama to the south enables the visitor to have a view essentially towards the park boundaries, with no obstruction from buildings. The State Party indicates however that the viewsheds inside the nominated property are affected by the development of facilities in the park, agricultural activities and habitat degradation (invasive species or overgrazing). The specific characteristics that affect the visual integrity of the cultural landscape include buildings, fences, roads, recreational developments and livestock grazing.

Writing-on-Stone/ Áísinaí'pi continues to be a setting for the sacred ceremonies of the Blackfoot people. Vision-questing is a regular practice, as are sweat lodge ceremonies and offerings.

Based on the information provided by the State Party and the observations of the ICOMOS technical evaluation mission, ICOMOS considers that the state of conservation is satisfactory.

Factors affecting the property

Based on the information provided by the State Party and the observation of the ICOMOS technical evaluation mission, ICOMOS considers that the main factors affecting the property are development pressures in the areas immediately surrounding the nominated property. The State Party states that existing developments are limited to a single gravel pit, several oil and gas feeder pipelines, and 15 active and roughly 85 inactive wells in a radius of 10 km around the nominated property.

ICOMOS notes that Southern Alberta is subject to strong winds, which suggests that the development of wind turbines could be viable. ICOMOS considers that the potential impacts of oil and gas exploitation on the viewsheds must be examined in a more in-depth study, so as not to underestimate the potential negative impacts of these activities.

The additional information provided in February 2019 indicates that there are no active oil wells and that the number of gas wells has been reduced (to 11). The State Party indicates that the low level of resource extraction activity reflects the limited interest shown by the oil and gas industry in this region, despite the licences acquired.

The State Party also points out that, if any developments of this kind were proposed in the future, the Alberta Historical Resources Act stipulates that development projects on privately and publicly owned land outside the nominated property boundaries are subject to the same regulatory examination as the development of facilities inside the property. Anyone wishing to pursue an activity of this type must make an application which will be analysed by various commissions that will take into account the activity's visual impact. The State Party points out that, at municipal level, the area surrounding the nominated property is also protected by Regulation n° 930-17 of the County of Warner n° 5 Bylaw, which governs land use.

The State Party indicates that dams and irrigation diversions in the United States more than 165 km upstream from Writing-on-Stone/ Áísínai'pi affect stream flow in the Milk River. A preliminary study examining the feasibility of an additional upstream dam on the Milk River in Canada was conducted in 2004, but no decision has been taken on this matter to date. In the additional information, it is stated that the studies up to now have not supported the construction of a dam. ICOMOS considers that water discharge pressure at certain times of the year may, for the nominated property, causes increased erosion of some river banks and the undermining of sandstone cliffs, some of which may bear rock art images.

The nomination dossier also indicates the presence of rock art sites just next to the property and its buffer zone, and close to farmland. In the additional information supplied on 14 November 2018, the State Party points out that the rock art site and significant geological formations are monitored every year, or at least once every 5 years, in order to assess the potential impacts of farming or other factors.

Rock art sites in Alberta are also protected by the Historical Resources Act.

The State Party indicates that public access to the main rock art zones is restricted, which is not the case in other parts of the Park, where recreational activities are allowed (nature trails, rock climbing, horse riding). Erosion of paths and soil, the collapse of a small number of hoodoos, the development of unofficial paths, the trampling of vegetation, undesirable interactions with fauna, and the presence of graffiti on decorated panels, have been observed. The State Party notes however that the impact of visits has subsided over the last few years as surveillance team staffing has increased. Visitors are better informed about the site by means of explanatory panels, information sessions and educational programmes. The most sensitive part of the site, which contains the majority of the rock art panels of Áísínai'pi, is only accessible for guided tours.

ICOMOS considers that the pressures generated by powerful tourism attraction could potentially affect the nominated property's attributes. The site's visitor reception capacity should be calculated, and a viable visitor management plan should be drawn up, so as to attenuate the negative impacts of tourism. It is necessary to strike a balance between tourism and property conservation. An estimate of visitor numbers in the near future, after a possible inscription, would be useful in order to evaluate the proposed attenuation and conservation measures.

In the additional information provided in February 2019, the State Party indicates that the new provisional management directive provides for the drawing up of a revised visitor services plan which will include the provincial park's tourism strategy and visitor management plan. The park's tourism possibilities are considered in the context of the site's sustainable management, the conservation of cultural and natural values, and continuing respect and recognition for Blackfoot values and traditions.

A rodeo grounds, which the State Party describes as being "classified as a non-conforming use", is located in the park at the heart of the restricted access zone or archaeological preserve, in the Áísínai'pi component. In the preliminary version of the new management plan, the State Party stresses that the rodeo will continue to be a cultural activity that is highly valued, and could become a tourist attraction. The State Party also notes that the historical and current importance of the rodeo grounds must be recognised, together with the challenges that its location raises for the park's management.

In the additional information, the State Party indicates that the rodeo grounds are leased from the Writing-on-Stone Riding Association, and that the lease is to be renewed at the end of 2019. The State Party also indicates that the strategies to ensure the ongoing security of the rock art zones may include surveillance, signage, the education of rodeo participants, the presence of staff at the rodeo events, improving the fencing to reduce visual impact, and the possible relocation of the rodeo facilities.

ICOMOS and the IUCN recommend that the rodeo facilities be removed and relocated outside the nominated property boundaries. With this aim in mind, it would be necessary to obtain a schedule for the possible moving of the rodeo grounds, within a maximum timeframe of five years.

The additional information provided in February 2019 indicates that strategies to reduce the negative impacts of the rodeo grounds will be considered over the next 2 to 3 years, including the moving of the rodeo grounds outside the nominated property (to Coffin Bridge). An important stage in this process will be the modification of the rodeo grounds lease, which will be used to clarify the limits on use of the current site.

3 Proposed justification for inscription

Proposed justification

The nominated property is considered by the State Party to be of Outstanding Universal Value as a cultural property for the following reasons:

- The dramatic views and landforms, the extensive rock art, the oral traditions and the ceremonies still performed today constitute a protected and outstanding cultural landscape, intimately connected with the Blackfoot people's spirituality and traditions.
- The nominated property resonates with sacred meaning and powers for the Blackfoot. Hoodoos, cliffs and clay buttes are associated with Sacred Beings, and contribute to the sacred nature of the landscape.
- The nominated property is connected to traditional stories about the origins of the Blackfoot world, the role of Sacred Beings and ancestors, and the exploits of prominent chiefs and warriors, and these stories are illustrated by rock art.
- The nominated property includes a very large set of rock art sites located in the Great Plains of North America, which contain thousands of rock art images.
- The rock art records the visions and deeds of Blackfoot people over the centuries. Many images represent the individual abilities, personal achievements and significant events enabled through the intervention of Sacred Beings.
- The rock art is a testimony of the significant cultural changes that occurred in the Great Plains of North America during the transition from the Pre-contact to Post-contact eras.
- The archaeological remains at Writing-on-Stone/ Áísínai'pi stretch back at least five thousand years, and attest to the longstanding relationship of Blackfoot people to the nominated property.
- The nominated property remains a vital part of the Blackfoot world. Blackfoot people continue to come to Writing-on-Stone/ Áísínai'pi to honour and consult the Sacred Beings inhabiting the valley. Oral traditions, passed down from generation to generation, keep alive the cultural, historical, and sacred significance of Writing-on-Stone/ Áísínai'pi.

Comparative analysis

The comparative analysis is presented in three parts: a comparison with other properties in the geocultural area of the Great Plains of North America, a comparison with other rock art sites in North America (Canada, United States), and a global comparison covering sites inscribed on the World Heritage List, and other zones worldwide that are comparable on the basis of the proposed Outstanding Universal Value (OUV) and attributes.

The State Party also refers to the ICOMOS thematic study on rock art (*L'art rupestre: Une étude thématique et critères d'évaluation* (2002)). The nominated property has been identified as one of the most significant rock art sites in North America.

The first sites considered in the comparative analysis are those of the Great Plains of North America (North Cave Hills, Bear Gulch/ Atherton Canyon, Weatherman Draw/ Petroglyph Canyon, Purgatoire River/ Picture Canyon, Castle Gardens). Amongst the cultural areas of North America, ten geo-cultural areas have been defined on the basis of historical and anthropological considerations, and five properties have been chosen for purposes of comparison. Amongst them, Dinwoody/ Bighorn Basin and Coso Range, both located in the United States of America, are the two properties most directly comparable with Writing-on-Stone/ Áísínai'pi. The State Party stresses however that what distinguishes Writing-on-Stone/ Áísínai'pi from Dinwoody/ Bighorn Basin is its clearly defined and preserved cultural landscape, its comprehensive protection and management systems, the participation of the indigenous peoples in the management of the sites, and the relative absence of factors affecting the property. In the case of Coso Range, although it is well known for its rock art and the very good state of conservation of its landscape, its association with indigenous peoples is not as strong as in the case of the nominated property, and its protection and management are less comprehensive.

The global comparative analysis considers a number of sites containing rock art that are inscribed on the World Heritage List, including Tsodilo (Botswana, 2001, (i), (iii), (vi)), Petroglyphs within the Archaeological Landscape of Tamgaly (Kazakhstan, 2004, (iii)), Zuojiang Huashan Rock Art Cultural Landscape (China, 2016, (iii), (vi)), Gobustan Rock Art Cultural Landscape (Azerbaijan, 2007, (iii)), and Rock Shelters of Bhimbetka (India, 2003, (iii), (v))

The State Party stresses that, across the world and in different cultural areas, many rock art sites have lost their connection with living indigenous presence. This is a crucial criterion in the case of Writing-on-Stone/ Áísínai'pi. The State Party notes that the nominated property fills what is today a gap in rock art sites in the North American zone, and also embodies a close association with a living indigenous culture.

ICOMOS considers that the comparative analysis is well-documented, that its methodology is rigorous, and that it is based on a list of numerous compatibility criteria similar to those of the nominated property. Three main categories (presence of significant cultural landscape characteristics, of a major rock art component, and of an ongoing relationship with indigenous peoples) and three secondary factors (state of conservation; research and documentation; protection and management) have been identified. In all, thirty-two comparative elements were used to determine a total score for each property, and then an overall ranking, in which the nominated property was ranked in first position.

ICOMOS considers that the rock art of Writing-on-Stone/ Áísínai'pi forms part of the diversity of North American cultural traditions. ICOMOS also stresses that the dimension that links the rock art of these sites to present-day cultural practices, thus forming part of living culture and not of fossilised culture, is a distinctive characteristic that marks it out from many rock art sites considered in the comparative analysis, particularly in the North American area.

ICOMOS notes however that it would have been desirable to have undertaken a more detailed study of this very important type of cultural landscape, and of the way in which rock art images are linked to the culture and beliefs of the communities that created them, and the meaning they continue to hold for present-day communities.

ICOMOS considers that the comparative analysis justifies consideration of this property for the World Heritage List.

Criteria under which inscription is proposed

The property is nominated on the basis of cultural criteria (i), (iii), (iv) and (vi).

Criterion (i): *represent a masterpiece of human creative genius;*

This criterion is justified by the State Party on the grounds that Writing-on-Stone/ Áísínai'pi is a locality that encompasses the greatest concentration of rock art on the Great Plains of North America, and contains the most artistically accomplished and historically significant examples of several North American indigenous rock art traditions.

ICOMOS considers that the nominated property contains one of the largest concentrations of indigenous rock art in the North American Great Plains, and that it represents an important testimony to the inhabitants of this region.

ICOMOS notes however that, to justify this criterion, it would be necessary to show the ways in which the representations manifest a specific form of creativity which is not usually associated with images of this kind. ICOMOS stresses that representations on sites are of more value for what they convey about the communities that have produced them than for the exceptional nature of their images. ICOMOS considers that the comparative analysis

does not sustain a justification for the rock art as a masterpiece.

ICOMOS considers that criterion (i) has not been justified.

Criterion (iii): *bear a unique or at least exceptional testimony to a cultural tradition or to a civilisation which is living or which has disappeared;*

This criterion is justified by the State Party on the grounds that the sacred landscape features and the rock art of Writing-on-Stone/ Áísínai'pi are an exceptional testimony to the living cultural traditions of the Blackfoot people. The views of the sacred valley also contribute to the sanctity of the property and influence traditional cultural practices.

The nominated property bears witness to a centuries-old tradition that is still being perpetuated today in various ceremonies, and in respect for the places and their sanctity, both in the oral tradition and in everyday practice. The unusual geological features are inhabited by sacred beings, and the rock art images are testimony to messages from the spirits.

The rock art panels tend to be oriented in a direction which does not seem to be connected to a cardinal point or any astronomical phenomenon, but to specific points in the landscape, and in most cases towards the grasslands. Undeniably, in accordance with Blackfoot traditions, this is a way of strengthening the sanctity of the site, as the direction is towards mountains known to be home to powerful spirits, such as the Thunderbird, and the place used still today for vision questing by Blackfoot adolescents.

ICOMOS considers that this criterion has been justified, on the grounds that the sacred landscape and the rock art of Writing-on-Stone/ Áísínai'pi provide exceptional testimony to the remarkable longevity, over several centuries, of the cultural traditions of the Blackfoot people. The archaeological sites, spanning several millennia, reflect the ancient nature of this relationship between the First Nation peoples and the landscape to communicate with the sacred beings and to make rock art images.

ICOMOS considers that criterion (iii) has been justified.

Criterion (iv): *be an outstanding example of a type of building, architectural or technological ensemble or landscape which illustrates (a) significant stage(s) in human history;*

This criterion is justified by the State Party on the grounds that the rock art is an outstanding chronicle of a critical phase of human history in North America, when indigenous groups first came into contact with European people.

ICOMOS stresses that a large proportion of knowledge about the colonisation of the Americas has been gathered from official histories, rather than from the social memories and ancestral teachings of indigenous groups. The traditional knowledge and archaeological knowledge provided by indigenous perspectives are invaluable in

order to complete the intersubjective understanding of persons, places, events and material cultures that are associated with colonisation.

ICOMOS considers however that criterion (iv), as it is justified, focusing on a historical period, may appear to contradict the justification of criterion (iii), emphasising the continuity of cultural practices. ICOMOS considers that the comparative analysis does not support the justification of the rock art as an outstanding example of a landscape illustrating a significant period in human history.

ICOMOS considers that criterion (iv) has not been justified.

Criterion (vi): *be directly or tangibly associated with events or living traditions, with ideas, or with beliefs, with artistic and literary works of outstanding universal significance;*

This criterion is justified by the State Party on the grounds that Writing-on-Stone/ Áísínai'pi is directly and tangibly associated with long-term and enduring indigenous traditions, ideas and beliefs, such as acquiring sacred powers through vision questing, seeking guidance from Sacred Beings, venerating and showing respect for Sacred Beings and ancestors through ceremonies and offerings, and using traditional stories to reinforce the relationship of the Blackfoot people to the landscape.

ICOMOS acknowledges the nominated property is revered as a sacred place, and vision quests continue to be practiced. Modern rock art images with Blackfoot themes attest to a recent practice, in areas of low visibility. Writing-on-Stone / Áísínai'pi is directly and materially associated with these ritual traditions practiced by the Blackfoot people living around the property today. Although it cannot be said that the Blackfoot have lived in Writing-on-Stone / Áísínai'pi for millennia, the strong and ongoing relationship of today's Blackfoot with Writing-on-Stone / Áísínai 'pi testifies to a long-standing living cultural tradition linked specifically to a sacred landscape and its rock art sites.

What has not been demonstrated is how these traditions can be seen to be part of the wider complex beliefs, values, knowledge, and practices of the Blackfoot people and how these relate to the many different aspects of the landscape in which they live. The rock art traditions are part of this wider system and, on their own and in these particular sites, it has not been demonstrated how they might be seen to be of outstanding universal significance.

ICOMOS considers that criterion (vi) has not been justified.

ICOMOS considers that the nominated property meets criterion (iii).

Integrity and authenticity

Integrity

ICOMOS notes that the site has long been protected (since 1957), and that only part of the property (3%) has been provided with infrastructures for visitor reception and visits

(paths, access roads, visitor centre and museum, interpretation panels and toilets). Only part of the site is freely accessible, and most is in a prohibited zone or an accompanied visit zone. The aesthetics and the cultural value of the geological formations (hoodoos, cliffs, canyons) have been maintained.

ICOMOS and the IUCN recommend however that the rodeo grounds be removed and relocated, so as to strengthen the integrity of the nominated property.

The IUCN also stresses the importance of the prairies where, before the arrival of the Europeans, thousands of bison roamed and grazed in the grassland plains. Priority should be given to the protection of the grassland prairies included in the buffer zones.

Authenticity

The nominated sites are authentic in terms of their conception and their materials, their situation and their setting, their function and the associated spiritual traditions, which are still alive today.

ICOMOS stresses that the motifs of rock art are well-known and recorded as regards the First Nations of the Great Plains. This pictographic system is found in abundance on other materials, such as tipis and painted hides. The composition of the scenes and the layout in historiated scenes also correspond to what is known of Blackfoot pictorial traditions.

ICOMOS also notes that authenticity has been respected, as the landscape has not changed, and there have been no major modifications of the cliffs (except those caused by natural erosion).

The nominated property, as demonstrated by archaeological excavations, has been used for millennia on a seasonal basis for temporary camps, the production of tools, ceremonies and funeral practices. Oral traditions, and historical and ethno-historical surveys, have confirmed the use and function of Writing-on-Stone down the ages as a sacred place and a gathering place for First Nation and primarily Blackfoot communities.

ICOMOS considers that the conditions of authenticity and integrity have been met. ICOMOS recommends that the rodeo grounds be removed and relocated, to strengthen the property's integrity.

Evaluation of justification for inscription

ICOMOS considers that the nominated property is a landscape that is rich in cultural significance for the Blackfoot people, which has inscribed in it part of its history and its religious and spiritual practices. ICOMOS stresses that a very large corpus of Blackfoot oral traditions attests and characterises the cultural and spiritual importance of the property. This set of values, practices and knowledge confers outstanding meaning to the property and to the rock art on which it is founded.

ICOMOS also considers Writing-on-Stone/ Áísinaí'pi to be representative of the rock art in the northern part of the Great Plains of North America. ICOMOS stresses that this set of rock art today reveals the profound spiritual connections between the Blackfoot people and the sacred world.

Attributes

Writing-on-Stone/ Áísinaí'pi contains outstanding landscapes, sacred places and archaeological remains. The rock carvings and paintings constitute an important part of this sacred landscape. 138 rock art sites have been recorded, consisting in all of some 250 rock art panels, containing several thousand images. The rituals practised and the oral tradition are traces of the integration of this landscape in the life and spirituality of Blackfoot people.

ICOMOS considers that the nominated property meets the conditions of authenticity and integrity, and meets criterion (iii).

4 Conservation measures and monitoring

Conservation measures

ICOMOS considers that the conservation measures are appropriate to preserve the values, authenticity and integrity of the property.

The State Party stresses that, as the Writing-on-Stone site has been under the legal protection of the Park for more than 60 years, conservation has been effective since the protection began. The State Party indicates that all geological formations, particularly the hoodoos, are permanently monitored by the Park. Access to most of them is restricted, which also enables more appropriate monitoring.

Conservation measures have been taken for some panels of rock carvings and paintings by installing drip lines to divert water from rock faces.

Tests have also been performed to stabilise rock on faces with no rock art panels.

The State Party also indicates that viewscape barriers have been installed to keep visitors away from the areas near the most representative panels, and to enable interpretation visits with groups. The State Party also indicates that most of the rock art sites are inside the restricted access zone, and that vandalism is limited because visitors are supervised by a guide.

As for the archaeological sites, the tipi stone circles are still visible, but they are located inside restricted access zones, and visitors are not allowed to enter these areas.

Monitoring

The State Party indicates that, since 2010, a rock art monitoring system has been introduced to ensure surveillance of the state of conservation. All the main panels are inspected each year, photographed (the photographs

are compared with those of previous years) and described using a standard form. The other rock art sites are also monitored regularly but not annually.

Regular monitoring processes for notable natural landforms are also currently being developed.

The State Party indicates that a rock art monitoring programme has been drawn up for the Áísinaí'pi zone, and the additional information states that the rock art sites of Poverty Rock and Haffner Coulee were included in the rock art monitoring programme in 2013.

The nomination dossier indicates that laser scanner equipment has been used to measure microscopic and macroscopic changes in the rock faces, including those with rock art panels. Staff from the University of Calgary will also examine experimental panels that have been treated with stone strengthening chemicals in order to assess potential conservation measures.

The State Party stresses that, from 2018 to 2025, the rock art sites of Haffner Coulee, Poverty Rock and Coffin Bridge will be monitored every two years. No new anthropic or agricultural impacts have been recorded since the programme was introduced at Haffner Coulee and Poverty Rock.

ICOMOS considers that the conservation and monitoring measures are appropriate to preserve the values, authenticity and integrity of the property.

5 Protection and management

Documentation

The State Party indicates that the property has been studied as exhaustively as possible from an archaeological viewpoint. The thousands of carved and painted images have been recorded in successive campaigns. A data base contains all the photographs and records of the decorated panels. There are 138 rock art sites: most of them in the Áísinaí'pi zone (122), with 12 in Haffner Coulee and just 4 in the Poverty Rock zone. Various rock art styles have been identified and the chronology of the rock art has been established on the basis of the morphology of the engravings, superimpositioning, patina, subjects represented and a comparison of other sites or art forms that are dated.

The State Party indicates that the richness and multiplicity of the historic sources referred to in the rock images since the mid-19th century are not anecdotal, but on the contrary, central to the site and to the history of the Blackfoot people. A large corpus of Blackfoot community oral traditions attests and characterises the cultural and spiritual importance of the nominated property.

Legal protection

The nominated property is protected by the Provincial Parks Act of the Province of Alberta. The three components and the buffer zones form an integral part of Writing-on-Stone

Provincial Park, which means that no industrial or commercial development may take place there. The Park is also subject to all the rules that govern the Parks of Alberta and of Canada as a whole.

All the cultural elements are also protected by the Historical Resources Act of Alberta, which provides the highest level of protection in Canadian jurisdiction. The State Party indicates that any development that might interfere with the cultural site will be prohibited, and this includes any visual impact.

Most of the lands surrounding the nominated zone are "crown lands". Because of the federal nature of the country's government, the lands in question may be the property of the federal state or of a province. Crown lands are governed by strict rules which limit the development of activities, and are protected by the Public Lands Act.

The governments of the Blackfoot communities are also consulted for all decisions that could lead to any modification of the cultural landscape.

The Writing-on-Stone site became a provincial park in 1957. Several other areas of land were added during the 1960s and in 1992. In 1977, to ensure more effective protection of remains of archaeological and cultural significance, the provincial government decided to create a restricted access zone. In 2011, three further parcels of land – Haffner Coulee, Poverty Rock and Coffin Bridge - were added when they were purchased from a landowner.

Management system

The property is administered by the Province of Alberta. The Alberta Environment and Parks Ministry has jurisdiction over the property. The Blackfoot governments and organisations officially participate in the management of Writing-on-Stone/Áísínai'pi, and thus ensure that traditional cultural values are incorporated and respected.

The State Party indicates that questions relating to World Heritage sites are directed and coordinated by Canada's National Parks Office. In the Province of Alberta, the Provincial Ministry of Culture and Tourism and the Travel Alberta Crown Corporation foster collaboration between the province's World Heritage sites, which they also actively promote.

The preparation of a revised management plan for the provincial park began in 2017, in collaboration with the Blackfoot communities. This process will be completed during 2019.

The management plan currently in force was officially approved in 1997, and was revised in 2008, 2014 and 2016. The plan divides the Áísínai'pi component and its buffer zone into three management zones: historic protection, natural environment and infrastructures. The historic protection zone encompasses the zone containing the greatest concentration of rock art and historic elements. Access to this zone is restricted, and infrastructures are limited. The natural environment zone ensures the protection of the

natural environment, while allowing recreational activities that are widely scattered and have a low impact. The infrastructure zone is the zone where visitor levels are highest, and which contains most of the visitor facilities and the park's infrastructures.

A resources management plan was drawn up in 1990 for the Áísínai'pi component. It is used to provide additional basic information about the landscape and archaeological attributes that contribute to the OUV of the nominated property. The most important aspects of this plan were incorporated in the 1997 management plan.

A provisional management directive, drawn up in 2014, applies to the Poverty Rock and Haffner Coulee components. It also identifies three management zones: natural landscape, special protection and infrastructure zones.

As the site is covered by the administrative system of the Canadian Provincial Parks, it has a team that handles the management and protection of the park. Staffing in 2016-2017 consisted of four permanent posts, a two-year indigenous trainee post in Alberta, and up to 18 seasonal employees.

Expertise and training in conservation and management are supported by the Parks Division of the State of Alberta. The archaeology programme of the Royal Museum of Alberta is responsible for the management and conservation of the archaeological collections in Alberta. The archaeological prospection section of the Historical Resources Management Department will be informed of all major development projects proposed for Writing-on-Stone/Áísínai'pi and its environs. The Indigenous Affairs, Heritage Conservation and Commemoration Department of Parks Canada is in charge of the national historic commemoration programme of Canada, and the Canadian Conservation Institute (CCI) is in charge of the upkeep and preservation of Canada's cultural heritage.

As regards the three management zones, ICOMOS stresses that Poverty Rock has no historic protection zone, even though rock art sites and archaeological sites have been documented there. In the additional information provided on 14 November 2018, the State Party indicates that the designation of the Poverty Rock and Haffner Coulee components as a provincial historic resource is currently being considered.

The State Party indicates that the Royal Museum of Alberta is actively participating in the archaeological projects, and the training and conservation projects at Writing-on-Stone/Áísínai'pi. In the additional information, it is indicated that the research programmes currently under way include the use of a laser scanner to measure microscopic and macroscopic changes in rock faces, and the documentation of rock images.

In the additional information provided in February 2019 concerning the finalisation and official adoption of the revised management plan, the State Party indicates that the

final phase of the planning process consists of a public consultation, followed by a final revision based on the comments of the public. The consultation was set to take place early in 2019, but because of an imminent provincial election in Alberta and a standardised protocol concerning public consultations during electoral periods, no public consultation has yet been approved. The government of Alberta has however approved the management plan as a provisional management directive, in accordance with existing policies which do not require a public consultation. The State Party stresses that the newly devised plan embodies the current orientation of the management of the nominated property, and that its application will be just as effective as a management plan. The provisional management directive will be used until the final stage of the public consultation is completed.

Visitor management

The State Party indicates that a majority of visitors stop at the visitor centre (permanent exhibition, projection room and shop). The State Party points out that the zone that is accessible to the public is limited in size. It consists of paths enabling access to viewpoints or hoodoos. The sports allowed are hiking, canoeing, swimming, nature observation, horse riding, and cycling (restricted to the park roads). To prevent damage, the park has developed several strategies such as information, the closing of non-official paths, and the creation of flora rehabilitation zones. Educational activities are also planned in the camping zone. The most sensitive part of the site, which includes most of the rock art panels of Áísínai'pi, is only accessible via guided tours. Visitor numbers in the Park amount to roughly 50,000 persons a year on average, with most of the visitors coming from Alberta.

Following on from the technical evaluation mission, the State Party indicates that there are no plans to develop existing infrastructures, as they are located in a loop of the river and the property cannot be extended. The towns nearby should be able to provide the necessary accommodation for visitors. In order to accommodate visitors, the campsite opening period is to be extended, and the number of visits (three a day) to restricted access zones during the summer period. There are also plans to further increase staffing of the visitor reception team so as to supervise visits.

In the additional information supplied in February 2019, the State Party indicates that, in the provisional management directive, the tourism possibilities of the park are considered in the context of the sustainable management of the site, the conservation of natural and cultural values, and ongoing respect and recognition of Blackfoot values and traditions.

ICOMOS stresses that controls are necessary on persons travelling along the river by canoe.

Community involvement

The Blackfoot people participate in the management of the property. The management plan, revised and now nearing completion, has been drawn up in conjunction with the Blackfoot communities. Blackfoot representatives are also involved in the conservation of the property, and can decide

on conservation measures taken on a case-by-case basis (e.g. interventions on graffiti). In addition, the park is staffed by Blackfoot people.

As the nominated property is still a sacred place, vision questing and ceremonies continue to take place there.

Evaluation of the effectiveness of the protection and management of the nominated property

ICOMOS considers that Writing-on-Stone is protected by the Provincial Parks Act of Alberta, which means that no industrial or commercial development may take place there. Furthermore, all the cultural elements, including viewsheds, are also under the protection of the Historical Resources Act of Alberta. This means that anything that could adversely affect the property will be prohibited, including any visual impact. The governments of the Blackfoot communities are also stakeholders, and are consulted for each decision that could lead to a modification of the cultural landscape.

The nominated property corresponds to the current Writing-on-Stone park, with the recent additions of Haffner Coulee and Poverty Rock. In view of the protection of the site as a provincial park, the site has had a management plan since its creation in 1957. The management plan is regularly revised, and a new edition, drawn up in collaboration with the Blackfoot communities, is nearing completion. The provisional management directive will be used until the final stage of the public consultation is completed, and the revised management plan is adopted. ICOMOS stresses however that it will be necessary to strike a balance between tourism, conservation and the Blackfoot communities' cultural practices within the nominated property.

As the rodeo grounds are located in the heart of the restricted access zone, ICOMOS and the IUCN recommend that the rodeo grounds should be removed and relocated outside the nominated property. Strategies to this effect, aimed at reducing the negative impacts caused by the rodeo will be considered over the next two to three years, including the relocation of the rodeo grounds (to Coffin Bridge).

ICOMOS considers that the management plan currently being revised should include the moving of the rodeo grounds to another location outside the nominated property. ICOMOS considers that the property meets the protection and management conditions.

6 Conclusion

ICOMOS considers that the nominated property meets the conditions of authenticity and integrity, and meets criterion (iii).

The cultural landscape of Writing-on-Stone/ Áísínai'pi brings together three components, where 138 rock art sites have been recorded, representing a total of 250 rock art panels and thousands of images. The nominated property is representative of the rock art expression of the northern part of the Great Plains of North America.

The property bears witness to the very long historical association of the Blackfoot people with the graphic expression of Writing-on-Stone/ Áísínai'pi. This ensemble of rock art today reveals and embodies profound spiritual links between the Blackfoot and the sacred world. This centuries-old practice is still a living tradition, perpetuated by various ceremonies, respect and the sacred nature of the places, both in the oral tradition and in everyday practice. The geological formations are inhabited by sacred beings and the rock art is closely linked to them. The Blackfoot believe that the region is inhabited by powerful spirits. They have left ritual engravings and paintings on the sandstone walls of the Milk River Valley to send messages to the spirits.

The rodeo grounds should be removed and relocated outside the nominated property, in order to strengthen its integrity.

7 Recommendations

Recommendations with respect to inscription

ICOMOS recommends that Writing-on-Stone/ Áísínai'pi, Canada, be inscribed on the World Heritage List as a cultural landscape on the basis of **criterion (iii)**.

Recommended Statement of Outstanding Universal Value

Brief synthesis

Writing-on-Stone/ Áísínai'pi is a sacred site in a mixed grassland prairie region on the northern edge of the Great Plains. Milk River Valley and several "coulees" dominate the topography of this cultural landscape, whose geological features include a concentration of hoodoos, with spectacular forms sculpted by erosion. The Blackfoot people Nation (Siksikáitsitapi) has left engravings and paintings on the sandstone walls of the Milk River Valley, which bear witness to spirit messages. The landscape is considered to be sacred by the Blackfoot people, and centuries-old traditions are perpetuated today in various ceremonies and in the respect in which the place is held.

The property consists of three components - the main component Áísínai'pi, and some 10 km away Haffner Coulee and Poverty Rock - and contains thousands of rock art images. Most of the dated archaeological remains cover a period from 1800 BCE up to the beginning of the post-contact period. The rock art has been made in the valley for thousands of years, and most of the images date from the pre-contact period, around 3000 BP.

Criterion (iii): The sacred landscape and the rock art of Writing-on-Stone/ Áísínai'pi provide exceptional testimony to the living cultural traditions of the Blackfoot people. According to Blackfoot beliefs, spiritual powers inhabit the earth, and the characteristics of the landscape and the rock art in the property reflect tangible, profound and permanent links with this tradition. The viewsheds of the sacred valley, with high grassland prairies, also contribute to its sacred character and influence traditional cultural practices.

Integrity

All the elements that are necessary to express Outstanding Universal Value are contained within the property boundaries, including a comprehensive representation of culturally significant landforms, a full range of characteristics of the two main documented traditions of rock art at Writing-on-Stone/ Áísínai'pi, and the viewsheds that contribute to their sacred character. The tangible and intangible attributes of Writing-on-Stone/ Áísínai'pi continue to be incorporated in the cultural and spiritual context of the Blackfoot people today. The rodeo grounds, located in the heart of the restricted access zone or archaeology reserve, should be removed and relocated in order to strengthen the property's integrity.

Authenticity

The authenticity of the form and conception of the property, of materials and substance, of situation and setting, of use and function, of traditions, of spirit and impression is well established, and is corroborated by large amounts of traditional, ethnographic and archaeological evidence. The authenticity of the form and conception of the rock art is evidenced by its subject, its formal and stylistic qualities, and its pictorial conventions and motifs, which correspond to well documented traditions of the indigenous peoples. The character of the landscape is intact and authentic, and has undergone few modifications since the beginning of European settlement. The archaeological excavations and the inventories have demonstrated the early date of settlement and use of the property by the indigenous peoples. The continuing traditional importance and ceremonial use of the property by the Blackfoot people bear witness to the authenticity of its intangible values, its situation and its setting.

Management and protection requirements

Writing-on-Stone/ Áísínai'pi is entirely protected and managed by virtue of the provisions of the Provincial Parks Act of Alberta. The three components of the serial property and the associated buffer zones are included in the provincial park of Writing-on-Stone. Industrial and commercial development inside the property is prohibited. More than 21% of the property is located in a restricted access zone, preventing unauthorised public access to the zones that are most sensitive in cultural terms, although the Blackfoot people is still allowed access for traditional purposes. All the property's cultural attributes are subject to the protection provisions of the Historical Resources Act of Alberta, the highest level of protection in this Canadian jurisdiction.

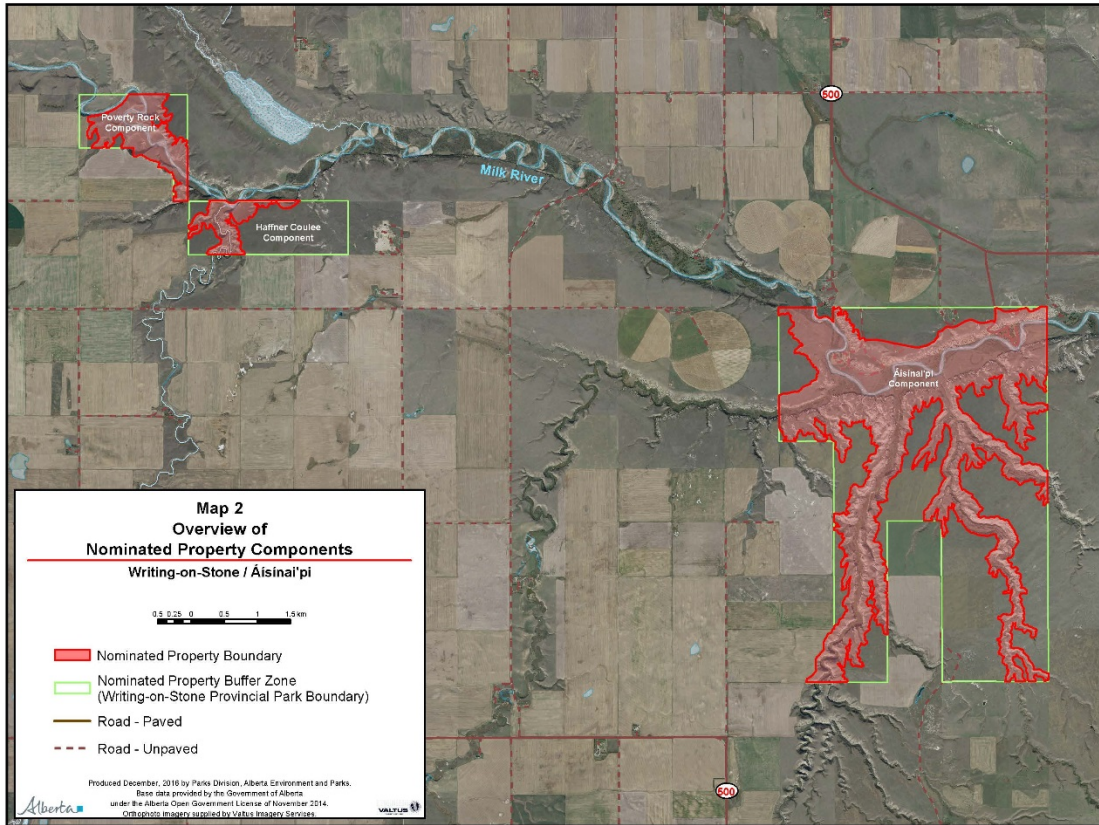
A comprehensive management system is in place, and a programme for monitoring the rock art has been implemented. The Blackfoot people are fully participating in the management of Writing-on-Stone/ Áísínai'pi, while ensuring appropriate management practices and continuous access for traditional and cultural practices. The management plan is regularly revised, and a new edition, drawn up in collaboration with the Blackfoot communities, is nearing completion. The provisional management directive

will be used until the final stage of the public consultation has been completed, and the revised management plan has been adopted.

Additional recommendations

ICOMOS further recommends that the State Party give consideration to the following:

- a) Providing a calendar for the relocation of the rodeo grounds outside the property area, within a maximum timeframe of five years,
- b) Finalising and officially adopting the revised management plan, including a visitor management plan;



Map showing the boundaries of the nominated property



Overview of the cultural landscape



Áisinaí'pi component: hoodoos overlook the sacred landscape, with Sweetgrass Hills in the background



Rock art and cultural landscape



Blackfoot youth wearing traditional dance regalia at Writing-on-Stone / Áísinaí'pi

Erzgebirge/Krušnohoří (Germany/Czechia) No 1478

Official name as proposed by the States Parties

Erzgebirge/Krušnohoří Mining Region

Location

Germany (DE), Free State of Saxony; Parts of the administrative districts of Mittelsachsen, Erzgebirgskreis, Meißen, Sächsische Schweiz-Osterzgebirge and Zwickau

Czechia (CZ); Parts of the regions of Karlovy Vary (Karlovarský kraj) and Ústí (Ústecký kraj), districts of Karlovy Vary, Teplice and Chomutov

Brief description

Erzgebirge/Krušnohoří (Ore Mountains) is a mining region located in southeastern Germany (Saxony) and northwestern Czechia. The area, some 95 km long and 45 km wide, is rich in a variety of metals, which gave place to mining practices from the Middle Ages onwards. In relation to those activities, mining towns were established, together with water management systems, training academies, factories and other structures. Mining also took to specific forms of controlling and managing the activities and to the development of a wide range of specific social practices. The serial transnational property is made up of 22 components, 17 located in Germany and 5 in Czechia. The States Parties present the components in relation to each of the types of ores extracted over time. Each of the components of the serial nomination includes a wide variety of sites, groups of buildings, monuments and structures, each differing in scale, type, function and role in depicting the centuries-long mining tradition of the Ore Mountains.

Category of property

In terms of categories of cultural property set out in Article I of the 1972 World Heritage Convention, this is a serial transnational nomination of 22 components.

In terms of the *Operational Guidelines for the Implementation of the World Heritage Convention* (July 2017) paragraph 47, it has also been nominated as a *cultural landscape*.

1 Basic data

Included in the Tentative List

28 September 2012 (as Mining Cultural Landscape Erzgebirge/Krušnohoří).

Background

A nomination under the title "Mining Cultural Landscape Erzgebirge/Krušnohoří" was submitted by the States Parties in January 2014 for evaluation as a cultural landscape under criteria (i), (ii), (iii) and (iv). The nomination dossier was withdrawn by the States Parties following the receipt of the interim report. At the request of the States Parties, an ICOMOS Advisory process was carried out in May-September 2016.

The previous nomination dossier consisted of a serial property of 85 components. ICOMOS noticed the different approaches used by both States Parties to identify the components and to determine their boundaries; in some cases, an extreme atomization of heritage assets was noticed. This is a new, revised nomination that takes into account the ICOMOS Advisory process recommendations.

Consultations and technical evaluation mission

Desk reviews have been provided by ICOMOS International Scientific Committees, members and independent experts.

An ICOMOS technical evaluation mission visited the property in June 2018.

Additional information received by ICOMOS

A letter was sent to the States Parties on 17 October 2018 requesting further information about development projects in the property.

Additional information was received from the States Parties on 12 November 2018 and has been incorporated into the relevant sections of this evaluation report.

An Interim Report was provided to the States Parties on 21 December 2018 summarising the issues identified by the ICOMOS World Heritage Panel.

Further information was requested in the Interim Report including current or potential mining exploitation licences, and pollution.

Additional information was received from the State Parties on 15 February 2019 and has been incorporated into the relevant sections of this evaluation report.

Date of ICOMOS approval of this report

13 March 2019

2 Description of the property

Note: The nomination dossier and additional information contain detailed descriptions of this property, its history and its state of conservation. Due to limitations on the length of evaluation reports, this report provides only a short summary of the most relevant aspects.

Description and history

The serial transnational nomination is made up of 22 components, 17 located in Germany and 5 in Czechia. One of the characteristics of the Ore Mountains is that several metals have been extracted over time; the States Parties describe the property on the basis of landscapes related to those metals. Each of those landscape units contains a wide array of tangible and intangible features, among the former mines themselves, mines shafts, water management systems, mining towns, buildings and other structures. Since it would not be possible to describe each of the 22 components, a summary of each of the landscape types is presented below.

Silver was extracted during all mining periods in the Ore Mountains from 1168 to 1968 and was the starting point for ore extraction at several important locations in the nominated property. In particular, the high rate of silver production in the late 15th and first half of the 16th centuries gave main impulses of global impact for technological innovations, scientific achievements, state territorial regulations, urbanization processes that shaped the settlement-geographical development of the entire region and, from the 18th century onwards, the development of an educational system to meet the need for trained and educated mining experts.

After silver, tin was historically the second most important metal that was mined and processed in the Ore Mountains.

Cobalt is a significant constituent of several polymetallic ore deposits in the Ore Mountains. Cobalt ores had been extracted and processed in the Ore Mountains as early as the first half of the 16th century, 200 years before cobalt was determined to be an element. Until the 18th century, the Erzgebirge/Krušnohoří Mining Region was Europe's leading producer of cobalt pigment, as attested especially by the mining installations of the Schneeberg Mining Landscape (6-DE) and the Schindlers Werk Smalt Works (7-DE). Sophisticated technologies were developed for the technical smelting and processing of the dressed ores; the most important products of these works were the blue dyes smalt and zaffer, and cobalt glass. The production of cobalt blue dyes in the Ore Mountains was highly important for Saxon and Meissen porcelain, Venetian and Bohemian glass, Delft ceramics, and porcelain, be it Chinese or Saxon. All ensured that cobalt pigment from the Ore Mountains was distributed all over the world.

Ore mining and processing played an early and important role in the Ore Mountains, especially in the western part of the Saxon Ore Mountains with its many iron ore deposits, forested areas suitable for the production of charcoal and many rivers necessary for the supply of water power for the smelteries and hammer mills (Frohnauer hammer mill, 8-DE). The demand for iron tools, appliances and products greatly increased hand-in-hand with the rapid development of iron mining and the frequent founding of towns. Iron was important for producing mining tools and machinery. Every large mine had its own forge for toolmaking and repair works. The geological parameters meant that iron extraction was particularly focused in the Western Ore Mountains from the 14th century onwards. The iron mining was primarily a near-surface activity; however, many important deeper mines were in operation as well (Měděnec Bludná).

Uranium is a key member of the polymetallic assemblage of the Ore Mountains. The metal was discovered and recognized for the first time here, and it was here that its ores were first exploited. Uranium subsequently shaped the recent history of mining in the Ore Mountains like no other raw material. In 1906, the world's first radium spa was opened in Jáchymov, which triggered the search for further radioactive sources in the Ore Mountains. The first Saxon radium spa in the Ore Mountains was founded 1918 at Schlema. In contrast to the distribution of early mining activities, the search for uranium after the Second World War by the Jáchymovskédoly state mining company on the Czech side and the SAG (and from 1954 the SDAG Wismut) on the Saxon side took place over the whole region, regardless of any administrative boundary. Hundreds of shafts for uranium ore mining were established, mostly in the western part of the mountain region. Nevertheless, these mining activities were quite often short-lived and had only limited impact on existing historic structures. On the Saxon side, the Niederschlema-Alberoda area (17-DE) developed into a central uranium mining place. In Czechia, uranium mining was concentrated on the area around Jáchymov (1-CZ) between 1945 and 1964. In Saxony, the mining of uranium was terminated in 1990 with the political reunification of Germany. Large contaminated waste dumps were typical for the uranium ore mining area of Hartenstein-Aue-Schlema. After 1990 the Wismut GmbH started a large and costly decontamination, redevelopment and redesigning programme for all of the uranium sites in the Saxon Ore Mountains. The result of these efforts is the new designed landscape of the Hartenstein-Aue-Schlema region (17-DE).

As regards the history of the nominated property, the establishment of Cistercian monasteries in the 12th century constituted the outposts for the settlement of the region and were instrumental in initiating the mining activity.

Freiberg, among the most important mining towns, had developed from one of these villages by the late 12th century; it grew in importance throughout the 13th–14th centuries but then declined due to the exhaustion of

the superficial ore deposits. On the Bohemian side, particularly in Krupka/Graupen, mention of mining activity in written documents can be found as early as the 13th century. Krupka district was among the most important, with tin, silver and, later, iron, lead, copper and mercury ores extracted. Other mines were founded in the district throughout the 14th century by mining entrepreneurs. Decline of mining in the Krupka district began in the early 15th century, as a result of two main factors, namely the lack of technologies to exploit deeper ore lodes, and the Hussite Wars.

The mining boom was triggered by the quest for silver ore and the discovery of abundant deposits in Schneeberg. The increasing mining activity stimulated the establishment of new, planned towns close to the mining areas. Within a few decades, 30 new towns were founded on the Saxon side of the Ore Mountains and 20 on the Bohemian side. These towns were granted privileges which attracted miners but also craftsmen, tradesmen, artists and scholars. Towns such as Freiberg, Annaberg, Marienberg, Schneeberg and St Joachimsthal/Jáchymov also developed into cultural centres. Studies on mineralogy and mining began in the 15th – 16th centuries thanks to the work of many scholars, amongst whom the most famous was Georgius Agricola, who worked in Jáchymov and compiled the compendium *De re metallica*, published posthumously in 1556, which served as the main reference on mining and metallurgy for more than 200 years.

The mining industry changed its scale and so did miners' work, which passed from an independent to a wage-dependent activity. Silver coin minting privileges were extended to the mining towns, including Jáchymov, where large amounts of silver *thalers* were minted and gained European acceptance.

The second half of the 16th century witnessed silver mining stagnation (depletion or deterioration of ore deposits, and discovery of richer silver ore deposits in South America), and climatic fluctuations contributed to the serious decline of mining in the region, causing a drastic loss of inhabitants.

Political changes between the late 17th and 18th centuries brought a reformation in the administrative structure of mining organization and management as well as the beginning of academic education and vocational training for mine overseers. In Bohemia, the Counter-Reformation caused a prolonged crisis in the mining sector, particularly because the majority of the miners professed the Protestant faith and were therefore forced to either move away or become Catholic. Efforts to revive mining activity in the eastern part of the Ore Mountains began between the 17th and 18th centuries. State support to revitalize mines and the establishment of a vocational training centre in Jáchymov in 1716 contributed to reactivating mining in Bohemia, with the extraction of cobalt, arsenic and small amounts of silver ore.

Mining activity led to a renewed boost starting in the second half of the 18th century. This revival was also accompanied by scientific and technological research – stimulated by the establishment of the Freiberg Academy – which favoured the industrialization of the mining sector. A number of innovations were conceived and tested in the Ore Mountains: cast-iron column engines, steam winding machines, new water management systems and improved metallurgic processes all contributed to the continuation of mining activity in the Ore Mountains throughout the 18th and 19th centuries. Prospecting for new ore deposits was carried out. Throughout the late 18th and 19th centuries, ore mining activity fluctuated in quantitative terms and in the number of exploited sites; at the same time, coal mining began to gain in importance.

Efforts to counteract the progressive decline in mining included a thorough revision of the administrative organization of the mining activity, its liberalization and a change in the management principle. The First World War had a severe negative impact on mining activity, particularly in Bohemia, but the discovery of radioactive material at Jáchymov was to begin another phase of mining operations as well as experiments on the therapeutic properties of radioactive waters. During the Second World War, Germany occupied Jáchymov with the aim of exploiting the uranium ores.

Following the end of the Second World War and the new political spheres of influence, the Ore Mountain mines and mining districts fell under the control of the Soviet Military Administration in Germany, and systematic prospection was carried out to locate uranium ore. Uranium mining started as early as 1946, inaugurating the last intense phase of mining in the area. The German Democratic Republic was the third largest producer of uranium in the world; uranium mining and processing continued in the region into the 1990s and granted great prestige to the Ore Mountains region. Ore prospection was also carried out in post-Second World War Czechoslovakia, revealing massive tin ore deposits as well as molybdenum. As in the German Democratic Republic, uranium mining was able to achieve a large scale thanks to the use of systematic forced labour. More than 65,000 labourers worked at the Jáchymov uranium mining district from 1948 until its closure in 1965, when the ore veins were exhausted. The Ore Mountains, however, still hold extensive reserves of ore, especially rare ones, which await the right conditions to make their extraction profitable. Since the reunification of Germany and the fall of the Soviet Union, several prospection and mining concessions have been issued in Saxony and Bohemia.

Boundaries

The area of the 22 components totals 6,766.059 ha, with buffer zones totalling 13,017.850 ha.

The States Parties explain that the components include all successive and evolving socio-technical systems specified for several periods and several ore resources, as well as all key interrelated interdependent and visual elements. The boundary of the nominated property as a

whole has been drawn according to the rationale of a cultural landscape, which brings with it the need for contextualization and which encompasses its functional, spatial and historical integrity, both above and below ground. The boundaries of the components include all features related to the mining system, including mining sites and operational areas, processing sites, infrastructure to support the mines, miners' living sites, aspects of settlement stimulated by mining (e.g., agricultural areas) and landscape modifications due to mining (e.g., shaft collapses) necessary to convey the significance and characteristics of each component as it contributes to the full expression of the proposed Outstanding Universal Value of the property, its integrity and its authenticity. The boundaries were drawn to include the setting and the functional links with the environment and other elements of the mining system. The buffer zones encompass sufficient areas within which developments might become a threat to the value of the property. The boundaries were determined in exact plots wherever possible. On the Saxon side, in some cases, a standardized buffer zone between 5 and 10 metres in width was determined for linear elements. Structures located underground were only allocated with a buffer zone when these are reflected by function-specific installations or archaeological remains aboveground. Otherwise, above-ground (construction) measures will have no effect on these mostly very deep-lying structures.

ICOMOS notices that the reconfiguration of the serial nomination into 22 components, instead of 85 in the previous nomination, reveals an appropriate approach whose outcome is an adequate definition of boundaries for each of the components and for their buffer zones, interconnecting heritage assets to the information related to the management of rural and urban landscapes. ICOMOS considers that the boundaries of the components of the serial transnational nomination and of their buffer zones are adequate.

State of conservation

Based on the information provided by the States Parties and the observations of the ICOMOS technical evaluation mission, ICOMOS considers that the overall state of conservation of the serial property is good.

The States Parties provide a detailed report on the state of conservation of each of the components of the serial property. In the case of the Saxon components, a table for each of the landscape units summarizes the state of conservation of the assets included. Most of them are in a fair to good state; only a few are considered to be in a poor state of conservation. For the Czech components, information is provided for the assets included in each of them. The State Party has identified in which cases restoration works are still pending.

ICOMOS considers that extensive documentation and conservation activity has been already carried out within the nominated serial property and substantial funding and plans are available for the implementation of conservation.

Factors affecting the property

Based on the information provided by the States Parties and the observations of the ICOMOS technical evaluation mission, ICOMOS considers that the main factors affecting the property are development projects, natural uncontrolled revegetation of mining areas and features that can, over time, reduce access and modify the appearance of the mining landscape and its component features, flooding, pollution and potential tourism impact.

As for development, the States Parties reported on extractions licenses granted over the last years near component 2-DE Altenberg-Zinnwald Mining Landscape, and on a project to build a bridge in the nominated and buffer zones of component 4-DE Freiberg Mining Landscape. On 17 October 2018, ICOMOS sent a letter to both States Parties requesting additional information on these issues. The response from the States Parties was received on 12 November 2018.

On mining development, the States Parties' report includes a preliminary Heritage Impact Assessment (HIA) and single maps. On the basis of the report's outline information, the current HIA position is that there is likely to be negligible adverse effect, and that the resumption of mining adjacent to this proposed protected cultural landscape is justifiable. However, the HIA remains in draft form, as sufficient information to reach any provisional conclusion for guidance purposes is as yet unavailable. The additional information provided by the State Parties in February 2019 confirms that the HIA remains preliminary, that the consultation process is ongoing and that new information will be provided to ICOMOS as soon as it is available.

Regarding bridge construction as part of the project B 101/B 173 Bypass Freiberg, the States Parties report that, after its approval in February 2010, the Federal Administrative Court of Leipzig stopped the further process as a result of legal actions (in July 2017). The planning permission was considered partly incorrect; therefore, amendments of the planning documents are required (mainly due to nature conservation issues). As of 12 November 2018, four court procedures and four plan amendments are pending. Final submission to the planning authority of all currently pending plan amendments is scheduled for the year 2022. There is no time schedule for the court proceedings.

This general information is followed by detailed information on both issues, including the draft HIA on the mining licenses project. ICOMOS has considered these responses adequate but recommends that both the World Heritage Committee and ICOMOS be timely informed on any future progress of these projects and on the update of the outcomes of the HIA. In the interim report dated 21 December 2018, ICOMOS requested both States Parties to explain how they would act should any new requests for licenses be made in the future.

The additional information submitted in February 2019 provides further information on this issue. Germany reports that mining activities are tentative only in the Altenberg mining area. According to the Federal Mining Act, a licencing procedure is instituted for all mining activities in the Ore Mountains region. Issues on monuments protection, including proposed or acknowledged World Heritage attributes and values, are considered in the approval procedure; the competent authority is the Saxon State Office for Monument Protection and the Saxon focal point for World Heritage.

The Czechia reports that, in general, ore deposits in the regions are largely exhausted and that no exploration licences have been issued. In the case that an exploration licence be requested, the lengthy administrative procedure includes an Environmental Impact Assessment (EIA) and, in the case of the Czech component parts, also a Heritage Impact Assessment.

Regarding revegetation, this problem is tackled on both sides by the forest management departments of Saxony and Czechia.

Flooding represents a further threat for the region; sections of the Roter Graben (ditch), the Ore Canal, and the Gersdorf mining landscape (4-DE), the Grünthal Silver-Copper Liquefaction Works (14-DE) and the Schindlers Werk Smalt Works (7-DE) are located in flood plains within the definition of Section 100(3) of the Saxon Water Act (SächsWG). In the regional plan for Chemnitz, these areas are designated as flood protection priority areas (flood areas) or flood protection reserved areas (risk areas). Prevention plans, maintenance and preventive measures have been undertaken on both the German and Czech components of the nominated series.

As regards pollution, especially the treatment of filtered water, further information on controlling provisions and procedures has been requested in the interim report dated 21 December 2018. The additional information provided in February 2019 indicates that in both States Parties legislation of the European Union provides a common basis for the protection of the environment. In Germany, the European Water Framework Directive 2000/60/EC (WFD) provides the legal basis for the protection of water. In Saxony, the Directive was implemented into national law by the Federal Water Resource Act and the Saxon Water Act. Specifications are determined in the Surface Water Regulation and the Groundwater Regulation. In the Czechia, the European Directive has been transposed into national legislation. The Ministry of the Environment together with the Ministry of Agriculture annually submits to the Government a report on the state of water management in the Czechia, which describes and evaluates the quality and quantity of surface and groundwater as well as the related legislative, economic, research and integration activities. There is no drainage of mine water from the old mining works in the nominated Czech component parts, for which the regional authorities in Karlovy Vary and Ústí nad Labem would

have to determine the manner and conditions of their discharge.

In February 2019 the States Parties have also informed on other forms of pollution, including random risk. The legal and administrative provisions are adequate for the appropriate treatment of these issues.

According to the States Parties, there is potential for further developing tourism related to World Heritage inscription. Currently, the scale of tourism is relatively low, posing little risk to the monuments in the nomination. However, even modest increases in numbers might have an impact on the urban communities, especially in relation to vehicular traffic in Czechia.

With regard to potential mining exploitation licences, ICOMOS considers that both States Parties have explained relevant procedures and provisions. However, ICOMOS considers that it is urgent to receive further information on the details of the project. Additionally, ICOMOS considers that both States Parties should formally commit that no mining activities will be allowed in the future within the boundaries of the serial property's components.

3 Proposed justification for inscription

Proposed justification

The nominated property is considered by the States Parties to be of Outstanding Universal Value as a cultural property for the following reasons:

- Erzgebirge/Krušnohorí Mining Region is broadly a self-contained landscape that has been profoundly and irreversibly shaped by 800 years of almost continuous polymetallic mining, from the 12th to 20th centuries. The components of the series represent the most important mining areas of the region, and include the highest density of features and values.
- Separate mining landscapes emerged on both sides of the Ore Mountains, characterized by an exchange of technical know-how, of miners and of metallurgists between Saxony and Bohemia.
- The combination of shifting geographical mineral output, topography and a mining system predominantly under state control dictated land-use regarding mining, water management and transport, mineral processing, settlement, forestry and agriculture.
- These landscapes are anchored by the mines themselves, pioneering water management systems, transport infrastructure, innovative ore-processing and smelting sites that possess an exceptional variety and integrity of equipment and structures, mining towns that developed spontaneously with, and adjacent to, the silver bonanzas of the 15th and 16th centuries, their original urban layout and architecture reflecting their importance as administrative, economic, educational, social and

cultural centres and retained as the basis for embellishment in the 18th and 19th centuries; agriculture that was contemporary with the earliest silver strikes in the 12th century and a well-established forerunner of large-scale mining; and sustainably managed forests that occupy traditional spaces in the landscape that were also subsidiary to the mining industry.

Comparative analysis

The comparative analysis presented by the States Parties is based on a methodology that takes into account the category of the property (cultural landscape), its type (serial transnational property) and its size. At the same time, considerations on periodization and criteria, protection and management, relevant cultural-historical context, and features and values have been taken into account. On the basis of this methodological approach, similar properties inscribed on the World Heritage List or on tentative lists, as well as properties not registered on the former, were selected for comparison.

According to the States Parties, the closest comparable properties inscribed on the World Heritage List as cultural landscapes, or being mining landscapes located in the same geo-cultural region, are: Mines of Rammelsberg, Historic Town of Goslar and Upper Harz Water Management System (Germany, 1992, 2010, criteria (i), (ii), (iii) and (iv)); Historic Town of Banská Štiavnica and the Technical Monuments in its Vicinity (Slovakia, 1993, criteria (iv) and (v)); Kutná Hora: Historical Town Centre with the Church of St Barbara and the Cathedral of Our Lady at Sedlec (Czechia, 1995, criteria (ii) and (iv)); and Cornwall and West Devon Mining Landscape (United Kingdom, 2006, criteria (ii), (iii) and (iv)). As for tentative lists, the properties considered comparable in terms of similar features and values include Roşia Montană Mining Cultural Landscape (Romania) and Sulcis Iglesiente (Italy). A table summarizes the characteristics of each of these selected properties.

The States Parties have considered it appropriate to focus on polymetallic mining regions where relevant cultural landscapes survive intact, but broadly exclude comparisons with other properties simply on the level of each nominated component. Nevertheless, in certain cases, comparisons have been made at the component scale, and even at the site scale, in order to underline the exceptionality of certain attributes conveyed by uncommon elements of the nominated property (the rare uranium and cobalt landscapes, for example). The nomination dossier includes a list of 24 properties inscribed on the World Heritage List or on tentative lists, at European and global levels, which have not been considered appropriate to be compared with the nominated properties. Once the selection of properties has been presented, the nomination dossier includes a comparison with each of the properties considered the most relevant for comparison.

After the comparison with similar properties, the States Parties include a section to explain the approach for the selection of the components of the serial nomination, especially the reduction of the 85 components of the previous nomination dossier to the 22 of the present one. The serial approach is justified mainly on the grounds of the large spatial separation of the deposits, a result of the uneven concentration of ores, and the resulting locations of the significant historic mining areas. The States Parties summarize the characteristics of each of the components selected and the reasons why they have been selected to make up the series.

ICOMOS considers that the comparators chosen are adequate to identify the properties, inscribed or not on the World Heritage List, which can contribute to the determination of how the nominated property could justify its inscription on the World Heritage List.

The approach for the selection of components of the series has also been clearly explained, and implies an adequate rationale to define and justify the composition of the series.

ICOMOS considers that the comparative analysis justifies consideration of this property for the World Heritage List.

Criteria under which inscription is proposed

The property is nominated on the basis of cultural criteria (ii), (iii) and (iv).

Criterion (ii): *exhibit an important interchange of human values, over a span of time or within a cultural area of the world, on developments in architecture or technology, monumental arts, town-planning or landscape design;*

This criterion is justified by the States Parties on the grounds that the serial transnational property is an exceptional testimony to the outstanding role and strong global influence of the Saxon-Bohemian Ore Mountains as a centre for technological and scientific innovations from the Renaissance up to the modern era. During several periods of mining history, significant achievements related to the mining industry emanated from the region and were successfully transferred, or influenced subsequent developments in other mining regions. This includes, among other achievements, the founding of the first mining high school. The continuous worldwide emigration of highly trained Saxon-Bohemian miners played a key role in the interchange of developments in, and improvements to, mining technology and its related sciences. Manifestations of this interchange are still evident in the Erzgebirge/Krušnohoří Mining Region.

ICOMOS considers that the Ore Mountains region was a centre of innovation over a long period of time. It was also a focus for the distribution of mining knowledge, notably through famous works such as Agricola's *De re metallica* (1556) and through the Freiberg Mining Academy, founded in 1765, whose students worked in mining regions around the world. ICOMOS also notices that the

wide variety of intangible heritage assets created a unique mining culture that facilitated the interchange of human values, in particular the mining culture that acted to educate and inform about mining techniques and technology as well as to create a fertile environment for innovation and learning. Although some of the components of the serial nomination constitute better examples of physical evidence demonstrating this criterion than others, ICOMOS considers that overall the nominated serial property meets criterion (ii).

ICOMOS considers that criterion (ii) is justified.

Criterion (iii): *bear a unique or at least exceptional testimony to a cultural tradition or to a civilization which is living or which has disappeared;*

This criterion is justified by the States Parties on the grounds that the serial transnational property bears exceptional testimony to technological, scientific, administrative, educational, managerial and social aspects that underpin the intangible dimension of living traditions, ideas and beliefs of the people associated with the Ore Mountains' culture. The organization as well as its hierarchical administration and management are fundamental to understanding the mining tradition of the Ore Mountains that developed from the beginning of the 16th century. A tradition emerged whereby the mining bureaucracies of absolute rulers maintained strict control of the work force and induced a favourable climate for an early capitalistic system of financing. Such an approach influenced the economic, legal, administrative and social system of mining in all the mining regions of continental Europe. Moreover, the state-controlled mining organization strongly influenced the development of early modern monetary systems, particularly witnessed by the royal mint in Jáchymov. The heavy silver coins known as *thalers*, first minted in Jáchymov from 1520, served for several centuries as a standard for the monetary systems in many European countries, and became a predecessor of the 'dollar' currency.

ICOMOS considers that each of the 22 components of the serial nomination contains elements that are outstanding in the overall context of 800 years of mining, but also outstanding within the types of mining landscapes identified within the nominated property. The components of the serial nomination also contain historical elements that document each period of mining history. ICOMOS considers that this criterion has been demonstrated.

ICOMOS considers that criterion (iii) is justified.

Criterion (iv): *be an outstanding example of a type of building, architectural or technological ensemble or landscape which illustrates (a) significant stage(s) in human history;*

This criterion is justified by the States Parties on the grounds that the serial transnational property represents a coherent mining landscape with specific proportions of land dedicated in specific places to mining, dictated by the uneven distribution and concentration of ore deposits, and

exploited in different periods and processing operations, to water management and forestry, to urbanization, agriculture, transport and communications – a pattern of nodes and concentrations, of linear connecting features, all developed in successive phases under increasing state control. This is an outstanding example of a transboundary region transformed by mining activities from the 12th to the 20th centuries. Well-preserved mine workings, technological ensembles and landscape features bear witness to all known major extracting and processing technologies applied from the late medieval period to modern times, as well as to the development of extensive, sophisticated water management systems both aboveground and underground. The mining activities led to the unparalleled development of a dense settlement pattern both in the valleys and in very high, harsh upland positions, featuring a close connection to the surrounding mining landscapes. They present a specific infrastructure reflecting the needs of the mining industry, the miners and their families.

ICOMOS considers that the 22 components of the serial nomination constitute landscape units that encompass the mines themselves, urban centres, designed and vernacular buildings and structures, water management systems, collapsed mines and tailing heaps, all resulting in specific mining landscapes and technological ensembles that illustrate a significant stage in human history. ICOMOS considers that this criterion has been demonstrated.

ICOMOS considers that criterion (iv) is justified.

ICOMOS considers that the nominated property meets criteria (ii), (iii) and (iv).

Integrity and authenticity

Integrity

This property is nominated as an organically evolved mining cultural landscape comprised of 22 components that, as a whole, illustrate the process of configuration of the territory over 800 years on the basis of mining activities characterized by the extraction and processing of different kinds of ores. ICOMOS notes that both States Parties have adopted similar approaches to identify the components of the serial property, to justify in which way each of them contributes to illustrating the complex process of configuration of the mining cultural landscape and to establish the boundaries of the nominated property and the buffer zones.

On this basis, ICOMOS notes that each of the components of the series plays a specific role in illustrating the types of landscapes related to the extraction of different ores from the Ore Mountains. The boundaries of each of the components have been carefully delineated in order to include all the features necessary to convey the contribution of that particular component to the proposed Outstanding Universal Value. In the comparative analysis section of the nomination

dossier, the States Parties have succeeded in justifying the selection of components to illustrate the complex cultural landscape of the nominated property.

Although some of the components are exposed to factors that could represent a risk to their conservation, the legal instruments and management plan in place seem to ensure the adequate protection of all of the features necessary to convey the property's proposed Outstanding Universal Value.

ICOMOS considers that the 22 components include all the features necessary to convey the proposed Outstanding Universal Value and that they are, in general, adequately protected. ICOMOS considers that the required conditions of integrity have been met.

Authenticity

The serial property encompasses a wide range of tangible evidence of the interaction of people with an environment that has been shaped as a distinct mining cultural landscape. The nominated property's components have been preserved in their settings and, even though some have been adapted for new uses, they retain a high degree of authenticity. The mining landscape has also retained its comprehensive intangible heritage in the form of living traditions, and movable collections and archives are additional sources of reliable information on the values of the nominated series.

A span of 800 years of mining activity has led to changes to the landscape; some mining sites were abandoned whilst others continued to operate and witnessed technological adaptations. Continuous mining activity at certain sites contributed to the conservation of mining structures as well as to their continuous repair and upgrade. The nominated mining landscapes bear witness to the mining history of the region throughout 800 years, up until the 1990s. The underground installations in general retain a high degree of authenticity. Above ground, abandoned buildings or structures were, in some cases, demolished or adapted to new uses, with modifications, and in some instances it appears that the original buildings have been covered over. Although efforts to preserve mining sites began a hundred years ago, many remained in poor condition until 1990, when, especially in Germany, conservation campaigns were begun in historic towns and mining sites. The Academy of Freiberg continues to carry out research on mining and its operations, contributing to the growth of knowledge.

In Czechia, protection and conservation of mining-related properties began in the 1950s, although social, economic and financial problems caused the deterioration of many buildings and structures. It is only in the past twenty years that many properties were restored, respecting their structural details, their decoration, the original materials and their spatial arrangements.

ICOMOS considers that the conditions of authenticity have been met.

In conclusion, ICOMOS considers that the requirements of integrity and authenticity have been met.

Evaluation of the proposed justification for inscription

ICOMOS considers that the proposed statement of Outstanding Universal Value, the justification of criteria for inscription and the conditions of integrity and authenticity are adequate; all of which justifies consideration of the serial transnational property to the World Heritage List.

Attributes

Such a large and complex property includes a wide array of attributes, from landscape units to single buildings and intangible cultural heritage assets. It would be difficult to summarize in a few lines all the attributes contained in the nominated serial property. In general, ICOMOS considers that the identification of mining landscape units, according to the ores extracted over time, and of the variety of natural and cultural attributes encompassed in each of them, is sufficient to convey the proposed Outstanding Universal Value.

ICOMOS considers that the Outstanding Universal Value of the serial transnational property has been demonstrated in terms of justification of the proposed criteria for inscription and the conditions of integrity and authenticity.

4 Conservation measures and monitoring

Conservation measures

Active conservation is carried out throughout the nominated property. Many components are in a good, stable state and are well maintained, but some are undergoing substantial restoration work, which is being properly regulated, done to a high conservation standard and overseen by the relevant authorities. Three components, two in Germany and one in Czechia, are in an advanced state of decay, but programmes and funds are in place for their conservation with significant support from the two States Parties.

A large number of mining buildings have been conserved, restored or adapted to accommodate the activities of local mining clubs and associations. The conservation work has generally been backed up by research which was carried out or completed by the volunteers and activists from the clubs themselves. Conservation has been very significantly augmented under the strict regulation of the *Sächsisches Oberbergamt* (Saxon Mining Office) when extensive historic mine workings were planned to be opened to visitors.

ICOMOS notes that work has already been carried out on both sides of the German-Czech border and that substantial funding has already been committed to the conservation of the components of the nominated property.

Monitoring

Both States Parties present a set of key indicators to monitor the state of conservation of the components of the serial transnational property. Key indicators in Saxony include the state of conservation of the monuments, proportion of buildings requiring extensive restoration and conservation measures, number of approval of restoration and protection measures, amount of approved grants for restoration and protection, utilization and ownership, documentation of the restoration and conservation measures, financial expenses, state of conservation of protected natural features, landscapes and areas, developments within the nominated property and its buffer zone and visitor statistics. For each of the indicators, the periodicity and location of records are established, as well as procedures and the institution responsible.

In the case of Czechia, the selection of the key indicators has been determined by the character of the property to be monitored, i.e., each individual component of the serial property and its primary attributes. On the basis of the attributes of each of the components of the serial nomination, the State Party has identified a set of indicators aimed at monitoring the conditions of above-ground and underground mining remains, the architectural elements and urban structures, the natural elements and character of the landscape and the effectiveness of administration of the property. For each of the indicators, the frequency of evaluation and the responsibility for and location of records are established.

ICOMOS considers that, despite the two different approaches taken by the States Parties, the monitoring system in place is adequate.

ICOMOS considers that the conservation measures and the monitoring system are adequate.

5 Protection and management

Documentation

ICOMOS notes that the comprehensive reporting within the nomination dossier describes the extensive recording, documenting and collation of substantial inventories and bibliographies on both sides of the border. Inventory and recording materials exist at both the regional and national levels within the two States Parties, and new recording and research is ongoing or planned.

Legal protection

Regarding protection, there is a comprehensive set of legal instruments in place in both States Parties, reported with detailed information in the nomination dossier.

The relevant legislation for heritage protection in Czechia includes the Heritage Preservation Act No. 20/1987 and related implementation orders and decisions; Act on nature and landscape conservation No. 289/1995; Spa Act No. 164/2001; Mining Act No. 61/1988; and a number of Acts and Orders concerning spatial planning and building specifications. The nominated components were declared protected landscapes in 2014, while the Red Tower of Death and its compound was declared a national monument in 2008. Historic centres, mining complexes or individual monuments also enjoy additional specific protection status. Further protection is granted by nature protection declarations and conservation provisions.

The Orders of specific protection declarations contain a summary of the rights and obligations of municipalities, legal or physical persons that own, hold or manage buildings or estates in protected landscapes or conservation areas, as well as a description of the structure of the state heritage preservation authorities and their tasks. The nomination dossier contains a detailed description of how protective measures are implemented in the nominated components and their buffer zones according to the legal and planning framework.

In Germany, the protection of cultural monuments and landscapes is under the responsibility of each federal state, in this case the Free State of Saxony. However, monument protection is anchored in general terms in several federal legislative Acts, e.g., the Federal Building Code (BauGB), Federal Mining Act (BergBauG), Regional Planning Act (ROG), Environmental Impact Assessment Act (UVPG), Federal Waterways Act (WaStrG), Water Resources Act (WHG) and Nature Conservation Act (NatSchG). The latter, amended in 2016, integrates consideration of historically evolved cultural landscapes with their cultural, architectural and archaeological monuments; the Regional Planning Act contains references to the protection and development of cultural landscapes in relation to the principles and tasks assigned to regional planning.

All components of the nomination in Germany are covered by the Monument Conservation Act of Saxony (SächsDSchG 1993–2012) or by the Nature Conservation and Landscape Protection Act of Saxony (SächsNatSchG – 2007). Only the uranium mining Heap 366 in Aue is classified as a mining remediation property and is permanently protected from further development by a special order issued on 17 November 1980. The Saxon legislation for cultural monuments also grants indirect protection to their environs which, however, does not apply to protection areas.

Landscape planning is anchored in the SächsNatSchG and is articulated in three levels: landscape programmes, landscape planning for supra-local areas, and landscape planning for local areas. The content of landscape planning is integrated into regional planning programmes. At the municipal level, a landscape plan has to be prepared as a basis for building management planning

and it is embedded into the land-use plan for descriptive purposes.

Monument listing is carried out by the Saxon State Office for Historic Preservation and the Archaeological Heritage Office in Saxony in consultation with the municipality in which the monument is located, which can propose heritage designation of listed monuments. In fact, listing does not automatically grant protection, which becomes legally effective only when the municipality enacts a corresponding statute.

ICOMOS considers that the legal protection in place in both States Parties is adequate.

Management system

The States Parties have elaborated a management plan 2013-2021 for the nominated property, which includes two national sections and an international management plan. The introduction to the management plan states that the serial transnational property is the object of protection, which constitutes, in terms of heritage category, an organically evolved cultural landscape.

The international section of the plan includes a memorandum of understanding between the two States Parties, provisions for transboundary buffer zones and the scheme for the structure and organization of the transboundary management. The international management bodies include a Bilateral Steering Committee and a Bilateral Advisory Group. A common future vision is included.

The Bilateral Steering Committee is established at the ministerial level and will, among other objectives, represent the interests of the respective States Parties, and the mutual provision of information, coordination and strategic planning. The Bilateral Advisory Group is established at the regional level and is responsible for the coordination of all common issues; its main objective is to protect, oversee and sustainably develop the proposed Outstanding Universal Value of the serial property. Together with the national coordination offices, its main responsibilities include coordination of information and actions, conservation of the property, periodic reporting, public relations and international measures. The Bilateral Advisory Group is composed of representatives from the national World Heritage coordination offices, the monument and nature protection authorities, other relevant authorities and scientific institutions.

The Saxon section of the management plan includes a description of the property, the legal framework in place, the managing administration scheme, the planning framework, the provisions for interpretation and tourism, and the action plan 2013-2021 for implementation of the management plan.

The Czech section of the management plan starts with a detailed description of the property and of its present situation, and, in the section devoted to application of the management plan, it includes objectives, the plan for the

period 2017-2021 and provisions for the implementation of the plan.

ICOMOS considers that both national sections are adequate for the management of the respective components of the serial property and commends the States Parties for the effort of uniting both national sections in a unique plan and for the inclusion of the international management scheme. ICOMOS considers the compositions and missions of both bilateral groups adequate.

Visitor management

Most of the heritage assets included in the components of the serial nomination are, in principle, accessible to the public. The nomination dossier includes tables showing the evolution of the number of visitors over the last years; currently, the scale of tourism is relatively low and, according to the States Parties, none of the components has reached the limit of its capacity. Some visitor facilities are only partially accessible due to their particular characteristics, especially mines, which, due to safety regulations, can only be viewed by guided tours and are not open to all visitors. Many of these components are also run by local miners' clubs and have limited opening hours and visitor flow. Tourism facilities such as signed walking paths, transport systems, parking spaces and accommodation facilities are available to an adequate degree; the nomination dossier includes a detailed report on facilities. Regarding a potential increase in the number of visitors, the States Parties report that visitors will be recorded as part of the monitoring of the nominated serial property.

Planning included in the management plan foresees promotion and presentation of the transboundary Ore Mountains mining region both nationally and internationally and the establishment of the 'Saxon-Bohemian Silver Mines Route' connecting several educational mining trails and museums. Both national sections of the management plan include provisions oriented to promoting sustainable tourism and providing adequate visitor management.

Community involvement

ICOMOS notes that local communities, especially miners' clubs and associations, schools and colleges, have been involved in preparing the nomination, and continue to play a vital part in the conservation and traditional protection of many of the components of the nominated property. One of the great strengths of the nomination is the civic involvement and the support of volunteers and associations re-establishing links with the old tradition of *Knappenvereine*, the social security organizations of miners originating in the 15th and 16th centuries.

Evaluation of the effectiveness of the protection and management of the nominated property

The legal instruments in place are adequate to ensure the appropriate protection of the components of the serial nomination. The management plan combines two national sections with a section on international action, and the result is adequate.

ICOMOS considers that the required conditions of protection and management have been met. Although provisions related to promoting sustainable tourism are included in the management plan, ICOMOS considers that, should the serial property be inscribed on the World Heritage List, a rise in the number of visitors should in particular be taken into account by the States Parties.

6 Conclusion

Erzgebirge/Krušnohoří Mining Region represents a territory in Central Europe whose actual shape and appearance is the result of 800 years of interaction between people and the environment, especially on the basis of the development of mining related to the polymetallic composition of the Ore Mountains. The development of mining since the Middle Ages has left a rich and diverse legacy that encompasses many categories of cultural heritage: mining cultural landscape, historic towns and centres, historic monuments and vernacular architecture, mines and related installations, water management systems, industrial settlements and a rich intangible cultural heritage intimately linked to the mining activities. Innovative mining techniques, management systems, scientific research and training institutions also speak to the importance of Erzgebirge/Krušnohoří as a main mining region whose influence reached a global level.

In such a complex system of interrelated attributes and values, the nominating States Parties have succeeded in finding the approaches and methods to identify those components that can convey the international significance of Erzgebirge/Krušnohoří as a mining cultural landscape. The selection of components and the delineation of the nominated zones contribute to illustrate the complexity and diversity of the region from a heritage perspective, and can contribute to a balanced and representative World Heritage List. ICOMOS acknowledges the effort made to reduce the number of components of the serial nomination from 85 in the previous nomination dossier to 22, which allows heritage assets to be grouped into more comprehensive and legible landscape units.

Besides the work done at the regional and national levels to ensure the adequate protection and management of the nominated serial transnational property, the States Parties should be commended for their efforts to guarantee a coordinated action through the adoption of a common management plan that, besides the national sections, includes a clear scheme for international action

through the establishment of bilateral steering and advisory groups.

The region still exhibits a potential for mining exploitation, demonstrated by the mining licences and by a mining exploitation project in Altenberg-Zinnwald (Germany). It is therefore crucial that the States Parties give due consideration to the choice they made to nominate a transboundary serial property illustrating the heritage of mining in the region and guarantee that priority will be given to the protection and preservation of this heritage over other development considerations.

7 Recommendations

Recommendations with respect to inscription

ICOMOS recommends that Erzgebirge/Krušnohoří Mining Region, Germany/Czechia, be inscribed as a cultural landscape on the World Heritage List on the basis of **criteria (ii), (iii) and (iv)**.

Recommended Statement of Outstanding Universal Value

Brief description

The mining region of Erzgebirge/Krušnohoří (Ore Mountains) is located between Saxony (Germany) and the Czechia. The transboundary serial property comprises 22 component parts that represent the spatial, functional, historical and socio-technological integrity of the territory; a self-contained landscape unit that has been profoundly and irreversibly shaped by 800 years of almost continuous polymetallic mining, from the 12th to 20th centuries.

The relict structure and pattern of the Erzgebirge/Krušnohoří Mining Region remains highly legible and is characterized by specific and formative contributions made by the exploitation of different metals, at different times, in unevenly distributed locations defined by an exceptional concentration of mineral deposits. Separate mining landscapes emerged on both sides of the Ore Mountains, characterized by exchange of technical know-how, miners and metallurgists between Saxony and Bohemia. These deposits became key economic resources that were exploited during crucial periods in world history, events that were dictated by evolving empirical knowledge and exemplary practice and technologies devised or improved in the Ore Mountains; the vagaries of global markets impacted by new mineral discoveries, politics and wars, and the successive discovery of 'new' metals and their uses.

The Ore Mountains was the most important source of silver in Europe, particularly in the century from 1460 to 1560; silver was also the trigger for new organization and technology. Tin was produced in a steady manner throughout the long history of the Ore Mountains and rare cobalt ore, which was mixed with the silver ores in the Ore Mountains, made this region a leading European, if not

world, producer from the 16th to 18th centuries. Finally, the region became a major global producer of uranium in the late 19th and 20th centuries; the early period being one of original discovery and development.

The combination of shifting geographical mineral output, topography and a mining system predominantly under state control, dictated land-use: mining, water management and transport, mineral processing, settlement, forestry and agriculture. Due to the longevity, and intensity, of mining, the entire cultural landscape of the Ore Mountains is largely impacted by its effects, and is anchored by the mines themselves (above and below ground, with all ore deposit types and principal exploitation periods represented, and with exceptional equipment and structures remaining in situ); pioneering water management systems (of water supply, for power at the mines themselves and for drainage and ore-processing); transport infrastructure (road, railway and canal); innovative ore-processing and smelting sites that possess an exceptional variety and integrity of equipment and structures; mining towns that developed spontaneously with, and adjacent to, the silver bonanzas of the 15th and 16th centuries, their original urban layout and architecture reflecting their importance as administrative, economic, educational, social and cultural centres and retained as the basis for embellishment in the 18th and 19th centuries; agriculture that was contemporary with the earliest silver strikes in the 12th century and a well-established forerunner of large-scale mining; and sustainably managed forests that occupy traditional spaces in the landscape that were also subsidiary to the mining industry. The interaction between people and their environment is also attested by intangible attributes, such as education and literature, traditions, customs and artistic developments as well as social and political influences that both originated in the mining phenomenon, or were decisively shaped by it. They collectively provide testimony to the first stages in the region, in the early 16th century, of the early modern transformation of mining and metallurgy from a small scale craft-based industry with outdated medieval origins to a large-scale state-controlled industry fuelled by industrial capitalists that both preceded, and enabled, continuous and successful industrialization that continued into the twentieth century. State-control of the mining industry, with all its administrative, managerial, educational and social dimensions, together with technological and scientific achievements which emanated openly from the region, influenced all continental European mining regions and beyond.

Criterion (ii): The mining region of Erzgebirge/Krušnohoří is an exceptional testimony to the outstanding role and strong global influence of the Saxon-Bohemian Ore Mountains as a centre for technological and scientific innovations from the Renaissance up to the modern era. During several periods of mining history, significant achievements related to the mining industry emanated from the region and were successfully transferred, or influenced subsequent developments in other mining regions. This includes, among other achievements, the

founding of the first mining high school. The continuous worldwide emigration of highly trained Saxon-Bohemian miners played a key role in the interchange of developments in, and improvements to, mining technology and its related sciences. Manifestations of this interchange are still evident in the Erzgebirge/Krušnohoří Mining Region.

Criterion (iii): The mining region of Erzgebirge/Krušnohoří bears exceptional testimony to technological, scientific, administrative, educational, managerial and social aspects that underpin the intangible dimension of living traditions, ideas and beliefs of the people associated with the Ore Mountains' culture. The organization as well as its hierarchical administration and management are fundamental to understanding the mining tradition of the Ore Mountains that developed from the beginning of the 16th century. A tradition emerged whereby the mining bureaucracies of absolute rulers maintained strict control of the work force and induced a favourable climate for an early capitalistic system of financing. Such an approach influenced the economic, legal, administrative and social system of mining in all the mining regions of continental Europe. The state-controlled mining organization strongly influenced the development of early modern monetary systems, particularly witnessed by the royal mint in Jáchymov, where the heavy silver coins known as *thalers*, first minted from 1520, served for several centuries as a standard for the monetary systems in many European countries, and became a predecessor of the 'dollar' currency.

Criterion (iv): The mining region of Erzgebirge/Krušnohoří represents a coherent mining landscape with specific proportions of land dedicated in specific places to mining, dictated by the uneven distribution and concentration of ore deposits, and exploited in different periods and processing operations, to water management and forestry, to urbanization, agriculture, transport and communications – a pattern of nodes and concentrations, of linear connecting features, all developed in successive phases under increasing state control. Well-preserved mine workings, technological ensembles and landscape features bear witness to all known major extracting and processing technologies applied from the late medieval period to modern times, as well as to the development of extensive, sophisticated water management systems both aboveground and underground. The mining activities led to the unparalleled development of a dense settlement pattern both in the valleys and in very high, harsh upland positions, featuring a close connection to the surrounding mining landscapes.

Integrity

The property, an organically evolved mining cultural landscape, comprises 22 components that, as a whole, illustrate the process of configuration of the territory over 800 years on the basis of mining activities. Both States Parties have adopted similar approaches to identify the components of the serial property, to justify in which way each of them contributes to illustrating the complex process of configuration of the mining cultural landscape

and to establish the boundaries of the nominated property and the buffer zones. On this basis, each of the components of the series plays a specific role in illustrating the types of landscapes related to the extraction of different ores from the Ore Mountains. The boundaries of each of the components have been carefully delineated in order to include all the features necessary to convey the contribution of that particular component to the Outstanding Universal Value. Although some of the components are exposed to factors that could represent a risk to their conservation, the legal instruments and management plan in place ensure the adequate protection of all of the attributes necessary to convey the property's Outstanding Universal Value.

Authenticity

The property's components have been preserved in their settings and, even though some have been adapted for new uses, they retain a high degree of authenticity. The mining landscape has also retained its comprehensive intangible heritage in the form of living traditions, and movable collections and archives are additional sources of reliable information on the values of the series. A span of 800 years of mining activity has led to changes to the landscape; some mining sites were abandoned whilst others continued to operate and witnessed technological adaptations. Continuous mining activity at certain sites contributed to the conservation of mining structures as well as to their continuous repair and upgrade. The underground installations in general retain a high degree of authenticity; above ground, abandoned buildings or structures were, in some cases, demolished or adapted to new uses; although efforts to preserve mining sites began a hundred years ago, many remained in poor condition until the 1990s, when conservation campaigns were begun in historic towns and mining sites. The Academy of Freiberg continues to carry out research on mining and its operations, contributing to the growth of knowledge.

Management and protection requirements

There is a comprehensive set of legal protective instruments in place in both States Parties and active conservation is carried out throughout the property. The States Parties have elaborated a management plan 2013-2021 for the property, which includes two national sections and an international management plan. The international section includes a memorandum of understanding between the two States Parties, provisions for transboundary buffer zones and the scheme for the structure and organization of the transboundary management. The international management bodies include a Bilateral Steering Committee and a Bilateral Advisory Group and a common future vision is included.

The Bilateral Steering Committee has, among other objectives, represent the interests of the respective States Parties, and the mutual provision of information, coordination and strategic planning. The Bilateral Advisory Group is established at the regional level and is responsible for the coordination of all common issues; its main objective is to protect, oversee and sustainably develop the

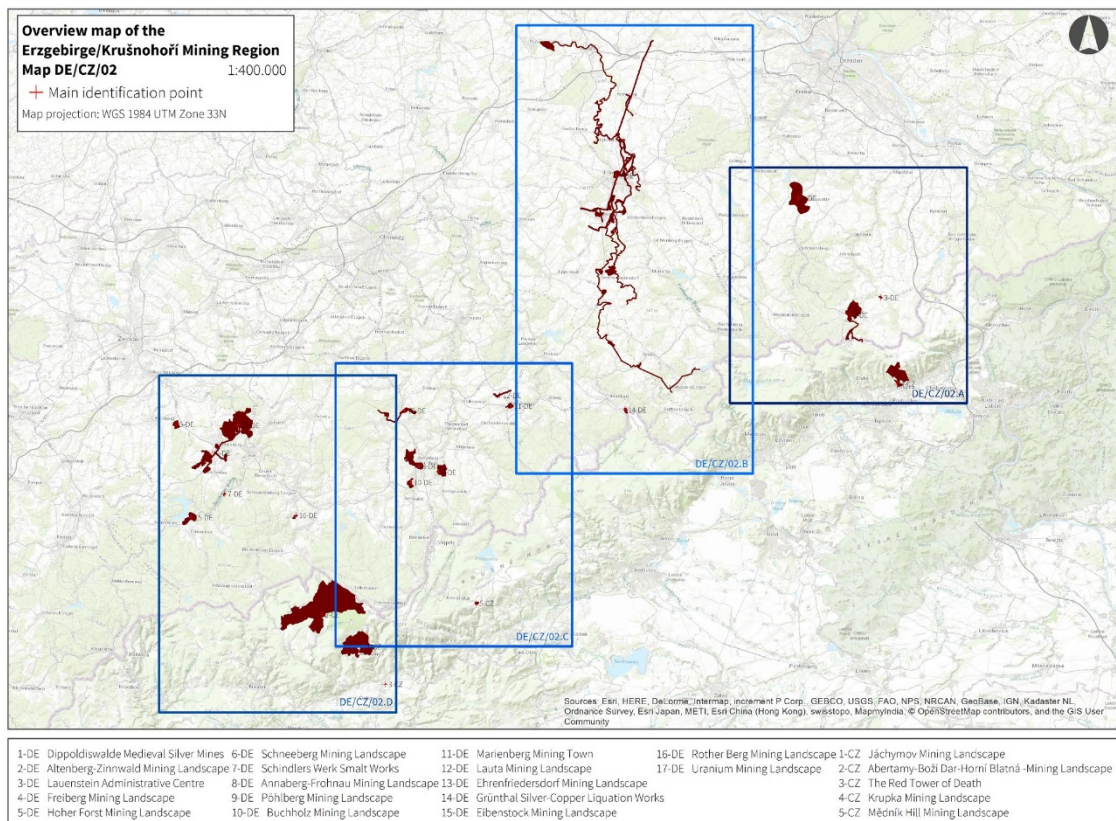
Outstanding Universal Value of the serial property. Together with the national coordination offices, its main responsibilities include coordination of information and actions, conservation of the property, periodic reporting, public relations and international measures.

Both national sections of the management plan include, besides conservation of Outstanding Universal Value of the property, provisions oriented to promoting sustainable tourism and providing adequate visitor management. Both States Parties propose a set of key indicators to monitor the state of conservation of the components of the property; despite the two different approaches taken by the States Parties, the monitoring system in place is adequate

Additional recommendations

ICOMOS further recommends that the States Parties give consideration to the following:

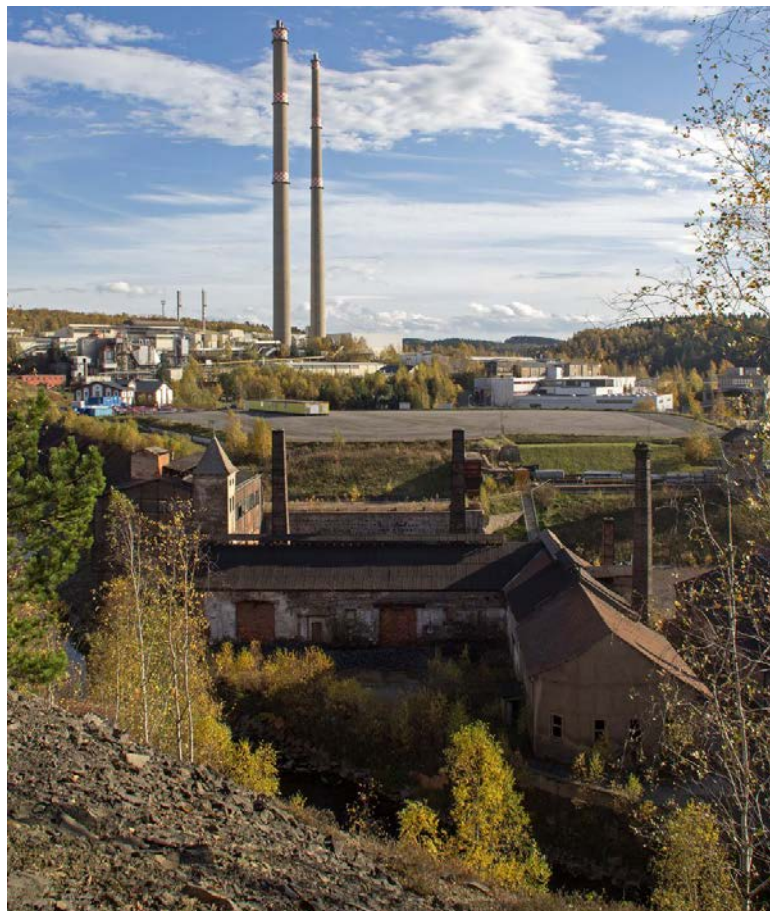
- a) Keeping the World Heritage Committee informed on the progress of the assessment of current mining projects within the property as well as any potential future plans for mining or other activities that may affect the Outstanding Universal Value of the property, including its authenticity and integrity, in conformity with Paragraph 172 of the *Operational Guidelines*,
- b) Formally committing that no mining activities or processing will be allowed in the future within the boundaries of the serial property's components,
- c) Managing the number of visitors, particularly when an increase might have an impact on the urban communities, especially in relation to vehicular traffic in Czechia;



Map showing the location of the nominated components



Terraconic heaps near Buchholz (Germany)



Muldenhütten smeltery, Freiberg Mining Landscape (Germany)



Jáchymov – Adit (Czechia)



Müdisdorfer man-made ditch (Czechia)

Kladruby nad Labem (Czechia) No 1589

Official name as proposed by the State Party

Landscape for Breeding and Training of Ceremonial Carriage Horses at Kladruby nad Labem

Location

Pardubický Region
Czechia

Brief description

The Landscape for Breeding and Training of Ceremonial Carriage Horses at Kladruby nad Labem is located in the Elbe Lowland, in the Střední Polabí area. The nominated property features a flat landscape, with sandy soils and includes fields, meadows, fenced pastures, a landscaped park, a forested area as well as buildings and farmsteads, all designed with the main objective of breeding and training the Kladruher horses, which were used in ceremonies by the Habsburg imperial court. The Imperial Stud Farm was established in 1579 and since then it has been dedicated to this task.

Category of property

In terms of categories of cultural property set out in Article I of the 1972 World Heritage Convention, this is a *site*.

In terms of the *Operational Guidelines for the Implementation of the World Heritage Convention* (July 2017) paragraph 47, it has also been nominated as a *cultural landscape*.

1 Basic data

Included in the Tentative List

29 May 2007

Background

This is a new nomination.

Consultations and Technical Evaluation Mission

Desk reviews have been provided by ICOMOS International Scientific Committees, members and independent experts.

An ICOMOS technical evaluation mission visited the property from 29 August to 1 September 2018.

Additional information received by ICOMOS

A letter was sent to the State Party on 12 October 2018 requesting further information about: the Mošnice Park and its historic and functional relationship with Kladruby nad Labem; clarifications about the size of the property and its

buffer zone; the updating of the management plan; and the nature of conservation and other projects. Additional information was received from the State Party on 9 November 2018.

An Interim Report was submitted to the State Party on 21 December 2018 summarising the issues identified by the ICOMOS World Heritage Panel. Further information was requested in the Interim Report including: the historic cultural thematic framework of the nominated property; the boundaries of the nominated property and of its buffer zone and related protective measures; development projects; and visitor management strategy.

Additional information was received from the State Party on 22 February 2019 and has been incorporated into the relevant sections of this evaluation report.

Date of ICOMOS approval of this report

13 March 2019

2 Description of the property

Note: The nomination dossier and additional information contain detailed descriptions of this property, its history and its state of conservation. Due to limitations on the length of evaluation reports, this report only provides a short summary of the most relevant aspects.

Description and history

The Kladruby nad Labem stud farm occupies a flat terrain, still preserving the remains of oxbow lakes, in the loamy and sandy alluvial plain (around 200m a.s.l.) on the northern bank of the Elbe River.

The nominated property forms a roughly elongated stretch of land exhibiting different features, which have been used to progressively shape the landscape. The remains of floodplain forest adjacent to the river meanders became the core of the Mošnice Park; to the North, treed meadows were turned into regular grazing areas for the horses, delimited by tree-lines; further north, on a slightly elevated sand terrace, a forest mostly of coniferous and of some deciduous trees forms the backdrop of the designed farming scenery.

The current tripartite design results from progressive adaptation of natural conditions and responds to both functional needs, linked to the operations of the stud farm, and aesthetic aspirations, justified by the imperial status of the farm.

Two main avenues – Řečanská Avenue and Selmická Avenue, oriented respectively along the northeast-outhwest and east-west directions – act as the generating elements of the landscape layout. An additional avenue, mirroring that of Řečanská, has left only a few traces in the landscape, due to the construction of the Paddock stable. Both the meadows and the forest to the north follow a squared pattern, generated by the Selmická Avenue: the pastures are delimited by tall trees and

crossed by several water-streams and artificial irrigation canals as well as by other, minor, tree-lined avenues. The hierarchy of the avenues is reflected in the plants and vegetation used (e.g. lime or apple trees). The size and shape of the pastures and of the lining vegetation responds to both functional needs - larger pastures were used by cohorts of horses of the same age and mares, whilst stallions were kept separate, in smaller paddocks with higher fences - and aesthetic aspirations, following the design principles of the *ferme ornée*.

The Mošnice Park lies in the southern part of the nominated landscape and differs completely from the rest of the estate. In the late 19th century, the riparian forest and oxbow lakes were turned into a landscaped park. Inspired by Průhonice Park, Mošnice was, however, designed to be integrated into the stud farm, e.g., its only lane was realised purposely for riding horse-pulled carriages.

The estate entered into the possession of the Habsburgs in 1563 and obtained from 1579 onwards the status of Imperial Court Stud Farm. From then on it was progressively expanded, by acquiring lands from the nearby villages, transformed and repeatedly repaired and modernised.

Until the late 17th century, Kladruby nad Labem stud bred Spanish horses. During the reign of Leopold I, Neapolitan and other Italian heavier, larger and stronger studhorses were imported and crossbred with Spanish mares to develop a breed capable of pulling heavy ceremonial carriages, or *gala-carrossas*. Already at the beginning of the 18th century, a new breed of larger and stronger horses was bred and stabilised: the Kladruher *gala-carrossiers*.

At the end of the 18th century, the system of the Habsburg Imperial Stud Farms included Kopčany (in present-day Slovakia), Lipice (present-day Slovenia) and Kladruby nad Labem.

A destructive fire in 1757 necessitated the removal of horses from Kladruby to other imperial stud farms and it was only in the first half of the 19th century that the nominated landscape and farm were renovated, also due to the closure of Kopčany Stud Farm (in 1826), attaining their present layout and appearance.

The 19th century reorganisation of the farm was carried out jointly by the director of the Imperial Equerry Office in Vienna, Ignaz Grill of Warimfeld, and by Mauritz Jahn.

Their work did not affect the area or the proportions of grasslands, forests and fields, but the organisation of the landscape was radically modified. The design followed 17th century principles of 'classicist' garden and landscape architecture. The stud farm was equipped with three farmsteads (Kladruby nad Labem, Josefov and Františkov), which were designed in a moderate Classicist language and connected by straight tree-lined avenues. Between 1820 and 1830 new stables, sheds,

granaries, residential and service buildings were erected at Kladruby, the main communication axes - Selmická Avenue and Řečanská Avenue - laid down, and the Františkov farmstead along Selmická Avenue (1828-1831) and the Josefov farmstead (1854-1855) were built.

The three farmsteads responded to horse breeding and training needs: Kladruby nad Labem was used for horse and mare breeding as well as looking after young foals up to six months old; Františkov hosted colts and fillies from 6 months to 3 years old, whilst Josefov responded to operational needs and for horse training. In the same period, the rectangular grid of pastures was gradually developed, planted with one group of trees, separated by tree-lined alleyways and fenced.

The northern forested area was reduced and replanted based on a regular grid which still exists today. Additional hydraulic arrangements proved necessary to prevent flooding and to protect the regular supply of fodder. The church of St. Wenceslas and Leopold was reconstructed to match the new style of the Kladruby farmstead yard.

Around 1890, the forest in Mošnice was transformed into a landscaped park. The area formed a natural barrier against high water and ice, and it was reported to be marshy and challenging with regards to its complete drainage. Therefore, its landscaping needed to respect some principles: the groves were to be preserved and bound by straight lines, the trees on the meadow plots felled, and the soil ploughed and sown with grass. The works were supervised by the chief director of Imperial Gardens in Vienna.

Changes also affected other parts of the nominated landscape: tree species were replaced, and the Manor House and the common grounds at Kladruby nad Labem were landscaped.

Modernisation works went on into the early decades of the 20th century. However, after the fall of the Austro-Hungarian monarchy in 1918, the nominated property lost many horses and risked being closed-down but the new government turned the stud farm into a state-owned company.

In the 1930s traffic was diverted to avoid it going through the estate, Františkov and Kladruby farmsteads were fenced, whilst reconstruction projects began at two buildings at Kladruby.

After World War II the stud farm was incorporated into the State Breeding Farm and put under the authority of the Ministry of Agriculture. In the mid-20th century a school for horse breeding was opened in the Manor House and this triggered some restorations and additions of new structures, e.g. accommodation for students and employees and a new racing course. The forest was absorbed by the State Forest Company and the Mošnice Park came to be used as a pheasantry.

After the educational spaces were moved to other facilities, in 1996 the restoration of the Manor House could begin, followed by other interventions.

Additional sources consulted by ICOMOS complement the information on the 20th century history of Kladruby nad Labem.

From 1918 to 1937 the survival of the Oldkladruby horse was seriously endangered, especially the black variety. In 1938 a project began for regenerating the black Kladruby horse in Průhonice. In 1945 the black herd was moved to the unoccupied stables of Slatiňany Palace. Additionally, a training unit for young horses was set up in the former racing and hunting stables of the Kinsky family in Hermanův Městec. In those two locations breeding and training of the black horses continues to this day, since 1992 as part of the National Stud Kladruby nad Labem.

Other breeds were introduced at Kladruby: the need for draft horses for agriculture increased and during the 1970s and 1980s the focus lay on the breeding of sport horses for export. The population of Oldkladruby horses was reduced. Soon only a few of them remained at the former court stud; however, their breeding has recovered over the last 25 years.

Boundaries

The nominated property has an area of 1,310 ha, and a buffer zone of 3,248 ha.

The boundaries of the nominated property are described in detail in the nomination dossier. The boundaries appear to have been delineated mainly according to the historic perimeter of the Kladruby nad Labem estate and this appears to be confirmed by the abundant cartographic documentation provided in the Annexes to the Nomination Dossier.

The boundaries of the buffer zone are not described in writing but are clearly delineated on the map.

The buffer zone almost coincides with Kladrubské Polabí conservation area, which was established in 2015 by the Czech Ministry of Culture (Provision of a General Nature No. 1/2015, ref. No. MK 72096/2015 OPP) pursuant Act No. 20/1987 Coll.

The buffer zone includes a larger area protected through different mechanisms; however, to the south a small stretch of the boundaries of the nominated property coincides with those of the buffer zone or are very close to them.

ICOMOS noted a discrepancy between the size of the nominated property and of the buffer zone as reported in the nomination dossier and in the 2012 Management Plan and requested additional information in October 2018.

The State Party responded that, following internal assessment, the size of the nominated property and of the buffer zone have been adjusted to the current size and perimeter.

The additional information provided in February 2019 further clarifies the reasons for excluding certain parts from the nominated property on the basis of historical reasons: namely the north-western portion of land was not part of the original estate; only in 1932 did it fall under state ownership. With regard to other small portions, these were excluded from the Conservation area and therefore not included in the nominated property.

ICOMOS considers that the boundaries of the nominated property may be considered adequate.

On the other hand, the rationale for delineating the buffer zone remained unclear and ICOMOS requested further information in its Interim Report. The State Party in its response explains that the national Conservation area is meant to fulfil the role of buffer for the nominated property and, as such, the territory has to exhibit values that justify its inclusion in the Conservation area: the land adjacent to the stretches where the boundaries of the nominated property and of the buffer zone coincide lacks these values. The State Party explains that the land outside the nominated property and the buffer zone is covered by land-use plans including provisions which do not pose any risk to the nominated property.

ICOMOS first observes that the explanation about the land-use plans for Chvaletice and Trnávka municipalities is too general and has not been accompanied by maps or details of the planning provisions for the areas by the river.

Additionally, ICOMOS notes that, under the World Heritage Convention, the buffer zone is an area surrounding a property which is equipped with measures able to provide an additional layer of protection to the property and does not need to exhibit values in itself. This additional protection can be achieved through robust planning provisions and not exclusively through national legal protection.

ICOMOS underlines that there is a need for the buffer zone to be expanded to the south of the nominated property, in the areas where the two boundaries coincide and include further land across the River Elbe. This has to be covered by appropriate mechanisms (e.g. the land-use plans mentioned by the State Party) in order to guarantee the necessary added layer of protection to the property's immediate setting and views enjoyed from within the nominated property.

State of conservation

Based on the information provided by the State Party and the observations of the ICOMOS technical evaluation mission, ICOMOS considers that the state of conservation is overall adequate and corresponds to the description in the nomination dossier. Extensive restoration projects were carried out at several buildings, structures and open spaces of Kladruby, Josefov and Františkov farmsteads between 2013-2015 within a large-scale restoration programme funded by the EU. Between 2006-2008 Mošnice Park also underwent a restoration project. The nomination dossier provides a synthetic but detailed account of the works; unfortunately, no visual documentation about the previous

conditions of the property and of the most recent interventions has been provided.

ICOMOS requested additional information in this regard and the State Party responded in November 2018 with further explanations on the planned projects.

Other restoration projects, also funded by the EU, are planned for immediate future implementation, namely at the English Stable (Paddock) and its surroundings, at Josefov, and at Mošnice Park. One project envisages adding an amenity centre at Kladruby nad Labem farmstead, envisaging the demolition of three 1970s buildings and the restoration of other ones still awaiting intervention. Other major projects are also planned for the restoration of the original water management system, and to continue with the restoration of the vegetation to match the original design.

Given the high number and scale of implemented and planned projects, in its Interim Report, ICOMOS asked whether a comprehensive conservation plan exists for the nominated property and recommended the State Party to carry out a comprehensive assessment of the impacts of these projects on the nominated property and its features.

The State Party responded in February 2019, explaining that a management strategy has been set up that includes several projects for the restoration of the property and for its touristic promotion. It then lists several projects but does not address the recommendation for a comprehensive Heritage Impact Assessment.

ICOMOS considers that such an assessment should be carried out in order to verify whether potential cumulative negative impacts may derive from these projects.

Factors affecting the property

Based on the information provided by the State Party and the observations of the ICOMOS technical evaluation mission, ICOMOS considers that the main factors that may affect the property include potential windstorms, flooding, pollution from the Chvaletice power station located south of the nominated property, potential increase of tourism, and related development pressures.

However, the nomination dossier explains that measures have been put in place to avoid or reduce negative impacts on the property: flood hazard has been addressed by continuous management of the water system and a Flood Control Strategy has been elaborated since major floods occurred (in 1997 and 2002); the power station has been upgraded so as to reduce sulphur emissions and the quality of the air is monitored; development pressures from urbanisation is controlled via the protection designations, the continuation of agricultural use of the nominated property, and urban planning instruments.

ICOMOS notices that a possible threat may derive from a weak long-term sustainability of the nominated property, as it relies mostly on public funds (state and EU), only

30% the operation costs being covered by the farm's revenue.

The nominated property suffers from localised visual intrusions due to high-voltage power lines crossing the landscape and to the Chvaletice power station in the buffer zone.

In the short to medium-term, measures to minimise the visual impact of the Chvaletice facility need to be planned. In the long-term, the power lines need to be removed from inside the nominated property.

Further potential impacting factors on the hydraulic system of the nominated property may derive from general plans for the Danube–Elbe basin and the construction of new canals within the nominated property as well as an increase in touristic navigation. An assessment of these impacts is needed.

ICOMOS considers that it would be desirable that the State Party consider the integration of a Heritage Impact Assessment approach into the management system, so as to ensure that any programme or project regarding the property be assessed in relation to its impacts on the proposed Outstanding Universal Value and its supporting features.

3 Proposed justification for inscription

Proposed justification

The nominated property is considered by the State Party to be of Outstanding Universal Value as a cultural property for the following reasons:

- it is a rare synthesis of an evolving landscape supporting its original function and of a designed landscape intentionally created to breed and train special horses for ceremonial carriages;
- it is a unique living testimony of a very late but inventive application of Le Notre's composition principles to shape a landscape with a specific purpose;
- the picturesque landscaping of Mošnice Park was employed inventively to create a landscape scenery combining native and ornamental trees and applying principles of manipulative painting perspective;
- this combination of 'classicist' and 'romantic' design principles would be a unique example of preserved traces of landscape design style development;
- it represents a unique and comprehensive example of an equestrian cultural development in Europe, which achieved the breeding and training of a special horse breed - the *gala – carrossier* - which has since the 17th century been acknowledged in the professional literature.

The centrality of the function of the nominated landscape is demonstrated by many features, for instance the simple, unobtrusive vernacular character of the buildings, the

emphasis on the functional buildings, e.g., the orientation of the main axes to focus on the stable at Kladruby nad Labem rather than on the Manor House, the size of meadows to respond to feeding needs, the distribution of trees to offer shade, the size and shape of the avenues and roads, and the collection of decorative elements referring mainly to the function of the farm.

Comparative analysis

The comparative analysis has been developed in three stages. The first framework identified designed landscapes for horse husbandry, and it was further narrowed down to consider landscapes associated with stud farms dedicated to breeding and training special horse breeds. In the second phase, properties eligible for comparison were shortlisted. The parameters used for the comparison include: length of existence, historic continuity of the landscape in relation to breeding and training horses, functional relationship between the landscape and horse breeding, intentional design applied to horse-breeding function, harmony between the landscape and the built environment, architectural value of the designed landscape, impact of the size of the landscape on the wider area, degree of interaction among landscape, people and horses, and economic significance of the stud farm function. 18 properties have been selected for comparison, mostly located in central Europe.

ICOMOS notes that, whilst the comparison has been extensive, some relevant properties are missing, e.g. the State Stud "Haupt- und Landgestüt" Schwaiganger in Germany, where horse-breeding can be traced back to medieval times, or the State Stud Redefin, founded by the Dukes of Mecklenburg in north-east Germany, with its highly elaborate stud premises in classical style, are not mentioned. In France, the National Studs of Pompadour and Rosières-aux-Salines could also have been considered, instead of the national Stud of Saint-Lô, which was relocated once in its history and therefore its premises are more recent than those of other French National Studs.

ICOMOS observes that the nomination dossier does not address adequately the natural setting of the different analysed studs. Horses used to be bred to fulfil different purposes and different landscapes turned out to be suitable for producing certain types of horses depending on climate, soil and geography. For instance, Marbach State Stud is located in the Swabian Alps, in the south-west of Germany. Karst regions were considered to provide perfect conditions to produce durable, strong and healthy horses. In hilly regions it would have been impossible to create long straight avenues or a strictly rectangular pattern of pastures: the landscape was shaped differently but not less intensively for horse breeding. At Lipica (Slovenian Karst) soil additions from elsewhere are reported to have improved the pastures; an intensive tree-planting programme took place and one of the famous characteristics of the fully walled-in estate is its avenues. At the one leading towards Vienna, for every young stallion that was transferred from the stud to the capital, a tree used to be planted. The application of the most elaborate classical French architecture and landscape design to a

horse breeding institution can be found at the State Stud of Le Pin; its avenues and vistas are the longest of their kind and they meet in the *Cour d'Honneur* between the stables and the palace.

In the ICOMOS Interim Report, an historic – cultural framework was requested from the State Party in order to better place the nominated property in its proper wider perspective and context in relation to other properties closely related to horse-breeding.

The State Party responded in February 2019 by providing an expanded account of the areas of human–equine interaction throughout the millennia and an analysis of the key parameters for places dedicated to horse-breeding and training, relevant for a sound comparative analysis.

The comparative analysis and the additional arguments provided have succeeded in demonstrating the relevance of Kladruby nad Labem for the World Heritage List, basically on the grounds of the completeness of this cultural landscape, the long-lasting continuity of its original function, clearly recognisable traces of landscape design, the continuing and still-living tradition of horse-breeding, and training of a rare and ancient horse breed.

ICOMOS considers that the comparative analysis justifies consideration of this property for the World Heritage List.

Criteria under which inscription is proposed

The property is nominated on the basis of cultural criteria (ii), (iv) and (v).

Criterion (ii): *exhibit an important interchange of human values, over a span of time or within a cultural area of the world, on developments in architecture or technology, monumental arts, town-planning or landscape design;*

This criterion is justified by the State Party on the grounds that the nominated property exhibits important cultural interchanges in landscape design in Europe between the 17th and 19th centuries, in the application of André Le Nôtre's landscape composition principles and English landscape design applied to a utilitarian landscape.

The functional layout results from exchange of information and experience on the needs for horse breeding and training.

ICOMOS considers that the nomination dossier has provided some arguments, based on the observation of the landscape changes throughout the centuries, for the first part of the justification, referring to the landscape design. However, they do not appear sufficient to support this claim. The second part of the justification, on the cultural exchanges underlying the functional aspect of landscape design choices, is not supported by evidence.

In the additional information provided in November 2018, the State Party expanded the explanation of the role played by horse breeding in determining the modifications to the landscape. ICOMOS however does not consider

that these arguments can contribute to supporting the justification of criterion (ii).

ICOMOS considers that criterion (ii) has not been justified.

Criterion (iv): be an outstanding example of a type of building, architectural or technological ensemble or landscape which illustrates (a) significant stage(s) in human history;

This criterion is justified by the State Party on the grounds that the nominated landscape is an example of a meticulously cultivated landscape through the centuries by using the French Classicist garden and English landscaping principles to achieve an environment designed to serve ceremonial carriage-horse breeding and training. The nominated landscape illustrates an important stage in modern European history, when royal and princely courts valued and promoted horse-breeding activities for functional and ceremonial purposes. The nominated landscape represents a unique and well-preserved example of the development of equestrian culture in Europe. It is a unique example of landscape in which aesthetic principles of Classicist gardening and English landscaping are combined together, guided by functional exigencies: the creation of a 'patte d'oie' and of enclosed meadows forming 'bosquets' and 'cabinets de verdure', later added to with groups of trees, were used for horse pasture; at Mošnice Park the vegetation was used according to its colours to create visual effects, and this is an extremely rare application of the principle of perspective.

ICOMOS considers that the evocation of André Le Nôtre's design principles for a landscape shaped in the early 19th century according to geometric and regular patterns, does not seem to consider other subsequent cultural references, especially for utilitarian landscapes, that may be relevant for the nominated property. Additionally, compared to other properties, the application of classicist principles in landscape design in Kladruby appears late and not outstanding.

The reference to English gardens seems also to overlook that German courts developed from 1750 onwards their own aesthetics for landscape and gardens.

Additionally, ICOMOS does not consider unique the combination of "French" and "English" landscaping principles at the property, since in the 19th century several parks and gardens were inserting irregular landscape parts into a regular framework and it does not constitute in itself something extraordinary. Likewise, the use of the vegetation to create 'deceptive' perspectives in the landscape cannot be considered unique to Mošnice Park.

However, Kladruby nad Labem can be considered an exceptional example of a landscape which has been consistently and intentionally modified through the centuries to serve the purpose of horse-breeding and training of draft ceremonial horses, exceptionally

reflecting the development of the Habsburgs and their representational needs at a time when absolute monarchies were in the ascendance.

ICOMOS considers that criterion (iv) has been justified.

Criterion (v): be an outstanding example of a traditional human settlement, land-use, or sea-use which is representative of a culture (or cultures), or human interaction with the environment especially when it has become vulnerable under the impact of irreversible change;

This criterion is justified by the State Party on the grounds that the landscape would be the last unique example of a cultural landscape dedicated to a utilitarian function associated with a centuries-long history of breeding carriage-horses (*gala carrossier*). Down the centuries the nominated landscape has been expanded and designed to best respond to its function and ensure self-sustenance with regards to the resources needed for its operation. The natural conditions and features of the region – climate, hydrology, soil, vegetation – were suitably exploited and adapted to meet the needs of the stud farm. The flat terrain allowed for the application of André Le Nôtre's principles of garden design. The nominated landscape exhibits a whole set of interactions among humans, landscape and horses. The rural settlements within the nominated property have evolved with the stud farm and their inhabitants have been directly involved in the farm operations or related activities and still are, their lives having been intertwined with and influenced by the stud farm.

The nominated landscape is a remarkable synthesis between a continuously evolving utilitarian landscape and intentionally designed interventions responding to specific composition principles.

ICOMOS requested additional information on 12 October 2018. The State Party replied on 9 November 2018 providing details on horse breeding and training knowledge and methods developed at Kladruby, the reasons why meadows and pastures were given different sizes and fences, the integration of functions of the three farmsteads, as well as on other complementary activities at the Stud Farm, all supporting its main mission.

ICOMOS considers that Kladruby nad Labem reflects the use and purposefully adaptation of the geomorphological features and environmental resources of a fluvial area throughout the centuries for horse-breeding and training. The current organisation of the landscape, with its still-evident tripartite structure, with old meanders and oxbow lakes turned into a designed landscape, the fenced and tree-delimited pastures, the avenues, the network of irrigation canals, the stud architecture and the dependent village, along with the local knowledge and way of life dependent on stud operation and horse-breeding, represents an outstanding example of human interaction with the environment devoted to the breeding and training of the Kladruber horses.

ICOMOS considers that criterion (v) has been justified.

ICOMOS considers that the nominated property meets criteria (iv) and (v), whilst criterion (ii) has not been demonstrated.

Integrity and authenticity

Integrity

According to the State Party, the nominated property's integrity is expressed through: the retention of its historical delimitation, which corresponds to the farm size necessary to supply the horse herd set by the Imperial Court, the preserved utilitarian character manifested in its functional/aesthetical composition of pastures, grassland for hay, arable land for grain fodder, forests for timber used in construction and for fuel, hydraulic network for water supply, drives for training the horses, stables, buildings and structures for horse-breeding and training and related functions, that have been developed since the 19th century. Both the 'classicist' and the 'romantic picturesque' composition have been preserved, as well as the productive forest, with its network of straight forest roads created for rational forest exploitation. The rural settlements within the nominated landscape have retained their historic layout and the form of the residential houses.

ICOMOS considers that the property includes all physical features supporting the significance of the nominated landscape and the interrelationship among the supporting features is also perceivable and maintained. However, some key designed features expressing the 'classicist' aesthetics of the landscape – e.g. the *patte d'oie* – have not been fully preserved, as one of the axes is missing, and some of the vegetation species are reported to have been changed in the late 19th and early 20th centuries to match the 'romantic picturesque' shift. The horse landscape features appear in good condition and do not seem to suffer from negative impacts. However, in the forest intensive farming and greenhouses have been introduced, thus undermining the visual and functional integrity of this part of the landscape. The built heritage has been the object of very recent extensive restoration works, which do not seem to have been carried out in all cases with the necessary quality and finesse. The main avenue has been asphalted and is more suited to vehicles rather than horse movement. Localised visual impacts over the landscape derive from the power station (in the buffer zone), the power lines across the property, and some inappropriate buildings in terms of scale and material, although views and vistas have been maintained.

However, studies are ongoing to assess the costs for minimising or reversing these impacts.

ICOMOS considers that interventions to mitigate the negative interventions on the nominated property and its features are important, particularly with regard to the electric power lines, but the impacts of the projects need to

be assessed as well, especially with regard to restoration/rehabilitation works.

ICOMOS finally considers that the buffer zone to the south of the property, in the stretch where their boundaries coincide, must be extended to include land across the River Elbe, so as to guarantee that views from the nominated property are adequately protected.

Authenticity

The nomination dossier states that the functional integrity of the nominated property has been preserved, as it is still used for the original function, the breeding and training of '*gala – carrossier*' carriage horses. The composition of the landscape has also been preserved over time as well as its features, both naturally evolved and designed, and they are evidence of the search for self-sufficiency in the stud farm operation. Farming methods, including horse breeding, are still carried out according to tradition, and innovative methods are integrated only after careful consideration for the values of the nominated property. The 'classicist' and 'romantic picturesque' design of the landscape can be traced back to their arrangements. The ensembles of the stud farm buildings exhibit a high degree of authenticity and have been carefully restored following the principles of good practice and the findings of a thorough study (2000). Linear planting, individual trees and groves have been preserved to date and, where replacement is needed, plants of identical *taxa* are used at the same place, to preserve the composition. Vegetation cover of the meadows is replanted through self-seeding, whilst the cultivated fields continue to be sowed with barley and oats.

ICOMOS considers that the nominated landscape credibly illustrates through its tangible and intangible features the continuous interaction among humans, horses and the environment. In particular, the natural tripartite structure of the landscape in marshland, agricultural landscape of meadows and pastures, and forest, integrated with its designed features, clearly reflects the needs of the exploitation programme for horse breeding and training.

The stud farm complexes and buildings underwent an extensive restoration campaign (2016–2018), but the quality of the results does not appear always satisfactory; any future intervention would therefore need careful control to avoid negative impacts on the authenticity of the nominated property.

In conclusion, ICOMOS considers that the requirements of integrity will be met when the buffer zone is expanded further south to include land across the River Elbe, in the stretch where its boundaries are too tight or coinciding with those of the nominated property. On the other hand, the conditions of authenticity have been met in relation to the landscape and to the claims supporting criteria (iv) and (v).

Evaluation of the proposed justification for inscription

The nomination of Kladruby nad Labem has to be commended as it puts the focus on the role that horses have played in human history and development, an aspect of human culture which has so far been paid little attention. The property is one of the most valuable horse-breeding institutions in Europe, run for some three-hundred years by the Habsburgs, developed at a time when horses played vital roles in transport, agriculture, military support and representation of the aristocracy.

In its additional information the State Party has been able to expand the description of the key features of the nominated property in relation to comparative parameters and to other still surviving European stud-farms from the period so as to position it in its broader relevant context. In this way it has succeeded in demonstrating that Kladruby nad Labem justifies consideration for World Heritage listing because it is one of the few ancient stud farms that still pursues its historic breeding programme, has retained its landscape almost intact which continues to serve its function and still reflects the purposes for which it was designed.

ICOMOS considers that the requirements of integrity will be met when the buffer zone is expanded further south to include land across the River Elbe, in the stretch where its boundaries are too tight or coinciding with those of the nominated property.

Attributes/Features

The value of Kladruby nad Labem lies in the completeness of its cultural landscape, still reflecting the historical tripartite structure of this fluvial area, with its old meanders and oxbow lakes turned into a late 'romantic' designed landscape, the 'classical' regular fenced and tree-delimited pastures, the straight tree-lined avenues, the network of irrigation canals, fed by the Kladrubský náhon, the forest to the north, the different farms, all serving distinct functions, the stud architecture and the dependent village, along with the local knowledge and way of life, all centered around one function: horse-breeding and training the special Kladruber horses which can be seen as living monuments.

ICOMOS considers that the additional information and the augmented comparative analysis have contributed to demonstrating that Kladruby nad Labem justifies consideration for the World Heritage List under criteria (iv) and (v), whereas the justification for criterion (ii) is not supported by the surviving features of the nominated property.

4 Conservation measures and monitoring

Conservation measures

The nomination dossier provides an account of the conservation measures that were carried out in the past and of those planned, complemented by the additional information provided on 9 November 2018.

The landscape has been maintained thanks to its use, maintenance of the vegetation is carried out by taking into account the historical composition and layout of the tripartition of the landscape (Mošnice Park, pastures and meadows, forest), hedgerows are regularly cut, where replacement is needed, this respects the *taxa* of original trees and bushes. With groves of trees, when replacement is needed, this occurs progressively.

The water management system has been overall preserved, and repairs carried out where needed. However, a general intervention of Regeneration of the Water Management System of the nominated property is under consideration.

In 2001-2003 a detailed building survey was carried out which provided the basis for subsequent conservation/restoration interventions, many of which were completed between 2013-2015. Restoration of the water system at Mošnice Park was carried out in 2006-2008.

Other projects are currently being carried out – e.g. the car park at Kladruby nad Labem stud farm – or are scheduled for implementation soon and many other ones are being planned, according to the additional information transmitted by the State Party in November 2018.

The additional information provided by the State Party details the measures in place to guarantee the conservation of the Kladruber horse breed: genetic reserves are protected under the National Programme for the Preservation and Utilisation of Plant, Animal and Microorganism Genetic Reserves for Alimentation and Agriculture.

Details of the nature conservation measures are also contained in the Additional information received in November 2018, whilst the February 2019 additional information focuses on the process for designing, tendering and implementing conservation/restoration projects.

The dedication and commitment of the State Party to guarantee the conservation and restoration of the nominated property are to be commended. However, ICOMOS also observes that the outcomes of some of the recently carried out interventions do not seem to exhibit the quality that would be expected for a property nominated for World Heritage Listing. Therefore, it recommends that careful consideration is given to the assessment of the impacts of planned interventions, including conservation, on the features and qualities of the nominated property as a whole and of the relevant parts. A more prudent approach in the restoration of the built heritage is recommended by exercising the strictest control over the materials used.

Monitoring

A monitoring system for World Heritage properties exists in Czechia; it is based on annual reports and has been in use for 15 years. The property is protected under Act n. 20/1987 as amended, therefore it enjoys regular inspections by the national bodies responsible for cultural heritage. Three complex qualitative indicators are identified as the main references for monitoring, each of which are broken down into simpler descriptors. They are measured annually by the relevant bodies, either individually or jointly, depending on the nature of the indicator.

ICOMOS considers that the indicators mentioned in the nomination dossier provide qualitative information. Whilst they are very useful to develop a full picture of the situation and trends, quantitative indicators are also important as a support and confirmation of the qualitative assessment. It is therefore recommended to develop also quantitative indicators to complete the monitoring system.

Indicators to assess the effectiveness of the management system would also be useful as a basis for revising the management strategies.

ICOMOS considers that already undertaken conservation measures demonstrate strong commitment to the conservation of the nominated property. However, the high number of implemented and planned projects in a short space of time, may result in unexpected negative impacts. ICOMOS therefore recommends assessing in advance their impacts on the features of the nominated property, privileging conservation over restoration/reconstruction and ensuring the high quality of materials. The monitoring system is well established and carried out; however, ICOMOS recommends enriching it with quantitative indicators and with indicators for the effectiveness of the management system.

5 Protection and management

Documentation

The survey of historic buildings carried out in 2001-2003 – still ongoing – and the 2012 Management Plan provides comprehensive information about the different aspects of the property. The records of the lineage of the Kladruher horse breed have been preserved and the National Stud Farm of Kladruhy nad Labem is responsible for keeping the Studbook of Kladruher horses.

Legal Protection

The nominated landscape is included in the Kladrušské Polabí Conservation area, designated with provision ref n. MK 72096/2015 pursuant Act n. 20/1987 as amended. It has been protected as a unique example of a landscape shaped for horse breeding and training. The Stud Farm itself is a National Heritage site as per Government Decree 132/2001 and other parts of the nominated landscape are included in Natura 2000 network as a Site of Community Importance as per Government Decree n. 73/2016 amending GD n. 318/2013. Other sites within the

nominated property are covered by heritage protection status.

The Kladruher horse breed also enjoys legal protection since 2002 as a living monument.

The basic protection instrument is the Heritage Act n. 20/1987, which stipulates obligations for the owner, user, public administrations, juridical and physical persons with regard to protected heritage.

Since January 2017, the implementation of provisions of the Heritage Act for the nominated property are under the responsibility of the Municipal Authority of Přebouč, which enjoys extended powers within the Czech administrative system. Protection and management of the nominated property as a national heritage site (NHS) is guided by the Agreement on general Principles of Restoration and further development of the Area of the NHS of the Stud Farm at Kladruhy nad Labem (May 2017).

The nominated property and its buffer zone are subject to the provisions of Act. 114/1992 on nature conservation and landscape protection, which provides for general protection mechanisms for categories of natural elements and landscapes, but also through specific protection designations.

Several territorial plans complement legal protection for the nominated property. They include the land-use plans of municipalities (11 plans for 13 municipalities), all elaborated in agreement with the relevant State bodies including national heritage conservation ones; the Land Development Principles of Pardubický Region; the Concept supporting the implementation of the National Heritage Management Policy for Pardubický Region (2017-2020); the Cultural Heritage Conservation strategy for Pardubický Region (approved by the Regional Council in 2004), forming the basis for conservation works.

ICOMOS considers that legal protection appears overall satisfactory, although the recently delegated (2017) responsibilities for heritage protection implementation to the Municipality of Přebouč may need to be monitored by the State relevant bodies.

ICOMOS also recommends that Kladrušský náhon be explicitly protected under the Cultural Heritage Act n. 20/1987.

Management system

The overall governance/management system for the nominated property and its buffer zone relies on legal and planning instruments at the national, regional and local level. State and local entities guarantee the implementation of measures which they are responsible for and which contribute to the implementation of protection and management.

Most of the nominated property is owned by the State (90%) and is under the responsibility of the Ministry of Agriculture, managed by the following entities: National

Stud Farm Kladruby nad Labem s.p.o. Forests of the Czech Republic s.p. (forest land), the River Elbe Authority and Czech Land-Use Authority. Only 5% of the property is privately owned.

The nominated property management entity is essentially state-funded both for operational and investment expenses, although the management body has financial entries for paid services that contribute to running the property.

A memorandum on the Establishment of a Steering group for the Heritage site of the Stud farm Cultural Landscape of Kladruby nad Labem was signed in June 2016 for coordination in the management of the property among relevant stakeholders.

The nominated property enjoys a Management Plan elaborated in 2010 and updated in 2012. In the additional information transmitted in November 2018, the State Party informs that in June 2018 a task force was entrusted to elaborate the new management plan. ICOMOS considers that the State Party should submit to ICOMOS and the World Heritage Centre the updated Management Plan once it is finalised.

The forest is covered by a Forest Management Plan containing guidelines and recommendations, particularly for renewal. All forests included in the FMP are special purpose forests, as they perform landscape functions. The FMP is valid from 2016 through 2025.

Risk management instruments exist for flood fire hazards. Two key documents address flood threat: the Flood Control Strategy of Pardubický Region and the Flood Control Plan of the Administrative Territory of Přelouč Municipality. Following modifications to flow rate controls, the Elbe River is reported not to represent any longer a major risk factor for the nominated landscape. With regards to fire hazard, the National Stud Farm Kladruby nad Labem s.p.o. has fire protection rules and the staff is regularly trained for fire or other emergencies. Fire brigades are available for the nominated landscape thanks to volunteers operating at the farm and at the nearby villages, and there is a professional fire brigade at Přelouč, and a permanent fire unit at Chvaletice power plant.

A threat difficult to address is represented by windstorms, which are increasing in temperate climates and may need to be addressed in the near future.

ICOMOS considers that the management plan is a comprehensive document that provides useful information on the nominated property, its values and features, and on the management strategy and actions. It has been able to combine the strategic dimension of a management plan and its operational nature. The envisaged management objectives and actions appear still relevant for the nominated property and its buffer zone. It is hoped that the updated document will maintain the overall structure and approach of the existing plan.

From a risk management perspective, ICOMOS suggests that an assessment of the priority measures to be undertaken relating to the above-mentioned hazards needs to be developed, with a view to guaranteeing the safeguarding and long-term recovery of the nominated property's significance and of its key features in case of disaster.

ICOMOS considers that it would be desirable that the State Party consider the integration of a Heritage Impact Assessment approach into the management system, so as to ensure that any programme or project regarding the property be assessed in relation to its impacts on the Outstanding Universal Value and its supporting attributes.

Visitor management

The Strategy for Tourism in Pardubický Region (2016–2020) divides the Region into five destination areas and identifies the tourism vocation of each area, an overall vision, and strategic objectives aimed at increasing visitation, overnight accommodation, optimisation of the offer, awareness about the attractiveness of the region and the offer of good quality products. Pardubický Region has also developed a strategy for bicycle and in-line skating routes.

The nominated property offers visitor tours and interpretation materials, but they focus mainly on the stud farm and on the Kladruber horse breed, whilst little is proposed to understand the landscape and its close linkages with horse breeding.

The Additional information submitted in February 2019 explains that in 2018 a Development Study for Kladrubské Polabí was adopted, and a task force on Tourism was established in October 2018 to address potential visitor pressures. The main accommodation centres are intended to be located at Pardubice and Přelouč, outside both the nominated property and the buffer zone. A car park has already been built for 92 cars and 5 buses at the edge of Kladruby village and can be enlarged if needed. Car parks are further planned at Řečany nad Labem, and, at Semín, the National Stud Farm plans the transportation of tourists in horse-drawn coaches. Only guided tours are planned within the nominated property, to ensure full control of visitation.

ICOMOS considers that access to the site by individual vehicles should not be encouraged: alternative, more sustainable means of transportation are to be encouraged, i.e. by bike or horse riding, as proposed by the State Party. Therefore, the car park in Kladruby should preferably not be expanded, to avoid increase of traffic.

In ICOMOS' view, the interpretation narrative of the nominated property should be improved and expanded to include the landscape. It is also equally important to contextualise the presentation of Kladruby nad Labem in relation to other stud farms that over time supported the continuation of horse-breeding and to distinguish what belongs to the Kladruby history and tradition from other cultural resources.

Community involvement

The State Party provided additional information in November 2018 concerning the involvement of local communities, explaining that the nomination process was triggered by grass-roots support, eventually brought to the attention of the State administration by the Region. The Mayors of municipalities included in the nominated property or in the buffer zone have been participating in the works of the Steering Group since June 2016 and in the preparation of the Nomination dossier.

Evaluation of the effectiveness of the protection and management of the nominated property

The protection and management systems rely upon several instruments of a legal, regulatory and planning nature that appear to collaborate to guarantee an effective layer of protection to the nominated property and its buffer zone. Although overall the legal protection can be considered adequate, ICOMOS suggests completing it by providing an ad-hoc protective designation for Kladrubský náhon.

ICOMOS has noted that the southern boundaries of the buffer zone appear too tight to ensure an adequate buffer. In the additional information provided in November 2018 and February 2019, the State Party argued that there would be no need to enlarge the buffer zone because protection would anyway be provided via planning instruments.

However, ICOMOS notes that the explanation for the land-use plans for Chvaletice and Trnávka is too general and not complemented by maps or details of the planning provisions for the areas by the river. ICOMOS further considers that the buffer zone has to be enlarged to the south, to include further land across the River Elbe, and equipped with appropriate protective mechanisms (including through land-use planning regulations) to guarantee the necessary added layer of protection to the nominated property, due to the proximity of large facilities and open views.

The Management system is based mostly on state-driven bodies, which have elaborated management instruments to guarantee the management and implementation of their operational activities. A memorandum for establishing a Steering Group was signed in 2016 and was renewed in June 2018. It has coordination, overseeing and advisory tasks.

Overall, the management system seems to be based on a tested formula, which should be supported and confirmed by the stability in the management staff, much needed to guarantee management effectiveness in the medium and long term.

Local stakeholders and the community need to be prepared to face a probable increase in visitors, especially from abroad. Visitor experiences need to be improved by expanding the interpretation and presentation of the nominated property to include the landscape and its interconnection with horse breeding.

Risk management may be improved through the identification of priorities related to the heritage status of the nominated property, its values and supporting features.

ICOMOS considers that protection will be fully adequate when the buffer zone is expanded in the southern part and is equipped with mechanisms to avoid negative impacts on the landscape views from the outside. Kladrubský náhon should be protected through ad-hoc legal protection as a cultural heritage item.

The management system seems to be adequate but needs to enjoy stability. The updated Management Plan should be submitted when ready to ICOMOS and the World Heritage Centre. Prioritisation in risk management planning may improve the quality of the recovery response. ICOMOS considers that it would be desirable that the State Party consider the integration of a Heritage Impact Assessment approach into the management system, so as to ensure that any programme or project regarding the property be assessed in relation to its impacts on the Outstanding Universal Value and its supporting attributes.

6 Conclusion

The nomination of Kladruhy nad Labem has to be commended as it puts the focus on the role that horses have played in human history and development, an aspect of human culture which has so far been paid little attention within the World Heritage Convention.

The property is one of the most significant horse-breeding institutions in Europe, developed at a time when horses played a vital role in transport, agriculture, military support and representation of the aristocracy.

Kladruhy nad Labem had been part of the Habsburgs' imperial stud-farms since the late 16th century and over the centuries it has been consistently expanded, adapted and embellished to support the breeding and training of the Kladruher horses, a special type of draft horses used in formal ceremonies. This activity continues to this day.

The State Party has harnessed the evaluation process and has provided the necessary additional arguments to illustrate the relationship between the design of the landscape and its use, to build a framework for understanding the features of horse-breeding properties and to improve the comparative analysis, thus correctly and convincingly positioning the nominated property amongst its comparators.

Kladruhy nad Labem is one of the few ancient stud farms that still pursues its historic breeding programme, has retained its landscape almost intact which continues to serve its function, and still reflects the purposes for which it was designed.

On the basis of the nomination dossier and of the additional information, the property justifies consideration under criteria (iv) and (v). However, the justification for

criterion (ii) is not supported by the surviving features of the nominated property.

The protection and management systems rely upon several instruments of a legal, regulatory and planning nature that appear to collaborate to guarantee an effective layer of protection to the nominated property and its buffer zone. Although overall the legal protection can be considered adequate, ICOMOS considers that Kladrubský náhon should be covered by an ad-hoc designation as historical-cultural heritage, considering its primary role in the sustenance of the nominated property.

With regards to the buffer zone, ICOMOS has noticed that the southern boundaries appear too tight to ensure an adequate protection to the nominated property. It is therefore necessary to enlarge the buffer zone to the south by including further land across the River Elbe, and to provide it with protective mechanisms able to protect the nominated property, especially from visual impacts.

The Management system is based mostly on state-run bodies equipped with management instruments to guarantee the property's management. A memorandum establishing a Steering Group with coordination, overseeing and advisory tasks was signed in 2016 and renewed in June 2018.

Overall, the management system seems to be based on a tested formula, which should be supported and confirmed by the stability in the management staff. A robust visitor strategy extended to the territory beyond the nominated property and its buffer zone is necessary to prevent negative impacts from visitation; individual vehicular access needs to be discouraged, therefore it is recommended that the newly-built car park is not expanded in the future.

The visitor experience needs to be improved and expanded to include the landscape and its interconnection with horse-breeding, which is the core of the nomination.

Risk management may be improved through the identification of priorities related to the heritage status of the nominated property, its values and supporting features.

7 Recommendations

Recommendations with respect to inscription

ICOMOS recommends that the nomination of the Landscape for Breeding and Training of Ceremonial Carriage Horses at Kladruba nad Labem, Czechia, be **referred back** to the State Party to allow it to:

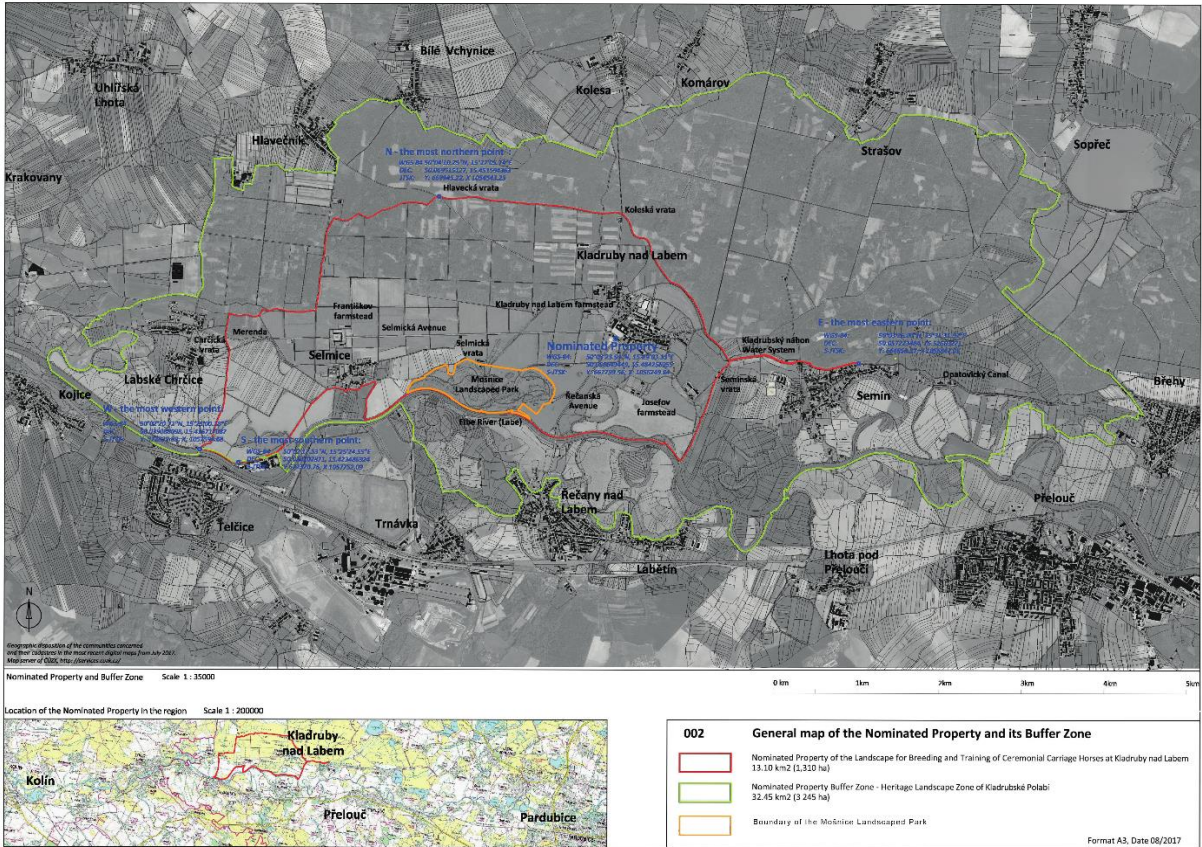
- Expand the buffer zone to the south by including further land across the River Elbe in the stretch where the boundaries are too tight or coinciding with those of the nominated property, in order to guarantee that it is equipped in its entirety with the necessary layer of additional protection;

- Provide ad-hoc legal protection to the Kladrubský náhon (canal system) as historical heritage, it having been the main water source for the property.

Additional recommendations

ICOMOS further recommends that the State Party give consideration to the following:

- a) Finalising the revision of the management plan, whilst retaining the still-valid structure and approach of the 2012 document,
- b) Developing a robust visitor strategy that extends to the territory beyond the buffer zone and discouraging individual vehicular access to the nominated property,
- c) Improving risk management by carrying out a study on possible threats and effects that may be associated with climate change and prioritising the response to the most likely threats,
- d) Considering the integration of a Heritage Impact Assessment approach into the management system,
- e) Monitoring the potential interferences between the general plans for the Danube-Elbe, and the construction of new canals with the nominated landscape,
- f) Assessing the potential impact of the plans for touristic river transportation on the general historic hydraulic system and also considering possible impacts on the Natura 2000 community site,
- g) Removing the high-voltage power lines crossing the nominated landscape and implementing measures to minimise the visual impact of the Chvaletice power station,
- h) Carefully assessing the opportunity, pace and modalities of replanting the lines of trees of the avenues as well as hedges, taking into account species, distance, and size of the trees,
- i) Ensuring the correct interpretation of the site as a cultural landscape, where the horses, landscape features, buildings, and natural elements have produced long-lasting impacts on the environment and on the people,
- j) Establishing an archive and a digital register of primary source documents and setting up a central register of data at the National Stud Farm;



Map showing the boundaries of the nominated property



The Kladruby nad Labem stud farm



Surrounding landscape (Mošnice Park)



Stud farm interior architecture



Kladruber Horses in the tree-lines

Water Management System of Augsburg (Germany) No 1580

Official name as proposed by the State Party

Water Management System of Augsburg

Location

City of Augsburg, Region of Swabia, State of Bavaria, Germany

Brief description

The Water Management System of Augsburg is a sustainable system of water management evolved in successive phases through the city's application of innovative hydraulic engineering, demonstrating an exemplary use of water resources over the course of more than seven centuries to the present day.

Water and Augsburg's strategic location at the crossroads of important trade routes in south-central Germany were key foundations of the growth and prosperity of the city, its population, and its status as a flourishing trading metropolis. The architectural and technological monuments in the nominated property preserve successive socio-technical ensembles that are vivid testimonies to the city's continuous and successful urban administration and management of water.

Category of property

In terms of categories of cultural property set out in Article I of the 1972 World Heritage Convention, this is a *group of buildings* constituted by 22 elements.

1 Basic data

Included in the Tentative List

15 January 2015

Background

This is a new nomination.

Consultations and Technical Evaluation Mission

Desk reviews have been provided by ICOMOS International Scientific Committees, members, and independent experts.

An ICOMOS technical evaluation mission visited the property from 8 to 13 July 2018.

Additional information received by ICOMOS

A letter was sent to the State Party on 18 October 2018 requesting further information about the documentation, selection of component elements, proposed justification

for Outstanding Universal Value, comparative analysis, integrity, authenticity and protection.

Additional information was received from the State Party on 12 November 2018 and has been incorporated into the relevant sections of this evaluation report.

Further information was requested in the Interim Report including: how the water management system worked as a whole, to better demonstrate the technical role of each individual element in the overall system; justification for criterion (ii); continuity of use nowadays, especially regarding traditional water management; boundaries of the nominated property, particularly in Rotes Tor; the 5 m legal protection and the fact that 8 elements were not fully covered by the buffer zone; the city forest integration in the buffer zone; and projects for a new tram track and bicycle paths.

Additional information was received from the State Party on 28 February 2019 and has been incorporated into the relevant sections of this evaluation report.

Date of ICOMOS approval of this report

13 March 2019

2 Description of the property

Note: The nomination dossier and additional information contain detailed descriptions of this property, its history and its state of conservation. Due to limitations on the length of evaluation reports, this report only provides a short summary of the most relevant aspects.

Description and history

The Bavarian city of Augsburg lies in the north of a glacial gravel deposit formed during the Ice Age that spreads between two Alpine rivers, the Lech and the Wertach, as they converge at the mouth of a great drainage basin. This large aquifer formation produces purified groundwater that emerges in Augsburg in a series of springs that feed streams and water canals.

Some of these water canals were mentioned for the first time in 1276, as water was canalised in the Lochbach and brought to the city to provide water for the mills, tanneries, textile producers and goldsmiths. Since 1346, water was derived at the Hochablass. Later, in 1416, the water power was used for the domestic hydraulic system. By 1545 a strict separation between drinking and process water was being kept throughout the system of watercourses.

A water management system based on pumping and water towers was developed continuously until 1879, when research on hygiene and the first mapping of the groundwater resulted in new waterworks, a turbine pumping station at the Hochablass built to modern standards. In 1883, a diversion of the Wertach was laid out for a planned power plant on the Fabrikkanal, located about 700 m downstream. The last phase of the evolution of this industrial hydraulic system was the construction of a canal

about 18 km long parallel to the Lech, in the north of Augsburg. This canal was built to supply three large power plants.

The Water Management System of Augsburg is comprised of a series of 22 elements categorised into six typologies: one canal complex and one water course system; four drinking waterworks structures; two water engineering structures; three monumental fountains adorned with bronze sculptures; one water-cooled hall; and ten hydraulic power stations.

Canals and watercourses

The first typology comprises a network of canals known as Lech canals, which date from at least 1276, and are still in use today: *Vorderer Lech* (Western Lech), *Schwallech*, *Mittlerer Lech* (Middle Lech), *Hinterer Lech* (Eastern Lech), *Stadtgraben* (City Moat), *Innerer Stadtgraben* (Inner City Moat), *Stadtbach* canal, and *Brunnenbach/Brunnenmeisterbach* canal. The first typology also includes a complex of watercourses known as the *Eiskanal*, dating from 1879, renovated in 1972 to become a canoe course and still in use today.

Drinking waterworks

The second typology, drinking waterworks, was in use from the 15th to the 19th centuries. These waterworks housed pumping machinery initially driven by water wheels and later by turbines to counter the abrupt topographical change presented by the plateau that hosts the city centre of Augsburg. Potable water was lifted to expansion basins on top of the towers, from which it could flow by gravity through wooden pipes to consumers. The first of the four drinking waterworks elements is the waterworks at the *Rotes Tor*, known also as Red Gate (from 1416 to 1879), which is comprised of the Box Tower, the Upper Fountain and Lower Fountain Master's Houses, the Small and Large Water Tower (the latter with its notable well-conserved double-helix stairway) and the Aqueduct. The second element in this typology is the *Unterer Brunnenturm*, also known as the Lower Waterworks (from 1502 to 1879), comprising the Lower Water Tower, the Pumhouse/hall and the *Zirbelnuss* canal bridge. The third element is the *Vogeltor* or Bird Gate (from 1776 to 1879). The last element is a turbine pumping station at *Hochablass* (from 1879 to 1973), still with its original machinery. This last element represented modern cutting-edge hydraulic engineering of the late 19th century.

Water engineering structures

The third typology is constituted by the *Hochablass* weir (from 1911/1912 to today), which has its original machinery; and the ancient *Galgenablass* culvert for water flow (documented from 1545 to today).

Monumental fountains

The fourth typology, a system of three monumental fountains of extraordinary artistic quality are the *Augustus Fountain* (from 1594 to today), *Mercury Fountain* (from 1599 to today) and *Hercules Fountain* (from 1602 to today).

Water-cooled hall

The fifth typology is a water-cooled butcher's hall from the early 17th century. It is a rare example of a large proto-industrial food processing structure, constituted by the city's central meat cutting, processing and marketing facility, known as *Stadtmetzg* (in use from 1609 to 1930). The water flowed through a vaulted basement tunnel beneath the building to cool the butcher's workshops.

Hydraulic power stations

The sixth typology includes some of the first examples of hydraulic power stations from the 19th century, addressing the use of hydro power to generate energy. Ten power plants constitute this typology: *Fabrikkanal* (from 1885 to today), composed of the power plant and a rope pulley, still presenting pulley rope transmission; *Singold* (from 1886 to today), with an extant bevel wheel transmission dating from 1886; *Stadtbach* (from 1873 to today), with machinery dating from 1907; *Wolfzahnau* (from 1901/1902 to today), comprising a transformer substation, a power plant with a generator whose flywheel dates from 1913, and the power plant keeper's house; *Proviantbach* (from 1922 to today), with machinery from 1922; *Senkelbach/Riedinger* (from 1840 to today), with machinery dating from 1923; *Wertachkanal* (from 1921 to today), with machinery dating from 1921; *Gersthofen* (from 1901 to today), with machinery dating from 1963; *Langweid* (from 1907 to today), with machinery dating from 1907 and 1938; and *Meitingen* (from 1922 to today), with its original equipment. The three last power plants are evidence of the continued development of the Augsburg system to supply hydroelectricity. All ten power plants are still used for their original purpose. Their settings with relation to the canals have been maintained, continuing to provide sustainable power in the 21st century.

Boundaries

The nominated property has an area of 112.83 ha, and a buffer zone of 3,204.23 ha. The boundaries of the nominated property are defined by the limits of the canal system chosen to represent the Water Management System of Augsburg. In the south, the canal system comprises canals and the city forest (*Stadtwald*) where drinking water is collected; in the east, diversion canals bordering the western bank of the Lech River; in the west, canals bordering the eastern bank of the Wertach River; and in the north, the *Lechkanal* west of the Lech River and running parallel to it.

The boundaries of the nominated property are widened at the area of the fountains, on *Maximilianstraße* and in the *Lechviertel*. Underground canals and water supply pipes connect all the elements that are part of the Water Management System of Augsburg. Around the canals, there is a tight buffer zone, constituted by 5 m of legal protection.

Upon ICOMOS request, the whole *Rotes Tor* element was totally included in the nominated property, as the State Party had originally considered only the building façades of this element.

Upon ICOMOS request, the State Party also included the city forest, source of the groundwater, in the buffer zone.

A lack of buffer zones regarding some of the 22 elements that constitute the nominated property was also identified by ICOMOS. Subsequently, the State Party established a complete buffer zone around the waterworks of Hochablass, Hochablass weir, power plant of Fabrikkanal, power plant of Wolfzahnau, power plant of Proviantbach, power plant of Wertachkanal, power plant of Gersthofen, power plant of Langweid and power plant of Meitingen. Adequate buffer zones are now implemented in all the 22 elements.

State of conservation

Augsburg suffered considerable destruction during the Second World War, but none of the elements in the nominated property suffered extensive damage, and therefore were not subjected to reconstruction. The only structure that was bombed was the power plant of Senkelbach/Riedinger, which in 1945 had its roof rebuilt and the generation of electricity recommenced. The *Stadtmetzg* butcher's building dating from 1609 was renovated in 1939 to become a Social Security office. During the Second World War a fire affected the south part of the building. The interior of the building was then largely reconstructed to look like the original 1609 building.

In general, all the elements that are part of the Water Management System of Augsburg are in a good state of conservation. This is the case for the watercourses and canals, the drinking waterworks, the water engineering structures, the water-cooled butcher's hall and the power plants.

After the Second World War, to avoid environmental impacts, the original bronze sculptures on the monumental fountains were replaced with bronze replicas; their urban spatial relationship was respected too. The 16th century bronze figures were removed to a museum. Notices inform the public of this change and direct them to where the original sculptures can be visited.

It was noticed recently that some of the historical buildings exhibit some damage. Repairs have been undertaken, following the conservation guidelines associated with the Management Plan. There was also some vandalism that occurred in the fountains, which was reversed. Furthermore, the stonework of the *Stadtmetzg* has been affected by humidity, especially in the area of the formal canal course; this situation is being monitored. The building's facade is currently being rehabilitated according to the Management Plan's heritage conservation guidelines.

Based on the information provided by the State Party and the observations of the ICOMOS technical evaluation mission, ICOMOS considers that the state of conservation is, in general, appropriate.

Factors affecting the property

Based on the information provided by the State Party and the observations of the ICOMOS technical evaluation mission, ICOMOS considers that the main factors affecting the property are development pressures including transport infrastructure; environment pressures; natural disasters; possible rise in the number of visitors; and number of inhabitants in the buffer zone.

Regarding development pressures, the challenges identified were technical advancements and changes in the norms that can affect elements, such as the power plants, integration of transport infrastructure, such as tram and bicycle lanes, and protection of important visual axes.

Concerning environmental pressures, the major challenges identified were water shortage and flooding. The degradation of rivers and the flood plains near them mean that retention areas can be lost. The draining of marshland also leads to a reduced water uptake capacity of the soil. The climate change impact results in an increase in heavy rainfall and flooding events that can seriously affect Augsburg's water management system.

Natural disasters such as lightning, fire and flooding can affect the nominated property. Under extremely adverse conditions, lightning and fire could damage the buildings and structures, although this is unlikely due to established protective measures. Flooding will be a more common occurrence, as mentioned under the environmental pressures in the preceding paragraph. As a result, risk preparedness procedures should be addressed.

A high number of visitors can also be a relevant factor. Several elements are particularly sensitive to excessive use. This is the case with the water towers, especially the Small and Large Water Towers as well as the Box Tower at *Rotes Tor*. Their highly sophisticated and valuable wooden constructions have been damaged in recent years due to excessive use. As a result, access is already limited to 14 people ascending the *Rotes Tor* at a time.

The city forest (*Stadtwald*), including its network of watercourses, constitutes a highly sensitive ecosystem as a nature reserve and a protected area for water resources. The use of buses or other types of transport in the city can also be a pressure to consider, in the event of a large numbers of visitors.

The estimated population living in the nominated property is 15 permanent inhabitants, which is not considered a threat. However, the number of inhabitants in the buffer zone is 2,905. An increase in this number could put pressure on existing measures to protect the nominated property's buffer zone.

Projects for a new tram track and for bicycle paths are being planned near the canals. ICOMOS underlined the need for Heritage Impact Assessments regarding the potential impacts of the tram tracks and the bicycle paths on the nominated World Heritage property. According to the State Party, an approximately 500 m section of the

new tram track will be located near the Wertach canal. In this area, the planning has already reached a concrete stage. The State Party mentioned in the additional information that in the context of the necessary planning approval procedure for the tram track, an Environmental Impact Assessment will be carried out, as required by law.

The State Party provided in the additional information, a mobility plan detail of Augsburg. In particular, detailed drawings regarding the cross of Wertachkanal were delivered. The impact of the tram bridge that crosses the canal reveals the importance and the need to address an Heritage Impact Assessment regarding the tram tracks.

Regarding the possibility of the bicycle path to affect the property, the State Party mentions in the additional information, that a plan is in place to take the bicycle path across the Holzbach canal, using a steel girder construction that is part of the underpass structure. This will totally block the view of the canal when crossing the tunnel. As the bicycle path is intended to supplement the link between Rosenaustrasse and Badstrasse over a distance of 450 m, a detailed impact assessment should be addressed to better analyse its impact on the nominated property.

3 Proposed justification for inscription

Proposed justification

The nominated property is considered by the State Party to be of Outstanding Universal Value as a cultural property for the following reasons:

- The separation of drinking and process water in Augsburg was unique and provided Augsburg with a source of pure drinking water for more than 300 years.
- Innovative hydraulic engineering, developed mainly for power generating (first to drive waterwheels and also used for water pumping, and later for turbines and hydropower generating electricity), was possible as there was a continual adaption to new uses, which was unique to Augsburg.
- The continuous and exemplary use of water resources and the sustainable system of creative water management were developed through “good governance” to safeguard the water supply and impose standards for the city’s hygienic protection. This was developed for the interest of citizens and has been working for more than 700 years.

For several centuries, there was a continuous use of the water management system. However, the way this management is being carried out today, especially as compared to the historical management of the water was questioned. ICOMOS inquired if today’s continuity of use should be part of the justification for Outstanding Universal Value, as traditional management is no longer followed. In this regards, the State Party mentioned that the drinking water supply is managed, maintained and expanded by the municipal corporation *Stadtwerke Augsburg Wasser GmbH* (SWA). Their facilities also

include the former drinking Waterworks on the Hochablass dam, which is partly used as a museum and partly, after its conversion, as an electric power station. Also, in the tradition of providing free water for the entire population, more than 20 drinking water wells are available throughout the city. Even if the water supply is free, the continuity of the traditional management of the water system is no longer in place.

Comparative analysis

The comparative analysis is presented by the State Party by means of a comparison with other World Heritage properties within Germany, including Mines of Rammelsberg, Historic Town of Goslar and Upper Harz Water Management System [1992, 2010, criteria (i), (ii), (iii) and (iv)], Maulbronn Monastery Complex [1993, criteria (ii) and (iv)], and Bergpark Wilhelmshöhe [2013, criteria (iii) and (iv)]; and the Tentative List property Mining Cultural Landscape Erzgebirge/Krušnohoří (Germany and Czechia). This was supplemented by an international comparison that includes World Heritage and Tentative List properties, as well as other properties throughout the world not on the List, all with a comparable combination of proposed Outstanding Universal Value and attributes.

The nomination dossier compares the Water Management System of Augsburg in an extensive way, addressing early water systems (Petra in Jordan, Qanat system and Shushtar in Iran, China, Oman, Pakistan); water systems from the Roman period (Spain, France, Italy, Lebanon, Greece, Tunisia, Turkey); water systems used in the mining industry (Bolivia, Germany, Czechia, Poland, Slovakia); water systems for the supply of cities and landscapes and for irrigation purposes (Brazil, Colombia, Philippines), rural water systems built by monks (Germany), urban water systems (Kuwait, Syria, Republic of Korea); inland navigation channels (Belgium, France, Canada, China, United Kingdom, Belarus, Poland, Colombia); water management and control; abundant water resources for parks and decorative fountains; and water for hydropower.

The comparative analysis also mentions properties not included in the World Heritage List that integrate artificial water management, canals and drinking water systems; early pumping facilities, compensation reservoirs and water towers; modern-day drinking water works and their driving technology; hydropower plants for the generation of energy for industry; and electricity generation on the basis of hydropower on an industrial scale.

ICOMOS considered that the comparative analysis would have benefitted from being focused on the originality and innovation of the system with similar European cities or properties, from 1545 onwards. A further comparative analysis was provided at the request of ICOMOS that addressed the innovative aspects of the Augsburg water system. This comparison addressed in particular Italian municipal water supply systems, but also canal systems, the piston pumps system and the use of water towers in cities north of the Alps, from Hungary, Czech Republic, France and Germany.

Italian engineers and craftsmen became experts for early water systems from the 11th century onwards until the 16th century, but Flemish and German engineers could take over after the technology was transferred to the north of the Alps. Due to the instalment of their own legal administrations, nearly all cities in the Po river plain Italian region, built their own systems, often a mixture of navigable canals and feeders for mills and process water. In the special geographical situation of Venice, a separation of the lagoons water distributed through the canals, which could become salty, and cleaner sweet water was necessary. Many towns north of the Alps also used canals following the Italian example, mostly called town brooks or creeks to transport water from higher level sources or rivers, as conserved in south-western Germany, and widespread also in northern France. These canal systems have often a smaller scale and do not separate drinking and process water. The large and long network of canals for drinking and process water in Augsburg, built up over centuries, has no direct comparison in Europe.

The raising of water onto a higher level, which was very important for Augsburg and many other cities, was first accomplished with the ancient technique of water wheel driven buckets, by Archimedes' screws and then to a larger extent, in the 16th century, by piston pumps, derived from mining experience. The special challenge was to transform the circular movement of the waterwheel into the linear motion needed to drive the piston pumps, which was first accomplished with rack and pinion drives, followed by the more efficient crankshafts and piston rods. The fountain masters of Augsburg played an important role in this development, as documented by Caspar Walters publications and his conserved authentic models.

From 1560 to 1617, Augsburg fountain masters and pump engineers exported Augsburg experience to Brussels (1602-03) in Belgium, Phalsbourg (1572) in France, Enns (1573), Steyr (1573) and Vienna (1568) in Austria, and several cities in Germany, such as Marburg/Lahn (1573), Frankenberg/Eder (1574), Stuttgart (1617), among others. In 1874, the methods developed in Augsburg were brought to Strasbourg, France, and fully developed there. In the same year, in Germany, Regensburg city requested for Augsburg to assist with the erection of drinking waterworks. Surveys to implement Augsburg system were also addressed in Kempten, in 1874, and in Munich, in 1876. The influence of Augsburg technology widespread and had a definitely impact, improving the water management system in several European cities.

ICOMOS considers that the comparative analysis justifies consideration of this property for the World Heritage List.

Criteria under which inscription is proposed

The property is nominated on the basis of cultural criteria (ii), (iv) and (vi).

Criterion (ii): *exhibit an important interchange of human values, over a span of time or within a cultural area of the world, on developments in architecture or technology, monumental arts, town-planning or landscape design;*

The State Party justifies this criterion on the grounds that the Water Management System of Augsburg generated significant technological innovations, and that an international exchange of ideas regarding water supply and water generation evolved which, in turn, inspired local engineers in their drive for innovations, many of which were tested and implemented in Augsburg for the first time.

Brooks and artificial canals leading fresh water into the city grounds were documented for the first time in the City Law in 1276. This is the first document about a city's fresh water supply. A more outstanding fact is the continuous administration (and the expansion) of this water supply ever since, documented in the *Baumeisterbücher*, written documents which show the financing of the water system and are conserved in the city's archives – the first documented year is 1320.

Augsburg played an important role in the development of piston pumps since the 14th century and their techniques were constantly improved. The Augsburg water system became very well known all over Europe through the publications of the Fountain master Caspar Walter. In turn, the great number of expert visitors who travelled to Augsburg to see the technological improvements in its waterworks ensured that these improvements spread throughout Europe.

The strict separation between drinking and process water was introduced as early as 1545, long before research into hygiene matters established as a fact that impure water was the reason for many diseases. The Augsburg system of division was well known and recognized as a model, as descriptions in many manuals and travel books show.

This system lasted until 1879, when a new drinking water supply was developed, following new scientific knowledge about the influence of bacteria. The separation was probably unique and provided Augsburg with a source of very clean drinking water for more than 300 years.

Particularly the *Unteres Brunnenwerk* (Lower Waterworks) convincingly and credibly illustrates the technological development and achievement that has taken place in the area of water lifting. The transfer of know-how and the new technological developments of the time were documented in publications. The *Unteres Brunnenwerk* was pioneering a new technology, which came to be employed elsewhere only later.

ICOMOS considers that criterion (ii) has been justified.

Criterion (iv): *be an outstanding example of a type of building, architectural or technological ensemble or landscape which illustrates (a) significant stage(s) in human history;*

This criterion is justified by the State Party on the grounds that, as a technological and significant architectural ensemble, the Water Management System of Augsburg illustrates the use of water resources and the production of highly pure water as the basis for the continual growth of a city and its prosperity since the Middle Ages. Significant types of buildings, such as the canal complex system, the watercourses, the drinking waterworks, the water engineering structures, the monumental fountains, the water-cooled hall, and the hydraulic power stations, constituted the technological ensemble.

The elaborate canal system, which spans for over 28 km from south to north and has a combined length of more than 200 km, is the backbone of The Water Management System of Augsburg and directly connects its elements. The continuous use, extension and maintenance as well as the preservation of the whole System are testimony to pre-eminence in two significant stages in human history: the “water art” of the Renaissance, and the cutting-edge hydraulic technology of the Industrial Revolution.

The waterworks at the *Rotes Tor* consisting of the large and small water tower, the *Kastenturm* (box tower) and the upper and lower fountain master’s house form together a functional unity. Waterworks are conceived of as technical installations and therefore are rarely given a highly artistic design like that in Augsburg. The ensemble of the three fountains, which is one of the characteristic features of Augsburg, is the only known triad of larger than life bronze sculptures in a public space north of the Alps. It is also an extraordinary example of the art of sculpture.

The hydraulic technological development was demonstrated by the water power plants and industrial canals that developed hydropower-based energy and electricity generation in Augsburg in all its phases throughout significant stages in human history. Together, the power plants form an outstanding technical ensemble whose diversity, multi-faceted character and state of preservation is unique.

All of the hydro-technical development stages present in Augsburg have been preserved and documented. Due to their high-value artistic design and execution, nearly all of the elements of The Water Management System of Augsburg represent exemplary models. They form an inter-related inseparable technical and artistic ensemble of extraordinary value.

ICOMOS considers that criterion (iv) has been justified.

Criterion (vi): *be directly or tangibly associated with events or living traditions, with ideas, or with beliefs, with artistic and literary works of outstanding universal significance;*

This criterion is justified by the State Party on the grounds that the Water Management System of Augsburg is directly and tangibly associated with the fundamental idea and concept of separating drinking and process water as a prerequisite for sustainable and social development. Many testimonies recognize Augsburg’s leading position for water engineering over centuries, mentioned on the book *Hydraulica Augustana*, published by Caspar Walter in 1754, that became one of the early reference books for hydro-engineers. Also relevant is the collection of the so-called master builder’s books gathered from 1320 to 1789 and archived from the very beginning, traditional records incorporated into the city’s formal accounting system.

The role of the publication and circulation of Walter’s *Hydraulica Augustana* book, as well as the ancient master builder’s books kept by Augsburg municipality have been acknowledged in relation to the influence the Water Management System of Augsburg had beyond Germany and is better recognised through criterion (ii).

ICOMOS considers that the separation of drinking and process water and its relation with ideas, beliefs, artistic and literary works of outstanding universal significance has not been demonstrated.

ICOMOS considers that criterion (vi) has not been justified.

ICOMOS considers that the nominated property meets criterion (ii) and (iv), but criterion (vi) has not been demonstrated.

Integrity and authenticity

Integrity

The integrity of the nominated property is based on the functional unity and the wholeness of an integrated group of 22 mutually dependent elements, expressed in six typologies of structures that are a testimony to the city’s long and continuous management of its water system. Furthermore, numerous sightlines have been identified and mapped to avoid negative visual impacts on the proposed Outstanding Universal Value of the nominated property.

The property has evolved over time and has undergone great transformations. From the various elements – brooks, canals, mills, weirs, water towers, etc. – a system gradually evolved, with interdependent and interactive elements, under the supervision and administration of the municipality. These elements were expanded, maintained, perfected and continually updated, and can still be seen and experienced today. The many canals extend from the rivers and the catchment area, branch out widely, flowing together again in watercourses. Numerous waterworks, hydro technical structures and power plants were preserved, including recent technical installations. The interrelation of parts of the system can be observed on the 22 elements that constitute the nominated property. The integrity of the Water Management System

of Augsburg refers to an asset that in its current state is the product of a long succession of adaptations, modifications and substitutions over more than 700 years.

ICOMOS noted that the former pumping and river catchment areas, as well as elements related to the downstream wastewater retreatment facilities were not part of the nominated property, nor of the buffer zone. The State Party clarified that the former river catchment areas were barely preserved. Regarding the wastewater treatment, while Augsburg had for centuries, a very advanced and high quality drinking water supply, the waste water system did not have the same pioneer character. The Mettlochkanal might have been very advanced for its time and the strict administration rules were very clear, but in comparison, the 19th century change to more modern systems came very late to Augsburg. There is only very small physical evidence of the early digs in archaeological sites.

The important role played by the *Stadtwald*, the city forest, was considered when assessing the integrity and wholeness of the nominated property, and following ICOMOS suggestion, the State Party included the city forest in the buffer zone.

Overall, the justification for inscription of the nominated property relies on the 22 individual elements, but also on the overall management of the water system. The additional information provided by the State Party enlightens how the water management system works as a whole (considering the groundwater collected from the city forest, the canals and waterworks, the monumental fountains, and the hydraulic power systems), but also the significance of the effective technical role of each individual element in the overall system: the network of canals, the complex of watercourses, the four drinking waterworks structures, the water-cooled butcher's hall, the two water engineering structures (weir and culvert), the three monumental fountains, and the ten hydraulic power stations.

The property is of adequate size to ensure the complete representation of the features and processes, which convey the property's significance.

Authenticity

The various elements are in a good state of structural and material repair and have retained a high degree of authenticity. Given the age of the property, there has been some considerable repair and reconstruction work (modern materials have extensively replaced earlier stonework in the canals, for example), but such work itself underpins some of the changing practices and technologies of water management, and documents the evolution of the system.

The city of Augsburg suffered considerable destruction from bombing during the Second World War, but its water management system was not destroyed and remained active. The greater impact was the destruction of the Senkelbach/Riedinger power plant's roof and the

discontinuation of electricity generation. Its roof was reconstructed in 1945 and the production of electricity was reinitialized.

Most of the structures have kept their historic substance, form, use and materiality. Some of the structures saw their uses change in the 20th century, as was the case with the *Unteres Brunnenwerk* (Lower Waterworks), which ceased operation as a pumping station in 1879 and is now a restaurant.

The structure that is the most altered is the *Stadtmetzg*, which was fully renovated in 1939, to change its use from a butcher's facility to a Social Security office. While this means a partial loss of the building's historic fabric, it is still of great interest as a very rare example of a large pre-industrial meat-processing facility. The external design, the built volume and the urban relationship of the structure were kept, but the interior spaces and interior distribution were altered in 1939. A fire affected the south part of the building during the Second World War. In 2016, research revealed the original fabric from 1609 in the building's basement, resulting in an attempt to match the design intentions of the early 17th century on the exterior facade. The basement tunnel through which the water flowed to cool the butcher's workshops – now used as an archive – has been conserved, though it is no longer connected to the canals.

ICOMOS considers that the conditions of integrity and authenticity have been met.

Evaluation of the proposed justification for inscription

ICOMOS considers that the comparative analysis for Water Management System of Augsburg warrants consideration of this property for the World Heritage List.

ICOMOS considers that the nominated property meets criterion (ii) and (iv), but that criterion (vi) has not been demonstrated.

The conditions of integrity and authenticity have been demonstrated.

Attributes

The attributes of the property are presented throughout the nomination dossier when addressing the description of the nominated property and the significance of each element. In general, the attributes are comprised of a network of canals and a complex of watercourses, drinking waterworks structures (pumping stations, water towers, houses, canal bridge), water engineering structures (weir and culvert), hydraulic power stations, monumental fountains and a water-cooled butcher's hall.

The Management Plan also introduces World Heritage attributes by defining key characteristics of the water system and specific features from each of the 22 elements, in order to define the protection of the assets. Augsburg has a great number of intangible, technical and physical features, which together define its special value.

In the Management Plan, attributes were also established to define the nominated elements and to relate, in each one of the structures, specific features to associated risks. The distribution of attributes and the conditions of authenticity and especially of integrity served as a foundation for the definition of the boundaries of the nominated property.

ICOMOS considers that the identified attributes contribute to the justification for inscription.

4 Conservation measures and monitoring

Conservation measures

Conservation of such a large system has been possible only through efforts made over many generations to preserve and safeguard the key elements of the system. For instance, conservation measures were carried out at the end of the 18th and the beginning of the 19th centuries on the pillars and basins of the fountains that are a characteristic feature of Augsburg's cityscape.

Presently, the World Heritage Office in Augsburg takes care of the regular review of the general state of conservation of the nominated property. In order to take a more sustainable and effective approach to conservation, the World Heritage Office established guiding principles and objectives in line with accepted conservation practice, which were included in the Management Plan currently being implemented. The Plan also includes an approach to nature conservation and protection measures.

A pro-active conservation approach has been established, supported by key indicators to measure the state of conservation of the property, thereby contributing to a more effective conservation of the different elements. A conservation strategy was defined for each of the 22 elements, establishing an expected response to the identified damages derived from the threats that jeopardise their state of conservation.

Monitoring

All 22 elements are monitored through regular assessment of their current state of conservation. The identification of damages, repair measures, and definition of conservation strategy for each element include heritage conservation, buffer zone, design guidelines and sustainable use. Detailed information on maintenance and conservation measures are also addressed in the Management Plan. The overall long-term conservation approach is observed in both state-owned and privately owned historic properties.

With regard to the monitoring of the state of conservation of the nominated property, it is suggested to correlate the attributes/features with the affecting factors as listed in the Third cycle of Periodic reporting, with a view to facilitate the link between monitoring at the property level with the periodic reporting wider exercise.

ICOMOS considers that the conservation measures and monitoring are adequate. The monitoring system in place for the protected architectural heritage appears well thought and tested. With regard to the ad-hoc indicators set up for the monitoring of the nominated property, it is suggested to correlate them with the attributes of the property and the affecting factors, taking into account those listed in the Third Cycle Periodic Reporting.

5 Protection and management

Documentation

The nomination dossier did not provide accurate and detailed maps of the 22 individual elements that constitute the nominated property. Upon request, the State Party presented as additional information on 12 November 2018 more precise information on each element, such as individual site plans, as well as Google aerial photographs.

Legal protection

An integrated protection regime appropriate for a property with the varied attributes of the Augsburg water system is detailed in the Management Plan. The regime rests on water pollution control (European Union Water Framework Directive) to protect water purity and the ecosystems dependent on it; nature conservancy laws (European Union Habitats Directive) relevant to the flora and fauna of the natural areas; Bavarian Heritage Protection Act (*BayDschG*), since monuments in Germany come under the sovereignty of the *Länder*; and building laws (Regional Planning Act), by which the city council controls town planning and development. These are the highest forms of protection available to the nominated property and its buffer zone, according to the State Party.

All the built elements are on the list of the Bavarian Heritage Protection Agency, including the *Eiskanal* canoe course, which the Agency promptly listed in preparation for this nomination to the World Heritage List. The nominated elements and their spatial relationships that lie within the former city walls are additionally protected by the area conservation scheme known as the *Ensemble Altstadt Augsburg* (Old Town Augsburg Ensemble).

The city has also elaborated two sets of planning guidelines relevant to the application for inscription on the World Heritage List, which the city expects will help safeguard the cultural and natural assets of the nominated property, and which was implemented with the Management Plan.

The 5.00 m wide legal protection zone on both sides of the canals acts as the buffer zone for most of the nominated property. The 5.00 m width is a traditional protective measure that has been used in Augsburg for hundreds of years. The State Party was requested to explain about the protective measures in place, to control urban development in the wider setting, which could affect the property. The State Party considers the existent protective mechanisms of the building code and Heritage Protection Act sufficient to protect the nominated

property, as they are beyond the proposed buffer zone. This is the case of the Federal Regional Planning (*ROG*), the State Development Programme (*LEP*), the Bavarian Heritage Protection Act (*BayDSchG*), the Bavarian Building Regulation (*BayBO*), and the Federal Building Regulation (*BauGB*). For the State Party these regulations provide a legally based protective mechanism that is applicable beyond the 5 m buffer zone canal protection. Also, for the State Party, Augsburg World Heritage coordination office would be in a position to influence urban developments and apply legal principles to guarantee protection of the nominated property.

ICOMOS considers that further exploring on how the buffer zone relates to the broader setting and what, if anything, needs protecting in the broader setting in order to protect the watercourses and the canals in an effective way from urban development and factors that could affect the site would be needed, as well as the implementation of subsequent measures.

Heritage Impact Assessments to assess the potential impacts on the property of any new projects or major restorations located in the buffer zone and its vicinity, should be undertaken.

Management system

A Management Plan was prepared for the nominated property and adopted by Augsburg City Council. The objective of the Management Plan is to safeguard the proposed Outstanding Universal Value of the nominated property. Measures for the sensitive sustainable development of the nominated property will be balanced with the conservation of the nominated property. In this context, the Management Plan serves as a strategic instrument to define objectives with regard to conservation and sustainable development, for evaluating the need for action, for pointing out areas of synergy and conflict, for coordinating existing measures and for defining high-priority projects.

The Management Plan explains in detail the coordination and management of the nominated property, and the proposed management system to protect the proposed Outstanding Universal Value of the nominated property. There is a World Heritage coordinator who is a key facilitator between different bodies, a number of which are established to help coordinate World Heritage-related initiatives. This is the case of the Advisory Council, as well as two Steering groups, one of which will advise on major restorations and new constructions pursuant to paragraph 172 of the *Operational Guidelines*. Notwithstanding, the State Party should previously inform the World Heritage Committee of any major restorations and new constructions, as required by paragraph 172.

To coordinate the Management Plan, the City of Augsburg established a World Heritage Office, which evaluates projects and planned constructions and verifies their compatibility with the World Heritage Convention and the *Operational Guidelines*. The Office also assesses the regular review of the general state of

conservation of the nominated property.

Visitor management

An inscription on the World Heritage List would probably increase the number of visitors to Augsburg. As the nominated property extends over a considerable area, an increase in the number of visitors is not likely a problem, as they will not be concentrated in few places.

In order not to jeopardize the most fragile elements of the nominated property, some preventative measures have already been put in place to control the number of visitors. This is the case for accessing the medieval water tower in *Rotes Tor*, where only 14 persons are allowed to ascend at one time due to the fragile wooden stairways and ceilings. The Management Plan also has other measures that are being planned, such as accessing some elements only by means of guided tours.

Augsburg Tourism has an array of tourist communication merchandise about the elements in the nominated property. A World Heritage visitor and information centre is already under preparation in the city centre, which will provide information for both local citizens and visitors. Educational material is also being planned to guide visitors. A strategic signage and orientation scheme is being revised to produce a unified design and information system to ensure that people can experience the entirety of the water system and its diverse cultural elements.

Community involvement

There is a continuing community know-how related to a technical understanding of water management. A notable tradition of managing water resources for the benefit of the community can be traced back to fountain masters such as Caspar Walter and master builders such as Elias Holl, all the way to the artisans who created the Galgenablass culvert and the early canals, to the engineers that at present operate the hydraulic power plants and protect the city's natural sources, through to the designers of the canoe course and the *Maschinenfabrik-Augsburg-Nürnberg* (MAN) industrial manufacturing company. The local community has long been actively involved with the water management system of Augsburg, though its level of support for the nomination of the property is not clear in the nomination dossier.

Evaluation of the effectiveness of the protection and management of the nominated property

A fully detailed Management Plan explains in detail the current management of the nominated property. Noted are the usefulness of the comprehensive document, the balance between the experience and size of the management team, and the effectiveness of its management with related entities and the local community.

ICOMOS considers that the protective measures and building regulations currently in place for buildings and landscapes located near the 5 m canal buffer zone should be reinforced, as the canals could be vulnerable to urban development.

ICOMOS considers that the property's protection and proposed management is adequate. Further exploring on how the buffer zone relates to the broader setting and what, if anything, needs protecting in the broader setting in order to protect the watercourses and the canals in an effective way from urban development and factors that could affect the site would be needed, as well as the implementation of subsequent measures.

6 Conclusion

ICOMOS considers that the comparative analysis for Water Management System of Augsburg warrants consideration of this property for the World Heritage List. The Water Management System of Augsburg is of great importance with the canal network being mentioned for the first time in a written City Law document in 1276; and the waters for drinking and process water being separated, at least since 1545. ICOMOS considers that the nominated property meets criteria (ii) and (iv), but that criterion (vi) has not been demonstrated. The conditions of integrity and authenticity have been met.

The continue use of the water management system throughout seven centuries was demonstrated. However, it has not been established that today, the management is still being carried out in a traditional way, especially when compared to the historical management of the water.

The general protection and management of the nominated property are adequate. Reinforcement of protective measures around the canals to control urban development should be implemented.

The state of conservation is generally good, and the conservation measures and monitoring are adequate.

The main factors affecting the property are development pressures, environment pressures, natural disasters, possible rise in the number of visitors, and number of inhabitants in the buffer zone. An Heritage Impact Assessment for the project of a new tram track and a bicycle path planned near the canals should be undertaken.

With regard to monitoring, the overall approach is generally satisfactory.

7 Recommendations

Recommendations with respect to inscription

ICOMOS recommends that the Water Management System of Augsburg, Germany, be inscribed on the World Heritage List on the basis of **criteria (ii) and (iv)**.

Recommended Statement of Outstanding Universal Value

Brief synthesis

The Water Management System of Augsburg is a sustainable system of water management that evolved in successive phases through the City's application of innovative hydraulic engineering, demonstrating an exemplary use of water resources over the course of more than seven centuries.

It represents an urban water landscape that is unparalleled in terms of its surviving successive technical diversity. The system includes: the sources of both potable and process water (spring water and river water, respectively) and their network of canals and complex of watercourses that kept the two types of water in strict separation throughout the system; water towers from the 15th to 17th century that housed pumping machinery driven by water wheels and later by turbines to counter the abrupt topographical change presented by the plateau that hosts the historic city centre of Augsburg; a water-cooled butchers' hall from the early 17th century; a system of three monumental fountains of extraordinary artistic quality; Hochablass Waterworks that represents modern cutting-edge hydraulic engineering of the late-19th century; hydropower stations, and finally the hydroelectric power stations that continue to provide sustainable power.

Criterion (ii): The Water Management System of Augsburg has generated significant technological innovations, which sustained Augsburg's leading position as a pioneer in hydraulic engineering. The strict separation between drinking and process water was introduced as early as 1545, long before research into hygiene matters established as a fact that impure water was the reason for many diseases. An international exchange of ideas regarding water supply and water generation evolved which, in turn, inspired local engineers in their drive for innovations many of which were tested and implemented in Augsburg for the first time.

Criterion (iv): The Water Management System of Augsburg illustrates the use of water resources and the production of highly pure water as the basis for the continual growth of a city and its prosperity since the Middle Age. The architectural and technological monuments preserve successive socio-technical ensembles that are vivid testimony to the City's urban administration and management of water that brought pre-eminence in two key stages in human history: the water "art" of the Renaissance, and the Industrial Revolution.

Integrity

The integrity of the Water Management System of Augsburg is based on the functional unity and the wholeness of an integrated group of 22 mutually dependent elements, expressed in six typologies of structures that are a testimony to the city's long and

continuous management of its water system. The technical-architectural ensemble constituting the system is of adequate size and fully represents the features and processes, which lend the property its importance.

The integrity of the property refers to an asset that in its current state is the product of a long succession of adaptations, modifications and substitutions over more than 700 years.

Authenticity

The Water Management System of Augsburg is an exceptional preserved structures that document the development of an urban water management system since medieval times. The system function is based on the preserved ensemble of water management features such as canals, water courses, waterworks for the production of drinking water, hydro-technical structures and buildings, a triad of fountains of extraordinary artistic quality, a water-cooled meat cutting, processing and sales facility and a range of hydropower plants.

Management and protection requirements

All 22 elements of the Water Management System of Augsburg have been included in the Bavarian heritage list. They are protected by law in accordance with the Bavarian Heritage Protection Act. All the important upkeep or change measures and all construction interventions are to be coordinated with the Lower Heritage Protection Authority of the City of Augsburg and require approval in accordance with heritage protection law. Large parts of the property lie in conservation and FFH (Flora-Fauna-Habitats) areas or within the existing heritage protection areas 'Ensemble Old Town Augsburg' and 'Olympic Canoe Course'. This provides extra protection for the property, as strict regulations exist for water quality control and nature conservation in addition to building and heritage preservation. The protection, sustainable use, development and design quality of the property and its setting are also ensured by various ordinances, master plans and guidelines elaborated by the City of Augsburg. Buffer zones have been designated and mapped however protective measures in the wider setting of the property should be reinforced.

A World Heritage Office is responsible for coordinating and ensuring the preservation and proper management of the property. Among other responsibilities, it checks any projects and planned constructions against compatibility with the World Heritage standards and takes care of the regular review of the general state of conservation of the property. A Management Plan has been compiled to define the framework of the future management of the property.

Additional recommendations

ICOMOS further recommends that the State Party give consideration to the following:

- a) Further exploring on how the buffer zone relates to the broader setting of the property and identify

areas which would need to be protected, in order to reinforce the protection of watercourses and canals from urban development and factors that could affect the site, as well as implementing the subsequent measures,

- b) Undertaking Heritage Impact Assessments to assess the potential impacts on the property of any current or planned projects, including the projects for a new tram track and bicycle paths near the canals;



Revised map showing the boundaries of the nominated property (November 2018)



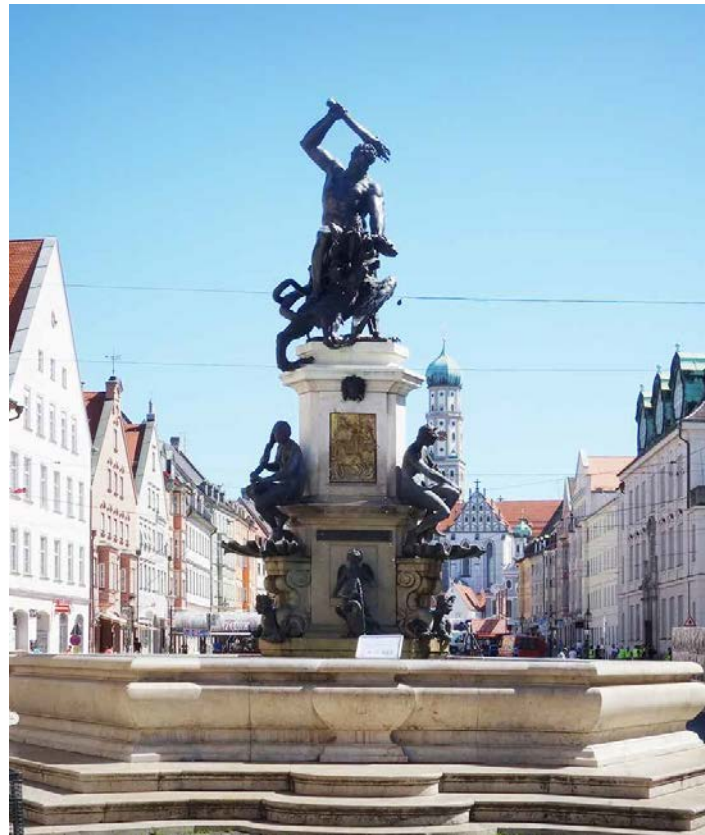
Aerial view of Hochablass Waterworks



Wolfzahan power plant



City area canal - Hinterer and Mittlerer Lech



Hercules fountain

Krzemionki (Poland) No 1599

Official name as proposed by the State Party

Krzemionki Prehistoric Striped Flint Mining Region

Location

Świętokrzyskie (Holy Cross) Voivodeship
Districts (Powiat) () of Ostrowiec Świętokrzyski and Opatów
Poland

Brief description

Located in the region of the Świętokrzyskie Mountains, Krzemionki is a set of four mining sites, dating from the Neolithic to the Bronze Age (c. 3900-1600 BCE); where striped flint was mined and processed. The nominated property covers a wide range of mining techniques on the same site, Krzemionki Opatowskie, with more than 4000 extraction structures. Among the known extraction systems, the chamber type is the most representative in terms of its dimensions and its highly systematic extraction organisation. The mining landscape of Borownia and Koryczna may contain intact extraction systems. The settlement site of Gawroniec has furnished a very substantial set of flint artefacts bearing witness to axe-making activities. The polished axes produced, and the scale of their distribution, are emblematic of the Neolithic period.

Category of property

In terms of categories of cultural property set out in Article I of the 1972 World Heritage Convention, this is a serial property comprising four *sites*.

1 Basic data

Included in the Tentative List

12 January 2016

Background

This is a new nomination.

Consultations and Technical Evaluation Mission

Desk reviews have been provided by ICOMOS International Scientific Committees, members and independent experts.

An ICOMOS technical evaluation mission visited the property from 24 to 28 September 2018.

Additional information received by ICOMOS

A letter was sent to the State Party on 17 October 2018 requesting further information about documentation, research, the justification for the serial approach, the

factors affecting the property, protection, management, and visitor facilities and infrastructure.

An Interim Report was provided to the State Party in December 2018, summarising the issues identified by the ICOMOS World Heritage Panel. Further information was requested in the Interim Report, concerning matters including integrity, buffer zones, protection, the management plan, research, the cultural park, and visitor facilities and infrastructures.

Additional information was received from the State Party on 28 February 2019 and has been incorporated into the relevant sections of this evaluation report.

Date of ICOMOS approval of this report

13 March 2019

2 The property

Note: The nomination dossier and additional information contain detailed descriptions of this property, its history and its state of conservation. Due to limitations on the length of evaluation reports, this report only provides a short summary of the most relevant aspects.

Description and history

The nominated property, located in the Mountains of the Holy Cross (Świętokrzyskie in Polish), in central Poland, is a set of four prehistoric and protohistoric mining sites dating from the Neolithic and the Bronze Age (c. 3900-1600 BCE), comprising three striped flint extraction sites (Krzemionki Opatowskie, Borownia and Koryczna), and one settlement site connected to the mining activity (Gawroniec).

The three mining sites worked the same raw material, a bluish-grey striped flint of the same geological level: upper Jurassic limestone. This geological level forms a narrow linear outcrop about 11 km long. The general dip of the layers explains the variety of extraction systems, the deepest of which reach 9 metres. This is also what gives the mining zone its unusual form: a highly dissymmetrical U shape, with non-continuous workings on the longer side. The three mining sites are located at the two ends and in the central part of the zone. The settlement site a few kilometres south of the mining zone has been excavated only very partially, but has provided archaeological artefacts supporting the interpretation that it was the village of the miners and knappers.

Krzemionki Opatowskie is the largest of the four components selected, in terms of extraction and export volume, and is also the best documented in scientific terms, with 4000 shafts recorded over an area of 78 ha. The other two mining sites, Borownia (3.7 ha) and Koryczna (1.7 ha), are far more modest in scale. The three mining sites selected have a surface post-mining landscape consisting of a hummocky surface of shaft hollows ringed by mining waste tips. They have largely retained their original appearance since the end of mining, i.e. since the late

Neolithic period and the early Bronze Age, thanks to the wooded environment.

Extraction systems have up to now only been found at Krzemionki Opatowskie, where excavations have been regularly undertaken from 1923 to the present day. Five extraction systems on this site have been studied and described: shallow pits up to 2 metres deep (opencast pits); underground niche-gallery mines; shafts and gallery(ies); underground pillar-chamber mines, with chambers supported by rock pillars; and underground chamber mines (large chambers). The chamber mining system is particularly outstanding in terms of its dimensions and the extremely systematic organisation of the mining activity. Some of the mining chambers are as large as 400-500 square metres. The various mines have been dated to 3900-1600 BCE. Most of them however, and particularly the chamber mines, were dug out between 2900 BCE and 2500 BCE, at the time of the Globular Amphora culture.

The nature of the geological substrate, a very hard limestone, explains the stability of the surrounding rock mass, which enabled the extensive horizontal development of galleries, and thus exhaustive mining of the flint beds during the Neolithic period, and also the conservation of these underground workplaces. The organisation of the extraction activity (passageways, advancement of the working face, mining waste management) and the technical solutions adopted during working (starting of small fires for lighting and air circulation, placing of timber props, extraction tools), are documented. Charcoal graffiti on the walls of the galleries have been recorded, and are interpreted as being connected to symbolic practices.

Although the Borownia and Korycizna sites have not yet been subjected to thorough excavations, the mining landscape may contain other intact mining systems comparable with those at Krzemionki Opatowskie. Excavations at Borownia in 2017 confirmed the existence of pits and flint workshops.

Striped flint was used mainly to make axes. The manufacturing chain was located partly or entirely on the extraction site. At the time of the Funnel Beaker culture (3900-3000 BCE), part of the axe production chain was located some distance away from the extraction site. The settlement site of Gawroniec, respectively 9 km from the Krzemionki mines, 5.5 km from Borownia and 5 km from Korycizna, is the source of a very rich set of flint artefacts bearing witness to this fact. It shows that the community established at Gawroniec is directly involved in the working of the striped flint mining sites and in the production of the flint tools.

The striped flint was distributed in the form of axes over distances that varied according to the period: 330 km in the Funnel Beaker culture period (3900-3000 BCE), 660 km at the time of the Globular Amphora culture (3000-2400 BCE) and 85km in the Mierzanowice culture (2200-1600 BCE).

The early discovery of Krzemionki Opatowskie in 1922 enabled rapid identification of the nature of the site, and led to the delineation of the Krzemionki mining zone in 1929. From 1928 to 1932, some 24 hectares of the Krzemionki Opatowskie mining field were purchased, thus forming the precursor of the archaeological reserve. In 1945, the mining site was given official historic monument status, and the reserve was officially created. The lack of crop-growing on the soil, and above all the absence of deep subsoiling (a practice increasingly common after World War Two, with the development of mechanisation), prevented the levelling of the surfaces, and the increase in vegetation effectively fossilised the archaeological structures just as they had been when abandoned more than 5000 years earlier. In 1985 the first underground tourist circuit was opened, in 1995 the site was granted nature reserve status, and in 2012 a new interpretation centre was built on the site. The other two mining sites (Borownia and Korycizna) have not been thoroughly investigated, unlike Krzemionki, apart from an initial excavation at Borownia in 2017. The Gawroniec settlement site was partially excavated from 1947 to 1961.

Boundaries

The area of the four components totals 349.2 ha, with buffer zones totaling 1828.7 ha.

The State Party stresses that the nominated zone of Krzemionki Opatowskie comprises the whole of the mining field and the associated structures. The boundaries coincide largely with the zone inscribed on the Register of Monuments, except in the north-northwest, where the boundary line has been modified to exclude from the nominated property both the museum and the immediately surrounding area. The State Party indicates that half of the museum and surrounding area was included in the zone inscribed in the Register of Monuments and half was excluded. In the south, the former limestone quarry has also been excluded from the nominated property, as the quarry does not contribute to the potential Outstanding Universal Value, although it lies partly inside the zone inscribed in the Register of Monuments.

A buffer zone has been delineated for each of the four components forming the nominated property. The State Party indicates however that the buffer zone has no legal basis at national or regional level. Nevertheless, the State Party stresses that the buffer zones provide additional protection in the form of increased surveillance by the local authorities for any development that might be planned there. The delineations of the buffer zones are set out in the local development plans at local and regional level.

In its Interim Report, ICOMOS asked for more information about the justification of the buffer zone boundaries, and asked if the creation of a single buffer zone for all the components of the nominated serial property and the nearby flint zones could be, or has been, considered by the State Party.

In the additional information provided in February 2019, the State Party indicates that the creation of a single buffer zone has also been examined. The State Party chose to

prefer an individual buffer zone for each component because of the clearly defined spatial relationships, and the possibility of including its buffer zones in communes that already have local land development plans.

ICOMOS considers that the local land development plans must clearly establish how they will guarantee that the buffer zones provide an additional protection level for the nominated property, as indicated in the *Operational Guidelines for the Implementation of the World Heritage Convention* (103-107).

ICOMOS also considers that the Kamienna River cultural park will strengthen the protection level of the buffer zones.

State of conservation

Archaeological excavations took place at the mining site of Krzemionki Opatowskie in the 1920s and 1930s, and then resumed in the 1950s and have continued up to the present day. The mines, backfilled after working, have been preserved intact up to today. Of the 4000 mines, only about one hundred have been destroyed by the modern-day limestone quarries. The archaeological excavations opened up some of the mines, in the “pillar-chamber” mines and “chamber” mines sector. Underground alterations were carried out to make the mines safe and enable them to be visited (underground routes). Conservation measures were carried out on the mines with large chambers and on the “pillar-chamber” mines, at the visitor access level: roof support, door frames and steel pillars, and rock consolidation. Excavated prehistoric pits have also been modified to enable access for researchers and visitors, or for use as emergency accesses, for example by placing concrete domes over the shafts (shafts 1, 2 and 3).

The archaeological research at Borownia, in 2017, uncovered two shafts. The geophysical studies suggest the existence of underground structures that have not been excavated, as at Koryczna.

The three mining sites selected have a “post-mining landscape” on the surface, consisting of shaft hollows ringed by mining waste tips. Despite some alterations, they have partly retained their original appearance thanks to their environment.

The excavations conducted from 1947 to 1961 examined 0.5 ha out of the 8 ha of the whole site of Gawroniec, and uncovered 328 pits, which are today backfilled. ICOMOS notes however that deep ploughing and soil erosion in sloping areas may result in the destruction of archaeological remains.

Based on the information provided by the State Party and the observations of the ICOMOS technical evaluation mission, ICOMOS considers that the state of conservation is satisfactory.

Factors affecting the property

Based on the information provided by the State Party and the observations of the ICOMOS technical evaluation mission, ICOMOS considers that the main factors

affecting the property are development, with limestone quarries and urban development pressure in the buffer zone of Krzemionki Opatowskie. The State Party stresses that extraction has been discontinued at the quarry in the immediate vicinity of Krzemionki Opatowskie, and that the quarry has been rehabilitated as a protected nature zone. It is stated that, in accordance with the management measures, new quarries are no longer authorised inside the property.

ICOMOS notes that there are parcels of land that could be built on in the villages of Magonie and Sudół close to the property, which could have a negative impact on the view, both towards and from the property. The State Party stresses that the local authorities limit the extent of construction zones and restrict the height of the buildings inside them, and that only single-family houses are accepted.

The environmental constraints at Krzemionki Opatowskie comprise the uprooting of trees, which removes part of the original ground surface, flood and run-off water in the mines, problems of mine stability, and periodic high levels of dampness in the mines. ICOMOS considers that, while the forest is a positive conservation factor for sites on the surface and mines underground, falling trees can affect remains on the surface (flint workshops, potholes, etc.). ICOMOS notes that falling trees are not mentioned as a factor that could affect the property, and considers that long-term monitoring of this factor is advisable.

Constraints arising from the presence of visitors and tourism mainly relate to Krzemionki Opatowskie, the only site that is currently open to the public. The State Party has identified the following factors: the development of infrastructure and paths for tourists, the deterioration of the prehistoric mining landscape, the reduction of water resources, an increase in waste, air pollution linked to means of transport, and the increase in noise pollution. The State Party stresses however that all these factors will be monitored as part of the management plan. ICOMOS notes however that the creation of a new underground route, referred to as a solution for tourism development, could potentially result in damage to the component.

The factors affecting the property in the nominated zone at Borownia are illegal excavations and the dumping of garbage. As at Krzemionki Opatowskie, agricultural activities, the forest management mode and the uprooting of trees can also be identified as factors. The State Party stresses that measures have been taken to limit the risk of illegal excavations to extract striped flint, and to prevent unauthorised garbage tips. The Technical Evaluation Mission has indicated that there have been no recent excavations, and that no unauthorised garbage tips were observed. ICOMOS also stresses that, as agriculture causes the levelling of structures, deep ploughing could result in a loss of data.

As for Korycizna, the State Party mentions the presence of a quarry in the east of the buffer zone. In the additional information, it is stated that limestone is extracted on a small scale for the production of quicklime and fertiliser. The working quarry, with an area of 11.5 ha, is separated from the nominated property zone by two parcels of land outside the property of the quarry operator, and by the local road. The State Party also notes that another limestone quarry was operating until recently near this component of the property, but that this activity has now been abandoned.

ICOMOS considers that this working quarry has a negative impact on the integrity of the property. The quarry exploitation permit is not set to expire until 2028, which means there is a risk of an increasing negative impact over the coming decade. To ensure the protection of the property, ICOMOS recommends that the State Party should take appropriate measures immediately to attenuate the impact of the quarry.

The factors affecting Gawroniec are agricultural, and are linked to deep ploughing and soil erosion in sloping areas. Both these factors can result in the destruction of archaeological remains. In the buffer zone, the risk identified consists of the urban development of Cmielów, north of the site. The State Party stresses that it is unlikely that the buildings will have a negative visual impact, as the site is on a promontory, but says this will be covered under a specific section in the management plan.

ICOMOS considers that, although most of the factors that could affect the property have been identified, some should be thoroughly evaluated, such as the erosion due to crop-growing in sloping areas at Gawroniec.

In the additional information provided in February 2019, the State Party stresses that activities leading to the abandonment of intensive arable farming have already been introduced at Gawroniec. In view of its inscription on the Register of Monuments, the owners of the parcels will receive conservation directives about how farming activities should be conducted in the zone (depth of ploughing, prohibition of the planting of trees, replacement of arable fields by prairies). It is also planned that the State Treasury will buy land and change its management mode.

ICOMOS stresses that the inscription of Gawroniec on the Register of Monuments must be confirmed to ensure the effective protection of this component of the serial property.

3 Proposed justification for inscription

Proposed justification

The nominated property is considered by the State Party to be of Outstanding Universal Value as a cultural property for the following reasons:

- The nominated property presents the widest range of types of prehistoric mines, bearing witness to the most advanced techniques, skills, tools, methods and

processes of underground extraction of Neolithic flint known anywhere in the world.

- The same raw material, striped flint, has been exploited from the same limestone outcrop, known as the only source of striped flint extracted in prehistoric times.
- The industrial landscape on the surface bears witness to the extraction of flint in the Neolithic period, and illustrates the whole system for working flint: pits, knapping workshops, temporary camps and permanent settlements.
- The period of activity of the prehistoric Krzemionki striped flint mining region is the longest known worldwide, spanning three cultures: the Funnel Beaker culture, the Globular Amphora culture and the Mierzanowice culture.
- The nominated property bears witness to the organisation and planning capabilities of a deposit management system through the layout of the mine shafts, galleries, chambers and waste (on the surface and underground) at the mining site of Krzemionki Opatowskie.
- The striped flint was distributed, in the form of axes, over a radius of more than 650 km, acting as a marker for the study of flint trade networks in the Neolithic period and the early Bronze Age.
- The nominated property includes the widest range of prehistoric extraction tools ever found in a mine.
- The prehistoric mining sites include a distinctive set of paleo-environmental bio-indicators (fauna and flora).

Comparative analysis

The comparative analysis is presented in four parts: an external comparison with relevant World Heritage Sites; an external comparison with Relevant Tentative List Sites; an external comparison with global sites that are comparable on the basis of the proposed Outstanding Universal Value and attributes; and an internal comparison with properties in Poland.

The State Party stresses that the Neolithic flint mines at Spiennes (Mons) (Belgium, 2000, (i), (iii), (iv)), the only flint mines inscribed on the World Heritage List, are of a similar size but are very different in terms of technology (the shafts are narrow and deep, with galleries that are limited in length and in some cases have pillars), type of flint, and socio-technical system.

Comparisons are made with prehistoric flint mining sites in Europe. The State Party stresses that the other important mines in this analysis, in particular Grime's Graves and Cissbury (UK) and Rijckholt-St Geertruid (Netherlands), are mining sites of lesser surface area; furthermore, they worked a type of flint that is very different in colour, and is difficult to use as a marker to study flint trading networks. The State Party indicates that these sites do not present a wide variety of extraction techniques, as they are limited to shafts and galleries, and have no large chambers of the type found at Krzemionki.

In Poland, more than twenty prehistoric flint working sites are known. All the sites except for Krzemionki, Borownia and Korycizna have been excluded, mainly because of their small dimensions and because surface remains have been degraded by limestone quarrying in the past, ploughing and intensive forest exploitation.

ICOMOS considers that the nominated property and the mining site of Spiennes have several points in common, such as the complexity of the extraction structures, high quality materials, distribution of the finished products over long distances, and mines that were worked over a long period of time. ICOMOS notes however that the conservation of the surface structures at Krzemionki has no equivalent at Spiennes, where the land has since been used for crop-growing. Another difference lies in the morphology of the extraction structures. The structures are deeper at Spiennes (up to 15.5 metres), as the geological substrate does not have a comparable level of hardness allowing chambers to be extended over equivalent surface areas, and require on the other hand the conservation of pillars to ensure the stability of gallery roofs. ICOMOS notes that these techniques are known to exist only at Krzemionki. Other differences between the two properties include the very large surface area of the sites at Spiennes (more than 100 ha), the greater number of shafts (estimated at between 25,000 and 30,000), and the earlier date of the beginning of mining (c. 4300 BCE).

If a comparison is made with other mining systems, either for flint (Grime's Grave in the UK, Rijkholt in the Netherlands, Le Grand Pressigny and Jablines in France, Defensola in Italy) or for other raw materials (variscite at Can Tintorer in Spain, pigments and then iron ore at Ngwenya in Swaziland), ICOMOS considers that none of these sites matches the region of Krzemionki in terms of quality of conservation and diversity of mining system remains. On these sites, while extraction is clearly characterised, the production zones have often been damaged by erosion, the diversity of extraction structures is lower, and the cultural contexts remain uncertain.

ICOMOS also notes, that, unlike in most other mines in which the materials are often macroscopically little different from those from comparable geological horizons, the flint at Krzemionki is easily identifiable, which means its distribution can be retraced with a high degree of precision.

ICOMOS considers that the nominated serial property constitutes an outstanding ensemble, as the sites offer the possibility of reconstituting the organisation of the specialised and also the domestic activities that took place in the vicinity of the extraction pits. Such information is in most cases inaccessible today.

ICOMOS considers that the comparative analysis justifies consideration of this property for the World Heritage List.

Criteria under which inscription is proposed

The property is nominated on the basis of cultural criteria (i), (iii) and (iv).

Criterion (i): represent a masterpiece of human creative genius;

This criterion is justified by the State Party on the grounds that the Krzemionki Prehistoric Striped Flint Mining Region is an outstanding example of creative ability, providing clear testimony to early human inventiveness, mining techniques and organisation. The network of mine shafts, galleries, and chambers excavated in hard limestone illustrates the greatest range of prehistoric mining techniques evidenced in a single site.

ICOMOS considers that the property includes a comprehensive range of techniques with types of extraction that are specific to the property.

ICOMOS considers however that the justification of criterion (i), as presented by the State Party, would be more applicable to criterion (iv). The diversity of extraction techniques would strengthen the justification of the latter criterion.

ICOMOS considers that criterion (i) has not been justified.

Criterion (iii): bear a unique or at least exceptional testimony to a cultural tradition or to a civilisation which is living or which has disappeared;

This criterion is justified by the State Party on the grounds that the Krzemionki Prehistoric Striped Flint Mining Region is illustrative of the living and working patterns of settled prehistoric communities, and bears witness to a distinctive cultural tradition that has disappeared. The distribution of striped-flint axes has been identified in a radius of over 650 kilometres, which represents the greatest recorded range for prehistoric flint axes as significant indicators of prehistoric movement.

ICOMOS considers that the nominated property bears witness to the economic and social organisation linked to a specialised activity, the extraction of flint and its use for the production of polished axes. The Krzemionki region contains remains that originated in the miners' and knappers' camps, and bears witness to a specialised settlement whose location is linked to the working, processing and distribution of mining products. The remains enable the documentation of some major aspects of production organisation, the knapping techniques used, the levels of expertise used, and their transmission.

ICOMOS considers that the polished axes produced and their scale of distribution, are emblematic of the Neolithic period, including the period's symbolic and ritual aspects, depending on the context. ICOMOS notes that today there is no comparable distribution of flint axe blades at a European level. Distribution over longer distances (more than a thousand kilometres) has however been attested in the Neolithic period, but for hard rocks such as jadeites.

ICOMOS considers that criterion (iii) is justified.

Criterion (iv): *be an outstanding example of a type of building, architectural or technological ensemble or landscape which illustrates (a) significant stage(s) in human history;*

This criterion is justified by the State Party on the grounds that the Krzemionki Prehistoric Striped Flint Mining Region provides exceptional evidence that the prehistoric period, with flint mining to produce tools, was a watershed period in the history of humankind. Various prehistoric underground mining structures are present in the nominated property, and knapping workshops for the flint extracted from the mines have been conserved intact among more than 4000 shafts and pits.

ICOMOS considers that the property is representative of Neolithic societies and their adaptation to the natural environment. The flint mines bear witness both to a complex technical and social system and to a human adaptation to the conditions of natural resource exploitation that is a landmark in the history of mining.

ICOMOS stresses that all the elements relating to the extraction and processing of striped flint are included in the nominated property. The preservation of the surface remains, thanks to the conservation of the Neolithic mining landscape (flint knapping workshops, shelters, passageways, etc.), enables an understanding of the exploitation and knapping processes. These techniques are moreover linked to the conditions of the deposit, particularly in the hard limestone, enabling the hollowing out of very large underground chambers that are the largest known for the prehistoric exploitation of flint. These techniques are only known to have existed at Krzemionki.

ICOMOS considers that criterion (iv) has been justified.

ICOMOS considers that the nominated property meets criteria (iii) and (iv), but that criterion (i) has not been demonstrated.

Integrity and authenticity

Integrity

The State Party points out that the archaeological investigations at Krzemionki Opatowskie have enabled the determination of the extent of the property, with some 4000 extraction flint extraction pits and shafts in the zone, and provided information about the state of the property's conservation.

The State Party indicates that the property is constantly monitored by museum staff and by nature reserve employees. In the 1920s, measures were taken to restore the integrity of the site. The vegetation clearings on the site were ended in 1945, enabling the natural and gradual recolonisation of the site by tree species. Measures were introduced to ensure that the village of Krzemionki, located

inside the protected zone, was abandoned by its inhabitants.

The State Party also indicates that several measures are currently being taken to support the integrity of the site on the surface, and to ensure its conservation and readability. The new museum and its car park have been established outside the protected site, while the old infrastructure inside the protected zone (car park, museum and storage depot) is shortly to be dismantled to restore the integrity of the site.

The State Party stresses that the inclusion of the levelled zone in the proposed boundary for Borownia enables the inclusion of all the underground mining systems identified by geophysical studies. The State Party indicates that the sector in the north-west of the site where traces of temporary human settlement have been found, potentially linked to mining, has been included inside the boundary.

As for Koryczna, the State Party indicates that the mining landscape has been preserved under forest cover, and that the presence of underground mines has been evidenced by geophysical studies. ICOMOS points out that the site has been damaged because striped flint is a highly desirable material, but that the extent of this damage is hard to estimate. ICOMOS also considers that the working quarry has a negative impact on the integrity of this component of the serial property, and that appropriate measures need to be taken immediately to ensure its protection.

The State Party points out that the nominated zone for Gawroniec includes the whole of the hill on which the settlement stood. The State Party indicates that Gawroniec Hill has not been built on, despite its proximity to the town of Ćmielów. The site lies beneath cultivated fields at the summit and on the edge of the slopes, and under grassland and woods in the sloping areas. The classification procedure currently under way should strengthen protection of the site by encouraging farming practices that limit soil erosion. ICOMOS underlines that deep ploughing and soil erosion in the sloping zones would lead to the destruction of archaeological remains and adversely affect the integrity of this component part, if crop growing were to continue there.

ICOMOS considers that the selection of the components of the serial property is justified. ICOMOS notes however that some 495 sites linked to striped flint exploitation have been documented in the middle valley of the Kamienna River, whose protection is ensured by the creation of a cultural park.

ICOMOS stresses that the buffer zones and cultural park must be effective, in order to ensure the protection of the nominated property.

ICOMOS considers that the conditions of integrity of the nominated serial property have not been met at this stage.

Authenticity

According to the State Party, the property meets the condition of authenticity, with regard to situation and setting, form and conception, materials and substance, use and function.

The archaeological structures have largely retained their original form and conception, which enable an understanding of the life of the societies that occupied the serial property. ICOMOS also considers that the results of archaeological research and excavations since the early 20th century, in the case of Krzemionki Opatowskie, bear witness to the property's authenticity.

However, ICOMOS considers that the works undertaken to make the mines safe and to enable visits at Krzemionki Opatowskie are likely to more or less strongly impact the property's authenticity, particularly the creation of a new underground route mentioned as a solution to the increase in tourism.

The geophysical studies suggest that underground mining systems may potentially exist at Borownia and Koryczna. Underground, the mining systems that were backfilled when mining ended have remained intact. ICOMOS notes however that – while the surface post-mining landscape at Borownia has been conserved under wood cover – part of the original surface has disappeared, with the use of the land for crop-growing and the construction of a road connecting the north-eastern and central parts of Ćmielów. ICOMOS also stresses that the Koryczna site, which is relatively isolated, has undergone superficial illegal excavations up to 2011, which destroyed some workshops and waste tips on the surface.

The excavations at the Gawroniec site have shown the richness of discoveries and the good conservation of the site since the Funnel Beaker culture period (3600-3200 BCE), and bear witness to the authenticity of the site.

ICOMOS considers that the requirements of authenticity have been met, but that the conditions of integrity have not been met at this stage.

Evaluation of the proposed justification for inscription

ICOMOS considers that the comparative analysis justifies consideration of this property for the World Heritage List.

The nominated property provides readability of the whole striped flint extraction and knapping process from the Neolithic period to the early Bronze Age in the mountains of Świętokrzyskie, and constitutes one of the most comprehensive prehistoric underground flint extraction and processing systems recorded to date.

The property presents a wide range of techniques on the single site of Krzemionki Opatowskie. It also bears witness to a degree of craft specialisation, both in flint extraction and processing. The polished axes produced, and their scale of distribution, are emblematic of the Neolithic period.

The nominated property bears witness to the diversity, originality and technical sophistication of extraction methods in the Neolithic period and the early Bronze Age (with the chamber mining techniques).

It meets criteria (iii) and (iv). The conditions of integrity have not been met, and authenticity have been met.

Attributes/features

The attributes that confer Outstanding Universal Value on the property are the quality of the flint and its products, and the diversity of the extraction structures and techniques employed. The prehistoric post-mining landscapes conserved cover thousands of underground mines over an area of some 1828.7 ha, which corresponds to the area of the buffer zones. The raw material extraction and transformation zones, the settlement and the miners' camps also enable the reconstitution of a territory that was economically specialised in all these component parts. This mining tradition also takes on, in addition to its utilitarian function, a symbolic and political function, in which control of flint production and distribution is of central importance.

ICOMOS considers that the nominated property meets the conditions of authenticity but not the conditions of integrity at this stage, and meets criteria (iii) and (iv).

4 Conservation measures and monitoring

Conservation measures

The State Party indicates that the regular inspection, maintenance and small-scale conservation of the underground chambers of Krzemionki Opatowskie are carried out by the staff of the Krzemionki Archaeological Museum on a continuous basis. For the conservation of the mines, Museum staff are advised by engineers from the Faculty of Mining and Geoengineering of the Kraków University of Science and Technology (AGH).

As the surface of the site is a nature reserve, conservation is jointly carried out by the nature reserves authorities and by the Museum staff. Collaborative projects have been set up in conjunction with the Universities of Kielce and Łódź.

Consolidations and maintenance are carried out regularly at Krzemionki Opatowskie. Krzemionki Archaeological Museum receives the necessary funding for conservation and maintenance. On the other three sites, the maintenance activities (Borownia, Koryczna and Gawroniec) are also coordinated by Krzemionki Archaeological Museum, with the help of the local authorities and also of associations, as at Gawroniec where the local history association participates in the maintenance of the site.

The State Party points out that archaeological research is continuing sporadically today, but that new means of investigation are now used, including geophysical studies.

The main conservation activities planned for 2017-2019 will be carried out as part of the project entitled "Increase of the availability of the Historical and Archaeological Museum in Ostrowiec Świętokrzyski by improving the infrastructure of the Archaeological Museum and Krzemionki Reserve and the Wielopolski Palace." Several sets of works are planned on the underground routes, including the replacement of the power supply and the lighting in the underground tourist access level; equalisation, reduction and levelling of the bottom of the visitor gallery; the replacement of the wire meshes securing waste management features and mine workings protection covers; conversion and reconstruction of the pavilions; conversion and reconstruction of shafts and installation of lifts for disabled persons; the replacement of the viewing platform over the Neolithic exploitation field between the pavilions; the replacement of the House of Archaeologists; the demolition of the former Museum buildings; the improvement of safety conditions; visual monitoring of the exploitation field; and the preparation of a new exhibition in the pavilions.

In the additional information, the State Party notes that these activities are solely intended to improve the system for the protection of the property itself and to increase safety for tourists. This is why no heritage impact study has been carried out. According to Polish law, any intervention on an officially recognised monument requires the agreement of the voivodship Conservator of Monuments. For the works referred to, Krzemionki Museum obtained the consent required.

ICOMOS considers it necessary for the State Party to provide guarantees about the long-term funding of the archaeological research programme, and about the adequacy of the research objectives of the programme in view of the conservation plan.

The additional information stresses that the preparation of a programme of this kind is one of the first scheduled tasks in the revised management plan, and that the programme will be linked to the conservation plan. Its execution will depend on the financial capacities of Krzemionki Archaeological Museum, and the possibility of obtaining external funding. The State Party indicates that, with this aim in mind, it has decided to take actions intended to change the status of the Museum and to ensure coordination and co-funding by the regional and central authorities.

Monitoring

The State Party indicates that Krzemionki Opatowskie is permanently monitored by qualified staff from the Krzemionki Archaeological Museum. The State Party states that, when the management plan is finalised in 2018, indicators will be used to assess the state of conservation, the factors affecting it, and the effect of conservation measures, including the management plan.

The additional information provided in February 2019 refers to a programme for monitoring the state of conservation of the property that is integrated with the management plan,

with 22 specific indicators corresponding to the attributes, data collection methods and periodicity.

ICOMOS considers that guarantees must be given about the long-term funding of the archaeological programme, and that this programme must be adequate in view of the conservation plan.

5 Protection and management

Documentation

Krzemionki Opatowskie has been the subject of a great deal of research from 1923 to the present day. It has been described and documented in detail. The first comprehensive plan of the mining field of Krzemionki Opatowskie was drawn up in 1947-1948. On the plan, each depression corresponding to a mine working was recorded and numbered. In 1995, the Warsaw Museum team, referring to the results of the excavations and the geological data, produced a relief model indicating the mining system type and its location. The whole mining field, including the levelled zone, is included in this model. The plan, revised and digitalised in 2015, is used as a work of reference to guide research and document the conservation of the site. In 2017, a 3D scan of the whole tourist route and of mine shaft 4/606 was carried out, visualising the conservation of these workings.

Borownia and Korycizna underwent a detailed survey in 2011 by 3D laser scanning, and the same applies to the ring of striped flint outcrops on the Magoń-Folwarczysko syncline. Other geophysical studies have been conducted, including ground-penetrating radar profiles, which have revealed the presence of underground workings. The excavations at Borownia in 2017 led to radiocarbon datings and confirmed the presence of pits. At Korycizna, there has been no excavation, and the site dating is based on artefacts collected on the surface.

At Gawroniec, an area of 4600 square metres, or 1/16th of the whole site, has been archaeologically investigated. The excavations have been documented.

ICOMOS notes that at the moment no archaeological research is taking place. The last excavations carried out were those at Borownia in 2017. The State Party indicates that the excavations planned for 2018 at Korycizna did not take place because of a lack of funding, but that they will be carried out in 2019. The additional information mentions a research programme based on non-invasive methods, which will be devised by the end of 2019 and integrated in the management plan.

Legal protection

Krzemionki Opatowskie is inscribed on the Register of Monuments, and part of this component has National Memorial of History status. The State Party indicate that this is the part of the mining field containing the most elaborate extraction modes ("chamber-pillar" and "chamber"). The State Party stresses however that being

listed as a National Memorial of History offers no additional protection, but is merely a recognition of prestige. Obtaining this status is moreover necessary for the site to be nominated for the World Heritage List.

The State Party indicates that almost the whole of the property also benefits from protection at national and European level as a Natura 2000 site. Only a very small part of the mining field in the south-east is excluded from this protection.

At regional and local level, the property is also covered by additional cultural and national protection as a monument, a nature reserve and an Area of Protected Landscape of the Kamienna River Valley. The same protection mechanisms also apply to half of the buffer zone.

Almost the whole of the nominated zone of Borownia is inscribed on the Register of Monuments. The western part of the component is also protected as a Natura 2000 site. The mining site of Koryczna is also inscribed on the Register of Monuments.

The additional information provided in February 2019 states that the procedure of inscribing Gawroniec on the Register of Monuments ended with an administrative decision that was handed down on 27 February 2019. The decision will come into force after validation.

ICOMOS considers that the inscription of Gawroniec on the Register of Monuments and its implementation must be confirmed in order to guarantee adequate protection for this component of the serial property.

Management system

The actual management of the nominated property is carried out by the Krzemionki Archaeological Museum and Reserve, a branch of the Ostrowiec history and archaeology museum. Protection measures were introduced in 1929. In view of the world heritage list nomination, Krzemionki Museum has extended its management to include all the component parts of the nominated property.

The State Party indicates that the property management plan is currently being drawn up. The plan is being coordinated by the Krzemionki Archaeological Museum and prepared with the help of the bodies in charge of heritage protection and the regional and local authorities.

In the additional information provided in February 2019, the State Party has included a revised management plan in Polish, and a summary of the plan in English. The State Party indicates that this is a draft document, to be used as the basis for the continuation of works. The works will begin immediately after the decision of the World Heritage Committee, if the property is inscribed on the World Heritage List. The plan includes, among other things, the basic elements of the tourism strategy for the nominated property zone, and an analysis and evaluation of risks, with a proposal for the monitoring of factors affecting the

property. Detailed action plans for various aspects of management will be devised at a later stage.

ICOMOS considers that confirmation of the operational implementation of the management plan is necessary in order to ensure effective protection of the property.

As the entity in charge of the property's management, 'Krzemionki' Archaeological Museum and Reserve, has a team of 25 employees, including a director, a curator specialising in the study of prehistoric mining sites, and two archaeologists assigned to site conservation and archaeological research.

Inspections and small conservation and maintenance tasks are carried out by the museum staff. Work of this type is regularly scheduled, and a budget is provided for this purpose.

The State Party indicates that, in addition to the inscription of Gawroniec on the Register of Monuments, appropriate control mechanisms will be included in the management plan to increase the protection of the property. The creation of a cultural park encompassing the 495 sites documented in the Middle Valley of Kamienna River is under development. The objective is to set up a protection system for all sites linked to striped flint exploitation. The State Party stresses that this project is being developed in a long-term perspective, and requires the involvement of the local communities, by the adoption of the project and its integration in local development plans.

In the additional information provided in February 2019, the State Party stresses that Polish legislation does not provide for any form of protection that is specifically dedicated to the protection of World Heritage. The management plan for the nominated property takes the form of a multi-lateral agreement, and its execution depends on the collaboration and coordination of all stakeholders. The creation of a cultural park will include the preparation of a local spatial development plan and a management plan, which will enable planned and coordinated execution of the tasks. The State Party stresses that a cultural park is the most appropriate way of protecting the nominated property zone, in a wider geographic context. Without being able to indicate a detailed schedule at this stage, the State Party notes that the draft master plan states that the cultural park should be created in 2020-2025.

In this context, ICOMOS recommends that the process of creating the cultural park, which is one of the objectives of the master plan, should begin immediately.

Visitor management

The State Party stresses that the Krzemionki site is currently visited by 30,000-40,000 persons annually, mainly consisting of school parties for educational purposes. The State Party believes it is possible to increase visitor numbers, taking advantage of periods during which maximum visitor capacity is not attained.

The investments granted by the regional authorities (approx. 460,000 euros) include, in addition to the adaptation of the tourist route to cater for reduced mobility visitors, the upgrading of Krzemionki Museum and of the two pavilions at the surface on the tourist route.

In the additional information, the State Party stresses that, at the Gawroniec site, only panels indicating the heritage status of the site and of the rest areas will be installed. For Borownia, a parking area is to be provided for cars and buses, and rest areas, together with the installation of information panels. For Korycizna, the least accessible site, the State Party mentions the construction of a tourist route, with signage, rest areas and toilets. The State Party indicates that these tourism infrastructures, constructed in conjunction with the local authorities and private investors, will require authorisation by the Conservator of Monuments of the voivodship.

ICOMOS considers that, in view of the number of visitors expected, the property is believed to have great potential to provide a substantial economic contribution to the tourism sector in the region.

In the additional information provided in February 2019, the State Party sets out the basic elements of the tourism strategy in the revised management plan, with the integration of the property in national and regional tourism development strategies; the opening of tourist information desks; the development of tourism infrastructures in the subregion; the development of secondary tourist facilities in the buffer zones; and the development of new trails for visitors.

Community involvement

The State Party stresses that local communities have been involved in the nomination process, and are actively supporting the nomination and the conservation measures.

The population's awareness of the need to preserve the site has been raised by the local authorities. Some associations are actively involved in the maintenance of the property, including the Ćmielów local history society which is participating in the maintenance of the Gawroniec site.

Evaluation of the effectiveness of the protection and management of the nominated property

With regard to the protection of the components of the nominated property, the inscription of Gawroniec on the Register of Monuments and its implementation must be confirmed to ensure it is adequately protected.

ICOMOS notes with concern the presence of the working limestone quarry in the Korycizna buffer zone, which is detrimental to the integrity of this component of the serial property. Appropriate and immediate measures should be taken to attenuate the negative impact on this component.

Polish legislation does not provide any form of protection specifically for World Heritage. The buffer zone has no legal basis at national level. The creation of the Cultural Park of the Kamienna River prehistoric flint mining region is

considered by the State Party to be the appropriate control mechanism, by virtue of Polish legislation, to protect the wider framework of the nominated property and to strengthen the effectiveness of the buffer zones. In view of this, the process of creating the cultural park, which is one of the objective of the master plan, should begin immediately.

The revised management plan should be finalised and officially adopted to ensure effective protection of the property. It should include a monitoring programme, and a tourism management plan and a risk management plan. It is also necessary to begin thinking about the way the existing underground tourist routes can be strengthened and enhanced, in order to ensure the integrity and authenticity of the property, and the aesthetics of the systems used.

ICOMOS considers that the management plan, which is currently being revised, should be made operational to ensure adequate protection of the property. The inscription of Gawroniec on the Register of Monuments should be confirmed to ensure its adequate protection. Appropriate measures should be taken immediately to attenuate the negative impact of the working quarry at Korycizna. ICOMOS also notes that the process of creating the cultural park, which is one of the objectives of the master plan, should begin immediately.

6 Conclusion

The four component parts of the nominated property form a comprehensive ensemble representing the prehistoric working of flint in the Neolithic period and the early Bronze Age. All the elements relating to the extraction and processing of striped flint are included. The preservation of remains on the surface, thanks to the conservation of the prehistoric post-mining landscape (flint workshops, shelters, circulation zones, etc.) enables a thorough understanding of the mining and knapping processes. In all, more than 4000 extraction structures of varied morphologies are preserved today. The nominated serial property bears witness to the Neolithic mining phenomenon as a major stage in the processes of landscape transformation, social complexification and the emergence of power.

ICOMOS considers however that the management plan should be effective to ensure that adequate protection and management are put in place to preserve the property. The inscription of Gawroniec on the Register of Monuments should be officially adopted, and the process of creating a cultural park should be started. The articulation between the management of the nominated property and that of the cultural park will require clarification, as will the way in which the local development plans will provide an additional level of protection for the nominated property, in accordance with paragraphs 103 to 107 of the *Operational Guidelines for the Implementation of the World Heritage Convention*.

ICOMOS also encourages the State Party to incorporate a heritage impact study methodology in the management system for the nominated property, so as to ensure that any programme or project relating to the property should be evaluated in terms of its impacts on the proposed Outstanding Universal Value and the associated attributes.

7 Recommendations

Recommendations with respect to inscription

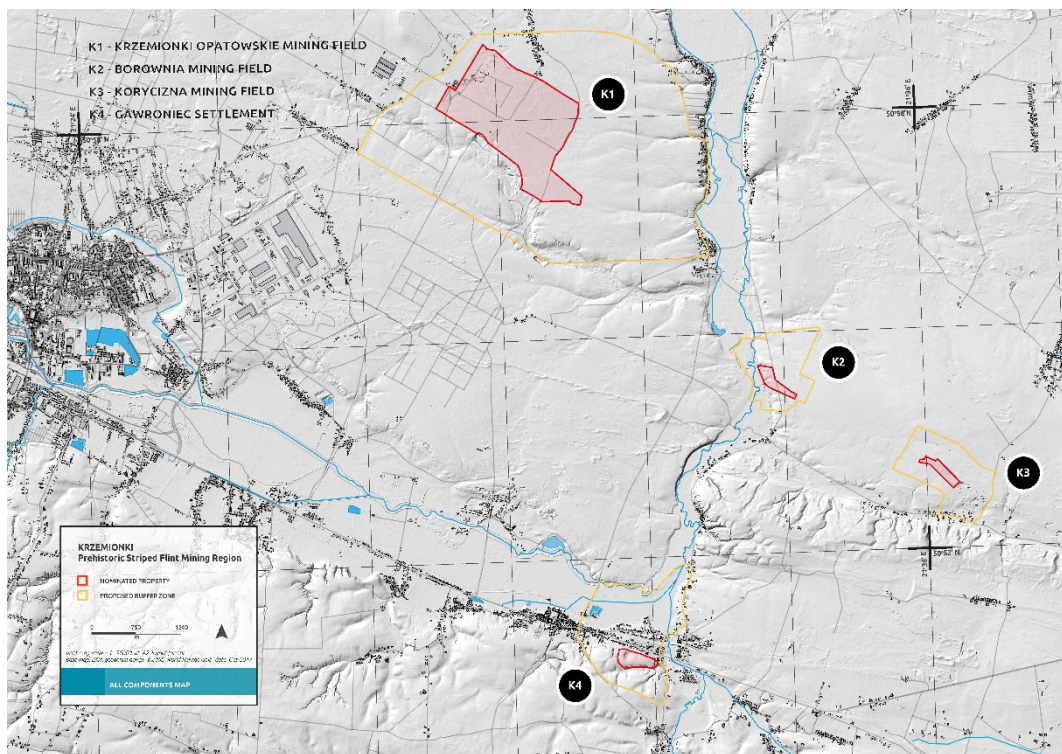
ICOMOS recommends that the nomination of Krezemionki Prehistoric Striped Flint Mining Region, Poland, be **referred back** to the State Party in order to allow it to:

- Finalise the inscription of Gawroniec on the Register of Monuments,
- Confirm the operational implementation of the management plan to ensure the effective protection of the nominated property,
- Take appropriate and immediate measures to attenuate the negative impact of the working limestone quarry in the Korycizna buffer zone, to the immediate south-east of the nominated property,
- Immediately begin the process of creating the cultural park, in order to make the buffer zones effective,
- Specify in detail how the land development plans, which are a condition for the establishment of the cultural park, will ensure that the buffer zones provide an additional level of protection for the nominated property, in accordance with paragraphs 103 to 107 of the *Operational Guidelines for the Implementation of the World Heritage Convention*;

Additional recommendations

ICOMOS further recommends that the State Party give consideration to the following:

- a) Including a heritage study methodology in the management system of the nominated property, to ensure that any programme or project relating to the property is evaluated in terms of its impacts on the Outstanding Universal Value and the associated attributes,
- b) Ensuring the long-term funding of the archaeological research programme, and guaranteeing that the research objectives of the programme are adequate in view of the conservation plan;



Map showing the location of the nominated components



Krzemionki Opatowskie Mining Field, pillar-chamber mine



Original prehistoric communication gallery



Prehistoric 'industrial landscape' in forest



Striped flint nodule, and flint axe used for mining, *in situ* underground

Mafra (Portugal) No 1573

Official name as proposed by the State Party

Royal Building of Mafra – Palace, Basilica, Convent, Cerco Garden and Hunting Park (*Tapada*)

Location

District of Lisbon, Council of Mafra
Portugal

Brief description

Conceived by King João V at the beginning of the 18th century as a tangible representation of his conception of the monarchy and of the State, the imposing quadrangular building houses the King and Queen's palaces, the Royal Chapel, shaped like a Roman baroque basilica, a Franciscan monastery for 300 friars, with its infirmary and apothecary, a Library, still preserving 36,000 volumes from the Portuguese Kings' collection. The palatial complex is completed by the Cerco Garden, a formally-designed garden, and by the Royal Hunting Park (*Tapada*), in fact a multifunctional landscape supplying a variety of resources for the operation of the Palace.

Category of property

In terms of categories of cultural property set out in Article I of the 1972 World Heritage Convention, this is a *site*.

1 Basic data

Included in the Tentative List

31 January 2017

Background

This is a new nomination.

Consultations and Technical Evaluation Mission

Desk reviews have been provided by ICOMOS International Scientific Committees, members and independent experts.

An ICOMOS technical evaluation mission visited the property from 1 to 4 October 2018.

Additional information received by ICOMOS

A letter was sent to the State Party on 17 October 2018 requesting further information about the comparative analysis, the buffer zone, and the protection and management arrangements. Additional information was received from the State Party on 14 November 2018.

An Interim Report was provided to the State Party on 21 December 2018 summarising the issues identified by the ICOMOS World Heritage Panel. Further information was requested in the Interim Report including the following: an expanded description of the Cerco Garden and of the *Tapada*, including visual documentation; the completion of the revised comparative analysis; the rationale for the buffer zone and its protection mechanisms; the conservation history and its documentation; and the specifications concerning management arrangements.

Additional information was received from the State Party on 25 February 2019 and this has been incorporated into the relevant sections of this evaluation report.

Date of ICOMOS approval of this report

13 March 2019

2 Description of the property

Note: The nomination dossier and additional information contain detailed descriptions of this property, its history and its state of conservation. Due to limitations on the length of evaluation reports, this report only provides a short summary of the most relevant aspects.

Description and history

The Royal Building of Mafra and its estate are located some 30 km north west of Lisbon, and 8 km inland from the Atlantic coast.

The nominated property comprises the Royal Building - housing the royal residence, a Franciscan monastery, the royal chapel and other chapels, and a library- the Cerco Garden, a formally designed garden, and the *Tapada*, an extensive multifunctional ground comprising a hunting park, which extends northeastwards from the building complex. It was conceived by King João V as early as 1711 as a centre for royal enjoyment, religious life and study.

Mafra was merely a rural village until King João V decided to build his temporal and spiritual complex high up on the hill above the village with a view down to the ocean to the west.

Construction started in 1717 and was mostly complete by 1730, although parts were still under construction at King João's death in 1750.

The western portion of the complex houses the basilica and the royal residences; the eastern part, less monumental in character, was occupied by the monastery and by the lesser palaces of the princes and princesses; the library was placed in the east wing and accessible to both friars and members of the royal family.

The apartments of the King and of the Queen occupied respectively the north and south turrets and extended into the north and south wings of the building on the third floor. Access to the royal residence was provided via two independent entrances located in the main façade. The

lesser residences of the princes and princesses occupied the remaining part of the north and south wings and part of the eastern side, adjoining the Library.

Inspired by Saint Peter's Basilica in Rome, the interior of the church exhibits a single-nave Latin-cross layout with interconnected lateral chapels. The interiors of the basilica are covered with polychrome Portuguese marbles and decorated with sculptures and paintings, partly of Italian and French origin and partly from the Portuguese School which developed at Mafra. The façade of the church is said to reflect influences from the Basilica of Superga (Turin), the Church of Saint Agnes in Agone (Rome), and the Church of Jesus (Rome), amongst others.

The monastery was initially conceived for 80 friars but was then expanded to provide accommodation for up to 300. It still preserves the infirmary with its alcoves and the kitchens, the refectory, a monumental staircase, the elliptical Capitular House, chapels, the Boxwood Garden in the main inner eastern court, as well as many works of art.

From 1777, King João V's successors, Queen Maria I and King Pedro III, steadily embellished João's building with further sculptures, murals, and ceiling paintings in the Baroque taste. Queen Maria had just installed the last of six new organs in the basilica in 1807 when the Peninsular War broke out and Napoleonic troops occupied the palace.

There never had been a great quantity of permanent furniture at Mafra as it was moved between the palaces when the King moved in and out, but much of what existed was shipped to Brazil when the Royal family transferred there temporarily. The Napoleonic troops removed nearly 300 tapestries and the silver but left the property in the care of the friars, and the Library and the church largely untouched, including its sculptures and ceremonial vestments.

The *Cerco* Garden is located on the north-eastern side of the building: 9ha in size, it was arranged according to a geometric pattern following baroque aesthetics, with plant species from all across the Portuguese Empire. King João V himself in 1718 instructed on the choice of plants. Part of the area, the *Horto de Frescos*, was cultivated for food, flowers for decorating the altars, and the manufacture of elixirs and ointments by the apothecary.

An enclosure for bowls and other games was created in the Garden. Water supply was provided from the *Tapada* to the *Cerco* Garden and the Mafra Building complex by scores of adits (horizontal shafts) and springs feeding an aqueduct and tunnels - together over four kilometres in length. Fountains and a Noria-type water well survive to this date in the garden.

In the mid-19th century, the Royal family returned to Mafra as their summer residence and carried out various changes, including the redesign of the southern turret and south wing according to the tastes of the time, and of the western section of the *Cerco* Garden in a picturesque manner (1843).

In the additional information (February 2019), the State Party clarifies that the original design of the Garden was presumably modified, and its size reduced, following the decision to enlarge the palatial complex. It is assumed that the flower-planted parterre, which supposedly was envisaged in the area immediately adjacent to the Palace, was sacrificed, whilst the woodland laid down in *quincuncio* still survives. Due to these transformations and to the lack of historical documents, it is difficult to draw definitive conclusions about the original design of the *Cerco* Garden and its influences.

The *Tapada* was established by Royal Decree in 1744, a vast green area that served both leisure and utility functions. It was created by the enclosure of olive groves, vineyards and a large extent of waste land, and surrounded by a wall of 2 to 3 metres height, and nearly 22 kilometres long, that survives to this day.

The February 2019 additional information further explains the concept of Portuguese *Tapadas*: they were intended to guarantee self-sufficiency to the estates for which they were built, and not just for hunting and leisure. *Tapadas* therefore included water reserves, farming livestock and game areas, vineyards, vegetable gardens, and woodland for timber and firewood. Mafra *Tapada* was designed based on the models of previous *Tapadas* (*Vila Viçosa*, *Alcantara*, *Necessidades*). It is said to preserve a hydraulic system based on rain water collection, tapping of springs, water reservoirs, pipelines, dams, and an aqueduct to supply water to the gardens, the orchards and the palace. However, only a textual account is provided of these heritage resources, but no inventory or adequate graphic or photographic documentation.

Between the 18th and 19th centuries the *Tapada* was divided into two major areas: one part was to be sown with wheat and barley, the other planted with trees and a pine forest.

The *Tapada* was included in the defensive line of *Torres Vedras*, and the *Juncal*, *Sonível*, *Milhariça* and *Valério* strongholds were built inside.

The Peninsular War (1807-1814) left several impacts on the *Tapada* area, which afterwards (1823-1834) was rearranged and divided into three parts. Each part served different functions: the First *Tapada* for agriculture, pasture and the hunting of small animals, and a dam was created along the Valla: today it encompasses the *Cerco* Garden, the School of Infantry and the Military Centre for Physical Education and Sports and the firing range; the Second *Tapada* was used for forestry and firewood as well as hunting: it houses the *Celebredo* hunting complex; the Third *Tapada* exhibits a rugged terrain with steep slopes and narrow valleys and, according to the literature, it was dedicated to the hunting of larger game.

In 1834 the friars departed the convent, which was afterwards occupied by the Army, who have continued to use these spaces until today (School of Arms). The Army also took over one-third of the *Tapada*.

In 1840 King Fernando II transformed the *Tapada* into the *Granja Real* (Experimental Royal Farm) to introduce new agricultural, forestry and livestock practices. However, no detail is provided on how the establishment of the *Granja* might have modified the arrangements in the *Tapada*.

The hunting pavilion in the *Tapada* was built in 1890 at a place called *Celebredo*, deep in the valley of the seasonal *Rio Sobral*.

These activities came to an end with the rise of republicanism, the assassination of King Carlos in 1908, and the republic being declared in 1910.

Mafra was declared a National Monument in 1907, and it became a museum in 1911 after the Revolution. Various organisations occupied the southern tower, including the Municipality during the period 1912-2002; the Forestry Service placed the *Cerco* Garden in the care of the Municipality which opened it to the public until 1924. It was refurbished in 1945 and its boundary wall with Bicas Square was replaced by a metal railing in about 1961.

Boundaries

The nominated property has an area of 1,213.17 ha, and a buffer zone of 693.239 ha (originally 143.52 ha) as per the additional information received in February 2019.

The boundaries of the nominated property include the Royal Building of Mafra, the *Cerco* Garden and the *Tapada*, and are delineated by a wall for the entire perimeter (~22km). The nomination initially proposed a buffer zone of a constant 75 metre width around the *Tapada*, based on traditional monument legislation.

ICOMOS noted that no sufficient explanation of the rationale for the proposed buffer zone had been provided and requested additional information in this regard in its first letter (October 2018) and in the Interim Report.

The State Party provided initial clarification in November 2018 and, following receipt of the Interim Report, the State Party has proposed a substantially expanded buffer zone. Its delimitation is based on several criteria: Municipal Master Plan land-use classifications and regulations; existing physical/geographical and property delimitations; as well as ecological/environmental protection. The aims of the expanded buffer zone are to strengthen the protection of the visual axes from and towards the Royal Palace in the town, to promote the sustainability of the property, and to protect it from fire threats.

ICOMOS appreciates the readiness of the State Party to act promptly upon the ICOMOS suggestions and considers that the expanded buffer zone appears to be better suited to respond to the needs of the nominated property, its rationale has been explained, and it is supported by existing measures at the planning level.

ICOMOS therefore considers that the amended buffer zone as presented in the Additional information submitted in February 2019 is adequate to perform its function.

State of conservation

The nomination dossier provides an account of the state of conservation of the nominated property, in particular of the different parts of the Royal Building, and in much less detail for the *Cerco* Garden and the *Tapada*.

ICOMOS in its Interim Report requested additional information concerning past interventions in the palace and in the *Cerco* Garden and the *Tapada*.

In February 2019, the State Party expanded the information provided in the nomination dossier on the transformations which have occurred in the various parts of the nominated property, in particular focusing on the restoration works carried out in the palace since the end of the Second World War.

Overall the state of conservation of the building complex is reported to be acceptable, with no structural problems reported. Some unused parts of the building suffer from different degrees of problems, mainly induced by lack of monitoring and maintenance, which need to be addressed promptly and counteracting measures are being prepared. Technical installations are fully functional where installed.

Interventions to improve the conditions of the affected parts of the building are either ongoing or planned.

The *Cerco* Garden exhibits an acceptable state of conservation, thanks to basic regular maintenance. However, some parts, i.e. the open ground immediately adjacent to the eastern front and an area currently occupied by facilities for vehicles, detract from the expected quality of a formal Garden serving a former royal residence.

The *Tapada* has suffered from invasive species, a recent wildfire (2003), and localised soil erosion, which have all been addressed with regular interventions. Some uses have proved to be not fully sympathetic with the heritage values of the hunting park, particularly the military-related activities. The structures within the *Tapada* include the King's retreat in *Celebredo* and other buildings, suffering in the main from minor anomalies, according to the classification of the nomination dossier.

Based on the information provided by the State Party and the observations of the ICOMOS technical evaluation mission, ICOMOS considers that the state of conservation is overall fairly good, and there is little evidence of any permanent damage in any part of the building complex. However, the setting of the monastery wing is undermined by the present state of the School of Arms' part of the *Cerco* Garden. Additionally, the asphalted area immediately adjacent to the eastern side of the palace needs to be rehabilitated and its overall appearance and arrangement improved. On the other hand, the western end of the *Cerco* Garden underwent a sympathetic rehabilitation in 1997, and its various features – basin, fountains, aqueduct, beds, and trees – appear in a fair condition.

Factors affecting the property

Based on the information provided by the State Party and the observations of the ICOMOS technical evaluation mission, ICOMOS considers that the main factors affecting the property are:

- Wildfires, triggered by extreme drought and an unbalanced mix of vegetation due to alien species in the *Tapada*;
- Impacts of climate change through extreme weather events (e.g. hurricanes, windstorms, flash-flood);
- Earthquakes, Portugal being a region of seismic activity and the Mafra area not far from highly seismic zones.

All the above threats need to be carefully addressed, in particular wildfire, as the *Tapada* has suffered already, in 2003, from a fire, which affected 70% of its area.

The additional information transmitted in February 2019 explains in detail the measures in place to prevent and combat fires at the nominated property.

3 Proposed justification for inscription

Proposed justification

The nominated property is considered by the State Party to be of Outstanding Universal Value as a cultural property for the following reasons:

- The Royal Building of Mafra represents one of the most magnificent works undertaken under King João V who benefitted from exceptional economic and cultural conditions to build an outstanding complex illustrating the power and reach of the Portuguese multi-continental empire, and it tangibly symbolises the international affirmation of the Portuguese ruling dynasty;
- King João V intentionally adopted Roman and Italian Baroque architectural and artistic models and commissioned works of art that ultimately turned Mafra into an exceptional example of Italian Baroque;
- The immense building site of Mafra offered the opportunity to develop building and sculptural skills that proved useful in the reconstruction of Lisbon after the 1755 earthquake;
- The complex also became a religious and educational centre, housing an immense library, a Franciscan monastery and the School of Mafra for stone sculpture;
- The complex witnessed some key events during the Peninsular Wars in the early 19th century and the Carnation Revolution, which re-established democracy in Portugal in 1974.

Comparative analysis

The Comparative Analysis has been developed for each different element of the building complex. Although highly refined in its arguments, it does not comply with the requirements of the *Operational Guidelines*, as the whole of the nominated property should have been compared

with properties similar in terms of values and attributes from within the relevant geo-cultural area and time frame, be they inscribed or not on the World Heritage List.

ICOMOS requested additional information in October 2018 from the State Party, who replied on 14 November with an initial revised and augmented comparative analysis, which, despite its improvement, needed further work. Therefore, in its Interim Report, ICOMOS requested further strengthening of the comparative analysis.

In its February 2019 reply, the State Party substantially expanded the comparative analysis by including 14 complexes, both inscribed and not inscribed on the World Heritage List, which were considered to be relevant comparators, i.e., royal or princely residences as well as monasteries with royal residences.

The augmented comparative analysis discusses the differences between Mafra and the Monastery and Site of the Escorial, Madrid (Spain, 1984, (i), (ii) and (vi)), which is the closest comparator for the nominated property. It then elaborates on the specificity of Mafra compared to the Palace and Park of Versailles (France, 1979, (i), (ii), and (vi)) and to the 18th-Century Royal Palace of Caserta with the Park, the Aqueduct of Vanvitelli, and the San Leucio Complex (Italy, 1997, (i), (ii), (iii), (iv)).

The key distinctive features of the nominated property would include its multifunctionality, reflecting King João V's conception of the State, and, above all, the largely intact *Tapada*, directly linked to the Palace via the *Cerco* Garden.

ICOMOS notes that indeed Mafra exhibits remarkable specificities: however, the architectural and landscape design achievements at Versailles and Caserta are notable. Equally the Vanvitelli's Aqueduct (38 km long) at Caserta, which served the palace, the town of Caserta and the silk production at the San Leucio complex, stands out within the comparative framework.

The comparative analysis then examines Mafra against the 18th century monasteries with royal or imperial privileges from Central Europe and finally other properties in Portugal encompassing a *Tapada*: the major surviving examples being the Vila Viçosa (larger than Mafra) and the *Tapada* of Alcantara of de Ajuda, much smaller than Mafra. However, only Mafra can offer a whole system of Palace, Garden and *Tapada*, which elsewhere has been lost.

The augmented comparative analysis suggests that there is room on the World Heritage List for the Royal Building of Mafra complex among the already-inscribed Royal residences. However, further documentation on the *Tapada*, in the form of a landscape study, including maps of the distribution of the heritage features, of the landscape arrangements and of the hydraulic system, needs to be provided, given that the *Tapada* appears to be a decisive element in the distinctiveness of Mafra compared to other royal residences throughout Europe.

ICOMOS considers that the augmented comparative analysis suggests that consideration of this property for the World Heritage List may be justified based on additional graphic/photographic documentation on the substance of the *Tapada*.

Criteria under which inscription is proposed

The property is nominated on the basis of cultural criteria (i), (ii), (iv) and (vi).

Criterion (i): *represent a masterpiece of human creative genius;*

This criterion is justified by the State Party on the grounds that the Royal Building of Mafra is one of the most exceptional complexes of European Baroque architecture and art. It is also a complete representation of the Portuguese monarchy's ideology and programme. It brings together in one single building the royal residence, a Franciscan monastery, as a centre for prayer, science and education, and an exceptional library, differently from other royal palaces. It is also an outstanding engineering project, with about 45,000 workers, master builders, architects, engineers and artists involved, triggering the development of artistic, architectural, technological and engineering capacities and the creation of the sculpture School of Mafra, a major development in the 18th century, which was instrumental in the reconstruction of Lisbon after the 1755 earthquake.

ICOMOS observes that the proposed justification of this criterion focuses on the palace only and does not address how the *Cerco* Garden and the *Tapada* might justify this criterion.

The additional information provided in February 2019 on the *Cerco* Garden and the *Tapada* clarifies that the Garden's original concept was not implemented, and its current layout is the result of subsequent adaptations. The *Tapada* also underwent a number of transformations after the Peninsular War in the 19th century and throughout the period of military use, although maintaining its original size and delineation and still reflecting its purposes. The water system – built to supply water for the palace, its gardens and orchards – is textually described but no detailed maps, drawings or sufficient photographic documentation are presented to illustrate in what ways this system might reflect human creative genius.

ICOMOS observes that the integration of a palace, a church and a monastery into one enormous complex was achieved seamlessly. On the other hand, the technological and scientific achievements in the design and construction of the nominated property appear to be stated rather than demonstrated. For instance, the builder of the dome of the basilica could have profited from lessons learned in the design and building of earlier much larger domes, e.g. in Florence and Rome. The staircases are also mentioned as architectural elements concurring with the justification of the criterion; however they do not appear to reflect human creative genius compared to similar structures from the same period.

Finally, ICOMOS notes that the comparative analysis, even in its augmented version, does not succeed in demonstrating that the entire nominated property deserves consideration for World Heritage listing under this criterion.

Criterion (ii): *exhibit an important interchange of human values, over a span of time or within a cultural area of the world, on developments in architecture or technology, monumental arts, town-planning or landscape design;*

This criterion is justified by the State Party on the grounds that the Royal Building of Mafra reflects an important interchange of human values from several perspectives: artists from different realms were commissioned to contribute to the undertaking – from Rome, Germany, Flanders, and France; without the wealth generated by the exploitation of gold and diamond mines in Brazil, this enterprise would not have been possible; hard wood from Brazil was used for interior features and plant species from Portugal's overseas colonies are found in the *Cerco* Garden; the architect Johann Friedrich Ludwig was influenced and inspired by Vitruvius and several Italian Renaissance authors, by St Peter's Basilica in Rome, and by architect Carlo Fontana; the sculptures, paintings and other movable precious objects, fabrics, and furniture, were all imported or commissioned from workshops in different cities in Italy, France and Flanders, triggering important cultural interchanges. The Royal Building served as inspiration for the reconstruction of Lisbon and of churches and Royal buildings in Lisbon and Brazil.

In ICOMOS' view, the influence on King João V's complex was overwhelmingly Italian, therefore Mafra might in this respect be considered derivative. However, it influenced the design of other churches and buildings in Portugal (e.g., the lost Palace of Ajuda) and around the Portuguese empire (e.g. the Imperial Palace of São Cristóvão, in Brazil), thus the palatial complex can be considered to have in turn exerted its influence.

However, this is not the case for the *Cerco* Garden or the *Tapada*.

The additional information transmitted in February 2019 expands on the influences absorbed and exerted by the *Tapada* of Mafra, but, based on the information provided by the State Party, it seems to remain a type of landscape limited to the Iberian Peninsula. The *Cerco* Garden, due to its unfulfilled design, cannot be considered as a contributor to the justification of this criterion.

Criterion (iv): *be an outstanding example of a type of building, architectural or technological ensemble or landscape which illustrates (a) significant stage(s) in human history;*

This criterion is justified by the State Party on the grounds that the Royal Building of Mafra materializes King João V's conception of absolute power and state and his programme for consolidating his legitimacy as a sovereign and head of the empire, drawing inspiration from the Baroque Rome of the Papacy. The axial

symmetry, with the basilica at the centre and the royal residences at the two sides, reflects the divine origin of the King's power, and the Franciscan convent completes the material illustration of the tripartite social order: nobility, clergy and people.

The size, design, construction and artistic qualities and the multiple functions served by the Royal Palace of Mafra, along with the *Cerco* Garden and the large-scale multifunctional park of the *Tapada*, make it one of the most important royal residential complexes in Europe.

ICOMOS considers that the arguments proposed to justify this criterion are consistent with the wording of the criterion and the tangible and intangible features, particularly of the built complex. However, the documentation on the actual historic substance of the *Tapada*, and its built heritage features – particularly the hydraulic system, and the landscape arrangements – remains insufficient. The additional information provided by the State Party has provided a textual account with only a few historical images but no mapped inventory of the heritage resources of one of the key elements within the nominated property.

Criterion (vi): *be directly or tangibly associated with events or living traditions, with ideas, or with beliefs, with artistic and literary works of outstanding universal significance;*

This criterion is justified by the State Party on the grounds that the nominated property is associated with the monarch, a tangible symbol of absolute power, descending from divine will. It still preserves an impressive library (36,000 volumes), including banned books the possession of, and access to, was authorised by a Papal bull, and musical compositions written expressly for the six organs of the basilica. From the Mafra Sculpture School, founded upon the skills developed at the building site, its surviving legacy being today's skilled clay sculptural workers. With regards to religious heritage, the processions and rites created in the 18th century for the Royal Building of Mafra still survive and are practiced to this day.

ICOMOS observes that the proposed justification for this criterion refers to several arguments, which however can contribute to strengthen and to complement the justification of criterion (iv), rather than supporting the justification of criterion (vi).

ICOMOS considers that the nominated property exhibits strong potential to meet criterion (iv) if additional documentation on the actual substance of the *Tapada* and of its heritage and landscape resources is provided. On the other hand, criteria (i), (ii) and (vi) have not been demonstrated.

Integrity and authenticity

Integrity

The nomination dossier describes in detail the conditions that ensure the integrity of the nominated property in relation to the justification for inscription.

ICOMOS concurs overall with the statement and observes that the property includes all the elements that reflect the nominated property's significance.

However, ICOMOS notices that some parts of the nominated property have suffered from some inappropriate changes, that need to be addressed.

The area immediately east of the convent was where the Royal hunting parties would join their horses or carriages before riding through the *Cerco* Garden to the gate onto the *Tapada*. The entire levelled area, of about 250m by 60m, is presently covered with asphalt, and was once a parade ground used for Army training, but it does not seem to be needed any longer.

Beyond the parade ground is the partially tree-covered slope rising towards the formal grove. Between the top of this slope and the west wall of the grove is flatter ground occupied by various garages, workshops and other facilities for vehicles. These structures undermine the *Cerco* Garden's character and form a barrier to a connection between the convent and the grove.

ICOMOS considers that improvements to the parade grounds and to the garage and workshop area should be designed and implemented as a matter of priority.

The additional information received in February 2019 suggests that the *Cerco* Garden cannot be considered as contributing to the proposed justification for inscription, due to its unfulfilled layout and subsequent transformations. On the other hand, the *Tapada* seems to possess much more integrity; however, further documentation of it, in the form of a landscape study, with a mapped inventory of its heritage and landscape features, is necessary to complement the textual additional information.

Authenticity

The nomination dossier describes in detail the conditions that ensure the authenticity of the nominated property in relation to the justification for inscription.

ICOMOS observes that, although the building records for Mafra appear to have been kept at the Ajuda Palace which burned down in the late 18th century, there are other records that have survived, the buildings themselves, and many other written sources, which represent a valid source of information on the date and provenance of particular features.

The nomination dossier can thus make the case that, notwithstanding Napoleonic invasions and a Revolution, the fabric of the Mafra building complex overwhelmingly remains King João V's, as it was created between 1717-1750. Most of the interior detail remains to this day. There have been repairs to windows, doors, the *carillons*, clocks and organs, but mostly they have been repairs to the design as found. The basilica remains almost entirely as built by 1750, although the six organs are replacements of 1807.

Furniture and valuables were removed and brought to Brazil by the Royal family who left at the approach of Napoleon's troops, who took most of the remaining tapestries and silver. However, many large paintings remained, and the book collection in the library remained remarkably intact, as well as the church and its ceremonial vestments.

The use by the Army has added various superficial features but has not replaced the early fabric within the building.

As a consequence, there is a high degree of authenticity of location and setting, form and design, materials and substance in the Mafra building complex.

On the other hand, additional information was needed on the *Cerco* Garden and the *Tapada*, which the State Party sent in February 2019

The original planting of trees from around the empire in the eastern *Cerco* Garden does not appear to have survived, nor has the original design of the Garden, due to early expansion of the palace, but the layout does retain its 18th-century formal grove form. The water supply for the Garden still arrives from the *Tapada* in a covered reservoir towards the upper end of the *Cerco* Garden. The ball games area appears to be as originally made. The lower, picturesque, part of the *Cerco* Garden is a renovation of the 1840s design, carried out in 1997, adhering to the principles of the Florence Charter.

The expanse of asphalt parade ground and the vehicle sheds on the upper level are far more recent and have a negative impact on the appearance of this part of the Garden. Hence, only some elements of the *Cerco* Garden retain authentic design and fabric, particularly in the formal grove area, but the area close to the east front of the monastery does not reflect the original design nor subsequent relevant phases of modifications/ renovation.

The *Tapada* was formed and managed as a hunting park, but also hosted multiple utilitarian functions. The mixed use of the School of Arms' part of the *Tapada* thus continues this theme, but the vineyards, agriculture and firewood plantations have given way to more military uses such as a modern administration area and a shooting range. The equine use is one that remains from the earliest times, although the associated fabric is of mixed date. The entire 22km length of the *Tapada* wall has been kept very largely intact in its location, height and materials

through occasional repairs. Additional cartographic and photographic documentation is necessary to complement the textual description provided in February 2019, of the water supply adits, cisterns, tanks, aqueducts, reservoirs, etc. The late 19th century hunting retreat of *Celebredo* remains largely unchanged in its structures. In terms of extent, boundaries and character, the National Hunting Park part of the *Tapada* may be deemed largely authentic, although the original use has changed. Today the middle and furthest divisions are merging once again as the aim of encouraging native flora and fauna is being implemented.

In conclusion, ICOMOS considers that the requirements of integrity and authenticity will be fully met, when a landscape study, including cartographic documentation and mapping/inventory of the heritage features comprised within the *Tapada*, will be transmitted.

Evaluation of the proposed justification for inscription

The Royal Building of Mafra with the *Cerco* Garden and the *Tapada* has been nominated under four criteria – (i), (ii), (iv) and (vi) – as an exceptional representation of King João V's conception of the monarchy and of the State, in which each social component had its role: the aristocracy, represented by the Royal residences, the Church, illustrated by the basilica, and the People, represented by the Franciscan monastery, all gathered together in one single building.

King João V's ideological programme is reflected in the layout of the building, in the choice of the architectural language – Roman Baroque versus the previously adopted Mannerism, and the functions included within the complex, in particular the Infirmary, the Library and the School, reflecting the importance accorded to health and education.

The justification for inscription proposed in the nomination dossier is soundly argued and supported by a wealth of research and documentation, despite the loss of the archival records of the construction of Mafra.

The revised and expanded comparative analysis has demonstrated that there is room for Mafra on the World Heritage List.

With regard to the selected criteria, ICOMOS considers that the property does not meet criterion (i). Criterion (ii) might be relevant for the building complex, although further information would be necessary to make a robust case for this criterion, but certainly not for the *Cerco* Garden or for the *Tapada*, despite the additional information provided in February 2019.

The expanded comparative analysis supports the justification of criterion (iv), especially because of the presence of the *Tapada*. However, further documentation on the *Tapada* needs to be presented, to complement the expanded textual description and illustrate the role of the *Tapada* in supporting the proposed justification for the nominated property.

On the other hand, the arguments presented for criterion (vi), in ICOMOS' view, might contribute to strengthen and to complement the justification of criterion (iv) but do not demonstrate that the nominated property justifies criterion (vi).

However, ICOMOS has found that the documentation presented for the *Cerco* Garden and the *Tapada* is far too limited and needs to be expanded. A landscape study based on a sufficiently detailed cartographic basis indicating the landscape arrangements, the location and substance of the elements making up the hydraulic system, and all other heritage features supporting and illustrating the role of the *Tapada* and its modifications, is necessary, to correlate the information provided in writing with the actual geographic distribution within the Garden and the *Tapada* and their state of conservation, so as to support fully the conditions of integrity and authenticity.

Attributes/Features

The nomination dossier provides extensive description and illustration through photographs and maps of the tangible and intangible features of the royal building bearing cultural significance and supporting the proposed justification for inscription. These include: the layout of the palace, its design and proportions; the architectural and constructive solutions to resolve the challenges of the internal distribution; the sobriety and dignity of the architectural language, inspired by the Jesuits' *modo nostro* principles (swiftness, sobriety, simplicity, modesty, economy and functionality); the quality of the craftsmanship; and its dominant position with regard to the town of Mafra, overlooking the ocean.

On the other hand, the features of the *Tapada* evoked in the justification for inscription were limited to the preservation of its perimeter, its protective walls and its multifunctional purpose (agriculture, forestry and hunting). The descriptive part of the dossier on the *Tapada* was slim and additional information was sought by ICOMOS.

The reply by the State Party provides textual descriptions of what seem much more significant elements in the *Tapada*, particularly with regard to its hydraulic system, and traces of former landscape arrangements, but these resources are not adequately documented or mapped.

Based on the results of the augmented comparative analysis, ICOMOS considers that the nominated property has a strong potential to justify consideration for World Heritage Listing on the basis of criterion (iv), if a landscape study, with additional cartographic documentation and inventory of the historic landscape and heritage features within the *Tapada*, is presented. On the other hand, ICOMOS does not consider that criteria (i), (ii) and (vi) are demonstrated.

4 Conservation measures and monitoring

Conservation measures

The General Directorate for Cultural Heritage (GDCH) uses an Information System for Architectural heritage in which basic conditions of the buildings, needs and status of previous works are recorded. It also gathers together administrative management documents, legal instruments, and research outcomes.

The nomination dossier contains an excerpt from the system that provides a detailed account of the type of works made to the property since 2012 by the GDCH, as well as a list of works carried out by the School of Arms and by the Military in the areas assigned to them between 2010 and 2016.

Since the 1990s the terraces have undergone an intervention aimed at preventing rainwater infiltration, an inherent problem caused by the roof type. The façades were also extensively restored at the same time. However further maintenance works are being planned for forthcoming years.

The GDCH has undertaken several conservation and maintenance projects of different parts of the Building, incurring considerable expenditure. Maintenance and repair works have been carried out also in the military area.

The *Cerco* Garden enjoys a maintenance plan according to which recurring activities take place on the vegetation and the built structures within the garden, following an annual plan of intervention.

The *Tapada* is the object of an environmental quality maintenance programme and periodical interventions directed at controlling invasive species, preventing fire and combating soil erosion.

The nomination dossier contains financial programmes for the interventions to be implemented between 2017 and 2022 at the Palace and at the built structures in the *Tapada*, as well as a time-line of the -programme of interventions planned by the Forest management plan between 2014 and 2034.

ICOMOS requested additional information on the history of conservation in its Interim Report. The State Party replied, explaining that in the first half of the 20th century, restoration works were carried out aimed at re-establishing the original concept: some of these interventions have been beneficial, whilst others less so. Several adaptations were made by the military during the World Wars and in the Colonial War, most of which could be removed. The State Party has announced that the workshops built in the friar's garden are intended to be demolished in the short term. A table with all conservation works completed, underway and being planned complements the additional information.

ICOMOS notes that the announced demolition of the workshops is not included in the table, there is no mention of the future plans for the asphalted area adjacent to the military area of the Palace and, in general, conservation works under the responsibility of the School of Arms (*Escola das Armas* – EA) are little represented.

The list submitted in February is useful; however, it does not represent an integrated conservation programme for the Complex, which is needed.

ICOMOS observes that the Royal Building needs constant care and considers that, based on the information provided in the nomination dossier, several and regular conservation measures have been and are being performed at the nominated property, based on periodical monitoring (see below).

However, ICOMOS notes that there is a strong need for more coordination among all partners responsible for the property and their respective activities.

Monitoring

The General Directorate of Cultural Heritage (GDCH) is responsible for the monitoring, conservation and protection of the cultural heritage in Portugal, being tasked with several competences to achieve this aim.

The GDCH has set up an information system in which data concerning protected cultural heritage is collected. In this system information on the nominated property is also collected and this system constitutes a key data repository and a basis for decision making (see state of conservation).

In order to ensure that the values and features of the Royal Building of Mafra Complex are effectively preserved, a set of quality control items (22) have been established to address the needs of a property being nominated for World Heritage listing.

ICOMOS considers that a robust and apparently well-gearred up monitoring system exists for the Palace, set up by the GDCH. However, the indicators of the more recent monitoring system may need to be simplified. Additionally, ICOMOS suggests separating the indicators concerning the state of conservation of the property from those assessing the efficiency (and effectiveness) of the management arrangements, as they address two different aims.

With regards to the monitoring of the state of conservation of the nominated property, it is suggested to correlate the attributes with the affecting factors as listed in the Third Cycle of Periodic Reporting, with a view to facilitate the link between monitoring at the property level with the periodic reporting wider exercise.

ICOMOS considers that the nominated property is the object of regular maintenance and conservation measures that have kept it in acceptable condition overall. The care the property has received needs to be continued to guarantee that the state of conservation is maintained

and, for some parts, improved. An integrated conservation programme for the whole of the property is needed, ensuring coordination of action and investment by all institutions involved in the management of the nominated property.

The monitoring system in place for the protected architectural heritage appears well thought out and tested. With regards to the ad-hoc indicators set up for the monitoring of the nominated property, it is suggested to correlate them with the attributes of the property and the affecting factors, taking into account those listed in the Third Cycle Periodic Reporting.

5 Protection and management

Documentation

The Royal Building appears to be thoroughly documented, as presented in the nomination dossier and its annexes, much less so the *Cerco* Garden and the *Tapada*. Therefore, in its Interim Report, ICOMOS requested additional information on both elements of the property and their historic development.

The State Party responded in February 2019 providing additional information on both the *Cerco* Garden and the *Tapada*, despite the limited documentation available, especially on the *Cerco* Garden. The additional research effort needs to be accompanied by a landscape study, the first step of which should include an inventory and mapping of the heritage landscape arrangements and features, particularly within the *Tapada*, which appears at the moment insufficiently documented with regards to its cultural and historic substance. Over time, and through a planned research programme, further documentary and archaeological investigations may shed additional light on the *Tapada*, its arrangements and transformations over time.

Legal protection

The nominated property has been classified as a protected monument by Decree of 10 January 1907 and Decree of 16 June 1910, establishing a buffer with protection mechanisms.

The main law guaranteeing legal protection to the Royal Building of Mafra is Law n. 107/2001. The GDCH was established by Law Decree n. 115/2012: its mission is to oversee the implementation of the protection and guarantee the management, safeguarding, conservation and restoration of protected cultural properties in Portugal. The Law Decree n. 140/2009 stipulates key protection and management requirements by establishing that, prior to their implementation, works need to be evaluated and monitored with regards to their potential negative impact on the integrity and authenticity of the property.

The National Palace of Mafra, as a museum, is also subject to the provisions of the Museum Framework Law n. 47/2004 and enjoys a Safety Plan, a compulsory instrument according to the law.

The *Tapada* is subject also to the provisions of Law Decree n. 151-B/2013 and subsequent modification subject to Environmental Impact Assessment, and it is the object of a Forest management plan approved in 2014.

The Master Plan for Mafra was reviewed in 2015: the zone surrounding the Royal Building of Mafra is classified as forested spaces, the preferred aims being the preservation of ecological balance, forestry protection and landscape enhancement.

The urbanised zones surrounding the nominated property include the Town of Mafra, and other clusters for which the urban planning establishes regulations that would prevent pressures from urban development.

The Operational Unit for Planning and Management covering the Royal Building of Mafra is key to ensure operational management.

Management system

The nominated property belongs entirely to the State, however its management depends on three ministries: Ministry of Culture (user: GDCH); Ministry of National Defence (user: Army Staff/ School of Arms); and Ministry of Agriculture, Forestry and Rural Development (Institute of Forestry). It is also used by the Municipality of Mafra (Cerco Garden) and by the Parish.

Collaboration between the different entities has been regulated through sectorial cooperation agreements and protocols, for specific objectives between differing partners according to the pursued objective. The signatory parties are the three main ministries, the Municipality of Mafra, the Lisbon Patriarchate, and the Lisbon Tourism Association.

According to the nomination dossier, the management of the property is coordinated by a Management Committee, which operates as a Mission Unit, established in 2010 for the purpose of elaborating the nomination to the World Heritage List of the Royal Building of Mafra.

Basically, the management system relies upon existing legal, planning and management instruments and upon the agreements and protocols in place for specific purposes.

For instance, the Royal Palace of Mafra, as a museum, enjoys a safety plan and instruments to programme maintenance and conservation works, where needed.

The 'Tapada Nacional de Mafra' has been governed since 1998 by a 'Cooperativa de Interesse Publico de Responsabilidade Limitada'. This is formed of ministry representatives and various stakeholders, principally those with environmental and shooting interests. Day-to-day management is conducted by a Director based at *Celebrede* within the *Tapada*.

The *Cerco* Garden is managed by the Municipality of Mafra through a maintenance plan.

The main objectives of the management would be ensuring protection, management, safeguarding, and preservation of the nominated property, to promote the study and dissemination of the property, promote the sensitisation and dissemination of good practices for the safeguarding of the property, encourage access to the property, develop and implement annual action plans, and sustain the property through the development of cultural tourism. The central body would be the property management, which, according to the nomination dossier, includes the GDCH, the Army Staff/ School of Arms, the National Hunting Park of Mafra, and the City Council of Mafra.

A number of commitments are identified in the Annexes to the nomination dossier for each relevant stakeholder who is a signatory party to the cooperation agreement establishing the Management Committee.

ICOMOS noted that the list of commitments identified for the management of the property were not expressly included in the Protocol for establishing the Mission Unit dated 2010. Reference in the Protocol text is made to an Action Program, but this does not seem to be attached to the Protocol.

In February 2019, the State Party transmitted an updated Cooperation Protocol among the Municipality of Mafra, the School of Arms, the General Directorate for Cultural Heritage, the National *Tapada* of Mafra, and the Parish of Mafra, which was signed on 15 February 2019.

The cooperation protocol establishes a Cooperation Unit to optimize the management system that meets quarterly, and an Advisory Unit to support and cooperate with the Cooperation Unit. The mandate of the Unit is monitoring the building, the garden areas, standardisation of processes/procedures, surveillance of forested areas, coordinating security plans, research, cultural and educational activities, conservation/restoration of movable objects, and promotion and ticketing.

Visitor management

The nomination dossier devotes a brief paragraph to visitor facilities and infrastructure but does not address visitor management specifically, although the management system mentions objectives related to visitation and promotion of the nominated property.

ICOMOS considers that a coordinated and unified approach to visitor management is indispensable, especially considering that the nominated property and its visitation are managed by different bodies. In this regard it would be necessary that the management develops a common visitation strategy with a common framework for the presentation of the property, its values, attributes and history. An overall assessment of the impact of current and potential future visitors on the various parts of the property will assist the sound management of visitors, whilst

respecting the values of the nominated property and its functions.

The newly-created Coordination Unit shall address also visitor management needs.

Community involvement

The nomination dossier does not explain whether the local community has been involved in the nomination process. The visual structure of the management system in the nomination dossier mentions other partners among the concerned parties but it is not clear how the local community and entrepreneurs, for instance, will be involved in the management process.

ICOMOS considers that it is important that the State Party and the management of the nominated property address this aspect in its management approach.

Evaluation of the effectiveness of the protection and management of the nominated property

Legal protection appears to be adequate for the nominated property and based on some key, implemented instruments. The State Party has harnessed the evaluation process and the initially-proposed buffer zone has been expanded well beyond the originally-proposed 75m strip of land. The new buffer zone is based on planning zoning provisions, fire prevention regulations, and nature protection zones. The rationale for the amended buffer zone (document submitted on 25 February 2019) is now clear and adequate protection measures seem to be in place.

ICOMOS observes that the different bodies that use the nominated property and are responsible for the maintenance and management of their assigned portion of the complex have elaborated instruments to this aim. However, there is no evident harmonization and coordination mechanism in the nomination dossier among these instruments, which appear to have separate lives.

ICOMOS noted that the 2010 Protocol to establish the Management Committee only focused on the nomination process and did not address how the Management Committee or any other management structure would guarantee a coordinated and collaborative management of the property in case it is inscribed.

Following the reception of the Interim Report, the State Party has transmitted an updated Cooperation Protocol among the key managing entities of the nominated property, signed on 15 February 2019.

ICOMOS considers that this represents an important step forward to ensure that a more robust and coordinated management system is set up, able to ensure circulation of information, coordination and cooperation among all stakeholders, based on a common and jointly developed management tool.

The various separate agreements need to be integrated into one single instrument that delineates common objectives and specific management tasks for each management body.

Inter-institutional cooperation is crucial, particularly when it comes to visitor management and strategy. Joint forces might be able to improve the visitation experience of the overall complex.

Furthermore, ICOMOS considers that the *Tapada* should be managed through a cultural landscape approach, and the objectives of the management should include landscape archaeological research: given the lack of documentary resources, direct research appears to be the only thing capable of shedding light on the former uses and arrangements of the *Tapada* as a purposely-designed landscape for multifunctional uses.

ICOMOS considers that the legal protection in place for the nominated property is adequate. The State Party has considerably enlarged the buffer zone to guarantee protection from fire threats and from visual impacts over the vistas towards the Royal Palace of Mafra from the town.

A Cooperation Protocol has been recently signed (15 February 2019) to replace the previous one, and this represents a step forward that needs to be fully harnessed by the State Party to achieve a shared and coherent vision for the whole nominated property. However, full coordination and cooperation mechanisms among all managing bodies are yet to be built, each managing body still operating according to its own planning, programming or management tools.

ICOMOS considers that a more robust management structure is needed with explicit tasks and commitments and one jointly-elaborated management tool, extending to address visitor and risk management.

6 Conclusion

The Royal Building of Mafra with the *Cerco* Garden and the *Tapada* has been nominated under four criteria – (i), (ii), (iv) and (vi) – as an exceptional representation of King João V's conception of the monarchy and of the State, in which each social component had its role: the aristocracy, represented by the Royal residences; the Church, illustrated by the basilica; and the people, represented by the Franciscan monastery, all gathered in one single building.

King João V's ideological programme is reflected in the layout of the building, in the choice of the architectural language (Roman Baroque as opposed to previously adopted Mannerism), and the functions included within the complex, in particular the Infirmary, the Library and the School, reflecting the importance accorded to health and education.

A wealth of research has been deployed, despite the loss of the archival records of the construction of Mafra, to support the proposed justification for inscription, focused in particular on the Palace. Much less information was presented in the nomination dossier on the *Cerco* Garden and on the *Tapada*: the additional information has partially remedied this weakness; however a substantial increase of documentation for the *Tapada* would be necessary – in the form of a landscape study, including a cartographic inventory of its heritage features – to illustrate the historic substance of the *Tapada* and the way in which it served the Mafra complex.

The revised and augmented comparative analysis presented by the State Party upon ICOMOS' request, demonstrates that there is room for the Royal Building of Mafra on the World Heritage List, even though a number of Royal residences are already listed, in particular for the presence of the *Tapada*, which is the element that makes the nominated property stand out amongst its comparators.

ICOMOS, however, considers that, out of the four criteria proposed, only criterion (iv) has the potential to be justified by the whole of the nominated property (the Royal Building, the *Cerco* Garden and the *Tapada*). However, insufficient documentation has been presented in the nomination dossier and in the additional information, particularly on the *Tapada*. Further graphic documentation – a landscape study or, at least, a mapped inventory of the landscape and heritage features surviving in the *Tapada* – is needed, to support the textual description and illustrate better the heritage features of the *Tapada*, especially because the comparative analysis has clarified that it is the distinctive and decisive element of Mafra to justify consideration for the World Heritage List.

ICOMOS considers the property altogether cannot meet criterion (i) because the architectural, technological and artistic achievements of the royal building evoked to support the justification of this criterion appear to be confined only to some built features (staircases, the dome of the basilica and the sculptural decoration). These were built by applying principles already tried earlier and in much larger structures to justify criterion (i). Additionally, neither the *Cerco* Garden nor the *Tapada* can be said to reflect the expression of human creative genius.

The arguments presented to support criterion (ii) focus on the Royal Building only and do not consider the *Cerco* Garden or the *Tapada*. Their features and historical development, however, even on the basis of the additional information provided, do not suggest that they could contribute to supporting this criterion. As for the Palace, the arguments presented would anyway be slim in the light of the comparative analysis.

The arguments presented to justify criterion (vi) can contribute to strengthen and to complement the justification of other criteria, but are not sufficient to demonstrate criterion (vi). Additionally, only some elements of the nominated property reflect one or other of the justifications but not Mafra as a whole.

The conditions of integrity and authenticity, to be fully demonstrated, would require additional documentation to be presented on the heritage features of the *Tapada* in particular.

The legal protection in place for the nominated property appears adequate, as well as the buffer zone as amended through the additional information submitted on 25 February 2019, which seems to guarantee the needed added layer of protection to the nominated property, particularly to prevent fire threats and negative visual impacts on the vistas towards the Royal Palace of Mafra from the town.

The elaboration of the nomination dossier has been a collaborative effort of the three main government bodies responsible for the Complex, plus the Municipality of Mafra, and the Parish of Santo André of Mafra.

On 25 February 2019 an updated Collaboration Protocol was signed by the Municipality of Mafra, the School of Arms, the General Directorate of Cultural Heritage/National Palace of Mafra, the National *Tapada* of Mafra and the Parish of Mafra. All parties are to be commended for the forward-looking decision to sign the protocol and to establish the Cooperation Unit. This represents a first step to building a coherent vision for the whole nominated property as well as well-gearred coordination and cooperation mechanisms among all managing bodies. At the moment, each managing body operates according to its own planning, programming or management tools but the target to be sought is a robust management structure with explicit tasks and commitments for each member and one jointly-elaborated management instrument, extending to address priorities in the conservation measures, visitor and risk management.

7 Recommendations

Recommendations with respect to inscription

ICOMOS recommends that the nomination of Royal Building of Mafra – Palace, Basilica, Convent, *Cerco* Garden and Hunting Park (*Tapada*), Portugal, be **referred back to** the State Party, in order to:

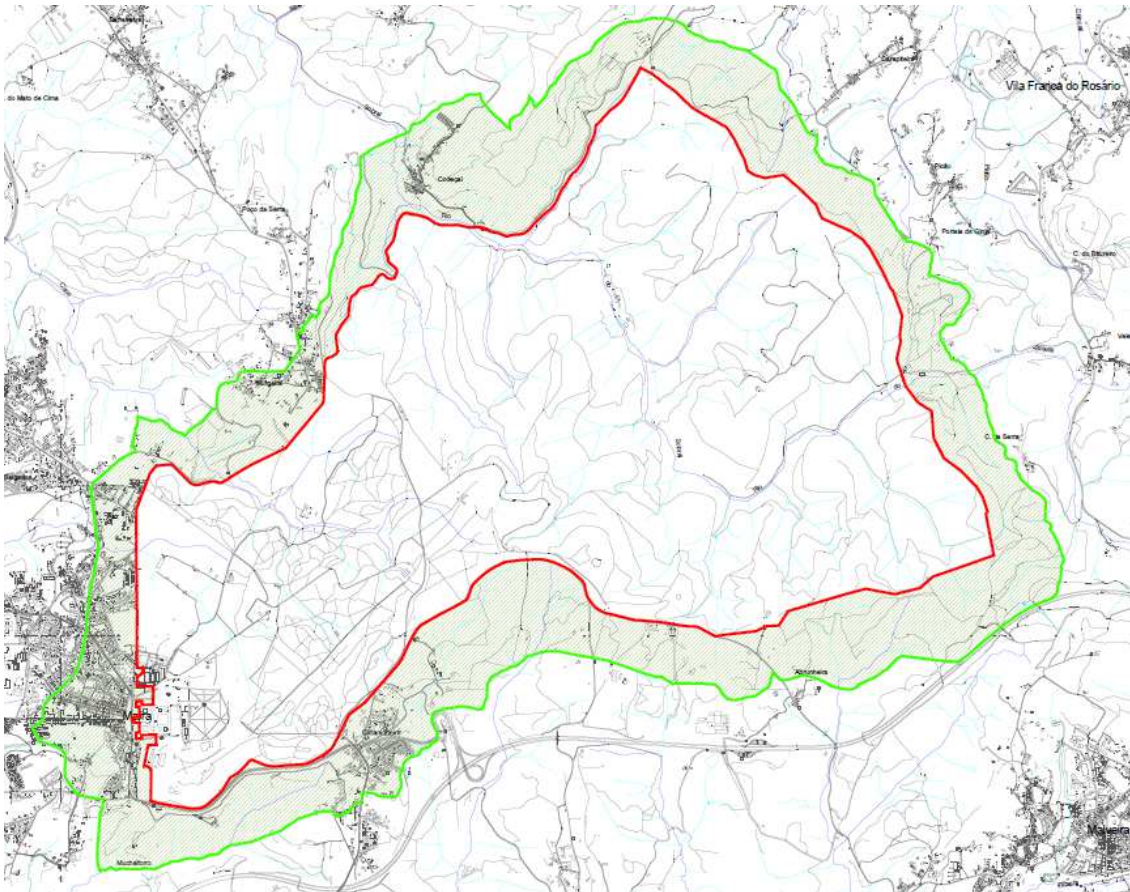
- Develop a landscape study and a cartographic inventory of the heritage features of the *Tapada* to support a more complete and detailed understanding of the historical evolution of the design of the *Tapada*, including the distribution of the functional areas, of the hydraulic system and its elements, the selection of plants, as well as alterations to the species and their layout, so as to reinforce and further substantiate the proposed justification for inscription;
- Use the information above to reinforce the management of the cultural landscape dimension of the *Tapada*;

- Develop a more robust management system that identifies explicit tasks and commitments for each member of the Operational Unit and integrates the various plans and programmes into a jointly-elaborated management instrument, based on a unified vision for the whole of the property.

Additional recommendations

ICOMOS further recommends that the State Party give consideration to the following:

- a) Developing jointly a conservation programme with all responsible managing institutions, with clear priorities, and sources of funding for the whole of the property,
- b) Requesting the School of Arms to undertake a review of the usage of the land it occupies, in coordination with a landscape architect, with the aim of improving the setting of the convent whilst meeting the functional needs following the changes of 2013,
- c) Encouraging the Municipality to develop a conservation plan for the *Cerco* Garden, stating the long-term objectives for its management,
- d) Encouraging the management parties to coordinate through one single strategy the interpretation of the property, including unified works so that the public can appreciate its totality,
- e) Encouraging all relevant parties involved in elaborating a strategy for, and carrying out, landscape archaeology investigations within the *Tapada* to shed further light on its historic development as a designed multifunctional landscape;



Revised map showing the boundaries of the nominated property (February 2019)



Main façade (east side)



Basilica dome



Overview of the *Tapada*



Boxwood Garden

Sanctuary of Bom Jesus do Monte in Braga (Portugal) No 1590

Official name as proposed by the State Party

Sanctuary of Bom Jesus do Monte in Braga

Location

Northern Region, Municipality of Braga
Portugal

Brief description

The Sanctuary of Bom Jesus do Monte in Braga is a cultural landscape located on the steep slopes of Mount Espinho overlooking the city of Braga in the north of Portugal. It is a landscape and architectural ensemble constituting a sacred mount symbolically recreating the landscape of Christian Jerusalem and portraying the elaborate narrative of the Passion of Christ (the period in the life of Jesus from his entry to Jerusalem through to His crucifixion). Developed over a period of more than 600 years, the ensemble is focused on a long and complex *Via Crucis* (Way of the Cross) which leads up the mount's western slope. The elaborate set of stone stairs and paths is interposed with a series of chapels that house sculptural collections evoking the Passion of Christ, as well as fountains, allegorical sculptures and formal gardens. The *Via Crucis* culminates at the church on top of the mount, where a representation of the Calvary (the site where Jesus was crucified) is featured in the main altar.

The 26 ha nominated property illustrates a European tradition of creating *Sacri Monti* (sacred mounts), a concept initially promoted by the Catholic Church's Council of Trent in the 16th century in reaction to the Protestant Reformation and subsequently realized at many locations in Europe and beyond. This sanctuary in Braga, carried out primarily in a Baroque style and surrounded by a lush park and woodland, is a relatively early, extensive and unified version that reflects the grand religious narrative typical of the Church's Counter-Reformation endeavours.

Category of property

In terms of categories of cultural property set out in Article I of the 1972 World Heritage Convention, this is a *site*.

In terms of the *Operational Guidelines for the Implementation of the World Heritage Convention* (July 2017) paragraph 47, it has also been nominated as a *cultural landscape*.

1 Basic data

Included in the Tentative List

31 January 2017

Background

This is a new nomination.

Consultations and Technical Evaluation Mission

Desk reviews have been provided by ICOMOS International Scientific Committees, members and independent experts.

An ICOMOS technical evaluation mission visited the property on 17-20 September 2018.

Additional information received by ICOMOS

A letter was sent to the State Party on 8 October 2018 requesting further information about the comparative analysis, integrity, authenticity, factors affecting the property, management and protection.

An Interim Report was provided to the State Party on 21 December 2018 summarizing the issues identified by the ICOMOS World Heritage Panel.

Further information was requested in the Interim Report, including: mapping of the property, augmenting the comparative analysis, the status of exclusions of parts of Mount Espinho, the origins of one of the hotel buildings, the justification of criterion (ii), design of the landscape and choice of plantings, removal of the terrace bar and monitoring indicators.

Additional information was received from the State Party on 12 November 2018 and has been incorporated into the relevant sections of this evaluation report.

Date of ICOMOS approval of this report

13 March 2019

2 Description of the property

Note: The nomination dossier and additional information contain detailed descriptions of this property, its history and its state of conservation. Due to limitations on the length of evaluation reports, this report provides only a short summary of the most relevant aspects.

Description and history

The Sanctuary of Bom Jesus do Monte in Braga is a 26 ha cultural landscape located on the slopes of Mount Espinho overlooking the city of Braga in the north of Portugal. The property has three main areas: the park to the southeast of the church at the top of Mount Espinho, a densely wooded area to the west in the lower section of the property, and the sanctuary.

The property includes structural and ornamental features such as walls, stairways, patios, gardens, chapels, a church, fountains and statues. The use of water features is

integral to the composition. The woodland and park have a network of paths; there are also lakes as well as secular buildings.

The sanctuary is an architectural and landscape ensemble which has been developed over a period of over 600 years. The planning of the complex is focused on a long and complex *Via Crucis* (Way of the Cross) which leads up the western slope of Mount Espinho. It features a series of chapels that house sculptural collections evoking the Passion of Christ, as well as fountains, allegorical sculptures and formal gardens. At the top of the *Via Crucis* is the church.

The sanctuary, which has been rebuilt and enlarged over time, is marked by Baroque as well as Rococo and Neo-Classical style architecture. It is surrounded by a woodland which lead pilgrims along successive stairways between various chapels.

The nominated property illustrates a European tradition to create *Sacri Monti* embodying a sacred mount. The property in its current form is developed primarily in a Baroque style and reflects the grand religious narrative typical of the Counter-Reformation.

The Stairway of the Five Senses is the most emblematic Baroque work within the property. It includes walls, steps, fountains, statues and other ornamental elements rich from iconographic, scenographic and symbolic points of view.

Secular buildings or structures include hotels and reception buildings. To the north of the stairway is a water-powered funicular railway providing alternative access up the hill, dating from 1882.

The entire sanctuary is built of granite, and the property still contains evidence of quarrying for construction of the sanctuary. The granite buildings have facades of whitewashed plaster framed by exposed stonework.

The vegetation is primarily deciduous trees, complimented by exotic evergreen species. An essential element of the park is a lake.

The original or historical design of the current landscape is apparently not well understood. ICOMOS requested additional documentation on the historical design, selection of plants and meaning of the main landscape elements. The State Party in February 2019 summarised the historical understanding of the design, based on the existence of early maps, contemporary newspaper reports and books, and records of the Confraternity. Authorship of the design remains uncertain, although an 1883 map documents the form of the design at this time. Original plant selections are also documented, and the planting plan can at least be partly inferred from surviving mature specimens which are recorded as main or remarkable species. None the less, gaps in knowledge about the landscape remain, importantly regarding the meaning of the vegetation and landscape to the sacred place.

The city of Braga dates back to the Roman era, and the Christian Church's presence in the city dates back to the 3rd century CE.

The nominated property was created on Mount Espinho as a sacred mount, as part of a larger movement for the creation of 'new' Jerusalems in various parts of Europe, with the important goal of educating people about Christianity. The property can be understood as a single program to create a place of salvation – built and rebuilt in successive periods of time – which has absorbed social, political and economic circumstances of each period, and artistic manifestations and creations over time. In particular, the current form of the property reflects successive programs implemented by the Archbishops of Braga and the Boards of its owner, the Confraternity of Bom Jesus Do Monte, from the 17th century onwards.

The history of the property can be divided into seven stages: the time of hermitages (14th century–1629); the first sanctuary (1629–1722); the resurrected Jerusalem (*Jerusalem Sancta Restaurada*) (1722–1740); the Yard and the Evangelists (1749–1765); the period of grace and a new temple (1765–1857); from sanctuary to a place of holidays (*Villegiatura*) (1877–1945); and the recent period (1945–present).

The early religious use of Mount Espinho relates to the presence of hermitages on the mount.

The Confraternity of Bom Jesus Do Monte was founded in 1629. It is from this date that Mount Espinho, including its various small heritages, is considered as a Calvary mount (Calvary being the place where Jesus was crucified). The movement of confraternities, or council fathers, was related to the Catholic Church's reaction to the Protestant Reformation. The movement included a vigorous revitalization of religious sentiment and spirituality.

The Confraternity of Bom Jesus Do Monte rebuilt the hermitages at Mount Espinho during the second stage and designed major building works that would transform the mount into a sanctuary, including pilgrims' barracks and the first chapels in small niches, alluding to the Passion of Christ, connected by a distinctive path created in the woods.

The third stage, from 1722 to 1740, saw the construction of a portico, eight chapels, fountains, the Stairway of the Five Senses and a circular-shaped church (since replaced). The path of the *Via Crucis* was also regularized. The new church and chapels were completed in 1725 and four additional chapels were designed.

The stage beginning in 1749 saw the construction of accommodation houses for chaplains, pilgrims' hostels, new statues and a chapel. This stage is noted for the construction of the Yard of the Evangelists, which was completed in 1765. It evokes the period following the death of Christ, distinguishing the sanctuary of Braga from most versions of the *Via Crucis*. In many ways it contributes to the complexity and completeness of the *Via Crucis*.

This period highlights the important involvement of visitors to the sanctuary, of worshippers of the Holy Cross and of members of the Confraternity. Their contributions of alms and donations were extremely important for construction, conservation and liturgical activity.

The current church was built between 1784 and 1811 to replace the earlier circular-shaped structure, although the interior was not completed until 1857. Several other works were completed during this, the fifth stage, including the Stairway of the Virtues and several chapels.

The funicular railway was completed in 1882, during the sixth stage (1877–1945), providing an alternative access up the mount. Some elements were in a poor state of repair, and a major reconstruction of the sanctuary was undertaken in this period. At the same time, the pilgrims' barracks began to evolve into hotels. These developments reflected the transformation of the property from a place of pilgrimage to *Villegiatura*, a place which also accommodated tourism.

The park was constructed towards the end of the 19th century, involving intense planting of tree and shrub species, the development of the lake and the creation of several pathways. Additional chapels were built in the years after 1884, replacing earlier versions. Other small changes were made during the early part of the 20th century.

The property has been managed throughout its entire history by the Confraternity. In 1998 a master plan was commissioned and has been implemented since that time. The hotels have been the subject of significant renovation works, and conservation and restoration works have been conducted on many chapels, fountains, works of art and stairways. In recent years the number of visitors has significantly increased, requiring greater management of vehicular circulation and parking.

Boundaries

The nominated property has an area of 26 ha, and a buffer zone of 232 ha.

The nominated property's boundary incorporates all the attributes of the proposed Outstanding Universal Value and is well defined, generally following the perimeter road. It broadly corresponds to the 1883 sanctuary boundary. The boundary excludes a part of the sacred mount on the north side. The excluded area has a luxury hotel with intensive tourism activities, and a Carmelite convent. ICOMOS considers these exclusions are justified.

The buffer zone provides adequate protection for the nominated property, especially from development encroachment, and it is generally well defined, following public roads as well as the walls of private properties, forest paths, and a small river which defines the entire eastern part of the buffer zone.

State of conservation

Some elements were in a poor state of repair in the 1880s and a major reconstruction of the sanctuary was undertaken, including reconstruction and repair of the Stairway of the Five Senses in 1895.

A major conservation project is currently under way. Due for completion in 2020, it will address six chapels, the church's interior and its works of art, and will complete work previously begun on the stairways.

Based on the information provided by the State Party and the observations of the ICOMOS technical evaluation mission, ICOMOS considers that the state of conservation is generally good. This follows about 20 years of continuous work on the conservation and restoration of the sanctuary (noting that the current project is still to be completed).

The ICOMOS mission notes that there are visible restoration problems on the main Portico and the lower parts of the staircases caused by the continuous, long-term use of thousands of visitors, as well as natural environmental factors. The not-yet restored nine chapels face high moisture problems both on their surfaces and in their interiors. The funicular needs conservation, and the lakeside café is out of order and in a decayed state.

Areas of the park, woodland, gardens and avenue, especially regarding trees and pavements, still require attention. A further phase of work is planned for the future to address these aspects.

Factors affecting the property

Based on the information provided by the State Party and the observations of the ICOMOS technical evaluation mission, ICOMOS considers that the main factors affecting the property are urban expansion/development, fire and visitor pressures.

The sanctuary is located on the outskirts of the city of Braga, at the edge of the urban area but in a generally rural environment. The city has experienced significant urban expansion.

Urban pressure arises regarding expansion of the city around the buffer zone as well as by private building activity inside the buffer zone. Such development includes small and large modern houses (which do not exceed two storeys). In some areas, relatively dense vegetation screens this development. The extensive woodland area also helps to preserve the sanctuary, and the municipal master plan safeguards the area from construction and new roads. The woodland is also classified as a recreational forest area which is managed according to conservation as well as other objectives.

These housing developments have been excluded from the buffer zone in a few instances. On the other hand, other housing areas are included within the buffer zone in order to provide for stronger and more effective control over future changes to these areas.

The existing urban pressure on the surrounding areas resulting from the expansion of the city has not caused any adverse impacts on the nominated property. With regard to building activity within the buffer zone, the associated impacts on the property can be mitigated. Both situations require careful future monitoring.

There are no environmental pressures.

One of the biggest potential risks for the property is fire because of the dense surrounding woodland. Some of the exotic tree species in neighbouring properties and forested areas are also especially dangerous in wildfires.

The Confraternity is vigilant regarding the threat of fire, and firefighting authorities are aware of the importance of the sanctuary and deploy firefighting resources to combat threats when they have arisen. However, there is a realization that greater coordination is required between all stakeholders in the vicinity regarding this threat, including between the two relevant municipalities. Work is underway to improve coordination and planning in order to prevent and fight fires.

The increasing number of visitors to the nominated property has the potential for adverse impacts. This increase relates to religious visitors as well as to cultural tourists. The Confraternity is mindful of the growing number of visitors and has long reconciled the need to manage the property as both a religious place and a cultural destination for tourists. Accordingly, careful management is required for a procedure that has been adapted over time to handle an increasing number of visitors. Further pressure as a result of possible World Heritage inscription may require additional management responses to protect the property.

One additional facility in the nominated property deserves mention, a beverage bar located on a terrace near the exit of the funicular. This facility is not suitable for the current location, and is planned to be removed in the period 2020-2025. ICOMOS requested confirmation of the timetable for removal of the bar in its interim report. The State Party advised in February 2019 that the current commercial lease will be revoked in 2020 and the bar will be returned to the control of the Confraternity. No further details of the timetable were provided.

3 Proposed justification for inscription

Proposed justification

The nominated property is considered by the State Party to be of Outstanding Universal Value as a cultural property for the following reasons:

- The landscape and architectural ensemble of the sanctuary is an integral part of the European project for the creation of *Sacri Monti* promoted by the Council of Trent in the 16th century. It constitutes a sacred mount symbolically recreating the landscape of Christian Jerusalem in order to enable Christians to

experience that holy place. It is a model that has been exported to other parts of the world.

- The sanctuary is an extraordinary example of a sacred mount with an unprecedented monumentality determined by a complete and elaborate narrative of the Passion of Christ. It is outstanding for its architectural and decorative qualities, reflecting the Baroque, its unity in generating a formal and functional harmony, the predominant use of granite for construction, and the impressive set of statues, all set within a lush green park and woodland. The property also reflects technical ingenuity related to structural, mechanical and hydraulic elements, and artistic expression related to the architecture, sculpture and painting.

The nomination refers to the property being 'a manifestation of the artistic and constructive creative genius of man' and 'a masterpiece, resulting from creative genius...'. However, the obvious criterion most relevant to such claims – criterion (i) – is not proposed nor is it addressed in the nomination's comparative analysis.

Comparative analysis

The comparative analysis is presented in three parts: in the context of other sacred mounts (pre-alpine mounts) constructed earlier than the nominated property; sacred mounts included in the World Heritage List and Tentative Lists; and other relevant properties within Portugal.

The analysis begins with a distinction between natural mountains which are themselves the objects of veneration, as versus structures built upon mountains being the objects of veneration. This is illustrated as a distinction between Oriental sacred mountains, for example, and the Italian *Sacri Monti*. The analysis also suggests the concepts of *Sacri Monti*, *Calvaries* and *Viae Crucis* are not clearly differentiated in the literature, and all three may apply to the nominated property.

The State Party's analysis found that there are no similar properties in the Tentative Lists.

The analysis notes that the sacred mount of Varallo in Piedmont (Italy), begun at the end of the 15th century, inaugurated the theme of sacred mounts and paved the way for the expression of religious scenography, which relates to the nominated property.

A comparison is made with the Piedmont and Lombardy sacred mounts (Varallo, Crea, Orta, Varese, Oropa, Ossuccio, Ghiffa, Domodossola and Valperga). The analysis recognizes that the idea of symbolically recreating Jerusalem in Portugal may have originated in other locations, such as in convents, but that the idea of building one on a mount, accessible to a wide range of believers eager to experience the course of Christ's Passion, may have begun with the nominated property. These other representations were created in a space reserved for monks, however, and never achieved the iconographic and architectural complexity of the

nominated property, nor had its impact on the associated landscape.

The pre-alpine mounts are suggested as better comparisons because their steep topography allowed for the re-creation of the experience of climbing the sacred mount in Jerusalem as a 'substitute pilgrimage'. The Varallo sacred mount in Piedmont was the first to be built in the Pre-Reformation period and became a model for later constructions. A number of other sanctuaries with similar characteristics were built in the same pre-alpine territory, especially in the 16th and 17th centuries. With the exception of two examples in Switzerland (Locarno and Brissago), the remaining are Italian sacred mounts which are included in a serial property inscribed on the World Heritage List as the *Sacri Monti* of Piedmont and Lombardy (Italy, 2003, criteria (ii) and (iv)). It is noted the two sacred mounts in Switzerland have previously been recommended by ICOMOS as an extension of the Italian World Heritage property.

The analysis notes that the nominated property has a grand physical and scenic dimension, an architectural monumentality, and a decorative and symbolic richness that make it stand out from the pre-alpine sanctuaries.

In addition to *Sacri Monti* of Piedmont and Lombardy, the comparative analysis considers three other World Heritage properties: Bom Jesus de Congonhas (Brazil, 1985, criteria (i) and (iv)); Historic Town of Banská Štiavnica and the Technical Monuments in its Vicinity (Slovakia, 1993, criteria (iv) and (v)); and Kalwaria Zebrzydowska: the Mannerist Architectural and Park Landscape Complex and Pilgrimage Park (Poland, 1999, criteria (ii) and (iv)). Apart from brief factual information, the nomination does not provide conclusive comparisons to establish why the nominated property should also be included in the World Heritage List.

The nomination quotes an analysis of sacred mounts to conclude that the nominated property is 'the most elaborate example of the sacred mounts of the Catholic world'. In yet another quoted analysis, it states 'the sacred mount of Braga offers us, without a doubt, the most perfect sanctuary built by Christianity...'

The analysis notes the various and recurring references to the property as a model for the creation of other sanctuaries on mounts, particularly in the north of Portugal and in Brazil. Specific mention is made of the nominated property's influence on Bom Jesus de Congonhas in Brazil.

The analysis notes that *Sacri Monti* have spread around Europe, with a large number of examples in Italy, Switzerland, Austria, Germany, Spain, France, Hungary, Slovakia, Netherlands and Belgium, as well as in Portugal. To this list might also be added India, with the example of Our Lady of the Immaculate Conception Church in Goa. No specific comparisons are provided with most of these examples.

With regard to other sanctuaries in Portugal, the analysis asserts that the nominated property reflects a physical expansion and higher formal complexity, particularly the construction of complex stairs, granting the landscape a higher importance, which only happened after the Baroque development of Bom Jesus do Monte in Braga. It became a model for later sanctuaries in Portugal.

None the less, in the context of the main Baroque design and physical attributes there is sufficient information to conclude that the property is outstanding compared to sanctuaries in Portugal and Brazil, and has substantially different qualities to the highly important *Sacri Monti* of Piedmont and Lombardy, in particular the Sanctuary of Varallo. Compared to the latter, the nominated property is generally of a later period, is a single property managed by the same institution since 1629, and is characterised by its unity derived from a grand design in an exquisite Baroque style.

ICOMOS considers that the comparative analysis justifies consideration of this property for the World Heritage List.

Criteria under which inscription is proposed

The property is nominated on the basis of cultural criteria (ii) and (iv).

Criterion (ii): *exhibit an important interchange of human values, over a span of time or within a cultural area of the world, on developments in architecture or technology, monumental arts, town-planning or landscape design;*

This criterion is justified by the State Party on the grounds that the landscape and architectural ensemble of the sanctuary is an integral part of the European project for the creation of *Sacri Monti* promoted by the Council of Trent in the 16th century. It constitutes a sacred mount symbolically recreating the landscape of Christian Jerusalem in order to enable Christians to experience that holy place. It is a model that has been exported to other parts of the world.

ICOMOS requested in its interim report further information on the role of the property as a model exported to other parts of the world, including how its influence is tangibly demonstrated. The State Party replied by referring to scholarly opinion, and by providing additional information about several churches constructed in Goa, India. However, the State Party noted it did not have sufficient information to demonstrate any direct influence. The State Party also provided brief information on the influence within Portugal regarding intangible elements, and to the broad influence of the property on devotion, religious practices and architecture in Brazil.

ICOMOS considers that the documented influence of the Sanctuary of Bom Jesus do Monte di Braga appears to have been limited to an important property in Brazil, Bom Jesus de Congonhas, as well as later sanctuaries in Portugal. However, details of this influence and the role of the property as a model for other examples of sanctuaries

in the world are lacking, and overall the interchange does not meet the level of Outstanding Universal Value.

ICOMOS considers that criteria (ii) has not been justified.

Criterion (iv): *be an outstanding example of a type of building, architectural or technological ensemble or landscape which illustrates (a) significant stage(s) in human history;*

This criterion is justified by the State Party on the grounds that the sanctuary is an extraordinary example of a sacred mount with an unprecedented monumentality determined by a complete and elaborate narrative of the period in the life of Jesus from his entry to Jerusalem through to his crucifixion (the Passion of Christ). It is outstanding for its architectural and decorative qualities, reflecting the Baroque, its unity generating a formal and functional harmony, the predominant use of granite for construction, the impressive set statues, all set within a lush green park and woodland. The property also reflects technical ingenuity related to structural, mechanical and hydraulic elements, and artistic expression related to the architecture, sculpture and painting.

ICOMOS considers that the nominated property is an outstanding example of a landscape and architectural ensemble illustrating the Counter-Reformation in the Catholic Church in Europe. The ensemble is a relatively early, extensive and unified Baroque composition integrating architecture, sculpture, water features and landscape reflecting the elaborate narrative of the Passion of Christ. The creation of such ensembles, symbolic 'new' Jerusalems, was integral to the Counter-Reformation and its efforts to reinvigorate the Catholic faith at a time of challenge from the rise of Protestantism.

However, information on one important aspect, the meaning of the vegetation and landscape to the sacred place, is needed to complete the understanding of the property.

ICOMOS considers that the nominated property meets criterion (iv).

ICOMOS considers that the nominated property meets criterion (iv) but that criteria (ii) has not been justified.

Integrity and authenticity

Integrity

The integrity of the nominated property is based on the landscape and architectural ensemble of the sanctuary representing a model of a sacred mount, specifically the landscape of Jerusalem associated with the Passion of Christ, and the need for the property to contain all the attributes necessary to convey the proposed Outstanding Universal Value. Integrity is also a measure of the intactness of the property, and the way major pressures are managed.

ICOMOS considers that the nominated property retains all attributes that support the proposed Outstanding Universal Value of the property. The historical physical context of the property has remained practically intact up to the present day and, although it combines several stages of evolution, the ensemble has retained its overall integrity.

The essential attributes of the nominated property are generally in good condition. It is noted that a new phase of conservation work is in progress and another is planned for the future, in order to improve the condition of some structures in need of attention and the landscape area. In the latter case, the park and woodland have a number of decaying trees and some invasive plant species which need to be addressed.

The major pressures on the nominated property, urban expansion and visitation, are being adequately managed, however they should continue to be monitored closely. The potential for fire is another major pressure, and while its management is generally satisfactory, improvements are needed, as noted above in the summary of the factors affecting the property.

Authenticity

The authenticity of the nominated property is based on the attributes of its proposed Outstanding Universal Value, which include the location and setting of the sanctuary, its form and design reflecting the symbolic Christian landscape of Jerusalem, its ongoing religious use, the spirit of the property, and the management system based on the long-term management by the Confraternity.

ICOMOS considers that the location of the nominated property on a mount continues as it has through history, and its setting overlooking the city of Braga remains, despite the expansion of the city towards the sanctuary over time. The form and design of the ensemble have evolved over a period of centuries, and there is only a limited understanding what currently remains of the landscape planting's historical design or substance and related meaning. The nominated property otherwise portrays the full, unified and harmonious realization of the symbolic Christian landscape of Jerusalem, based on an overall structure for the sanctuary dating from the 17th century and Baroque style architecture of the 18th century.

The property has been in continuous religious use since its establishment, noting that tourism use has increased in modern times.

The Confraternity of Bom Jesus do Monte has managed the property since 1629, and continues in this role.

ICOMOS considers that the requirements of integrity have been met but the requirements of authenticity have not been met at this stage.

Evaluation of the proposed justification for inscription

ICOMOS considers that the comparative analysis justifies consideration of this property for the World Heritage List.

ICOMOS considers that the nominated property meets criterion (iv) but does not consider that criteria (ii) has been justified. ICOMOS considers that the requirements of integrity have been met but the requirements of authenticity have not been met at this stage.

Attributes/Features

The attributes of the property are all related to the central theme present in the proposed Outstanding Universal Value – it is a landscape and architectural ensemble constituting a sacred mount symbolically recreating the landscape of Christian Jerusalem and portraying the elaborate narrative of the Passion of Christ, the representation of which can be experienced by visitors.

The hillside location and the built elements define the overall composition. Other structural elements include the stairways, landings, supporting and partition walls, gardens and patios/belvederes. The chapels depict scenes from the Passion and resurrection of Christ and are positioned along the entire *Via Crucis* (Way of the Cross). The church has greater importance in the hierarchy and function of the property, and includes a representation of the Calvary (the site where Jesus was crucified) in the main altar. The hotels were originally barracks for visiting pilgrims.

The ornamental attributes such as fountains and statues play a decisive role in understanding the overall narrative of the sanctuary.

The limited understanding of the original or historical design of the landscape, including the full planting plan, is an issue in the identification of attributes.

While the funicular railway is a more modern element in the property, dating from 1882, it reflects an adaptation as part of continuing religious and other visitation.

The intangible attributes include the religious program and the continuing role of the Confraternity in the management of the property.

ICOMOS considers that the identified attributes contribute to the justification for inscription. However, a more complete and detailed understanding of the historical evolution of the design of the landscape is required, including the selection of plants, as well as alterations to the species and layout of these attributes over time.

4 Conservation measures and monitoring

Conservation measures

The conservation of the nominated property has been the subject of several interventions in the last 20 years. They include major projects such as the Bom Jesus: *Requalificar*

project (2014-2015) and the current Bom Jesus: *Requalificar II* project to be completed in 2020. The latter project involves highly qualified specialists, including, for example, 20 to 40 conservation and other specialists involved in the conservation of the interior of the church. The conservation measures undertaken are part of a structured approach, and to date appear appropriate.

The Confraternity also has an effective maintenance team for the nominated property.

Funding for conservation work has been obtained from a range of sources, including the Confraternity and its commercial hotel entity, European Union programs and public donations.

There are a number of future conservation projects to be undertaken, including those related to the funicular, lakeside café and Hotel do Elevador. In addition, while the Confraternity is making great efforts to address issues with the woodland, some challenges cannot yet be addressed due to a lack of funds.

Monitoring

The Confraternity has a systematic approach to monitoring the nominated property which is structured according to the property's attributes. It provides monitoring indicators and the timeframe for monitoring. While these broad indicators appear generally satisfactory, in the case of the woodland the indicators used are not closely tied to the actual condition of the existing trees.

In addition, it is not clear whether the indicators will be useful in monitoring identified threats such as those arising from urban expansion or development.

ICOMOS considers that while the conservation measures are generally adequate, the lack of funding for some work is of concern. ICOMOS considers the monitoring approach is generally satisfactory; however, the indicators for the woodland should be supplemented to address the actual condition of existing trees, and additional indicators should be developed to address identified threats to the nominated property.

5 Protection and management

Documentation

The Confraternity has an important archive for the nominated property that it has inventoried and restored, and this work is continuing. The nomination notes the urgent need to extend the care taken with bibliographic formats for other types of documents, such as drawings. These records are essential evidence related to the construction and evolution of the property.

The management plan refers to the need to fix the inventory of heritage elements, though no details are provided.

As noted above, the original or historical design of the landscape, including the full planting plan, and its meaning as a sacred place, should be further documented.

Legal protection

The sanctuary (church, stairways, chapels and portico) and the funicular are legally protected as, respectively, a Property of Public Interest and a Monument of Public Interest. In 2017, the procedure was started to extend the classification of the sanctuary to the entire sacred mount including the funicular, and its reclassification as a national monument. This reclassification is likely to take until the latter part of 2019. Nonetheless, all legal provisions regarding the protection of a national monument currently apply to the nominated property.

Heritage protection instruments apply at national and local/municipal levels. National legislation provides protection for the nominated property and its buffer zone.

The key national law is the Framework Law of the Policy and Protection and Valorisation Regime of Cultural Heritage (Law no. 107/2001), and the associated decree on defining the procedure for classification of immovable cultural property, the regime for protection zones and the establishment of the rules for drawing up the detailed safeguard plan (Decree – law no. 309/2009). Territorial laws include the Framework Law of Public Policy on Land, Territorial Planning and Urban Planning (Law no. 31/2014) and Decree (Law no. 80/2015).

At the municipal level there is also the Municipal Master Plan of Braga (Notice no. 11741/2015), which has clear rules for the protection of the nominated property and buffer zone.

Management system

The Confraternity is responsible for the management of the nominated property, including through the commercial entity controlled by the Diocese and Confraternity which is responsible for the hotels.

The Confraternity has an administrative board which is the governing, executive and administrative body, presided by a Judge-President who is appointed by the Archbishop Primate. The Judge-President together with a Vice-President are responsible for carrying out construction, maintenance and repair works.

The Confraternity has a permanent maintenance team including those with special skills such as gardeners, electricians and plumbers. It contracts specialized services for conservation and restoration works at the property, including for built elements as well as related to trees within the property.

The Confraternity has collaborative partnerships with two companies which specialize in heritage conservation and restoration, to provide advisory and training work.

The implemented management plan includes baseline information about the proposed Outstanding Universal Value, authenticity and integrity of the nominated property. Protection mechanisms are explained, along with the governance model. The overall objectives of the plan, specific objectives for the sanctuary, park and woodland, associated identification, conservation, valorisation, and rehabilitation actions and associated tasks are included. Timeframes are provided, along with a plan of action and monitoring plan.

The limited understanding of the attributes associated with the original or historical design of the landscape, including the full planting plan, limits the satisfactory management of the landscape, which should be guided by this understanding.

It is noted that the action plan does not include all conservation, restoration and rehabilitation works for the property, such as works in progress as well as those being planned. The action plan needs to be updated and supported by a more comprehensive assessment of needs for the attributes that support the proposed Outstanding Universal Value.

With regard to risk management, the greatest risk arises from fire, especially given the surrounding dense area of woodland. The Confraternity has arrangements in place for firefighting, and local firefighting authorities are aware of the importance of the property and have resources in place to fight fires. However, it is understood that better institutional links between Braga and an adjacent municipality – Guimarães – and other stakeholders are required to provide articulated solutions to the problem of fire prevention and firefighting.

Visitor management

The action plan within the management plan includes an action related to the preparation of a cultural and tourist program. This includes the promotion of conferences, production of visitor guides, training for tour guides, creation of information centres and development of signage.

The Confraternity is very aware of the growing number of visitors to the nominated property, and of its use for both religious activities and tourism. In recent years particular management measures have been taken to control vehicular access and parking. The Confraternity is aware that revised strategies and plans may be required in response to further increases in visitors associated with the possible inclusion of the property in the World Heritage List.

ICOMOS recommends management planning be supplemented in order to control visitors, including within the park.

The Confraternity is also considering the creation of a new information centre. The current centre serves both religious visitors as well as tourists, and there is also an exhibition regarding the significance of the property and the World Heritage nomination.

Community involvement

The Confraternity has pursued a policy of conservation and valorisation of the nominated property. There has been an intense focus on mobilizing the local community, including both the citizens and the institutions of Braga. There is a strong sense of identity in the community with the sanctuary. As a result there has been significant support for the nomination of the property.

As noted above, an exhibition at the property is focused on the World Heritage nomination.

Evaluation of the effectiveness of the protection and management of nominated property

The protection and management of the nominated property is generally good, including the existing documentation archive, legal protection and management system. However, as a cultural landscape, a more complete understanding of landscape attributes of the property associated with the original or historical design and their meaning is required.

In the case of documentation, the property inventory needs to be improved along with the archiving of the full range of documents related to the property.

Regarding management, institutional links between the two municipalities and other stakeholders need to be improved regarding fire prevention and firefighting.

The action plan needs to be updated to include all current and planned works, supported by a more comprehensive assessment of needs for the attributes that support the proposed Outstanding Universal Value.

Visitation to the property and related potential impacts should be closely monitored, especially if the number of visitors increases in the event the property is inscribed on the World Heritage List. Management planning should be supplemented in order to control visitors, including within the park.

ICOMOS considers that requirements for protection and management of the buildings are not fully adequate at this stage. As a cultural landscape, the limited understanding of the landscape's attributes related to the original or historical design and their meaning is not satisfactory. In addition, improvements should be made regarding documentation, institutional arrangements for fire prevention and firefighting, and monitoring of visitor impacts.

6 Conclusion

ICOMOS considers that the comparative analysis for Sanctuary of Bom Jesus do Monte in Braga justifies consideration of this property for the World Heritage List. ICOMOS considers that the nominated property meets criterion (iv) but does not consider that criteria (ii) has been justified. The requirements of integrity have been met

but the requirements of authenticity have not been met at this stage.

The requirements for protection and management of the buildings are not fully adequate at this stage. In the case of the landscape, the apparent limited understanding of the landscape's attributes related to the original or historical design and their meaning is not satisfactory. In addition, improvements should be made regarding documentation, institutional arrangements for fire prevention and firefighting, and monitoring of visitor impacts.

The proposed boundaries and buffer zone are adequate.

The state of conservation is generally good following about 20 years of continuous work on the conservation and restoration of the property. A current major conservation project is still to be completed, and some areas of the property still require attention. A further phase of work is planned for the future; funding should be secured to undertake this work in a timely manner.

The main factors affecting the property are urban expansion/development, fire and visitor pressures.

With regard to monitoring, the overall approach is generally satisfactory; however, additional indicators are required regarding the woodland and to address threats to the property.

7 Recommendations

Recommendations with respect to inscription

ICOMOS recommends that the nomination of Sanctuary of Bom Jesus do Monte in Braga, Portugal, be **referred back** to the State Party to allow it to:

- Complete a landscape study which shows the history of the woodland, parks and gardens of the sacred mount through a series of maps. This study should throw as much light as possible on the meaning of the vegetation and landscape to the sacred place,
- Develop a more complete and detailed understanding of the selection of plants, as well as alterations to the species and layout of these attributes over time, supplementing the landscape attributes based on this work, and using this information to update management planning for the landscape.

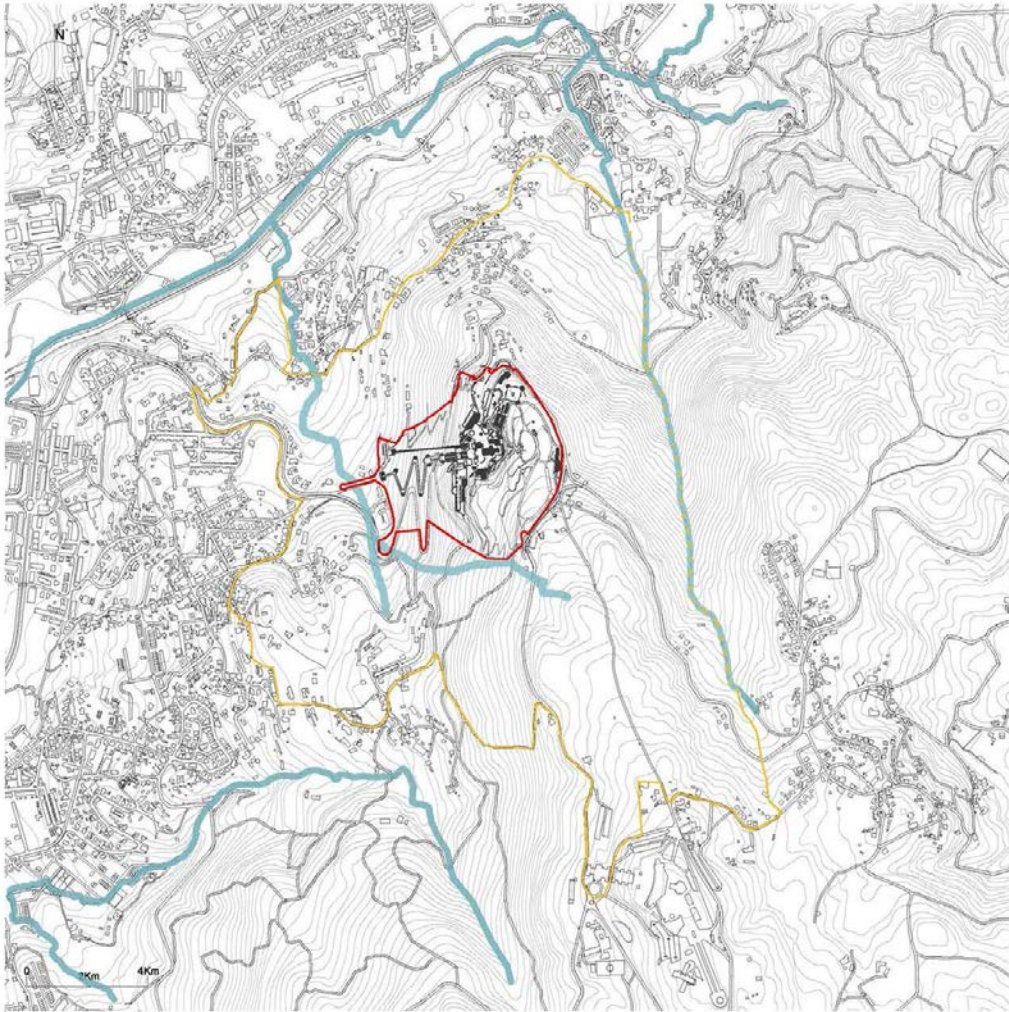
Additional recommendations

ICOMOS further recommends that the State Party give consideration to the following:

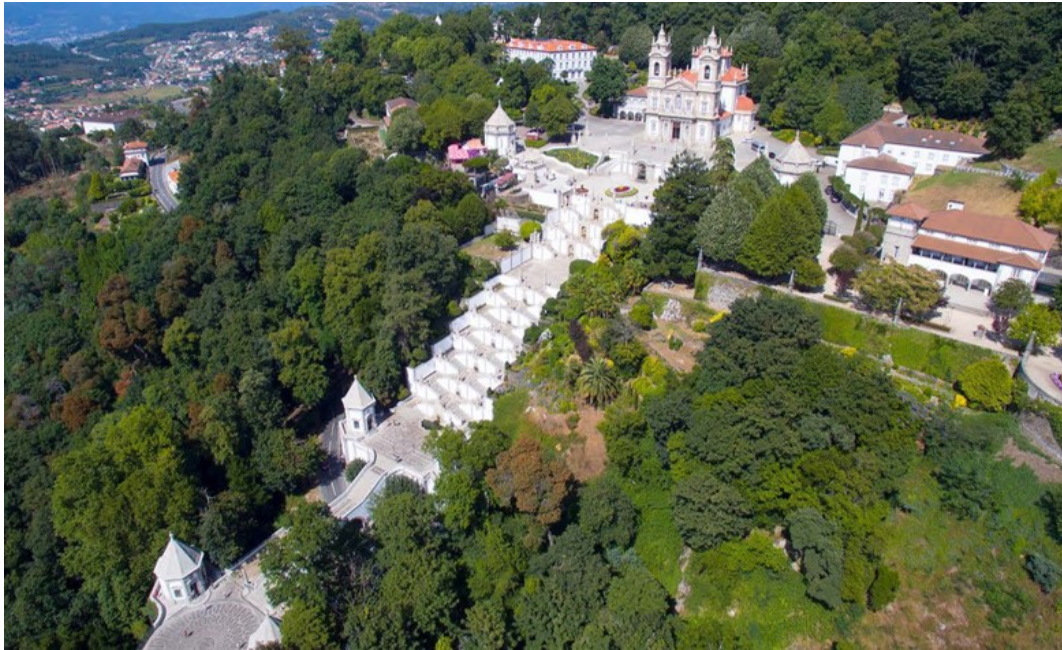
- a) Improving the documentation by fixing the inventory of heritage elements and archiving the full range of documents, improving the action plan to include all works currently in progress and those being planned, and improving the institutional links between the two municipalities

and other stakeholders for fire prevention and firefighting,

- b) Finalizing the process of classifying the whole site as a National Monument,
- c) Securing funding to undertake future planned conservation works in a timely manner,
- d) Supplementing management planning in order to control visitors, including within the park,
- e) Developing additional monitoring indicators to address identified threats to the property (including its woodland), and monitoring and addressing potential threats to the property such as urban expansion/development and visitor impacts,
- f) Providing a firm and more precise commitment about the timing for the removal of the terrace bar;



Map showing the boundaries of the nominated property



Aerial view



The Circular patio and the Stairway of the Five Senses



The Sanctuary of Bom Jesus do Monte



The Main Altar

Monuments of Ancient Pskov (Russian Federation) No 1523

Official name as proposed by the State Party

Monuments of Ancient Pskov

Location

Pskov
Pskov Region
Russian Federation

Brief description

The Monuments of Ancient Pskov are located in the historic city of Pskov and along the banks of the Velikaya River in the north-west of Russia. The nominated property includes 18 serial components, which are attributed to three groups of monuments representing the Pskov School of Architecture. The groups of monuments encompass examples of fortifications, and religious and civic architecture ranging from the 12th to the 19th centuries. The components include 2 fortification towers, 1 bell tower, 2 monasteries, 3 cathedrals, 11 churches and 2 administrative chambers. Seventeen components are located in the historic centre of the city of Pskov, while the ensemble of Snetogorsky Monastery is situated to the north-west on the right bank of the Velikaya River, still within the contemporary administrative boundaries of Pskov City.

Category of property

In terms of categories of cultural property set out in Article I of the 1972 World Heritage Convention, this is a serial nomination of 18 serial components, among them 13 *monuments*, 4 *groups of buildings* and 1 *site*.

1 Basic data

Included in the Tentative List

25 January 2002 as "Great Pskov"

Background

This is a new nomination.

One serial component, the ensemble of Pskov Kremlin, was previously nominated in 2012 as one of three serial components in a nomination of Russian Kremlins. This was recommended by ICOMOS not to be inscribed on the World Heritage List. The World Heritage Committee referred the nomination to develop further the comparative analysis of the three components, considering the four Russian Kremlins already inscribed on the World Heritage List. The nomination of the Russian Kremlins was not resubmitted within three years following the decision 36 COM 8B.35 of the World Heritage Committee.

Consultations and Technical evaluation mission

Desk reviews have been provided by ICOMOS International Scientific Committees, members and independent experts.

An ICOMOS technical evaluation mission visited the property from 17 to 22 September 2018.

Additional information received by ICOMOS

A letter was sent to the State Party on 8 October 2018 requesting further information about the selection of the serial property, in particular the attributes which illustrate the School of Architecture in Pskov in general, as well as the contribution of each serial component. The letter further enquired as to the ability of individual monuments to represent Pskov as a frontier town and as a "centre of origin of Russian statehood". Lastly, the State Party was requested to provide further information on zoning and land-use plans existing or in the process of preparation.

The State Party responded by letter on 8 November 2018 with additional material provided on 9 and 10 November 2018. This has been incorporated into the relevant sections of this evaluation report.

An Interim Report was provided to the State Party on 21 December 2018 summarising the issues identified by the ICOMOS World Heritage Panel. The Interim Report considered that the greatest potential to meet Outstanding Universal Value was to present an architectural testimony of the Pskov School of Architecture by selecting the most representative masterpieces of this School. To this end, ICOMOS requested that the State Party present a survey aimed at identifying specific typological and decorative features, unique to the School of Pskov, and highlight which monuments provide the best representative evidence of these. ICOMOS further recommended the State Party reconsider whether the selection of properties initially presented is indeed satisfactory in representing the most exceptional examples of the Pskov School, or whether the serial selection of components should be revised.

Additional information was received from the State Party on 27 February 2019 and has been incorporated into the relevant sections of this evaluation report. The materials submitted include further analyses of the specific typological and decorative features of the Pskov School of Architecture and comparative consideration of the nominated components and other products of the Pskov School. The State Party concluded that the initial selection of components presented was the best possible representation of the Pskov School of Architecture.

Date of ICOMOS approval of this report

13 March 2019

2 Description of the property

Note: The nomination dossier and additional information contain detailed descriptions of this property, its history and its state of conservation. Due to limitations on the length of evaluation reports, this report only provides a short summary of the most relevant aspects.

Description and history

The 18 serial components are located in the City of Pskov in the region (oblast) of Pskov in north-west Russia. The city developed on both sides of the Velikaya River and has extended continuously so that today all components are within its administrative boundaries, while historically one component, the Snetogorsky Monastery, was located outside Pskov's historic centre. According to archaeological research, the ancient city was founded in the 6th century CE. The first mention of the city in chronicles dates to the year 903.

The Pskov School of Architecture, which the selected monuments in the nomination are proposed to represent, emerged out of the Novgorod School in the 12th century and was formally established in the 14th century. It became most influential in the 16th and 17th centuries, after Pskov entered the Russian State in 1510 and became a principle trade partner of the Hanseatic League. During this time, which is often referred to as the Golden Age of Pskov, the city was a well-known craft, trade and cultural centre. In the 18th century Pskov lost its frontier status and with it its significant role in foreign trade. The two World Wars in the 20th century brought irreparable losses to the city, with a significant part of the historic centre destroyed.

The Pskov School is known for its architectural works which illustrate simplicity in form and similarity amongst a range of built monuments, which often feature asymmetries, a careful consideration of their natural setting, and organic architectural forms. Most of the School's output is transmitted in religious structures, which are characterised by additional spaces, such as side-chapels, vestries, narthexes, porches, galleries and belfries and these tend to be the best-preserved testimonies of the School's output.

In the area of the historic city, the nomination combines individual monuments or groups of buildings of religious, defensive and civic architecture dating back to between the 12th and the 19th centuries. The oldest structure proposed as a serial component is the Transfiguration Cathedral in the Ensemble of the Spaso-Mirozhsky Monastery, which originally dates back to the 12th century but underwent later restorations. It was built predominantly of local limestone and plastered with lime mortar, as were the later 14th and 15th century churches. In addition to the Transfiguration Cathedral, 13 churches and cathedrals are proposed to represent the religious monuments of ancient Pskov. The majority of these date to the 15th and 16th centuries, while the Cathedral of *Ioann Predtecha* of the Ivanovsky Monastery, dating to 1240, and the Church of the Archangel Michael, dating to the 14th century, are additional early examples. The standard layout of churches in Pskov is that of the cubic four-pole structure with a single dome

and either one or three apses. The later churches and cathedrals were constructed after the Pskov architects had gained regional recognition for their decorative skills.

Monastic complexes, which partly incorporate the previously referred-to churches and cathedrals, add additional architectural features to the representation of religious architecture. Specific mention should be made of the ensemble of Snetogorsky Monastery located on Snatnaya Hill, which is first mentioned in 1299 and whose first stone cathedral is known to have been constructed in 1309.

The Monuments of Ancient Pskov also contain examples of fortification architecture, in particular the 15th century Pokrovskaya Tower, previously an integral component of a larger fortress along the Velikaya River; and the five-tier 16th century Gremyachaya Tower, which is part of the previously extensive fortification walls on Gremyachaya Hill. Lastly, the nomination refers to monuments of civic architecture, which are represented through the Administrative Chambers in Pskov Kremlin and the Pogankin Chambers within the outer part of the historic centre, both dating to the 17th century.

Boundaries

The area of the 18 components totals 29.32 ha, with two buffer zones totalling 625.6 ha. The boundaries encompass individual buildings, at times with their immediate exterior surroundings, such as gardens or adjacent green spaces. Only four components delineate larger areas: the Pskov Kremlin with its Trinity Cathedral, Bell Tower and Administrative Chamber, which are divided into two components sharing a common boundary; the ensemble of the Spaso-Mirozhsky Monastery; and the ensemble of Snetogorsky Monastery. Except for these, the boundaries of the serial components are tightly drawn around the architectural monuments, which therefore appear somewhat disconnected within the larger urban fabric. ICOMOS notes that while all key historic monuments identified in ancient Pskov are located within the property boundaries, these boundaries are not always consistently drawn in relation to relevant physical or administrative features.

Two large buffer zones surround the 18 components, one generously drawn to the north-west of the historic centre around the Snetogorsky Monastery component, and one more complex one in the urban fabric of Pskov historic centre, surrounding all property components by a single shared buffer zone. Both buffer zones are not yet legally adopted, which is envisaged for March 2019. However, the 17 components in the historic centre of Pskov are located in an earlier recognized protected area of Historic Pskov, which provides most buffer zone functions, except for the protection of additional view axes which have been identified to the south and north along the Velikaya riverscape. In the dialogue held with the State Party, it was suggested that the two protective layers, i.e. the proposed buffer zone and the protected area of historic Pskov, could be harmonized, to simplify the buffer zone

boundary except for the very few sight-lines which extend beyond the protected area.

ICOMOS considers this a relevant suggestion by the State Party which would ease the protective application of the buffer zone. Therefore, ICOMOS endorses the suggestion to use the existing protection zone as buffer zone, by harmonization of their boundaries, and to legally add just the two view corridors along the Velikaya River to the north and south of the historic centre. ICOMOS further recommends the State Party to consider simplifying the boundaries of the buffer zone of Snetogorsky Monastery and to adjust the boundaries of all components to either their property boundaries or very essential physical markers in the cityscape.

State of conservation

Conservation measures were undertaken frequently in the past, mostly dating back to the post-World War II measures in the 1950s and 1960s and an intensified period of conservation activities in the late 20th and early 21st century, i.e. in the past 25 years. The state of conservation of the individual components varies, although they share that almost all historic surfaces have been restored following war damage and have subsequently been regularly restored as part of overall maintenance schemes. A few of the components are in clear need of attention, such as the Gremyachaya Tower (1.2), which is merely consolidated in its ruined state; the Church of the Dormition *s Paromenya* (2.10); or the bell tower and side chapel of the Church of the Archangel Michael (2.5), which are in a deteriorated condition.

Other monuments have been recently conserved and restored and have no need for further attention except for regular maintenance. These include the Church of Georgiya *so Vzvoza* (2.8), or the Church of the Theophany (2.9), which, however, integrates partial reconstructions after World War II. In other structures, damage from World War II has been restored extensively or remains evident, such as the bell tower and Trinity Cathedral of the Ensemble of the Kremlin (2.1), the lost bell tower of Snetogorsky Monastery (2.4) and the Church of Koz'ma and Damian *s Primostya* (2.7). In rare cases, restoration works have been so extensive that it has become difficult to relate the monument to its original era of construction, such as for the Church of *Nikoly so Usokhi* (2.11) or half of the Pogankin Chambers (3.2).

Based on the information provided by the State Party and the observations of the ICOMOS technical evaluation mission, ICOMOS considers that the state of conservation is overall acceptable with few structures in need of urgent attention. For all of these, conservation activities are envisaged within the next decade, which is reflected in the strategic goals for property management and the action plan to preserve the property's proposed Outstanding Universal Value.

Factors affecting the property

Based on the information provided by the State Party and the observations of the ICOMOS technical evaluation mission, ICOMOS considers that the main factors affecting the property are increasing traffic and visitor flows. In terms of traffic flows, regulations prevent heavy vehicles from entering the historic protection zone but car traffic is increasing. In terms of visitor numbers, special provisions on visitor circulation and, if needed, limitations, are in place for Pogankin Chambers (3.2), the the Transfiguration cathedral of Mirozhsky Monastery (2.3), the Cathedral of the Nativity in Snetogorsky Monastery (2.4) and the Kremlin Administrative Chambers (3.1).

Further negative factors arise from environmental and climatic conditions, especially from the Baltic climate with its constant temperature changes around freezing point and the resulting challenges of destructive freezing/de-freezing processes and organic material expansion and contraction.

3 Proposed justification for inscription

Proposed justification

The nominated property is considered by the State Party to be of Outstanding Universal Value as a cultural property for the following reasons:

- The city of Pskov, in its historical frontier position, has determined the formation of a unique social and cultural environment which nurtured the emergence of the Pskov School of Architecture;
- The property illustrates the best examples of the Pskov School of Architecture, which is recognized as one of the most artistic and original in the Russian State;
- The architectural beauty of the Pskov architecture inspired artists across and beyond the Russian State. It therefore greatly influenced developments in architecture in the wider geo-cultural region.

ICOMOS considers that, whilst in principle masterpieces of the Pskov School of Architecture might have the potential to demonstrate Outstanding Universal Value, the serial components proposed do not have equal strength in illustrating characteristic features, typologies, products and developments of this School. The selection of the serial nomination therefore needs to be considered in light of the additional information survey provided by the State Party.

Unfortunately, the State Party did not consider a revised serial composition in the additional information submitted in February 2019, despite the ICOMOS request in the Interim Report. Based on the additional information provided by the State Party, its own internal expert review and the documentation of its technical evaluation mission, ICOMOS considers that a number of, but not all, serial components can be considered as exceptional examples of the architectural works of the Pskov School of Architecture. ICOMOS notes that these components, which illustrate the mastery of architectural achievements under the Pskov

School, are exclusively found among the religious properties suggested.

Comparative analysis

The comparative analysis as presented in the nomination dossier commences with a description of the establishment of the Pskov School of Architecture and the earlier architectural traditions it relates to and was influenced by. Following this, the analysis aimed to compare predominantly European sites known at international level, through World Heritage or Tentative Listing, and at national level. The selection is focused on sites which enjoyed cultural exchanges due to exposure to foreign cultural influences and formed architectural schools under these conditions, in particular in cities which witnessed important historical events.

ICOMOS notes that, based on these three qualifiers, multiple comparators all across Asia and Europe have been identified. The State Party identified as one of the most relevant comparators the Flemish *béguinages* (Belgium, 1998, (ii), (iii), (iv)), which comprises 13 components including houses, churches, ancillary buildings and green spaces, built in styles specific to the Flemish cultural region. It is argued that, like in Pskov, different functions of buildings were selected to act as a witness to a specific cultural tradition.

ICOMOS notes that the exceptionality of output and influence of the Pskov School of Architecture would have better been established by comparing a number of architectural schools in Russia, such as in Moscow, Yaroslavl or the Novgorod School, which either predated the emergence of the Pskov School of Architecture or exerted equally strong and at times longer-lasting influence. However, these and other schools or their works were only mentioned in the comparative analysis, such as for the Novgorod School, which did not substantiate the exceptionality of the Pskov School of Architecture.

However, based on its network of experts and review processes, ICOMOS considers that the Pskov School does present exceptionalities, which are not comparable to the other schools mentioned. Yet, what was not provided in the nomination dossier submitted was a critical identification of the masterpieces of the Pskov School of Architecture by means of a comparative analysis considering the local and regional works of this School and the capacity of the monuments to act as masterpieces in terms of their characteristics and state of conservation.

Whilst the State Party concluded its initial comparative analysis with a consideration of the selected serial components within Pskov, this section largely argues why each component that has been selected does feature prominently among the best possible examples in Pskov. Products of the Pskov School outside Pskov have been mentioned where they achieved World Heritage recognition, such as the Historic and Architectural Complex of the Historic and Architectural Complex of the

Kazan Kremlin (Russian Federation, 2000, (ii), (iii), (iv)) or the Assumption Cathedral and Monastery of the town-island of Sviyazhsk (Russian Federation, 2017, (ii), (iv)) but not beyond these already-listed examples.

ICOMOS therefore, in its Interim Report, requested that the State Party reconsider the initial selection by means of a comparative analysis of all potential monuments representing the School, considering their specific typological and decorative features. The additional information received in response from the State Party in February 2019 provides more comprehensive information on the ability of each of the selected monuments to feature as a masterpiece of the Pskov School of Architecture. It further considers other monuments produced under the School, both within and outside Pskov, and discusses their ability to feature as part of the series. Unfortunately, the legal protection status of each of these comparators was applied as a comparative criterion and as such many promising examples not protected at national level had to be excluded for lack of protection. ICOMOS considers that it would have been more beneficial to pay closer attention to the state of conservation, integrity and authenticity, rather than the individual present protection status.

ICOMOS considers that, while the State Party concludes that the series initially presented is the best possible selection of masterpieces of the Pskov School, the documentation provided further indicates that this is not actually the case. Whilst a number of monuments within the series could easily feature as masterpieces of the Pskov School of Architecture, ICOMOS cannot confirm that the entire series as presently proposed would have the potential to demonstrate Outstanding Universal Value. ICOMOS therefore concludes that the comparative analysis demonstrates Outstanding Universal Value for a reduced number of serial components, namely 10 of the religious monuments in the series.

ICOMOS considers that the comparative analysis and the additional information provided justifies consideration of this serial property for the World Heritage List on the basis of the importance of the Pskov School of Architecture; but that the comparative analysis does not justify the selection of all the nominated components.

Criteria under which inscription is proposed

The property is nominated on the basis of cultural criteria (ii), (iii) and (iv).

Criterion (ii): *exhibit an important interchange of human values, over a span of time or within a cultural area of the world, on developments in architecture or technology, monumental arts, town-planning or landscape design;*

This criterion is justified by the State Party on the grounds that the outstanding architecture of Pskov is inseparably connected with the Novgorod School of Architecture, which started to develop its own style from the 12th century onwards. The autonomy gained from Novgorod in the 14th century fostered the development of

the Pskov School of Architecture, which reached its full flourishing in the 15th and 16th centuries. From that time on, Pskov architects were invited to other regions of Russia and influenced the development of Russian architecture well into the 19th and beginning of the 20th century.

ICOMOS considers that, whilst the Pskov School of Architecture exerted great influence within the wider region and especially the Russian state, this is not easily demonstrated through the presently-proposed series of monuments in Pskov. In the additional information provided in February 2019 in response to the Interim Report of ICOMOS, the State Party considered a number of monuments providing evidence of the regional scope of influence through their location outside Pskov itself, but these were disregarded as potential elements for a serial nomination largely based on their lack of legal protection at the highest national level. ICOMOS considers that for monuments which are masterpieces of the Pskov School and which have the capacity to provide authentic evidence of its influence across a wider region, the lack of current legal protection at the highest national level should not be the only reason for exclusion.

With regard to the series proposed, in the tabular overview of elements and features attributed to each criterion prepared by the State Party in response to ICOMOS' request for additional information, the State Party documents that only 3 of 18 components make a substantial contribution to this criterion. ICOMOS, however, considers that the ability of some components to be recognized as bearing the capacity to provide authentic evidence of the influence across a wider region of the Pskov School of Architecture exists and that 10 components of the present series can be said to fulfil this criterion.

ICOMOS considers that criterion (ii) has been met for a limited number of selected components of the series.

Criterion (iii): bear a unique or at least exceptional testimony to a cultural tradition or to a civilization which is living or which has disappeared;

This criterion is justified by the State Party on the grounds that the Pskov School of Architecture was formed within a unique cultural tradition, the Pskov *veche* Republic. This refers to the city and lands being ruled by an assembly of free citizens, a democratic form of government. Within these historic conditions, the Pskov School developed a specific style which is characterized by simplicity, severity of forms, laconicism, organic shapes in line with natural inspiration, nobility of proportions and monumentalism.

ICOMOS considers that, within this justification, no reference to an exceptional testimony to a cultural tradition or civilization could be identified. ICOMOS notes in reference to the notions of spiritual connectedness and self-awareness of residents in terms of architecture, which are reiterated in the additional information provided, that at a global level most religious edifices communicate

spiritual power and interconnectedness and that most architectural works of cities reflect in one way or another the self-identity of its residents. ICOMOS cannot confirm that these phenomena are unique or at least exceptional in the case of Pskov.

ICOMOS considers that criterion (iii) has not been met.

Criterion (iv): be an outstanding example of a type of building, architectural or technological ensemble or landscape which illustrates (a) significant stage(s) in human history;

This criterion is justified by the State Party on the grounds that the Monuments of Ancient Pskov are outstanding examples of the heritage of Ancient Rus of the 12th to the 17th centuries, a centre of Russian statehood, and were witnesses to a number of important historic events, both at a regional and global scale, such as their connection to Alexander Nevsky (1221-1263), the monk-scholar Filofey (1465-1542), who developed a concept of Russian Orthodox statehood, or the treaty of Yam-Zapolsky, which designated the truce at the end of the Livonian War (1558-1583).

ICOMOS considers that no specific typology of architecture or urban plan is shared for the series. ICOMOS has no doubt that the city of Pskov played an important role in the history of Ancient Rus. However, this role as witness of historic events has not yielded an outstanding typology of buildings, city or landscapes. Just as for the previous criteria, it also becomes evident in the tabular overview provided as part of the additional information received in February 2019 that not all components provide discernible contributions to this criterion.

In response to ICOMOS' enquiry on a possible typology of Pskov as a frontier town or what is referred to as the centre of Russian statehood, the State Party responded in its additional information that these aspects are represented by the selection of individual components which form the foundations for spiritual unity of the Russian people. ICOMOS cannot see support for an urban typology in a series of 18 individual complexes and buildings and does not support the notion that the religious structures and civic buildings proposed together constitute a typological reference to Russian state formation.

ICOMOS considers that criterion (iv) has not been met.

ICOMOS considers that criterion (ii) is demonstrated for a series comprised of 10 components which are all religious structures testifying to the influence and the specific style of architectural design and decoration of the Pskov School of Architecture; but that the remaining components should be excluded. ICOMOS considers that criteria (iii) and (iv) have not been demonstrated.

Integrity and authenticity

Integrity

The aim of the State Party is to present within this nomination the best-preserved and most picturesque examples of the Pskov School of Architecture and that integrity in the sense of completeness and wholeness would be achieved by a selection of these. For each serial component integrity would therefore be measured in terms of the components' ability to contribute by distinctive and discernible features which testify to the products of the School in a recognisable way. The State Party further underlines that through the establishment of protection schemes and conservation programmes the intactness of the property is assured in the long term.

ICOMOS considers that, despite a few serial components which remain in need of conservation attention, the property is largely free of immediate severe threats and intactness could be assured. However, the series as such in its selection of serial components does not demonstrate integrity in terms of wholeness or completeness. A number of components do not meet the benchmark of best-preserved or a representative example of the Pskov School of Architecture.

In terms of the individual serial components, ICOMOS observes that a small number of these have been negatively affected by development, such as the Church of the Dormition s Paromenya (2.10), which is compromised by a modern reinforced concrete bridge which is rather high and situated very close to the property. This bridge cuts across the perception and sight relations to and from the serial component and hence affects its visual integrity. In other cases, such as the Church of *Nikoly so Usokhi*, structures have suffered from severe damage or destruction and therefore are restricted in material terms in their ability to testify to the era of the Pskov School of Architecture, since their contemporary appearance references almost exclusively subsequent restoration campaigns.

Authenticity

As with the integrity discussed above, the authenticity of the serial components varies and will be discussed based on examples below. In terms of authenticity of the series, it needs to be stated that the serial components appear somehow fragmented in a historic city of predominantly later date, due also to severe destruction in the first half of the 20th century. While this does not affect authenticity in material, substance, use, function or spirit and feeling, which particularly applies to some religious properties, it does have a strong impact on the authenticity of setting. ICOMOS notes, however, that up to the present day the historic centre of Pskov has remained free of tall or high-rise buildings. Through this policy the city has preserved the traditional volumes and heights of the setting, even where the historic substance is no longer present.

In terms of the individual components, several have undergone restorations and at times even reconstructions following damage in World War II. These include the Pokrovskaya Tower (1.1), the bell tower of the Church of *Nikoly so Usokhi* (2.11), here also with changes in form and design, and the Pogankin Chambers (3.2). In other cases, authenticity of function and use has been affected. While the fortification structures are obviously no longer used for defence, some of the churches, such as the Transfiguration Cathedral of the Spaso-Mirozhsky Monastery (2.3), which is presently closed for restoration and will afterwards be partially used as a museum, are not presently used for services and at the Church of Old Ascension (2.13), the authenticity of the whole former ensemble is threatened by a new division of ownership and function.

ICOMOS considers that if all structures are assessed in terms of their being credible testimony to the Pskov School of Architecture, a number of structures retain the ability to communicate the specific architectural styles and decoration elements of the School, even if they have been subject to different restoration campaigns over time. ICOMOS acknowledges the general tendency to frequently restore the outer surfaces of religious buildings to maintain their pure and aesthetic appearance but is able to confirm that 10 serial components remain as credible testimonies to the work of the Pskov School of Architecture and can as such be said to demonstrate authenticity.

In conclusion, ICOMOS considers that the requirements of integrity and authenticity of the series have been met for a reduced set of the nominated components; and that the requirements of integrity and authenticity of the individual sites that comprise the series have been met for the majority of individual components but is compromised, at times, for their setting.

Evaluation of the proposed justification for inscription

ICOMOS considers that the Pskov School of Architecture is one of several Russian Schools which exerted influence on the development of architectural styles in Russia, leading to specific architectural and decorative references. In its request for additional information on the exceptionality of the Pskov School of Architecture as well as its features and attributes, the State Party responded that its international significance only became clear recently. In the further additional information provided in response to ICOMOS' Interim Report, the State Party identified characteristic features illustrated by works of the Pskov School and highlighted the presence of these beyond Pskov, which testify to the influence and exchange of the architectural traditions of the Pskov School within Russia.

ICOMOS considers that despite the importance of the Pskov School of Architecture within Russia and beyond, the selection of monuments in Pskov proposed to represent the most outstanding products of this School remains unsatisfactory and that not all components of the present series have the capacity to illustrate authentically the mastery of the Pskov School. ICOMOS however considers that, based on the additional information provided, the rich

literature available on the historic monuments of Pskov, and the expert reviews and technical evaluation report it has received, that 10 components of the present series do meet the requirements for inscription on the World Heritage List.

These components are: element no. 2.2 “Cathedral of *Ioann Predtechka* (John the Precursor) of the Ivanovsky Monastery, 1240”; element no. 2.3 “Ensemble of the Spaso-Mirozhsky Monastery: the Transfiguration Cathedral, 12th century”; element no. 2.4 “Ensemble of the Snetogorsky Monastery: the Cathedral of the Nativity of the Mother of God, 16th century”; element no. 2.5 “Church of the Archangel Michael with a bell tower, 14th century”; element no. 2.6 “Church of *Pokrova* (Intercession) of *Proloma* (at the breach in the wall), 15th-16th centuries”; element no. 2.7 “Church of *Koz’ma* and *Damian s Primostya* (near the bridge), remains of the belfry, gate, fence of the 15th-17th centuries”; element no. 2.8 “Church of *Georgiya so Vzvoza* (St. George near the river descent), 1494”; element no. 2.9 “Church of the Theophany with a belfry, 1489”; element no. 2.11 “Church of *Nikoly so Usokhi* (St. Nicholas from the dry place), 16th century”; and element no. 2.14 “Church of *Vasiliya na Gorke* (St. Basil the Great on the hill), 15th century”.

ICOMOS concludes that this reduced series of 10 religious structures illustrates Outstanding Universal Value in relation to presenting the influence and architectural testimony of the Pskov School of Architecture.

Attributes

In the additional information provided at the request of ICOMOS, the State Party describes in further detail the attributes it considers most significant for the Monuments of Ancient Pskov in representing the mastery of the Pskov School of Architecture. These physical attributes include, among others: architectural elements influenced by Byzantine traditions; use of local construction materials; pragmatist stone buildings with economic approaches to decoration, both pragmatic and minimalist, characterized by restraint in form and decoration; a limited set of decorative techniques and architectural elements illustrating a synthesis of vernacular styles brought into urban and monumental contexts; cubic volumes; domes, tholobates, side chapels, porches, narthexes and belfries, as well as other decorative features. The churches are recognizable with their historic architectural structures and their immediate property setting in the form of access routes, gardens, surrounding walls and fences, as well as vegetation.

ICOMOS considers that, for the series proposed by the State Party, the comparative analysis did not support the serial selection and justification for inscription for the series as a whole. However, ICOMOS considers that a reduced series of 10 religious elements demonstrates Outstanding Universal Value in reference to criterion (ii). For this smaller series requirements for integrity as well as authenticity are overall met.

4 Conservation measures and monitoring

Conservation measures

The conservation plans for the serial property are included in the Management Plan under the title “Physical preservation”. The aim is to establish a conservation system, which integrates physical preservation measures, monitoring of restoration processes, preservation of movable property within the edifices, and safety and security measures. These measures are guided by the State Committee of Pskov Region for the Protection of Cultural Heritage, which is the decision-making body on conservation priorities and methodologies based on consultation with owners, users and conservation experts. The preservation efforts also extend to the setting of the individual components and include the preservation of view perspectives, panoramas and landscape revitalization within the buffer zones.

In the action plan, presented as volume 6 of the nomination, concrete conservation works are documented to be underway or foreseen for the Pokrovskaya Tower, the Church of the Archangel Michael, Church of *Koz’ma* and *Damian s Primostya*, Church of *Nikoly so Usokhi*, the Church of the Old Ascension, and the Pogankin Chambers.

In ICOMOS’ view, based on observations during its technical evaluation mission, the conservation activities are thoroughly programmed, in line with international conservation standards and carried out by skilled and scientifically-trained conservation professionals. ICOMOS further commends the maintenance manual which has been published for non-conservation-trained stakeholders responsible for the Orthodox churches.

Monitoring

Systematic monitoring is legally required every five years. Based on the monitoring exercise, which is focused on observing any changes in the state of conservation, necessary restoration and maintenance works are defined. Special attention in this periodic process is given to frescoes and structural stability. The responsible agency for this process as for conservation measures is the State Committee of the Pskov Region for the Protection of Cultural Heritage.

Monitoring methodologies include object mapping, photo documentation and comparison, temperature and humidity monitoring as well as, in some places, counting visitor numbers. Risk preparedness plans further require the monitoring of functionality of fire-fighting and detection systems twice a year. ICOMOS considers that, although the nomination does not present specific monitoring indicators, the materials of earlier reporting exercises undertaken since 2010 convince that the property is adequately monitored. ICOMOS recommends specifically developing indicators in relation to traffic flow and density as well as urban and infrastructure development.

ICOMOS considers that conservation programmes and monitoring schemes are appropriate but recommends integrating additional indicators to monitor traffic flows and development pressures.

5 Protection and management

Documentation

All property components are inventoried, including their state of conservation and previous conservation measures. These inventories, included as volume 3 of the nomination, are frequently updated as new activities are implemented and can be used as baselines for conservation monitoring. The inventory records are being held at the State Committee of the Pskov Region for the Protection of Cultural Heritage and the "Research and Development Centre for Conservation and Use of Historical and Cultural Monuments of the Pskov Region".

Legal protection

All 18 properties are protected as architectural monuments of State importance according to the resolution of the Council of Ministers of the Russian Soviet Federative Socialist Republic of 30.08.1960, no. 1327. In accordance with the Federal Law of June 25, 2002 N 73-FZ "on Cultural Heritage Properties (Monuments of History and Culture) of the Peoples of the Russian Federation", the 18 components previously listed have now been given the status of cultural heritage property of federal significance and are included in the unified state register of cultural heritage properties (monuments of history and culture) of the Peoples of the Russian Federation. The specific boundaries of each component were approved by the State Committee of the Pskov Region between 2010 and 2015. Subsequently, by order of the Government of the Russian Federation of 17.09.2016 No 1975-r, all components of the property "Monuments of Ancient Pskov" were included in the Code of the most valuable cultural heritage properties of the Peoples of the Russian Federation. ICOMOS considers that this protection level constitutes protection at the highest national level.

The protection at national level is complemented by local protection schemes integrated in urban and development plans. Based on the additional information provided by the State Party, these are well-established and consider cultural heritage concerns within their occasional revision processes. Traditional protection further applies to the components of religious architecture for which the Orthodox Russian monastic and guardian communities care according to religious requirements of maintenance.

For the buffer zone, legal protection was envisaged to be granted in March 2019. However, much of the southern buffer zone overlaps with an existing urban conservation zone, which provides relevant legal backing with the exception of sight lines, view corridors and cityscape protection. ICOMOS considers that, whilst this existing urban conservation zone protects 17 out of 18 components from development pressures, the full legal protection of the

northern buffer zone and the view corridors of the southern zone will only be achieved with their formal legal adoption anticipated for 2019.

Management system

Management is coordinated by the State Committee of the Pskov Region for the Protection of Cultural Heritage, formally represented by its president, who is also the site manager. It places the highest decision-making authority for the Monuments of Ancient Pskov into the position of having direct responsibility for their management. According to the structural arrangements envisaged, the site manager administers the property in three sections, grouped as (1) components managed by the Pskov State Museum Reserve, (2) Churches managed by the Pskov Eparchy of the Russian Orthodox Church, and (3) all other components, per definition managed by the Territorial Directorate of the Federal Agency for the Management of Federal Property. ICOMOS considers that the management division and emphasis may have to be reconsidered in light of the reduced series composed of only religious monuments.

A management plan was prepared in parallel with the preparation of the nomination and submitted as volume 5 of the nomination dossier. This management plan was formally approved by the Governor of the Region of Pskov and the Ministry of Culture of the Russian Federation. The management plan is based on two simple and straightforward strategic goals: to preserve the Outstanding Universal Value of the property, and to create conditions for the preservation and sustainable development of the property's surroundings. For these two goals specific strategies and action plans have been developed which are envisaged to be implemented within a period of four years. In addition, a risk management plan paying attention to safety and security measures is annexed to the first strategic goal section. The management plan provides an integrated action plan for four years (2017 – 2020) and integrates its own quality assessment evaluation scheme which, at the end of the initial period, will commence a review of successes and the reformulation of necessary actions. ICOMOS considers that the management plan, although it is somewhat convoluted in its descriptive sections, will provide sufficient guidance for the effective management of the property as well as quality assessment of management achievements. The only concern that should be raised, is that although an increase in traffic volumes was identified as a key challenge for the property, this challenge has not been addressed in the management plan. ICOMOS recommends developing a traffic volume and navigation strategy as part of the second strategic goal of the management plan.

Visitor management

Few interpretation tools exist on site and, based on the strategies of the management plan, these will be augmented in the future by means of a comprehensive approach to interpretation. In terms of visitor management, the management plan foresees developing a sustainable tourism development policy for the city of Pskov. This is a key part of the strategy for the socio-economic

development of Pskov tourism, which aims at utilizing the tourism potential towards the growth of the municipal economy.

Objectives for sustainable tourism development in the short term include: to support the development of tourist infrastructure; provide information to visitors and organize touristic events; ensure the creation of a unified information environment and spatial orientation for visitors; ensure accessibility for visitors with physical challenges; and familiarize young people with the property.

Community involvement

Local communities in the sense of expert and stakeholder communities were involved in the preparation of the nomination, which brought together members of the Society for the Preservation of Historical and Cultural Monuments, the local history club, the local branch of the Historians' Union, as well as the religious and residential communities directly concerned. The religious communities were in particular involved in the preparation of the management plan as they will play a role in, and take responsibility for, its implementation.

Evaluation of the effectiveness of the protection and management of the nominated property

ICOMOS considers that, whilst several components of the overall protection and management system are in the process of being finalized, such as the legal protection for the buffer zones and the development and implementation of the visitor management strategy, the overall protection and management scheme provided for the serial property components is effective.

However, although an increase in traffic volumes was identified as one of the key challenges in the nomination, this aspect is not addressed in the management plan. ICOMOS therefore recommends that traffic volumes and directions are considered in a vehicular traffic strategy for the property.

ICOMOS considers that the legal protection status and management arrangements are adequate. Specific areas which need to be established or finalized are the legal protection of the buffer zone, a traffic management strategy, and a visitor management plan.

6 Conclusion

The nomination proposes 18 serial component sites, of which 17 are located in the historic centre of Pskov, while one, the Snetogorsky Monastery, is situated along the banks of the Velikaya River to the north-west of the historic centre. The components are presented as the most noteworthy examples of the Pskov School of Architecture, which has exerted considerable regional influence on architectural developments within the Russian State. The components date to between the 12th and the 19th centuries and include examples of defensive, religious and civic architecture.

ICOMOS considers that the comparative analysis does not demonstrate how the proposed series could justify Outstanding Universal Value, as not all of the currently-proposed components are relevant authentic and representative examples of the Pskov School of Architecture. However, based on the additional information provided by the State Party and information gained through expert reviews, literature and the technical evaluation mission, ICOMOS considers that 10 serial components demonstrate Outstanding Universal Value in reference to criterion (ii). These 10 components are exclusively religious structures and by name are: element no. 2.2 "Cathedral of *Ioann Predtechka* (John the Precursor) of the Ivanovsky Monastery"; element no. 2.3 "Ensemble of the Spaso-Mirozhsky Monastery: the Transfiguration Cathedral"; element no. 2.4 "Ensemble of the Snetogorsky Monastery: the Cathedral of the Nativity of the Mother of God"; element no. 2.5 "Church of the Archangel Michael with a bell tower"; element no. 2.6 "Church of *Pokrova* (Intercession) of *Proloma* (at the breach in the wall)"; element no. 2.7 "Church of Koz'ma and Damian s *Primostya* (near the bridge), remains of the belfry, gate, and fence"; element no. 2.8 "Church of Georgiya so *Vzvoza* (St. George near the river descent)"; element no. 2.9 "Church of the Theophany with a belfry"; element no. 2.11 "Church of *Nikoly so Usokhi* (St. Nicholas from the dry place)"; and element no. 2.14 "Church of *Vasiliya na Gorke* (St. Basil the Great on the hill)".

Likewise, the initial selection of the serial property does not demonstrate integrity, while some, namely the 10 individual serial components named above, do compose a group of sites which can be said to demonstrate an adequate amount of integrity. Authenticity, with few exceptions, is better demonstrated. An elaborate conservation programme aims at reducing shortcomings in relation to continuity of historic use, function and setting of religious components. Present conservation approaches are adequate and the maintenance schemes, in particular the manual prepared for non-conservation-professional stakeholders, should be commended.

Whilst legal protection is adequate for the property, it should be finalized for the buffer zone. The legal basis of the existing protection zone in Pskov historic centre could be used as a basis if extended towards the two view corridors to its north and south. The boundaries of the serial components would benefit from more consistent delineation in line with property boundaries or relevant physical markers.

The management plan is in principle well developed. However, although an increase in traffic volume has been identified as the key challenge among the factors affecting the property, this aspect is not at all addressed in the management plan. ICOMOS recommends therefore to undertake comprehensive studies on vehicular traffic flows and develop a traffic navigation strategy. ICOMOS further recommends integrating the observation of traffic flows into the overall monitoring of the property.

7 Recommendations

Recommendations with respect to inscription

ICOMOS recommends that only 10 of the 18 components forming the nominated series of the Monuments of Ancient Pskov, Russian Federation, namely the following: element no. 2.2 “Cathedral of *Ioann Predtecha* (John the Precursor) of the Ivanovsky Monastery”; element no. 2.3 “Ensemble of the Spaso-Mirozhsky Monastery: the Transfiguration Cathedral”; element no. 2.4 “Ensemble of the Snetogorsky Monastery: the Cathedral of the Nativity of the Mother of God”; element no. 2.5 “Church of the Archangel Michael with a bell tower”; element no. 2.6 “Church of *Pokrova* (Intercession) *ot Proloma* (at the breach in the wall)”; element no. 2.7 “Church of Koz’ma and Damian s *Primostya* (near the bridge), remains of the belfry, gate, and fence”; element no. 2.8 “Church of Georgiya so *Vzvoza* (St. George near the river descent)”; element no. 2.9 “Church of Theophany with a belfry”; element no. 2.11 “Church of *Nikoly so Usokhi* (St. Nicholas from the dry place)”; and element no. 2.14 “Church of *Vasiliya na Gorke* (St. Basil the Great on the hill)”, be inscribed on the World Heritage List on the basis of **criteria (ii)**.

Recommended Statement of Outstanding Universal Value

Brief synthesis

The Churches of the Pskov School of Architecture are located in the historic city of Pskov and along the banks of the Velikaya River in the northwest of Russia. The property includes ten monuments of religious architecture, churches and cathedrals, as well as, in some cases, part of the monastic structures around these, which represent the architectural styles and decorative elements produced by the Pskov School of Architecture between the 12th and the beginning of the 17th century. The Pskov School of Architecture is one of the most influential Russian Schools of architecture, which fostered continuous exchange of ideas and characterized the development of architectural styles in Russia over five centuries, leading to specific architectural and decorative references known as the Pskov School.

These physical features representing the work of the Pskov School include, among others: architectural elements influenced by Byzantine traditions, transmitted through the earlier Novgorod School; distinctive use of local construction materials; and pragmatist stone buildings with purist and minimalistic approaches to decoration characterized by restraint in form and decoration. The school utilized a limited set of decorative techniques and architectural elements, illustrating a synthesis of vernacular styles brought into urban and monumental contexts, cubic volumes, domes, tholobates, side chapels, porches, narthexes and belfries, as well as other decorative features. The ten selected churches and cathedrals which compose this serial property are recognizable with their historic architectural structures and their immediate property settings in the form of access routes, gardens, surrounding walls and fences, as well as vegetation elements, all

contributing to the traditional atmosphere of these spiritual abodes which relates to the endeavours of the School to integrate architectural masterpieces into their natural surroundings.

Criterion (ii): The Pskov School of Architecture emerged under the influence of the Byzantine and Novgorod traditions and reached its height in the 15th and 16th centuries, when it exerted considerable influence in large areas of the Russian state and its stylistic and decorative characteristics became widely referenced. Whilst Pskov architects worked on monuments throughout Russia, including in Moscow, Kazan and Sviyazhsk, the ten selected churches in Pskov illustrate a local representation of the early development, experimental grounds and masterly references of the Pskov School.

Integrity

The churches of the Pskov School of Architecture are largely free of immediate severe threats. As a group, they demonstrate integrity by including examples of all the historic stages of development of the Pskov School’s output, ranging from the early formative stages in the 12th century, to the apogee of the School in the 15th and 16th centuries. A number of serial components were affected during times of war, in particular during World War II, but are restored to a level which provides a credible reference to the Pskov School’s era of production.

At times, the setting of these religious monuments has become vulnerable to infrastructural and other developments. Given the strong focus of the Pskov School on the integration of monuments into their natural surroundings, it is essential to preserve these immediate settings, which is achieved by means of the designated buffer zone and should be substantiated by adequate visitor- and traffic-monitoring strategies.

Authenticity

The group of churches has preserved an acceptable degree of authenticity in style, decorative features, design, workmanship, atmosphere and, with a single exception, use and function. In material terms the churches have suffered in one way or another damage due to various wars over time, but this group of religious buildings has survived following restorations which remained true to the key architectural and decorative features of the Pskov School of Architecture. The needed repair and conservation works were undertaken using authentic materials, traditional technologies and the explicit aim of preserving the historical and cultural values of the property.

The traditional use of the churches and cathedrals as places of worship and, for some, as part of monastic structures, explicitly strengthens the authenticity, and the user community should be prominently and closely involved in the management processes to ensure the future transmission of authenticity in use and function.

Management and protection requirements

The Churches of the Pskov School are protected as architectural monuments of state importance according to the resolution of the Council of Ministers of the Russian Soviet Federative Socialist Republic of 30.08.1960, no. 1327. The specific boundaries of each component were approved by the State Committee of the Pskov Region between 2010 and 2015 but should be revised where necessary to align with property boundaries or relevant physical boundaries of the churches' setting. By order of the Government of the Russian Federation of 17.09.2016 No 1975-r, all components of the property were included in the Code of the most valuable cultural heritage properties of the Peoples of the Russian Federation. Traditional protection is provided by the Orthodox Russian monastic and guardian communities, who care for the property according to religious requirements of maintenance.

Management is coordinated by the State Committee of the Pskov Region for the Protection of Cultural Heritage and carried out in strong cooperation with the Pskov Eparchy of the Russian Orthodox Church. A management plan was prepared in parallel with the preparation of the nomination and was formally approved by the Governor of the Region of Pskov and the Ministry of Culture of the Russian Federation. The management plan provides an integrated action plan for four years (2017 – 2020) and integrates its own quality assessment evaluation scheme which, at the end of the initial period, will commence a review of successes and the reformulation of necessary actions. Future revisions of the management plan will pay closer attention to the aspects of risk management, in particular how this relates to visitor and traffic management, as well as protection of setting and traditional use of the religious structures.

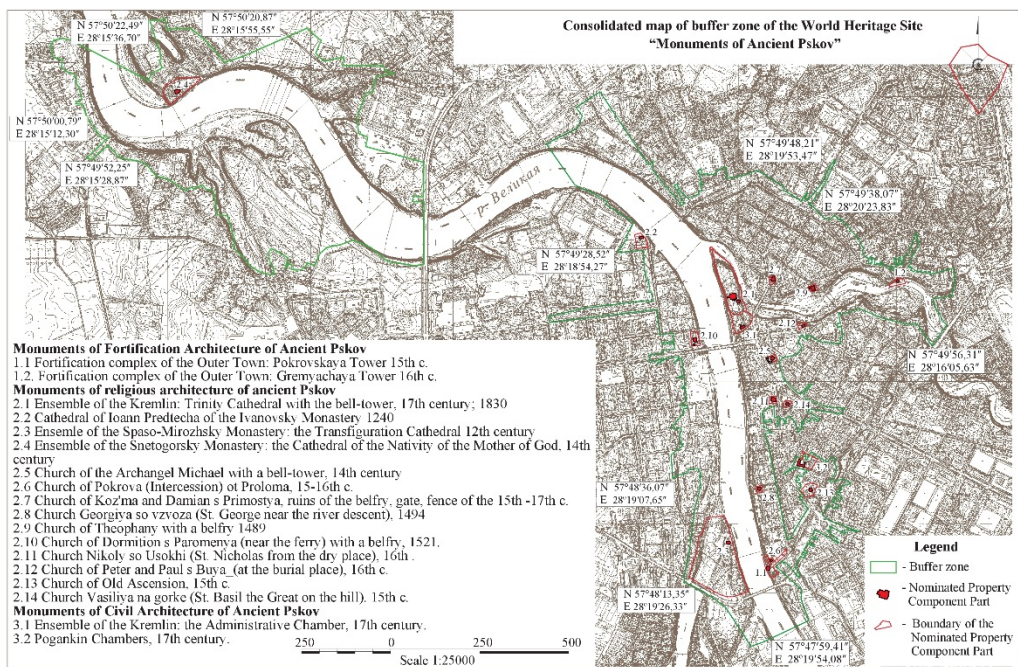
Additional recommendations

ICOMOS further recommends that the State Party give consideration to the following:

- a) Redefining more consistently component boundaries in line with title deeds or physical markers,
- b) Extending the existing protection zone for the historic centre of Pskov to include the two view corridors along the banks of the Velikaya River to the north and south of this urban protection zone,
- c) Augmenting the monitoring system through integration of indicators which monitor traffic flows and development pressures,
- d) Studying traffic and visitation volumes and flows and develop a vehicular traffic strategy as well as a visitor management plan for the property;

ICOMOS further recommends that the State Party consider changing the name of the property from "Monuments of Ancient Pskov" to "Churches of the Pskov School of Architecture", in line with the reduced serial

composition and acknowledged Outstanding Universal Value of the property.



Map showing the boundaries of the nominated property



Church of the Archangel Michael with a bell tower



The Cathedral of *Ioann Predtecha* (John the Precursor) of the Ivanovsky Monastery



Church of *Nikoly so Usokhi*



The Transfiguration Cathedral, the cupola

Risco Caído

(Spain)

No 1578

Official name as proposed by the State Party

Risco Caído and the Sacred Mountains of Gran Canaria Cultural Landscape

Location

Tejeda, Artenara, Agaete, Gáldar
Gran Canaria island, Autonomous Community of the Canary Islands
Spain

Brief description

Risco Caído and the Sacred Mountains of Gran Canaria Cultural Landscape encompasses a huge central mountainous area on Gran Canaria island, sheltered by the Caldera de Tejeda, and formed of cliffs, ravines and volcanic formations. A large number of troglodyte settlements, set in a landscape of rich biodiversity, bear witness to the efforts of the original inhabitants to adapt to a difficult environment. The ancient origin of these sites, attested by the first eye-witness accounts of the Spanish in the 15th century, and by the existence of Libyco-Berber inscriptions, provide proof of the local presence of a pre-Hispanic culture, which seems to have evolved in total isolation, from the arrival of the first Berbers from North Africa, probably at the beginning of our era, until the Spanish conquest.

The troglodyte settlements consist of habitats, granaries, and cisterns, together with sites containing a large number of cave art images. Other evidence of early agricultural activity, such as farming terraces, bears witness to the continuous presence of traditional rural organisation models. Interactions between the communities of yesterday and today with the landscape imbue it with tangible and intangible values that are closely linked to the geography and characteristics of the landscape.

Category of property

In terms of categories of cultural properties, set out in Article I of the World Heritage Convention of 1972, this is a *site*.

Under the terms of the *Operational Guidelines for the Implementation of the World Heritage Convention* (July 2017), paragraph 47, it has also been nominated as a *cultural landscape*.

1 Basic data

Included in the Tentative List

29 January 2016

Background

This is a new nomination.

Consultations and Technical Evaluation Mission

Desk reviews have been provided by ICOMOS International Scientific Committees, members and independent experts.

Comments on the natural attributes of this property, and their conservation and management, were received from IUCN on 20 December 2018 and have been incorporated into relevant sections of this report.

An ICOMOS technical evaluation mission visited the property from 24 to 28 September 2018.

Additional information received by ICOMOS

A letter was sent to the State Party on 8 October 2018 requesting further information about the description of the property, factors affecting the property, the boundaries and the buffer zone, protection, conservation and the involvement of local communities.

An Interim Report was provided to the State Party on 21 December 2018, summarising the issues identified by the ICOMOS World Heritage Panel. Further information was requested in the Interim Report including: interpretation, documentation, boundaries, management and the name of the property.

Additional information was received from the State Party on 27 February 2019 and has been incorporated into the relevant sections of this evaluation report.

Date of ICOMOS approval of this report

13 March 2019

2 Description of the property

Note: The nomination dossier and additional information contain detailed descriptions of this property, its history and its state of conservation. Due to limitations on the length of evaluation reports, this report only provides a short summary of the most relevant aspects.

Description and history

Risco Caído and the Sacred Mountains of Gran Canaria Cultural Landscape encompasses a huge central mountainous area on Gran Canaria island. It is sheltered by the Caldera de Tejeda, and includes a large proportion of the Barranco Hondo ravine and the Tamadaba Highlands, formed of cliffs, ravines and volcanic formations.

The zone contains a very large number of troglodyte settlements, set in a landscape of rich biodiversity, which bear witness to the efforts of the island's original inhabitants to adapt to a difficult environment. The ancient origin of these sites is attested by the first eye-witness accounts of the Spanish in the 15th century, and by the presence of Libyco-Berber inscriptions. The inscriptions, of a type that is widespread throughout the Maghreb, provide proof of the

local presence of a pre-Hispanic culture on the island, which seems to have evolved in total isolation, from the arrival of the first Berbers from North Africa (Imazighen in Berber), probably at the beginning of our era, until the Spanish conquest.

The troglodyte settlements consist of habitats, granaries, and cisterns, together with a number of outstanding sites containing a large number of cave art images, and used for cultural activities. Furthermore, the first Spanish settlers refer to sites that were held to be sacred, where seasonal ceremonies took place.

Within this ensemble, there are two notable cultural sites: Risco Caído and Roque Bentayga. The cavities, referred to as “temples” or “*almogarenas*” and documented throughout the island of Gran Canaria, are said by the State Party to have been created to mark the appearance of solstices, as astronomical markers, and to be linked to a possible cult of stars and Mother Earth.

Most of these constructions were built using traditional methods for sculpting out cavities. The early Canarians preferred areas dominated by volcanic breccia material and tuff sands which were relatively easy to sculpt using stone or bone tools. The use of troglodyte habitats did not end with the arrival of the Spanish conquerors, but was perpetuated, with some adaptations, up to a very recent period.

Risco Caído was carefully sculpted, with a perfectly symmetrical vault and a window open to the sky. This cavity is also richly decorated with triangular motifs, interpreted as representing the female pubic triangle as a symbol of fertility. According to the State Party, the specific geometry of the cave enables the illumination by the first rays of the sun of certain decorative elements at successive periods of the year. As for the *almogaren* of Roque Bentayga, it is situated at the foot of the mountain and is said to be positioned to face the rising sun and Roque Nublo. This cavity is associated with Libyco-Berber inscriptions engraved at the foot of the mountain and troglodyte habitats and granaries.

Sculpted objects, taken to be idols or “*pintaderas*”, have also been discovered in the troglodyte settlements. These sculpted objects, made of clay in most cases, represent mainly anthropomorphic and sometimes zoomorphic figures.

Transhumance routes, which clearly date from ancient times, and troglodyte cisterns, are still used by local livestock breeders, and bear witness to the perpetuation of traditional models of rural organisation. The whole property is interconnected by a network of paths, which are often the same as those used by ancient Canarians to travel, and are also used as pilgrimage paths and sacred routes.

Further evidence of the ancient agricultural activities is provided by the farming terraces, which continue to be used today. The landscape has been shaped to create unique farming terraces, supported by stout dry walls, sometimes

suspended above precipices, and unique water collection and distribution systems.

Part of the property, particularly in the pine forests of Tamadaba and Finca de Tirma, is considered as an extremely significant area for Canarian biodiversity, and the large escarpments are home to highly diverse flora and fauna. The traditional uses of endemic flora, dating back to the first inhabitants of the island, are still perpetuated today, such as the use of wild plants for medicinal purposes. Prehistoric varieties of barley have been discovered in granaries. Genetic studies show that modern barley is the same variety as that analysed from the fortified granaries, which has been shown in turn to have come from northern Morocco.

In the additional information provided in February 2019, the State Party stresses that no archaeoastronomical interpretation can ever be confirmed with absolute certainty. The State Party concludes that the relationship referred to between astral divinities, seasonal cycles, the need to measure time and the fertility cult, associated with the symbolism of cave art, are believed to illustrate the cosmology of the ancient Canarians, even though no intrinsic relationship can be entirely proven.

The island of Gran Canaria was inhabited for more than 1500 years by Berbers who originated from North Africa. This local culture developed in isolation up to the 14th century, when sporadic contacts were established with Europeans. From the 15th century onwards, this trend became stronger when the Canary Islands were conquered by Spain. In the ancient Canarian culture, the mountains were held to be sacred and they were the object of a cult, which is confirmed by several historical sources. Sanctuaries in these mountainous regions were also associated with burial places, suggesting, according to the State Party, that ancestors were thought to be responsible for controlling clouds and rainfall.

Despite the huge increase in population and development on much of the island of Gran Canaria in the 20th century, these traditions have survived in the Caldera de Tejeda region, which has been spared the pressure exerted on the rest of the island. However, archaeology did not start to be developed until the mid-19th century. In the 19th and 20th centuries, archaeological sites attracted interest, particularly with the discovery of the painted cave of Gáldar, which has become a symbol of the island’s past. Following the discovery of tumuli at Agujero de La Guancha and at Gáldar, the regional archaeological excavation department was created. The discoveries made since then, and the construction of infrastructures, have led to an exponential increase in the island’s archaeological inventory. It was not until the end of the 20th century, with the discovery of Risco Caído, and today with the archaeological work led by the Cabildo de Gran Canaria, that the history of the early inhabitants of the Canary Islands began to be written. Although most of the research in Gran Canaria was initially conducted in the plains, researchers over recent decades have become particularly interested in the archaeology of the highlands, because of the state of conservation of the

remains and important cultural singularities. The research programmes are focused primarily on the island of Gran Canaria, because of the size of the island, the monumental nature of the sites, and the cultural and scientific importance of the archaeological material on the island. The process of recognition of the cultural landscape has intensified the level of interest.

Boundaries

The nominated property occupies an area of 9425 ha, and a buffer zone of 8557 ha.

The boundaries of the nominated property and its buffer zone are delineated by the topography of the Caldera de Tejeda, following the crests of the surrounding mountains. The cultural landscape can be seen almost in its entirety from any point in the zone of the nominated property. It does however include the rock escarpments of Tamadaba and Barranco Hondo ravine, with Risco Caído, which do not form part of the more extensive Caldera. Their boundaries are however inside the watersheds formed by the crests of the surrounding mountains.

The nominated property has a large buffer zone in the south, which includes the landscape on the southern slope of The Caldera de Tejeda. The buffer zone also extends around the Barranco Hondo ravine to include Artenara, Las Cuevas, Las Arbejas and Juncalillo.

ICOMOS notes that, bearing in mind the recent discovery at Risco Caído, the archaeological potential in the buffer zone is promising.

ICOMOS wishes to stress however that many of the archaeological sites and sites of ethnographic interest listed are located inside and outside the buffer zone. The additional information states that these sites, including the archaeological site of Tirma, are of lesser importance than the most significant attributes present inside the property in terms of value, integrity and state of conservation. They are located in the foothills zone, in gorges that converge towards the mountains or on the coast, and are always located outside the Caldera Tejeda, in a different geographic and cultural context.

The buffer zone also includes some events of ethnographic interest, which are not linked to the values expressed in the nominated property, but are of significant local interest.

State of conservation

Despite significant changes in the environment and landscape of Gran Canaria island, the cultural landscape of Risco Caído is in a good state of conservation, partly because of its isolated location. The factors affecting the property were fortunately identified in time, and strategies have been put in place to protect the property's values. The high levels of endemism and biodiversity observed in certain zones, such as Tamadaba, are good indicators. It should be noted however that this has not always been the case, as forest resources were overexploited after the Spanish conquest. The pine forests disappeared almost in their entirety because of the timber trade. The State Party

stresses however that today the forests are being supported by reforestation programmes, and almost the whole zone is included in one of the protection categories of the Canary Island Network of Protected Natural Areas (ENP in Spanish).

The State Party also indicates that, although the troglodyte settlements are in a good state of conservation, restoration work is currently under way at certain sites. Restrictions are also in force to regulate or prevent access, as at Risco Caído and Roque Bentayga, with guided tours being provided.

Based on information provided by the State Party and the observations of the ICOMOS technical evaluation mission, ICOMOS considers that the state of conservation is satisfactory.

Factors affecting the property

One of the main factors affecting the property mentioned by the State Party is development pressure, particularly from new building, sometimes on protected land, and the unfortunate rehabilitation and use of old buildings, and also from illegal tracks, high and medium voltage overhead cables, certain water works and the nocturnal lighting of some isolated hamlets. The State Party indicates however that the Integrated Management Plan for Risco Caído includes directives for the sustainable management of troglodyte dwellings and for the style of new buildings.

Based on the observations of the technical evaluation mission however, ICOMOS notes that new developments have been authorised, albeit in very small numbers, which do not comply with the recommendations. The State Party says the developments are examples of what it is striving to prevent. ICOMOS considers that the nominated property shows relatively few signs of being affected by development pressure, as there are few incentives to create tourist infrastructure or additional residential zones in the area.

In the additional information, the State Party indicates that town planning legislation in the nominated property prevents the construction of new buildings, which is not the case in the buffer zone, where building plots exist with restrictions on building type. The integrated management plan also stipulates that overhead cables must be buried and that sources of light pollution must be eliminated.

The ransacking or illicit occupation of certain troglodyte settlements constitute another factor affecting the property. The State Party indicates that the island's government (Cabildo de Gran Canaria) has stepped up its inspection activities to reduce this risk.

Environmental constraints are linked to the volcanic origin of Gran Canaria, which means that the rock on which much of the troglodyte heritage is built is somewhat fragile. Effects linked to agents of erosion such as water, vegetation and the development of micro-organisms also cause the rock to deteriorate. The State Party indicates

that specific factors affecting the rock include flaking of the walls, microfissures, and alterations to the pigments on the walls. The control of microclimatic data carried out on the main archaeological sites is therefore extremely important.

Exotic and invasive species are one of the main threats to the biodiversity of the nominated property. The State Party indicates that the Environment Ministry is currently actively engaged in clearing exotic plants, and that landowners are being encouraged to participate in this effort through incentive measures. As for fauna, it should be noted that some species, such as goats, rabbits and feral cats are also risk factors. Their irregular distribution causes severe damage to certain species of autochthonous flora and has a very negative effect on afforestation work. ICOMOS takes note of the efforts being made by the Environment Ministry to eradicate disruptive species.

Fire risk is one of the important threats to the nominated property identified by the State Party. Means for preventing and fighting fire have been considerably expanded by the State Party, with the installation of new surveillance booths, the upgrading of the water reservoir network for land and air based fire services, the modernisation of telecommunications facilities and the installation of spark arrestors in the chimneys of buildings.

Risks of drought, and its effects on the local economy and particularly on traditional agricultural practices, are also a threat to the perpetuation of some cultural traditions. The State Party stresses that, after a long period of development focused mainly on tourism in the island's coastal areas, the new Gran Canaria Special Territorial Plan for Hydrology (PTE-4) now guarantees water supplies and agricultural irrigation needs for the highlands in the interior of the island.

ICOMOS notes that pressure from visitors, though very low up to now, has increased over the last few years. Tourism activities are concentrated mainly around La Puerta del Nublo, Roque Bentayga and Roque Nublo. The State Party stresses that, to enable better regulation of the inflow of tourists to these sites, interpretation centres have been created, with new paths and information panels. The State Party also indicates that the new tourism strategy will help in the management of the growing number of visitors. IUCN also stresses that it will be important to make sure that any change in visitor levels, as a result of possible inclusion in the World Heritage List, is proactively managed to ensure that zones that are important for the conservation of the blue chaffinch are protected.

3 Proposed justification for inscription

Proposed justification

The nominated property is considered by the State Party to be of Outstanding Universal Value as a cultural property for the following reasons:

- The cultural landscape has revealed ample archaeological evidence of the development of an island culture, now extinct, that evolved in isolation for at least 1500 years from the Amazigh settlers who reached the Canary Islands from the Maghreb.
- The property harbours a large number of troglodyte settlements, distributed along the cliffs and crags of the Caldera de Tejera, which bear witness to an outstanding level of adaptation by the early population of the island to a difficult environment. The use of the troglodyte dwellings did not end with the arrival of the Spanish conquerors, and has been perpetuated up to the present day.
- The cultural landscape is a mountain area organised by mankind, founded on references both to landmarks and to the skyscape, maintaining and expressing the symbolic and cosmological vision of the aboriginal society of Amazigh origin.
- The sanctuaries with astronomical connotations are unique expressions of their genre, bearing witness to the high level of knowledge of the aboriginal people in the fields of geometry and astronomy.
- The nominated property hosts ancestral practices and land-use techniques that are perfectly adapted to the territory, such as transhumance routes, farming terraces, and water-management systems, that form an integral part of the cultural landscape.
- The geology and morphology of the cultural landscape, its ecosystem and its biodiversity, and its dark night sky, express a unique relationship between human beings and nature, which is reflected in the cosmological vision, calendar and rites of the early Canarians.
- The cultural marks of the ancient Imazighen have survived, not only in the form of Libyco-Berber inscriptions, but also by impregnating the place names, customs and practices relating to a range of aspects of rural life.

In the additional information of November 2018, the State Party indicates that historical and archaeological data link the nominated property to the ancestral territory referred to as "Tirma" in the chronicles of the conquest. ICOMOS stresses that Risco Caído is only one site amongst the sacred mountains of Gran Canaria.

In the additional information supplied in February 2019, the State Party stresses that, in view of the history of the place as a cultural site, and the appropriation of the name by local communities, it seems preferable for the stakeholders to maintain the name initially proposed.

Comparative analysis

The comparative analysis is presented in five parts: a comparison with properties having an astronomical component, a comparison including properties with troglodyte habitats and/or rock art, a comparison with properties relating to techniques and uses of the territory, a comparison with properties inscribed on the World Heritage List with regard to the overall significance of the cultural landscape, and a comparison with other properties at local and regional level.

In its comparative analysis, the State Party has drawn on the following ICOMOS thematic studies: Rock Art of the Sahara and North Africa (2007), Cultural Landscapes of the Pacific Islands (2007), Heritage Sites of Astronomy and Archaeoastronomy in the context of the UNESCO World Heritage Convention (2010, 2017), and The cultural Heritage of Water in the Middle East and the Maghreb (2015).

The State Party stresses that – with the exceptions of Jantar Mantar, Jaipur (India, 2010, (iii), (iv)), and the Historic Monuments of Dengfeng (China, 2010, (iii), (vi)) -, the astronomical heritage is under-represented on the UNESCO World Heritage List. The State Party indicates that Rapa Nui National Park (Chile, 1995, (i), (iii), (v)) and the Megalithic Temples of Malta (inscription 1980, extension 1992, minor modification of boundaries 2015, (iv)), which include works and expressions with astronomical significance, are the two properties in island settings that are most comparable with the Cultural Landscape of Risco Caído. The State Party also points out that there are no expressions of this type of Amazigh culture in the Maghreb inscribed on the World Heritage List.

The State Party also compares the nominated property with two other properties that include troglodyte habitats and/or rock art, and concludes that there is no other cultural landscape in an island setting with attributes that include troglodyte settlements. Only Mesa Verde National Park (United States of America, 1978, (iii)), Göreme National Park and the Rock Sites of Cappadocia (Turkey, 1985, (i), (iii), (v), (vii)), and The Sassi and the Park of the Rupestrian Churches of Matera (Italy, 1993, (iii), (iv), (v)), are expressions of troglodyte habitat with a great diversity of uses, and are considered to constitute a complete ecosystem in the same way as Risco Caído. The State Party stresses however that the Cultural Landscape of Risco Caído is the only property that includes sanctuaries with astronomical connotations.

The State Party compares the Cultural Landscape of Risco Caído with Dougga / Thugga (Tunisia, 1997, (ii), (iii)). Dougga is essentially a Roman site, but it has some Libyco-Berber inscriptions which are among the very few to have been deciphered, one of which is the sole inscription ever to have been dated with certainty.

The State Party compares the cultural landscape of Risco Caído with properties inscribed on the World Heritage List that are related to land use and its techniques. The State Party indicates that the nominated property is the only property to include transhumance and markers of agropastoralism in an island setting. The varieties of prehistoric seeds that are still cultivated today are said to be a unique expression compared with other cultural landscapes associated with terrace farming systems. Although some connections have been identified with certain water collection and distribution systems and techniques in the Berber Maghreb, the State Party stresses that the nominated property is different in that it combines the archaeological heritage with a troglodyte habitat.

In the local and regional context, the State Party stresses that the Canary Islands are the only group in the Macaronesian archipelago to have been settled prior to the European expansion of the 14th and 15th centuries.

ICOMOS considers that the comparative analysis is exhaustive, and examines all the attributes of the cultural landscape. The comparative analysis includes a wide range of properties with astronomical characteristics and function, and sets out the context of this nomination and the gaps that it would fill in terms of the World Heritage List.

In the regional and chronological context, the comparative study rightly concentrates on island cultures and territories, and on the Maghreb and North Africa, where the closest cultural parallels can be drawn. ICOMOS notes that the cultural landscape of Risco Caído would be an invaluable counterpart to that of Dougga. Whereas Dougga represents a total merging of Libyan elements with Punic and Latin elements, the nominated property is said to represent an exclusively Libyco-Berber manifestation which was maintained as such up to a period when Libyco-Berber specificity, at least in terms of writing, had already long disappeared from the non-Touareg part of the Maghreb.

ICOMOS also stresses that the troglodyte habitat is a fundamental and crucial element of the cultural landscape of Risco Caído, as is its variety of uses, and is only represented elsewhere in the example of the Sassi and the Park of Rupestrian Churches of Matera, in Italy. This troglodyte tradition can also be considered as one of the signs of the identity of Amazigh culture, even though its richness and diversity are not represented in any property inscribed on the World Heritage List.

ICOMOS considers that the comparative analysis justifies consideration of this property for the World Heritage List.

Criteria under which inscription is proposed

The property is nominated on the basis of cultural criteria (iii) and (v).

Criterion (iii): *bear a unique or at least exceptional testimony to a cultural tradition or to a civilisation which is living or which has disappeared;*

This criterion is justified by the State Party on the grounds that the set of archaeological sites and rock art manifestations bears unique and exceptional testimony to an extinct island culture that evolved in isolation for over 1500 years. Archaeological and historical evidence from the nominated property confirm the fact that this culture arose from the first settlers that came from the Berber Maghreb, and that the sacred mountains were the final refuge of the ancient Canarians before the Spanish conquest. The nominated property provides exceptional testimony of an island culture that includes the skyscape as a fundamental part of the perception of their world, rites and beliefs.

ICOMOS considers that the cultural landscape, with the archaeological sites, the rock art and other cultural expressions, bear outstanding testimony to an extinct island culture, which has connections –admittedly hard to characterise in detail– with present-day cultures in the Maghreb. Within this set of sites, whose overall richness is unquestionable, there are two sites which are probably cultural, and outstanding from an architectural viewpoint: Risco Caído and Roque Bentayga.

This pre-Hispanic culture is extinct, but the caves, farming terraces, granaries, water management systems and ancient trails have been preserved. The traditions of local communities in the region still resonate with direct and indirect references to this past way of life.

ICOMOS stresses however that, on the basis of the information currently available, it is difficult to establish with any certainty whether it is correct to refer to certain archaeological elements as “astronomical markers” or “solstice markers”. Other interpretations are questionable, such as the triangular motifs interpreted as vulvas, and the assertion that there was a Mother Earth cult.

ICOMOS considers that criterion (iii) has been justified.

Criterion (v): be an outstanding example of a traditional human settlement, land-use or sea-use which is representative of a culture (or cultures) or human interaction with the environment, especially when it has become vulnerable under the impact of irreversible change;

This criterion is justified by the State Party on the grounds that the aboriginal troglodyte settlements of the Caldera de Tejada and the surrounding area are an unrepeatable example of this kind of human habitat in ancient island cultures. They illustrate a highly efficient and complex level of organisation of the space and adaptive resource management. The caves, the sanctuaries, the farming activities and the terraces blend with the natural landscape to create a genuine cultural landscape, that still today maintains its main symbolic and cosmological connotations. The troglodyte habitat has been kept alive as a way of life over time, creating new ways of occupying the space that express the syncretism between the local Amazigh culture and the Spanish culture introduced after the conquest.

ICOMOS considers that the nominated property contains forms of settlement, agriculture, and land and water management that are an outstanding example of interaction between man and the environment in ancient island cultures. The archaeological remains and the cultural landscape have on the whole survived in an outstandingly visible way.

ICOMOS also notes that the cultural landscape of Risco Caído includes a large number of troglodyte settlements, bearing witness to the remarkable efforts of the island’s original settlers to adapt to a difficult environment. While some sites date back to the pre-Hispanic period, the use

of the troglodyte settlements did not disappear with the arrival of the Spanish conquerors, and has been perpetuated, albeit with some adaptations, up to a very recent period.

ICOMOS considers that criterion (v) has been justified.

ICOMOS considers that the nominated property meets criteria (iii) and (v).

Integrity and authenticity

Integrity

Most of the nominated property and the buffer zone are delineated geographically by the Caldera de Tejada, and many of the boundaries follow the crests of the surrounding mountains. ICOMOS considers that all the attributes of potential Outstanding Universal Value are included in the nominated property zone.

ICOMOS considers that the nominated property has remained largely intact and has not been affected by any damaging development. Over recent years, the main sites have experienced positive change, mainly as a result of tourism impact management and information dissemination. Infrastructures have recently been improved in the buffer zone, where most of the built-up areas are located.

The State Party indicates that the information technology used in the management system for the nominated property also includes a system in which local farmers are considered as partners in environmental management.

ICOMOS notes however that erosion is one of the main deterioration processes observed. The region is currently experiencing a serious drought, which reduces the effectiveness of plant cover in protecting the soil.

Authenticity

The archaeological sites are authentic in their design and materials, their situation and their setting, their function and the associated spiritual traditions, which are still alive today.

The troglodyte settlements have largely retained the original form and design of their architectural elements, and of the many decorative elements and crafted objects that enable an understanding of the ways of life of the societies that occupied the sites. ICOMOS considers that the results of archaeological research and excavations on the site also bear witness to its authenticity.

ICOMOS considers that the astral interpretation attributed to the troglodyte sites with a large number of rock art images, and the assertion of the existence of a Mother Earth cult, will need to be confirmed in the future. However, this does not mean that the rock art itself is not authentic, but only that there are questions about interpretation.

ICOMOS notes that part of the cultural landscape of Risco Caido, and Tamadaba in particular, is considered to be one of the most significant sites in the Canary Islands for biodiversity. Several of the landscapes in this region can be considered as genuine vestiges of the natural habitat of the first settlers of the Canary Islands.

Traditional land-use practices bear witness to the continuity of traditional rural organisation models, and of mountain agriculture, with its smallholdings, terraces, family gardens, threshing areas and orchards. The whole nominated property is also connected by a complete network of trails, which are often the same as the trails used by the ancient Canarians, but which are also used as transhumance routes and pilgrimage paths.

The techniques and traditional structures linked to the culture of water are still in place. Some are still in use and others have been abandoned. The territory and landscape have been sculpted to create farming terraces, supported by dry stone walls that are sometimes literally suspended, and water collection and distribution systems.

The nominated property and its surrounding area bear witness to a living knowledge of the ethnographic heritage of flora and fauna and their uses, particularly as regards medicinal plants. Traditional practices connected to pottery are also a significant example of how the cultural heritage continues to be expressed in the landscape.

ICOMOS considers that it would be advisable to obtain additional information about the genetic studies performed on mummified human remains. ICOMOS also notes that it is necessary to know how these remains would be conserved and presented to the public.

The additional information provided in February 2019 confirms that genetic analysis has detected the presence of DNA of North African origin in the indigenous population of the Canary Islands. These results suggest that the colonisation of the islands was a heterogeneous process, and that different islands may have had different evolutionary histories. Analyses have also been carried out on domestic animals and plants found in archaeological contexts. The genetic analyses performed on pre-Hispanic pigs, for example, have shown the presence of bloodlines linked to wild boar from North Africa. ICOMOS stresses however that the conservation of human remains will have to be fully integrated into the management of the property.

ICOMOS considers that the requirements of integrity and authenticity have been met.

Evaluation of the proposed justification for inscription

ICOMOS considers that the comparative analysis justifies consideration of the nominated property for the World Heritage List.

The nominated property is an evolving cultural landscape, which is both a relic and a living landscape. The archaeological sites, and the troglodyte settlements and

rock art of the ancient Canarians, bear witness to this culture, which became extinct after the Spanish conquest. Many aspects of the ways of life of the ancient Canarians have continued to inspire land organisation and management, as reflected in the troglodyte habitat, water management and transhumance routes. Furthermore, the spatial organisation, and the relationship of the attributes with each other and with the geography of the landscape, in the form of symbolic geographical markers, support the importance of the nominated property in heritage terms.

The property meets criteria (iii) and (v) and the conditions of integrity and authenticity have been met.

Attributes

The material attributes expressing the Outstanding Universal Value of the property are: the archaeological sites and artefacts associated with all these historic periods, and particularly the troglodyte settlements (habitats, granaries, cisterns, cavities with rock art images and cavities with cultural significance). The mountains, the escarpments of Tamadaba, biodiversity, rural settlements and the terrace landscapes are attributes of the cultural landscape, in view of their extremely close links to cultural practices over the course of history. The trails established by the ancient Canarians, and the transhumance routes across the landscape are also attributes of the property's outstanding universal value. Finally, the cultural practices, knowhow and astronomical knowledge, and many other aspects of the intangible cultural heritage of the communities in the nominated property (in particular language, place names, ecological knowledge, crafts, activities and seasonal rituals) are attributes of the Outstanding Universal Value of this cultural landscape. A full list of the attributes is provided in the nomination dossier.

ICOMOS considers that the nominated property meets the conditions of authenticity and integrity, and meets criteria (iii) and (v).

4 Conservation measures and monitoring

Conservation measures

Many active conservation measures are being taken, including conservation and rehabilitation initiatives and programmes. The Ministry of the Environment, in conjunction with associations and landowners, is actively involved in the upkeep and surveillance of the property. Furthermore, the protection requirements to preserve the nominated property are guaranteed in a long-term perspective by virtue of the legal and planning measures that apply to the zone and its attributes.

The integrated management plan for Risco Caido includes a priority action plan to meet conservation needs in the zone in which the main attributes are located. In addition to preserving the physical integrity of the property, another objective is to restore the original landscape, with its endemic flora and vegetation. This measure is not only

intended to preserve the landscape, but has also become a teaching resource and a tourist attraction.

Another measure is the conservation and upkeep of the ancient trails. The State Party indicates that the Ministry of the Environment, in conjunction with the associations and landowners, will actively participate in the upkeep and monitoring of the nominated property.

The conservation strategy for the region is also focused on the intangible heritage. Ancestral livestock rearing methods, such as transhumance, have been supported by the strategic plan for the primary sector, and by initiatives intended to preserve trade and knowhow, such as the tradition of ceramic production and cheese production.

Specific conservation measures are being applied to certain troglodyte settlements. A landscape enhancement project is under way at Risco Caído. At Cuevas del Rey, conservation work is currently under way on the slopes and access paths, as at Bentayga. At Risco Chapín, work has been carried out to prevent the collapse of the entrance, panels have been installed to prevent sunlight from entering the interior, and runoff water has been channelled away.

In the additional information, the State Party indicates that a multi-disciplinary team was recently set up. An initial field campaign took place in 2018, with the aim of continuing archaeoastronomical research.

The State Party has committed itself, in the integrated management plan, to carrying out a permanent programme of research on the property, recognising that the importance of the property is the direct result of research. ICOMOS considers that it is important that the archaeological research programme should be specifically linked to the conservation of the property, and that it should answer research questions relating to the proposed Outstanding Universal Value.

Monitoring

The monitoring of the current state of conservation of the environment and of the significant heritage elements, including the periodic reports to be submitted to the World Heritage Committee, will be carried out by the Cabildo de Gran Canaria, as the entity responsible for the nomination and the monitoring of the property.

Information about the state of the property will be collected and recorded each year, and a periodic report will be drawn up every 6 years, on the basis of this information, to evaluate the state of conservation and management.

ICOMOS considers that the conservation and monitoring measures are appropriate to maintain the value, authenticity and integrity of the property.

5 Protection and management

Documentation

The Museo Canario has produced an exhaustive set of archaeological maps for the Cuenca de Tejeda Spatial Plan. The archaeological maps were revised and updated in 2004-2005. The inventory of rock art was finalised in 2007 and deals specifically with the zone in which the nominated property is located.

The ethnographic heritage, both tangible and intangible, has also been studied in depth, and an inventory has been drawn up based on the ethnographic maps.

As for the environment, it is important to note that a large number of reports and in-depth studies were undertaken as part of the process of devising legal concepts for the protection of the zone. When the planning system was devised, reports on the state of the environment were drawn up for each protected area. This is also the case for the development of special conservation zones (SAC) forming part of the European network Natura 2000.

ICOMOS notes that, in English, the term “troglodyte” has a negative connotation. ICOMOS suggests that the State Party should consider changing this term, and using “cave” instead, for example.

In the additional information supplied in February 2019, the State Party indicates that, in its future documents, the term “cave” will be used for contemporary dwellings, while the term “troglodyte” will be used in a historical context.

Legal protection

Law 4/1999 of 15 March 1999 on the Historic Heritage of the Canary Islands in Article 62, relative to Archaeological Sites of Cultural Interest, states that “all sites, locations, caves, shelters or mediums that contain rock art” are declared as such. Thus, as with national law, by virtue of autonomous law, all manifestations of rock art in the Sacred Mountain area of Gran Canaria are automatically considered as Heritage of Public Interest (BIC), which means that the provisions and level of protection established therein apply to them.

The nominated property is also integrated into the various planning instruments, that is: the Land Use Plan for the Municipality of Agaete; the Artenara Municipality Subsidiary Land Use Rules; the Land Use Plan for the Municipality of Galdar; and the Land Use Plan for the Municipality of Tejeda.

The State Party also indicates that the Special Territorial Plan for Historical Heritage (PTE-6) provides the island with the regulatory coverage that is necessary to protect its historical heritage as part of the island’s management plan.

A large proportion of the nominated cultural landscape is classified as an Area of Special Heritage Interest (ARIP) under the title “Highland Area I – Troglodyte Settlements” (ARIP 3). The second ARIP, entitled “Highland Area II – The

Traditional Rural Area”, is also included in the cultural landscape.

In the additional information, the State Party indicates that all the cultural sites, whether ethnographic or archaeological, have the same level of protection in the nominated property zone and in the buffer zone. The State Party also points out that the ARIP, in force since 2003, no longer match the updated inventory of archaeological sites. A procedure has been under way, since 2017, to redelineate the ARIPs in the nominated property zone.

Most of the nominated property and its buffer zone are included in one or more of the protected categories in the Canary Island Network of Natural Areas (ENP). Furthermore, the property is also located inside the Gran Canaria Biosphere Reserve. All the protection and management measures relating to this category of the UNESCO Man and the Biosphere programme (MAB) therefore apply in this territory.

At local level, the property is protected in four categories: rural park, natural monument, natural reserve and protected landscape. The legal environmental framework of these zones is regulated by the Land-use and Management plans that apply in each case.

Most of the area of the nominated property and its buffer zone is included in the European Natura 2000 Network. Four zones with an impact on the nominated property have been declared Special Areas of Conservation (SAC).

The Gran Canaria Land-use Planning Instrument (PIO-GC) plans the use of natural, cultural, territorial and urban resources for the island of Gran Canaria. Gran Canaria’s PIO, definitively approved in 2003, defines the territorial model and island planning, establishing a model for territorial organisation and use to ensure sustainable development. The PIO does not plan any new zoned areas for the nominated property and its buffer zone.

The new Canarian land law also provides additional legal protection, i.e. the new statutes of the Canary Islands (2018). In the additional information, the State Party indicates that this new law will improve the protection of the cultural landscape by reducing the impact of certain factors which are not specifically covered in the various planning regulations.

It is also stated in the additional information that the nominated property is a multi-internationally designated area site (MIDAS). Internationally designated sites can potentially act synergistically to improve the protection and management of the property.

ICOMOS and the IUCN however considered that it was important to better understand how the overlaps between the delineations of the nominated property and its buffer zone, and the various protection measures, are managed on the ground. It was also necessary to know the implications for Barranco Hondo, given that it is not a Natura

2000 site and that it is not entirely covered by the local designations.

In the additional information provided in February 2019, the State Party indicates that the zones not included in the Special Areas of Conservation (SAC) of the Natura 2000 network are those already subject to traditional agricultural protection and the rural habitat zones. The State Party also stresses that the protection and conservation measures of the Natura 2000 network are based on those stipulated for the Canary Island Network of Natural Areas (ENP), in cases where the two zones overlap.

In the part of the property that is not included in the protected zones, i.e. mainly the Barranco Hondo zone, several additional protection aspects are set out in the town planning regulations. In addition to the cultural protection zone, there are three other territorial protection categories: protected rural landscape, protected rural horticultural land, and traditional agricultural land. The State Party notes that the only parts of this zone not covered by these protection systems are rural habitat zones. They are however covered by rural land status, which prohibits any development activity.

Management system

The Cabildo de Gran Canaria is responsible for the management of the nominated property, and is the competent authority, particularly as regards cultural heritage, the environment and land use.

The State Party stresses however that, in view of the new challenges and objectives arising from the nomination, the Risco Caído and the Sacred Mountains of Gran Canaria Cultural Landscape Steering Committee was created in 2015 to ensure the permanent coordination of the management of the nominated property, and the intervention and action strategy. One of the main contributions of the Steering Committee was the drawing up of the Integrated Management Plan for the cultural landscape of Risco Caído in 2015. The management and governance structure is completed by the “Foundation for Risco Caído and the Sacred Mountains of Gran Canaria”, which is currently being set up.

The State Party stresses that around twenty persons currently participate in the protection and management of the cultural landscape. The Regional Ministry of the Environment takes charge of the operational management of environmental conservation and risk prevention tasks. The process set up to unify the public management system of the cultural landscape and the network of interpretation centres will also require trained local staff.

The conservation measures are funded by ordinary investments and specific investments to promote the cultural landscape. Ordinary investments are funded by the Government of the Canary Islands, but also by the central government and the European Union. These funds cover a wide range of actions (environmental, social and infrastructure-related) and are usually managed under the responsibility of the Cabildo de Gran Canaria.

The integrated management plan covers protection and conservation; research and monitoring; education and capacity-building; raising awareness of and presenting the property; public use and the responsible tourism system; sustainable local development; participation and coordination; and adapting planning. The integral management plan is discussed and adopted by the Steering Committee. The master plan is assessed and updated each year.

In the additional information, the State Party stresses that the water management policy, as defined in the Hydrological Plan, is based on gradually covering the need for desalinated water for coastal crops for tourism purposes. This strategy is intended to guarantee the water supply for the highlands and foothills, where traditional farming still exists, and where water is essential for maintaining the agricultural landscape and the local economy.

As for long-term planning and risk preparedness, the State Party refers to fire risks. ICOMOS considers that the Fire Prevention Defence Plan is crucially important. It would be important to carry out a detailed examination of the potential impact of climate change on the property.

Visitor management

The infrastructure for visitors can be divided into three parts: the network of interpretation centres and places to visit, the network of trails and mountain refuges, and the network of observation points and the local accommodation system.

The network of interpretation centres currently consists of the centre at Risco Caído (Artenara), the centre at Bentayga (Tejeda) and the centre at Degollada de Peraza (Tejeda). The Cultural Landscape Management, Research and Monitoring Centre is to be built in the near future at Tejeda, in the south-east of the buffer zone.

The whole region is covered by a complete network of trails. All the itineraries are clearly signed and thematically based, and equipped with digital facilities. The network also includes scattered mountain refuges.

The property has a single hotel, some rural inns, and rural guest houses which are approved for tourist accommodation, most of which are in caves.

ICOMOS stressed that it would be desirable to obtain details about the intended functions of the Cultural Landscape Management, Research and Monitoring Centre, and the schedule for bringing it into service.

The additional information provided in February 2019 indicates that the Centre is scheduled to open in September 2019, and that the budget has already been approved by the Cabildo de Gran Canaria. The objective of the Centre is: to carry out management tasks relating to the property, including on-site management, coordination of activities, action projects and administrative work; to support research activities; to carry out on-site monitoring of the parameters and indicators affecting the property; to implement training activities and the acquisition of the skills needed to promote

and manage the property; to provide an exhibition space and meeting rooms.

An analysis of the number of visitors suggests that current numbers could be in excess of 100,000 per year. In view of the potential increase in visitor numbers if the nomination is successful, the new tourism strategy needs to be implemented as soon as possible.

Community involvement

In the additional information, the State Party stresses the involvement of the local communities in the upkeep of the cultural landscape, but also in research work, and their participation in public decisions. The State Party indicates that this participative management process for the property, formally established in 2016, initially concentrated on the participation of the local community in the drawing up of the Integrated Management Plan for the cultural landscape, and then on the creation of the Citizens' Commission for the cultural landscape, consisting of associations and the local population. The State Party also indicates that the role of the municipalities has been essential in the management strategy and in the setting up of the Foundation currently being created.

ICOMOS considers that the fact that all the elected representatives of the four municipalities involved in the candidacy, and the elected members of the Cabildo de Gran Canaria, have signed the Declaration of Mountain Areas of Gran Canaria, bears witness to the degree of local commitment to participating in the management of the property.

Evaluation of the effectiveness of the protection and management of the nominated property

ICOMOS considers that the protection measures for the nominated property and the buffer zone are in place, and provide appropriate protection for the nominated property. ICOMOS stresses that, although the Barranco Hondo ravine is not included in the network of protected natural areas, it is covered by several additional local protection measures.

ICOMOS considers that the property management system is appropriate. ICOMOS notes however that the Steering Committee should set up as soon as possible the Cultural Landscape Management, Research and Monitoring Centre which is scheduled to open in September 2019. It should also make sure that the new special territorial hydrological plan for Gran Canaria is implemented.

ICOMOS considers that the property management system is appropriate, but that it will be necessary to set up the Cultural Landscape Management, Research and Monitoring Centre. The implementation of the new special territorial hydrological plan for Gran Canaria inside the property and adequate distribution of water to farmers must be effectively ensured.

6 Conclusion

ICOMOS considers that the comparative analysis justifies consideration of this property for the World Heritage List. The nominated property meets the conditions of authenticity and integrity, and meets criteria (iii) and (v).

The cultural landscape of Risco Caído bears witness to the local presence of a pre-Hispanic island culture, which evolved in total isolation from the arrival of the first Berbers from North Africa, probably at the beginning of our era, until the Spanish conquest. The property bears witness to the efforts made by the island's original population to adapt to a difficult environment.

In the culture of the ancient Canarians, the mountains were considered as sacred and a cult was devoted to them, and this is confirmed by the first Spanish people to arrive, who referred to sacred sites at which seasonal ceremonies took place. Within this ensemble, whose overall richness is outstanding, there are two particular troglodyte settlements very probably of a cultural nature, which are outstanding from an architectural viewpoint, and have many cave art images: Risco Caído and Roque Bentayga.

Furthermore, the trails established by the ancient Canarians strengthen the relationship which past and present occupants have maintained with the sites. The transhumance routes, whose ancient origin is unquestionable, are still used by local livestock farmers, as are the troglodyte cisterns, and they bear witness to the continuity of traditional models of rural organisation. The mountains, the escarpments, the biodiversity, the rural settlements and the terraced landscapes are all attributes of the cultural landscape with very close links with cultural practices, throughout the history of Gran Canaria island.

Interactions between the landscape and communities of yesterday and today imbue the landscape with tangible and intangible values, such as traditional uses associated with the island's endemic flora, traditional land use, social and religious uses, which are very closely linked with the geography and the characteristics of the landscape, and bear witness to the Outstanding Universal Value of the nominated property.

7 Recommendations

Recommendations with respect to inscription

ICOMOS recommends that Risco Caído and the Sacred Mountains of Gran Canaria Cultural Landscape, Spain, be inscribed as a Cultural Landscape on the World Heritage List on the basis of **criteria (iii) and (v)**.

Recommended Statement of Outstanding Universal Value

Brief synthesis

Risco Caído and the Sacred Mountains of Gran Canaria Cultural Landscape encompasses a huge central mountainous area on Gran Canaria island, sheltered by the Caldera de Tejeda, and formed of cliffs and ravines, in an area of exceptional biodiversity. The property contains a set of manifestations, which are primarily archaeological, of an extinct insular culture that seems to have evolved in total isolation, from the arrival of the first Berbers from North Africa, probably at the beginning of our era, until the Spanish conquest in the 15th century. The property has troglodyte sites, which contain a large number of rock art images, some of which are very probably cultural, and farming settlements, giving rise to a cultural landscape that still conserves most of its original elements, and the visual relationships between them. The vestiges of this pre-Hispanic culture have survived in time and space, shaping the landscape, and conserving traditional practices such as transhumance, terrace-farming installations, and water management installations. The Libyco-Berber inscriptions constitute unquestionable proof of the local presence of a pre-Hispanic culture, and bear testimony to the westernmost expression of Amazigh culture, which, for the first time, evolved into another unique insular culture.

Criterion (iii): All the archaeological sites and rock art manifestations of the Risco Caído and the Sacred Mountains of Gran Canaria Cultural Landscape bear unique and exceptional testimony to an extinct insular culture that seems to have evolved in isolation for more than 1500 years. The archaeological and historic testimony of the property bear out the fact that this culture stems from the original populations from the Berber Maghreb, which is in itself exceptional, as this is a unique case of an insular culture whose origins go back to the Amazigh world.

Criterion (v): The troglodyte sites of the Caldera de Tejeda are a unique example of this type of habitat in ancient insular cultures, illustrating a complex level of organisation of space and of adaptive management of resources. The spatial distribution and the sites documented enable a detailed understanding of the ways in which the ancient Canarians made use of the territory. This is an exceptional case, in which traditional land use practices that are highly adaptive and original, stemming from a culture that has disappeared, are still in use today.

Integrity

The property, whose geographical boundaries are set by the Caldera de Tejeda, has spectacular and monumental physical characteristics, sacred forests, troglodyte settlements on the cliffs and summits, agricultural installations for terrace farming and trails established by the ancient Canarians. The relationships between the different attributes are clearly visible, with numerous viewsheds for visitors. The property's integrity makes it an exceptional cultural landscape, that is both complete and very harmonious, representing the final mountain refuge of the

Imazighen on the Canary Islands. Over the last few years, there has been a positive evolution in the integrity of the main sites, mainly driven by the management of tourism impact and the dissemination of information.

Authenticity

Part of the cultural landscape is considered one of the greatest expressions of biodiversity in the Canary Islands, and can be considered as a genuine vestige of the natural habitat of the first inhabitants of the Canary Islands. The authenticity of the attributes of the property is made manifest in particular by sites that are probably cultural, former granaries and multiple examples of troglodyte settlements which largely retain their original form and design, particularly troglodyte sites decorated with rock art images and bearing Libyco-Berber inscriptions. The situation and the setting of the main sites have remained without significant change for more than 500 years after the Spanish conquest. Even the route of the ancient trails, the underground cisterns and the location of the former refuges have been maintained in time and space. As a result, the main scenic elements of the cultural landscape and skyline, including the night sky, have remained virtually unchanged since the Spanish conquest in the 15th century.

Management and protection requirements

A set of protection measures for the property ensures the complete protection of the landscape and of all the cultural and natural attributes of the property, in a short and medium term perspective. As for the cultural heritage, the main attributes have been inscribed on the list of Properties of Cultural Interest, which entitles them to maximum protection status both in national legislation and in Canarian regional legislation. The majority of the property and its buffer zone is also covered by some of the protection measures of the Canary Island Network of Protected Natural Areas, and of the European Natura 2000 network.

The Cabildo de Gran Canaria is responsible, and is the competent authority, for managing the property by virtue of the devolved powers it holds. It has the means and the human and financial resources to address this task. Bearing in mind the new challenges and objectives entailed by the nomination, such as enhancing grass-roots participation in the management process, a steering committee was set up in 2015 to provide permanent coordination of the management and the intervention/action strategy for the property. One of the Steering Committee's main contributions has been to draw up the Integrated Management Plan for Risco Caido. The management and governance organisational chart of the nominated property has been completed by the Risco Caido and the Sacred Mountains of Gran Canaria Foundation, which is currently in the process of being set up. The integrated management plan stresses the importance of considering the cultural landscape values as a whole, including addressing questions such as the protection of the landscape and skyline, promoting local produce, sustainable mobility and the fostering of a sustainable tourism model.

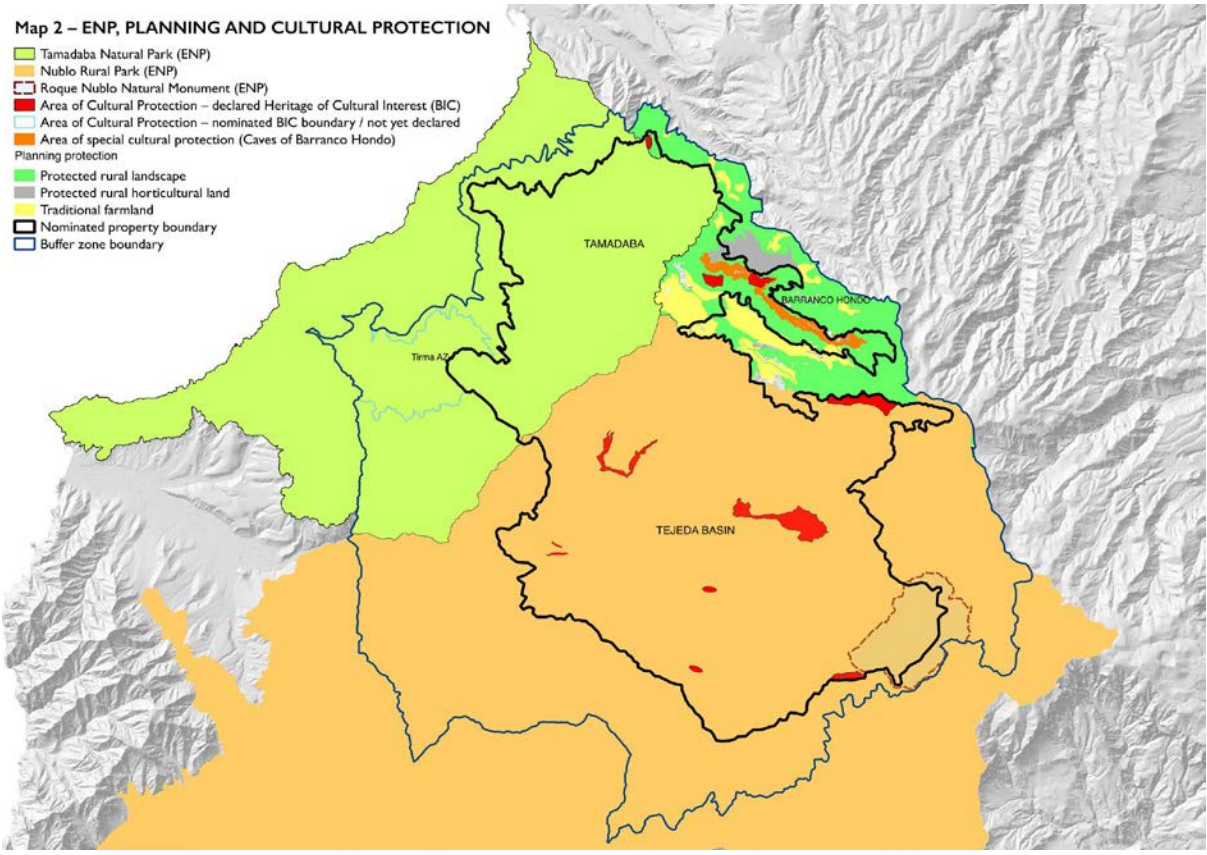
Additional recommendations

ICOMOS further recommends that the State Party give consideration to the following:

- a) Ensuring that the Cultural Landscape Management, Research and Monitoring Centre is operational as soon as possible,
- b) Setting up the Risco Caido Foundation, in order to consolidate the participative management mode of the property,
- c) Drawing up a risk preparedness plan covering fire risks and climate change,
- d) Implementing the new tourism strategy,
- e) Including an archaeological research plan that is integrated with the conservation of the property,
- f) Implementing the new Gran Canaria special territorial hydrological plan (PTE-4) inside the property and ensure that an adequate water supply is effectively distributed to current and emerging farmers;

Map 2 – ENP, PLANNING AND CULTURAL PROTECTION

- Tamadaba Natural Park (ENP)
- Nublo Rural Park (ENP)
- Roque Nublo Natural Monument (ENP)
- Area of Cultural Protection – declared Heritage of Cultural Interest (BIC)
- Area of Cultural Protection – nominated BIC boundary / not yet declared
- Area of special cultural protection (Caves of Barranco Hondo)
- Planning protection
- Protected rural landscape
- Protected rural horticultural land
- Traditional farmland
- Nominated property boundary
- Buffer zone boundary



Revised map showing the boundaries of the nominated property (February 2019)



General view of the Tejada Basin



View of Roque Nublo at night



Group of caves on the slopes of Mesa de Acusa



Panoramic view of the interior walls of Los Candiles cave sanctuary in Risco Chapín

Priorat - Montsant - Siurana (Spain) No 1579

Official name as proposed by the State Party

Priorat-Montsant-Siurana, Mediterranean mosaic, agrarian cultural landscape

Location

Catalonia
Priorat County
Spain

Brief description

Located in a vast catchment area in the heart of the Catalan Pre-Coastal Cordillera, in contact with the coastal plain and the continental Ebro depression, from which it is separated by mountain ranges, the Priorat-Montsant-Siurana cultural landscape is a small mountainous area of the western Mediterranean. For its geographical situation and its geological and morphological diversity and its historical development and cultural features, the nominated property exhibits the traits of the typical Mediterranean landscapes: it preserves a variety of biotopes, diverse flora and fauna, a wealth of archaeological remains, ancient routes, small-scale human settlements and farming units, and polyculture, all attesting to the ancient human occupation of the region and its millennia-long interaction with natural resources.

Category of property

In terms of categories of cultural property set out in Article I of the 1972 World Heritage Convention, this is a *site*.

In terms of the *Operational Guidelines for the Implementation of the World Heritage Convention* (July 2017) paragraph 47, it has also been nominated as a *cultural landscape*.

1 Basic data

Included in the Tentative List

7 February 2014 as "Priorat-Montsant-Siurana agrarian landscape of the mediterranean mountain"

Background

This is a new nomination.

Consultations and Technical Evaluation Mission

Desk reviews have been provided by ICOMOS International Scientific Committees, members and independent experts.

Comments on the natural attributes of this property, and their conservation and management, were received from IUCN on 20 December 2018 and have been incorporated into the relevant sections of this report.

An ICOMOS technical evaluation mission visited the property from 1 to 5 October 2018.

Additional information received by ICOMOS

A letter was sent to the State Party on 9 October 2018 requesting further information about additional cartographic documentation and clarifications on the proposed attributes and on the management system.

Additional information was received from the State Party on 9 November 2018, and it has been incorporated into the relevant sections of this evaluation report.

An Interim Report was provided to the State Party on 24 January 2019 summarising the issues identified by the ICOMOS World Heritage Panel.

Following the reception of the Interim Report, a meeting was held with the representatives of the State Party on 8 March 2019 to explain further the content of the Interim Report.

Date of ICOMOS approval of this report

13 March 2019

2 Description of the property

Note: The nomination dossier and additional information contain detailed descriptions of this property, its history and its state of conservation. Due to limitations on the length of evaluation reports, this report only provides a short summary of the most relevant aspects.

Description and history

Priorat–Montsant-Siurana cultural landscape lies inland, north-west of Tarragona. It comprises most of the Siurana river basin and almost coincides with the Priorat County administrative unit. The nominated area features an articulated geomorphology, structured by the Montsant massif, the Siurana and the Montsant rivers; it is delimited by the pre-littoral sierras to the east and the secondary chains to the west/south-west.

The region illustrates more than 400 million years of geological history, rich geo-lithological diversity, a complex oro-hydrography and differing climates. Altogether these factors have given rise to a high landscape diversity: 19 landscape units have been identified. These have been grouped in 7 macro-areas, exhibiting common specific natural and human-made features. They are: Montsant; Mesozoic western mountain chains; Ulldemolins–Cornudella valley; Siurana River high valley; Central Priorat; Lower Priorat; and the south-eastern Mesozoic chains. Today, the areas least inhabited, due to their geomorphological features, are Montsant and the western and south-eastern Mesozoic chains.

The multi-layered layout of this landscape reflects the subsequent phases of human settlement of the region and the practice of re-using infrastructure built by predecessors whenever this was feasible.

A wealth of cultural resources, ranging from archaeological sites and vestiges, ancient routes, land arrangements, rural heritage, villages and hamlets, remains of fortifications, religious places (e.g. Escala Dei Carthusian monastery), mining heritage, and toponyms, attest to the long-lasting human presence in this area and to their main activities exploiting local natural resources for crop cultivation, silviculture and animal husbandry (sheep, goats).

The scarcity and irregularity of water supply in the nominated area has triggered different systems of exploitation, which have left tangible traces in this landscape (irrigation channels, water basins, cisterns (*anjubs*), wells, norias (*senies*), and underground water channels).

The rural heritage is represented by the arrangements made for making the terrain suitable for farming: supporting or border dry-stone walls (*marges*), terraces (*parades*), boundary stones, trails, stone shelters, huts, presses, but also watermills used to produce flour, oil, paper and fabric, sawmills, along with many other features as reported in the nomination dossier. An inventory of the rural heritage features has been developed and is reported in the nomination dossier.

Around 30 villages are still inhabited, exhibiting different layouts depending on their location, the linear shape being the most frequent, associated with summit positions; however, radial forms can also be found if the village is located in a valley or on the plains. As of 2015 the inhabitants numbered 9,670.

The main settlements are located in the southern area where the Falset Plain is located and include Falset, the largest village with more than 2,000 inhabitants, El Masroig, Els Guiamets, Capçanes, and Marçà. However several villages and hamlets are scattered in the valleys formed by the watercourses shaping this landscape and attest to the once distributed human presence in the region. These include Arbolí, along the homonymous waterstream, Bellmunt de Priorat, El Molar, El Lloar, Gratallops, and Porrera in the central part of the nominated landscape; La Morera de Montsant, Cornudella de Montsant, Albarca, Ulldemolins, Margalef, La Bisbal de Falset, Cabacés, La Vilella Alta, and La Vilella Baixa located in the valleys around the Montsant Massif.

Upon ICOMOS's request, additional cartographic information at a higher resolution was transmitted by the State Party in November 2018, illustrating the heritage features within the nominated property.

ICOMOS is grateful for the extra exercise carried out by the State Party, as the maps have been helpful for the evaluation process, although it notes that the mapping of the *trossos* and of the farming units might have been

elaborated at much higher resolution, in order to adequately represent the micro-scale of this landscape mosaic.

The region has been inhabited since the Late Paleolithic and Epipaleolithic (13,000–5,000 BP) as attested by the high number of occupation and rock art sites, leaving significant remains (e.g. "Rock Art of the Mediterranean Basin on the Iberian Peninsula" (Spain, 1998, (iii)). However, the current layout of the human-shaped landscape is the result of several layers of occupation, from Roman times onwards, the successive waves of colonisation utilising previous surviving infrastructure.

The Roman period witnessed the first widespread colonisation of the area and left an important imprint, through 'centuriation' (research has revealed three different systems), which prioritised vine cultivation over other crops.

During the Islamic colonisation (7th-8th century AD) animal husbandry predominated, although dry and irrigated agriculture were also practiced. The settlements – farms or small hamlets - appeared to be structured along the lines of separation between pastures and farmland. The Arab occupation of the region (known at the time as Al-Barka) has left tangible and intangible traces: the castle of Al-Andalus at Siurana, roads, and water management methods, later reutilised.

The feudal conquest in the 12th century brought a political and territorial restructuration. The repopulation of the area following the fall of Al-Andalus occurred in the region according to two models: either new families were assigned plots of land with different exploitation capacities (often not adjacent) to ensure the sustenance of the settlers; or through settlement in *masies* (agricultural farming units), which continued to play a key role for centuries.

Recolonization was also supported by the establishment of monastic institutions (e.g. the Carthusian monastery of Escaladei, the first and the founder of all other ones in the Iberian peninsula according to the nomination dossier), which revived agriculture, and the exploitation of lead and silver ores, carried out by farmer-miners.

Between the 14th and 17th centuries, a wide range of products is attested: in addition to cereals, vines, and olives, saffron, chick-peas, fava beans, chestnuts were produced, but also linen and hemp fabric. Laws regulated the use of water but also access to forest and pasture resources, especially on common land.

The small plots of land of medieval appearance are the antecedents of the *tros* – the common basic farming unit in Priorat–Montsant–Siurana. *Trossos* – not necessarily adjacent - belonging to the same owner, form *partides*. The average size for a *tros* is 0.6 ha and 6.5 ha for *partides*, reflecting a highly fragmented parcel and ownership pattern.

Between the 18th and the mid-19th century the region experienced an economic and demographic expansion, and vines replaced other crops, leading towards a monoculture and inducing a fall in cattle breeding.

The 19th century saw the end of seigneurial rights and the consequent parcellisation of the land among small owners. The Carthusian monastery of Escaladei was severely damaged during the independence war (1808–1814) and in 1835 it was expropriated and abandoned; today it survives as a ruin.

In the 18th–19th centuries, farming activities were well developed and most of the cultivable areas were being used. The 1887 census counted almost 28,000 inhabitants in the area. The main activity was agriculture and in particular vine-growing. Phylloxera caused a serious economic and demographic crisis; the region was not able to recover until the mid 20th century but not to the previous extent, due to wider macro socio-economic changes, therefore farming and population further declined. Since the 1990s, normative and technical innovations have contributed to sustaining agricultural activities in the region, especially vine-growing and wine-making.

Boundaries

The nominated property has an area of 51,562.56 ha, and a buffer zone of 64,058.74 ha.

The nominated property's boundaries have been established through a combination of parameters: geographic (hydrographic basin of the Siurana River), historical and administrative, and almost coincides with the Priorat county (*comarca*).

The boundaries of the buffer zone cover all protected areas or municipalities which are partly within the property, in order to include the entirety of the management units. It enjoys protection mechanisms based on the European network *Natura 2000*, the management of which seems to allow for an adequate additional layer of protection.

IUCN underlines the coverage of the nominated property with several nature protection designations.

State of conservation

Due to its orography, the region has not been affected by industrialisation or urbanisation phenomena or crossed by major infrastructure, nor by intensive agriculture. This has favoured the conservation of its major natural landscape features and its micro-mosaic pattern, although depopulation and reduction of farming activity have caused the abandonment of once-farmed slopes and progression of secondary vegetation. The historic agricultural vocation of the nominated landscape remains legible in many landscape features, especially stone structures and tracks, but also in the settlement pattern and in the layout of the villages. The last three decades have seen signs of recovery, stabilisation of population and increase in agricultural production, especially wine and oil.

Based on the information provided by the State Party and the observations of the ICOMOS technical evaluation mission, ICOMOS considers that the state of conservation is consistent with its description in the nomination dossier.

ICOMOS notes, however, that the recovery of abandoned farming areas has often occurred through the enlargement and regularisation of the cultivated plots, thus modifying the micro-mosaic pattern.

Factors affecting the property

Based on the information provided by the State Party and the observations of the ICOMOS technical evaluation mission, ICOMOS considers that the main factors affecting the property are:

- fire;
- climate change, that may result in extreme meteorological events (flashfloods, windstorms, temperature increase);
- localised pressure from excessive or inappropriate visitation;
- some inappropriate maintenance works to the built assets in the villages;
- localised visual impacts from the metal barriers of the new road N-420 and the distant view of wind turbines (located outside the property), from elevated locations within the nominated property.

Both fire and climate change may cause serious negative impacts on the nominated property's natural and landscape features and processes, including on the recent recovery of farming activity in the region.

ICOMOS considers that the localised visual impacts of the new road can be remedied, the visual impact of the turbines is localised.

Potential factors include:

- insensitive urban development (so far prevented);
- infrastructure development (so far prevented);
- increase and concentration of visitors in sensitive areas (in some areas the carrying capacity has been reached);
- inappropriate tourism activities (motorbikes, quads, excessive number of climbers);
- some proposed restoration/ reconstruction projects (e.g. the one for the ruins of the Monastery of Escaladei) may severely jeopardise the authenticity of some of the most important places and features of the nominated property and need to be reconsidered in their current configuration.

The increase in recognition of the nominated landscape may trigger pressures that have so far been avoided, such as urban development, and excessive or inappropriate visitation. Aware of the potential threat, institutional and local actors have adopted a guidance/management tool for the property known as the European Charter for Sustainable Tourism (CETS).

3 Proposed justification for inscription

Proposed justification

The nominated property is considered by the State Party to be of Outstanding Universal Value as a cultural property for the following reasons:

- It illustrates in a 'condensed' manner the typical mid-mountain Mediterranean agricultural landscape mosaic;
- Its geological and lithological richness have shaped the natural environment, its vegetation, and the way in which people have interacted with and moulded it to adapt to their needs;
- In Priorat–Montsant–Siurana a typical Mediterranean polyculture developed, combining farming, husbandry, silviculture, wine- and oil-making, and mining, that have given rise to renowned products (e.g. lead in the past, and today wine, oil and dried fruits);
- The geomorphology, with the imposing presence of the Montsant massif, had also an impact on the development of religious spirituality, in particular hermitism, which has survived to this day.

ICOMOS observes that some of the arguments proposed for the justification for inscription are related to natural phenomena (e.g. geological–lithological richness); however no natural criteria have been proposed. ICOMOS cannot assess potential natural values of the nominated property; however it takes into account their role in the cultural developments of the nominated landscape.

Comparative analysis

The comparative analysis has first identified the whole Mediterranean region as the relevant geo-cultural area for the comparative analysis, on the grounds of common agricultural vocations, particularly olive culture. However, on the basis of their bioclimatic features, landscapes from other regions have also been considered. The sources of information consulted were varied, including data banks from national institutions and international organisations (e.g. UNESCO; Food and Agriculture Organisation of the United Nations (FAO), World Health Organisation (WHO) Documentation Centre for the Mediterranean - International Center for Advanced Mediterranean Agronomic Studies (CIHEAM). A structured template for the information gathering has been prepared: 36 parameters were initially used, eventually reduced to 12: settlement pattern/structure; geographic complexity; geological diversity; biodiversity; polycultural mosaic; scale and model; recognition; archaeological heritage; natural and cultural heritage; intangible heritage; protection; and management. In addition, the status of the property (e.g. if inscribed already on the World Heritage List).

The preliminary screening ruled out properties that focused on mono-cultures as well as other properties that, although based on agriculture, do not exhibit a 'Mediterranean' character, due to their inland location

(Switzerland, Germany, Austria, Hungary) or their pronounced mountainous nature.

Considerable attention has been devoted to the comparison with cultural landscapes from Spain (13 have been examined, including those on the World Heritage List or on the Tentative List), based on a rationale developed to compile the catalogue of agricultural landscapes in Spain (*Atlas des paysages agricoles d'Espagne*) (2013): this exercise concluded that all these landscapes show great variety and specificity but, within Spain, Priorat-Montsant-Siurana best represents the polycultural mosaic of the Mediterranean mid-mountain terrain.

The comparison then addressed 13 landscapes from other countries (France, Italy, Portugal, Greece, Croatia, Turkey, Tunisia, Morocco, Algeria) to conclude that the nominated property shares many similarities with its comparators; however it would differ for its higher integrity and for the coexistence of many typical features of a Mediterranean mid-mountain agricultural landscape.

ICOMOS observes that the comparison has considered properties from regions that do not appear relevant for the nominated property (Americas, Australia, Africa). In fact, the comparative analysis could have limited its scope to the Western Mediterranean, in relation to the proposed values and features of Priorat–Montsant–Siurana: the Mediterranean triad (grain, olives/oil, and vines/wine), and the role of Benedictine monasticism. The latter is underlined as an important element for the historical development of the property but it has not been considered as a comparative parameter.

ICOMOS also notes that identified parameters seem to be designed to single out the nominated property rather than build a framework for a solid comparison. In this way, certain properties are ruled out with no convincing explanation: Portovenere, Cinque Terre, and the Islands (Italy, 1997, (ii), (iv), (v)) exhibits a strong interchange with the immediate area inland, it illustrates mid-mountain cultivation types (in less exposed hillsides and in the valleys), polyculture, presence of monasticism, micro-mosaic landscape, geological diversity, early recognition and protected status. The same can be applied to other World Heritage properties in Italy, which are mentioned in the comparative analysis and are excluded on the basis of reasons that would add to their relevance with regard to the nominated property. For instance, Cilento and Vallo di Diano National Park with the Archeological Sites of Paestum and Velia, and the Certosa di Padula (Italy, 1998, (iii), (iv)) would not be a suitable comparator because it includes important monuments such as Paestum or the Carthusian Monastery of Padula, which in fact tangibly and exceptionally demonstrate the several historical layers of human occupation and use of this landscape. However, the landscape mosaic or the polyculture dimensions of the World Heritage property are not addressed in the comparison.

Other properties – e.g. the Mediterranean side of the Pyrenees (Tentative List of France and Spain), *Arrabida* (Tentative List of Portugal), Cultural landscape of the Sierra de Tramuntana (Spain, 2011, (ii), (iv), (v)) - share with the nominated property several similarities in terms of values, development process and supporting features.

With regard to properties not inscribed on the World Heritage List, ICOMOS notes that most parts of the Ligurian landscape, the inland landscape areas of the Marche Region, and other parts of central and southern Italy or southern France, exhibit similarities with the nominated landscape, in terms of development patterns and landscape features.

Given the role that the Carthusian monastery of Escaladei seems to have exerted on the nominated area, ICOMOS observes that the cultural landscape of the Benedictine settlements in Medieval Italy, on the Tentative List of Italy, could have been included in the comparison.

ICOMOS considers that the rationale adopted for selecting comparators from the Mediterranean region is not convincing, as the same parameters applied to properties other than the selected ones would reveal more similarities between the comparators and the nominated property. The comparative analysis affirms that the nominated property is unique because of its polycultural micro-mosaic and its mid-mountain character and that no other properties appear to be inscribed on the List on the basis of these reasons.

ICOMOS considers that, taking into account the cultural diversity of the Mediterranean Region, and in particular of its European side, several areas exhibit similar patterns of human occupation, historical development, subsistence farming, polyculture, and resulting agricultural landscape mosaic.

The fact that no other property has been nominated for its polycultural landscape mosaic can be explained because the theme is not sufficiently distinctive for supporting a nomination to the World Heritage List, because fine-grained landscape mosaic and polyculture are inherent characteristics of several Mediterranean evolved agricultural landscapes and are largely present in cultural landscapes both inscribed and not inscribed on the World Heritage List.

ICOMOS further considers that the mid-mountain, inland dimension of the nominated landscape seems to be reflected by areas included in other properties already inscribed on the World Heritage List, as previously discussed. In addition, agricultural landscapes including coastal areas, such as those already inscribed on the World Heritage List, also reflect interactions and exchanges between the sea-facing and the inland territories, which is an important dimension of the development of the historical socio-economic subsistence model of Mediterranean polyculture.

The comparative analysis demonstrates that landscape mosaic and polyculture are commonplace and not unique or outstanding within Mediterranean landscapes, and are reflected to different degrees by properties already inscribed on the World Heritage List.

ICOMOS does not consider that the comparative analysis justifies consideration of this property for the World Heritage List.

Criteria under which inscription is proposed

The property is nominated on the basis of cultural criteria (v) and (vi).

Criterion (v): *be an outstanding example of a traditional human settlement, land-use, or sea-use which is representative of a culture (or cultures), or human interaction with the environment especially when it has become vulnerable under the impact of irreversible change;*

This criterion is justified by the State Party on the grounds that Priorat–Montsant–Siurana exceptionally illustrates an organic landscape in which the farming and animal husbandry activities have been continuously practiced for more than 7,000 years, and the millennia-long evolution of exploitation and management strategies that have shaped it. It constitutes a diachronic landscape micro-mosaic reflecting the direct and indirect contributions of the Mediterranean civilisations, through knowledge, techniques and practices, to its shaping. It represents an excellent productive cultural landscape, illustrating the Mediterranean traditional polyculture, which has been able to adapt to the natural environmental conditions and changing socio-economic and historical circumstances.

ICOMOS considers that Priorat–Montsant–Siurana reflects features and a pattern of evolution which are common to many Mediterranean landscapes, inscribed or not on the World Heritage List. Additionally, the portrayed historical development of the nominated property also suggests that activities that were part of this ‘polyculture’, i.e., exploiting multiple available resources, declined substantially – e.g. animal husbandry in the late 19th century, replaced by vine growing; or disappeared – e.g. lead mining in the 20th century.

The justification for this criterion does not explain what might be outstanding in the nominated property with regards to land-use or human interaction with the environment throughout the centuries; neither the processes nor the outcomes of these processes – the landscape itself – seem to stand out in respect to other similar landscapes around the Mediterranean, as requested by the *Operational Guidelines for the Implementation of the World Heritage Convention*.

ICOMOS considers that this criterion has not been justified.

Criterion (vi): *be directly or tangibly associated with events or living traditions, with ideas, or with beliefs, with artistic and literary works of outstanding universal significance;*

This criterion is justified by the State Party on the grounds that Priorat–Montsant-Siurana is an eminent example of an harmonious and living example of centuries-long spirituality and of a hermit tradition, documented since the 12th century and still practiced today, that has been formalised in the “Statute of the hermit life” by the Archbishop of Tarragona (2006). The richness in toponyms illustrate the profound association between the people and their environment, one such being Montsant - “holy mountain”, known as Jabal al-Baraka – “blessed mountain”, under the Arab rule. Innumerable celebrations, linked to religious events or to the agricultural cycle, local sayings, traditional games, reflect the intertwining between the tangible and intangible inheritance of Priorat–Montsant-Siurana and the association between the people and their territory.

ICOMOS considers that most of the arguments put forward in the nomination dossier to justify this criterion reflect intangible associations that are common to many agricultural traditional landscapes and usually complement other criteria (e.g. rich toponymy). Only a few of the celebrations seem to be older than a few decades, the others being either created or revived in the 20th century. The surviving female hermitism appears to be a peculiar trait of the nominated property; too little has been explained, though, with regards to its development and persistence through the centuries, to consider that the nominated property exhibits outstanding direct and tangible associations with the hermit tradition. Additionally, it is difficult to see how the continuation of this cultural tradition could be guaranteed in the future, despite the renewed status given to hermit life by the Archbishopric of Tarragona.

ICOMOS considers that this criterion has not been justified.

ICOMOS does not consider that any of the cultural criteria have been justified.

Integrity and authenticity

Integrity

ICOMOS considers that Priorat–Montsant-Siurana has not suffered from significant alterations and modifications, therefore many traces of its historical development survive and its structure is still legible. Between the end of the 19th and the 20th century the nominated landscape suffered from abandonment and only the last few decades have shown signs of recovery and a return to farming activity that needs to be sustained. Priorat–Montsant-Siurana has been spared from significant transformation and is not prone to significant pressures, although it may be vulnerable to the effects of climate change, excessive visitation and unnecessary ‘beautification’ interventions.

However, since the criteria have not been demonstrated, the conditions of integrity according to the *Operational Guidelines for the Implementation of the World Heritage Convention* have not been met.

Authenticity

The tangible and intangible features of the nominated property credibly reflect the historical development of the place and its character of a typical mid-mountain Mediterranean agricultural landscape.

ICOMOS, however, does not consider that the reference to the Denominations of Origin of local wines and olive oils can be considered a relevant attribute of the authenticity of the nominated property, but only of the specific product.

ICOMOS finally observes that the project of reconstruction of the Carthusian monastery of Escaladei may jeopardise its historical authenticity, its ability to yield important information on the monument and its users, as well as the secluded and spiritual sense of place that the ruins have contributed to creating. ICOMOS suggests the State Party reconsider it by adopting a more conservative approach.

Since the comparative analysis has not been able to demonstrate that the nominated property stands out in respect to potential relevant comparators and no criteria have been demonstrated, the conditions of authenticity according to the *Operational Guidelines for the Implementation of the World Heritage Convention* have not been met.

In conclusion, ICOMOS considers that the requirements of integrity and authenticity have not been met in relation to the proposed justification for inscription.

Evaluation of the proposed justification for inscription

The property has been nominated as an example of a Mediterranean mid-mountain agricultural landscape.

ICOMOS considers that Priorat–Montsant-Siurana represents a well-preserved typical Mediterranean agricultural landscape, exhibiting tangible and intangible features and processes, an historical development pattern, including 20th century abandonment trends and recovery, which, however specific to this site, also show much similarity to a number of other landscapes in the relevant geographical area, inscribed or not on the World Heritage List. The justification for inscription is based on arguments that are appropriate for the property but do not appear sufficiently distinctive, as the micro landscape mosaic and the polyculture are commonplace within Mediterranean landscapes and, therefore, do not point toward demonstrating outstanding specificity not reflected by other properties inscribed or not on the World Heritage List. The long-standing role of the Carthusian monastery is mentioned in the nomination dossier but it is not elaborated upon, and the residual hermitism, although interesting, has not been sufficiently documented to

demonstrate that Priorat-Montsant-Siurana manifests an outstanding, direct and tangible association with this tradition. The comparative analysis, despite its length, has been based on a framework, parameters and comparators that have not been able to demonstrate how the nominated property would significantly stand out with respect to other properties. The justification of the selected criteria – (v) and (vi) - is consistent with their wording but does not show how the proposed arguments would demonstrate Priorat–Montsant-Siurana being an outstanding example of a traditional settlement, land-use or human interaction with the environment.

The nominated property has not suffered from urban or infrastructure development and has retained many features reflecting its cultural significance. The features and processes within the nominated landscape credibly reflect its cultural significance but do not point towards exceptionality.

Features

Whilst ICOMOS does not consider that the justification for inscription of the nominated property is demonstrated, it observes that the following features convey the heritage significance of Priorat–Montsant-Siurana and reflect its specificity as a typical agricultural Mediterranean landscape: its varied geology and geomorphology; the network of ancient and historic tracks; archaeological sites; the terraced landscape and the agricultural mosaic, exhibiting different crops and degrees of human use; the water management arrangements; the dry-stone rural heritage; the distribution, layout and scale of the settlements; the spiritual and secluded atmosphere of the ruins of the Monastery of Escaladei; the toponyms; some of the oldest religious festivities; and the residual hermitism.

ICOMOS considers that the proposed justification for inscription is neither supported by the comparative analysis, which has not succeeded in demonstrating how the nominated property may be seen as outstanding among its comparators, nor by the criteria, which have not been demonstrated.

4 Conservation measures and monitoring

Conservation measures

The continuation of traditional activities, through a new economic profitability offered by the marketing of products that were traditionally self-consumed, ensures the maintenance of the agricultural landscape. Changes to the plot sizes which occurred during the 20th century have started being reversed. The key conservation instruments consist of the programmes activated within the Communitarian Agricultural Policy, the Rural Development Plans (RDP), and the Leader + programmes. The Priorat County council has elaborated a Strategic Plan for the rural socio-economic development (PECDSR 2014- 2020): it consists of 6 axes, 30 programmes and 144 actions. Although not directly

related to conservation, some axes contain programmes and actions useful from a conservation perspective.

The management system works on the basis of an Action Plan which includes direct conservation measures (under the strategic action “public space management”, inventory activities, value mapping) and indirect measures designed to sustain farming and its products (e.g. ‘land bank’ and other systems to ensure that exploitable land is cultivated, diversification of crops, reinforcing the local network of distribution of local products, management of water, and other initiatives). Most of the actions are integrated within larger programmes, funded by the local administration and by European Union funds.

Overall the conservation strategy and its measures appear adequate to the challenges facing the nominated landscape.

However, ICOMOS considers that in some cases, planned restoration works for architectural heritage, e.g. the Carthusian Monastery and Church of Escaladei might have a highly negative impact on the historic authenticity and on the sense of place of one of the most significant monuments of the nominated property.

ICOMOS recommends the State Party choose a more prudent and compatible approach for interventions on architectural heritage.

It is recommended that mechanisms for assessing the impacts of projects on the nominated property and its elements be put in place, based on the ICOMOS Guidance for Heritage Impact Assessment.

Monitoring

The monitoring system has been developed on existing monitoring mechanisms managed by different public institutions, each of which is responsible for specific sets of indicators related to different aspects of the nominated property. They can be related to the features supporting its heritage significance, although not purposely conceived for it.

Ad-hoc monitoring indicators have been set up to measure the level of implementation of the Action Plan and its actions.

ICOMOS recommends establishing coordination and communication mechanisms among the different institutions responsible for monitoring, so as to ensure circulation of information and full effectiveness of the monitoring exercise. ICOMOS further recommends verifying that the existing indicators ensure the monitoring of change to the nominated property, and particularly to its heritage features, in relation to the main affecting factors.

ICOMOS considers that the monitoring system will be fully adequate when indicators measuring the state of health of Priorat–Montsant–Siurana reflect its heritage features and its affecting factors, and coordination/communication mechanisms are set up among the monitoring institutions.

5 Protection and management

Documentation

The nomination dossier and the additional information provided show that an extensive documentation and inventory exercise has been carried out over the past decades on the cultural heritage of the nominated property (archaeological sites, historic tracks, different aspects of the rural heritage, built heritage), resulting in an already solid baseline documentation, which is expected to be augmented through ad-hoc projects, for conservation, protection, management and monitoring purposes. The information has been included in databases and GIS systems.

Legal protection

The nominated property includes areas protected as *Natura 2000*, zones having natural significance according to Law n. 12/1985 on natural spaces (Catalunya), forests, archaeological sites, properties protected as being of national interest (BCIN) and local interest (BCIL), according to the Law n. 16/1985 on the protection of Spanish historic heritage, and the cultural goods recognised in the Plans for municipal urban zones (POUM), as per legislative decree n. 1/2010 on the Law for Urbanism and Planning of municipal territory. There is no blanket legal protection for the nominated property, but a set of plans stemming from the inclusion in special catalogues (e.g. landscape of Camp de Tarragona, areas with geological significance and others), in the *Natura 2000* network or from Spatial Planning Laws. These plans include the Plan of Spaces of natural interest (PEIN) of Catalunya, covering also the *Natura 2000* Network, the Plan for the protection of the natural space and landscape of the Serra de Montsant, the partial Territorial Plan for Camp de Tarragona (2010), as per Law n. 23/1983 on territorial policy and Law n. 1/1995 approving the General Territorial Plan of Catalunya, and the POUMs. The Charter for the Landscape of Priorat complements the other plans by outlining landscape quality objectives; it is voluntarily endorsed by municipalities and other entities.

Modifications to the landscape features of the areas covered by the DO Priorat (*Denominación de Origen*) are regulated by ad-hoc regulations.

Management system

The management system is based on a participatory approach and is grounded in existing governance structures and three key planning instruments.

The management structure includes a Landscape Commission, which can rely on a consultative council, a Permanent Commission, a Landscape Office, ad-hoc

thematic commissions, and a Forum. The Landscape Commission is the main steering body: it stems from the monitoring commission of the Charter of Priorat Landscape and was approved in 2017 by the assembly of the County Council and published in the Official Gazette of the County: it include 28 members, 14 from public institutions and 14 from the private sector. The Permanent Commission (four members of political profile appointed by the relevant territorial governing bodies and by the Priorat association) supports the Landscape Commission by developing the Action Plan, and acting as the communication link with the Landscape Office (technical implementing body).

The Landscape Office includes a director and technical staff and ensures that tasks and actions are performed according to a yearly workplan. The Landscape Office coordinates all actors, seeks funding, animates the Forums (agriculture, culture, education, tourism), which are bodies having a participatory character, aiming to ensure dialogue, exchange of information, and awareness raising. The management structure is completed by a working group on Tourism.

No ad-hoc management plan has been developed for the nominated property: management relies on existing planning, management and programmatic instruments. The three key instruments are:

- The Priorat Landscape Charter, a document of commitment voluntarily endorsed by public and private entities. It covers the whole Priorat landscape and includes the outline of the management approach for the landscape; 11 landscape quality objectives and 13 commitments. The charter has been endorsed by representatives of responsible administrations;
- The Regional Strategic Planning for socio-economic rural development (2014–2020); prepared by the County Council, it is grounded in the historic and identity values of Priorat and contains strategic lines and an action plan (23 strategies, 144 actions);
- The European Charter of Sustainable Development (CETS): it has a regional scope and promotes strategies and actions for sustainable tourism.

A document of commitment – the Manifesto of Escaladei – was signed in March 2017 by all relevant administrations: it engages all signatories to implement efficiently and smoothly the management system and to guarantee the functioning of its bodies.

ICOMOS has requested additional information from the State Party on management coordination and effectiveness.

The State Party responded on 9 November 2018 explaining that the management system of the property is the result of a 10-year work to overcome the lack of coordination among the different public and private actors in the existing legal and planning system for protection and spatial planning. In addition, the Permanent

Commission has established a Consortium to ensure that the management structure, formed by public and private entities, acquires juridical status.

The State Party has further explained that Catalunya has developed two draft laws – on the Agrarian Spaces and on Territories – which will also address how to approach exceptional landscapes. The nominated property has been treated as a pilot case for the elaboration of these laws.

No specific risk management plan has been elaborated for the nominated property. The main risk for the nominated property is reported to be fire. Priority Protection Perimeters (PPP) exist in Catalunya for fire prevention, and in 2010 the *Generalitat* (regional government) elaborated a prevention plan for the PPP. The management Action Plan includes at least three actions (12.2, 12.3, 12.5) outlining operational measures to improve fire prevention, including drafting municipal plans for fire prevention.

No other risk management instruments are mentioned in the nomination dossier.

Visitor management

The strategies for tourism management are contained in the CETS: with five strategic objectives, 22 operational objectives and 100 actions, it forms the sectorial management instrument for the nominated property. Some actions are included in the management Action Plan under programme 11 – Management of Sustainable Tourism, which integrates the CETS strategy.

Community involvement

The nomination is a community-run project. It has been led by the Association Priorat, which formed in 2007 to protect the site from wind turbine installations in the property, and has provided staff for the management implementing body. The nomination process has also involved the economic stakeholders (farmers, their unions/syndicates, co-operatives, etc.) and the civil society.

Evaluation of the effectiveness of the protection and management of the nominated property

Protection is ensured through different legal and planning instruments covering different, sometimes overlapping, portions of the nominated landscape, according to their type and protection status. The key documents are represented by the PEIN, the Plan for the protection of the natural space and landscape of the Serra de Montsant, and the partial Territorial Plan for Camp of Tarragona. Although the latter is not a 'protection plan', it includes specific protection aims and a chapter of norms regulating interventions on the landscape. In particular, landscape impact studies are to be prepared for new construction interventions outside urbanised areas. These norms are complemented and specified at a more detailed scale by the municipal plans, by the Landscape Charter, and by the landscape regulations for Priorat PDO.

Despite the absence of one comprehensive legal protection instrument, the protection system seems to have been effective so far in avoiding major transformations and large-scale infrastructure projects. The engagement of citizens and civil society was able to prevent the installation of a windfarm on the Serra de Montsant in 2007, a turning point for the protection of the landscape and its management.

The management system also relies upon existing legal, planning and participatory instruments and does not envisage the elaboration of an ad-hoc management plan. However, an integrated Action Plan has been developed, taking into account the main management instruments. The governance/management structure is based on a collaborative model and is conceived in a way as to ensure coordination and collaboration among policy- and decision-makers from public administrations, the private sector and associations; the Landscape Charter is the common commitment document that guides the management. The Action Plan is already being implemented and soon a Consortium with full juridical status will be put in place.

Based also on the additional information provided by the State Party on 9 November 2018, ICOMOS considers that the management system seems effective. Its articulation and flexibility will require continuous monitoring of the 'state of health' of the different 'gears' of the system, particularly the planning instruments and the implementing institutions/bodies.

However, ICOMOS considers that the 'chain of command', who would have the mandate to take action in case of conflicting proposals or decisions that may negatively affect the nominated property, has to be strengthened. A possible solution to be explored is to give the key representatives of the envisaged Consortium this mandate.

Finally, ICOMOS considers that the mechanisms for managing risks has to be strengthened and integrated into the existing planning and programmatic instruments in place.

ICOMOS considers that overall protection and management can be considered adequate and will be strengthened by the establishment of the Consortium. This type of management system, however, requires constant monitoring of the instruments and structures it relies on for its implementation. It is therefore suggested that monitoring indicators on modifications to legal and planning frameworks and to institutions and other implementing organisations be established and periodically verified. Risk management measures need to be reinforced.

6 Conclusion

Priorat-Montsant-Siurana is a Mediterranean agricultural landscape located in Catalunya, in the inland of Tarragona. Located in a region characterised by high geo-lithological diversity, the nominated property epitomises the typical

polycultural subsistence farming landscape of the Mediterranean, exhibiting a micro-mosaic landscape of still-practiced multiple cultivations, mostly on terraces, interspersed with parcels regained by secondary vegetation and zones unsuitable for cultivation once used for pasture.

The State Party has developed commendable in-depth and interdisciplinary research and cultural heritage mapping of the area that has been able to gather a large amount of information on this landscape, its phases of occupation and the traces that they have left.

In many ways this research approach can be regarded as exemplary, and further application to other cultural landscapes may produce equally rewarding results.

However, ICOMOS wishes to recall that the World Heritage Convention is a property-based instrument, and consequently, the inscribed properties must demonstrate Outstanding Universal Value through their tangible and intangible attributes (as defined in paragraph 49 of the *Operational Guidelines*).

In this case, the property to which this in-depth research has been applied shares many commonalities with other territories throughout Mediterranean Europe in terms of both its historic patterns of development and the outcomes of these dynamics, in particular, the polycultural landscape mosaic as well as the inland dimension.

The State Party has nominated Priorat-Montsant-Siurana under criteria (v) and (vi) because it illustrates an organically-evolved landscape shaped by 7,000 years of farming and animal husbandry, reflecting in its micro-mosaic the direct and indirect contributions of Mediterranean civilisations to the development of subsistence polyculture. Its geomorphological features have nurtured over time spiritual associations – the *Jebel Al-Barka* of Islamic tradition turned into the Monte Sancto of the Christian Reconquista - and a hermit tradition that survives to this day; toponyms and innumerable celebrations reflect the intertwining of tangible and intangible aspects of the landscape.

ICOMOS considers that Priorat-Montsant-Siurana represents a well-preserved typical Mediterranean agricultural landscape, exhibiting tangible and intangible features and processes, an historical development pattern, including 20th century abandonment trends and recovery, which, however specific to this site, also show many similarities with a number of other landscapes in the relevant geographical area.

The justification for inscription is based on arguments that are indeed reflected by the nominated property's features but do not appear sufficiently distinctive, as the micro landscape mosaic and the polyculture are commonplace within Mediterranean landscapes and, therefore, do not point toward demonstrating outstanding specificity not reflected by other properties inscribed or not on the World Heritage List.

The long-standing role played by the Carthusian Monastery of Escaladei up to the 19th century is evoked in the nomination dossier but has not been explored with regards to the settlement pattern or to the fragmentation of the landscape. Few documentation has been presented on the surviving hermitism to demonstrate that the property has an outstanding direct and tangible association with this tradition; furthermore, it seems to be residual (three women are reported to live as hermits in the nominated property) and it is unclear how this practice can be preserved. The comparative analysis, despite its length, has been based on a framework, parameters and analysis of the most relevant comparators that have not succeeded in demonstrating that the nominated property would significantly stand out with respect to other properties, inscribed or not, on the World Heritage List; rather the opposite. The justification of the selected criteria – (v) and (vi) - is consistent with their wording but does not show how the proposed arguments would demonstrate Priorat-Montsant-Siurana being an outstanding example of a traditional settlement, land-use or human interaction with the environment compared to a number of similar properties inscribed or not on the World Heritage List.

The nominated property has not suffered from urban or infrastructure development and has retained many of its heritage features, which reflect its significance but do not point towards exceptionality.

The region has not been impacted by industrialisation or urbanisation phenomena or crossed by major infrastructure, nor by intensive agriculture. This has favoured the conservation of its major natural landscape features and its appearance, although depopulation and reduction of farming activity have caused the abandonment of once-farmed slopes and progression of secondary vegetation. The last three decades have witnessed signs of recovery, stabilisation of population and increase of agricultural production, especially wine and oil. However, this has also been accompanied by modifications to agricultural plots and cultivation methods.

Protection is ensured through different legal and planning instruments covering different, sometimes overlapping, portions of the nominated landscape, according to their type and protection status. The key documents are represented by the PEIN, the Plan for the protection of the natural space and landscape of the Serra de Montsant, and the partial Territorial Plan for Camp of Tarragona. Although the latter is not a 'protection plan', it includes specific protection aims and a chapter of norms regulating interventions on the landscape. In particular, landscape impact studies are to be prepared for new construction interventions outside urbanised areas. These norms are complemented and specified at a more detailed scale by the municipal plans, by the Landscape Charter and by the landscape regulations for Priorat PDO.

Despite the absence of one comprehensive legal protection instrument, the protection system seems to have been effective so far in avoiding major transformations and large-scale infrastructure projects. The engagement of citizens

and civil society was able to prevent the installation of a windfarm on the Serra de Montsant in 2007, a turning point for the protection of the landscape and its management.

The management system also relies upon existing legal, planning and participatory instruments and does not envisage the elaboration of an ad-hoc management plan. However, an integrated Action Plan has been developed, taking into account the main management instruments. The governance/management structure is based on a collaborative model and is conceived in a way as to ensure coordination and collaboration among policy- and decision-makers from public administrations, the private sector and associations; the Landscape Charter is the common commitment document that guides the management. The Action Plan is already being implemented and soon a Consortium with full juridical status will be put in place.

ICOMOS considers that the management system seems effective, although its articulation and flexibility will require continuous monitoring of the 'state of health' of the different 'gears' of the system, particularly the planning instruments and the implementing institutions/bodies. Risk management needs to be strengthened.

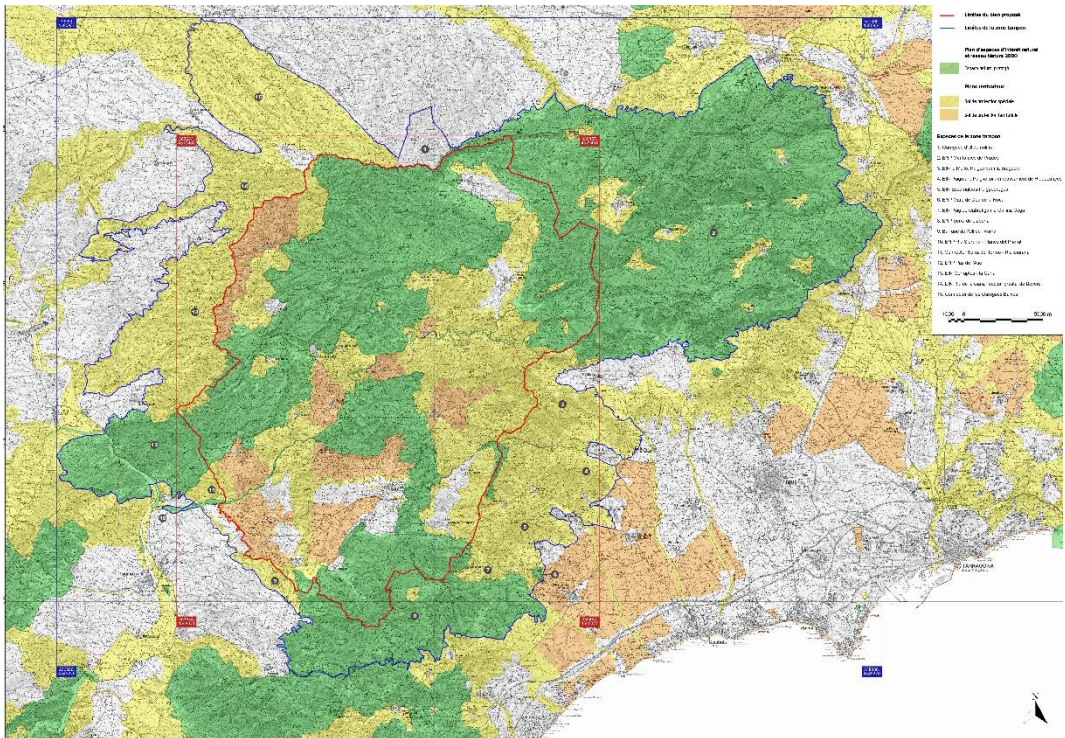
However, ICOMOS considers that the 'chain of command' needs to be strengthened and the establishment and constitution of the envisaged Consortium be expeditiously finalised.

In conclusion, ICOMOS considers that Priorat–Montsant–Siurana represents a typical Mediterranean agricultural landscape, which shares many similarities with several other landscapes within the region in terms of landscape features and processes, including abandonment and recovery patterns. While the research, documentation and management efforts to preserve and enhance this landscape are important steps and are to be commended, they cannot be considered sufficient to justify consideration of this property for World Heritage listing.

7 Recommendations

Recommendations with respect to inscription

ICOMOS recommends that Priorat-Montsant-Siurana, Mediterranean mosaic, agrarian cultural landscape, Spain, should **not be inscribed** on the World Heritage List.



Map showing the boundaries of the nominated property



Aerial view of Priorat-Montsant-Siurana from *Serra del Montsant*



Aerial view of Siurana



Agricultural Landscape



Carthusian Monastery of Escaladei

**Mudurnu
(Turkey)
No 1600**

WITHDRAWN

Jodrell Bank Observatory (United Kingdom of Great Britain and Northern Ireland) No 1594

Official name as proposed by the State Party

Jodrell Bank Observatory

Location

England (Cheshire East administrative authority)
United Kingdom

Brief description

Located in a rural area of Cheshire East in northwest England, the Jodrell Bank Observatory is one of the earliest radio astronomy observatories in the world. Still in existence, the Observatory, played a pioneering role in human understanding of the Universe. Part of the University of Manchester, the site encompasses a number of radio telescopes and supporting functional buildings, and is surrounded by open countryside, free from radio interference.

Jodrell Bank Observatory is now the hub of the United Kingdom's national wide array of up to seven radio telescopes (e-MERLIN) including the Lovell and Mark II Telescopes. The signals from all seven telescopes are combined at Jodrell Bank.

Category of property

In terms of categories of cultural property set out in Article I of the 1972 World Heritage Convention, this is a *group of buildings*.

1 Basic data

Included in the Tentative List

27 January 2012

Background

This is a new nomination.

Consultations and Technical Evaluation Mission

Desk reviews have been provided by ICOMOS International Scientific Committees, members and independent experts.

An ICOMOS technical evaluation mission visited the property from 1 to 4 October 2018.

Additional information received by ICOMOS

A letter was sent to the State Party on 10 October 2018 requesting further information about mapping, the comparative analysis, proposed justification of Outstanding Universal Value, integrity, authenticity and management.

Additional information was received from the State Party on 7 November 2018 and has been incorporated into the relevant sections of this evaluation report.

An Interim Report was provided to the State Party on 21 December 2018 summarising the issues identified by the ICOMOS World Heritage Panel.

Further information was requested in the Interim Report including: about the legibility of the boundary, inclusion of all attributes, conservation, smaller historical items and indicators.

Additional information was received from the State Party on 28 February 2019 and has been incorporated into the relevant sections below.

Date of ICOMOS approval of this report

13 March 2019

2 Description of the property

Note: The nomination dossier and additional information contain detailed descriptions of this property, its history and its state of conservation. Due to limitations on the length of evaluation reports, this report only provides a short summary of the most relevant aspects.

Description and history

Jodrell Bank Observatory is located in a rural area of Cheshire East in northwest England. The site has evidence of every stage of the history of radio astronomy, from its emergence as a new science to the present day.

The configuration of the site is largely determined by the evolution of the Observatory. At the beginning of its use in 1945, the only structures on the site were the Botany Huts, located at the southern edge. These two buildings were used by the research team as their base. Both huts are presently disused. From that time activity has moved to the north across the site with many new instruments developed and then abandoned. While much of the early scientific equipment was demolished or re-used in subsequent instruments, some above or below ground remnants survive.

A road through this southern area provides an entrance route for staff and leads to the Green, the area at the heart of the property, where a wide range of experiments were set up. It comprises mainly a square area of grassland, around which circles an access road, providing access to largely dating back to the early days of the Observatory, like the Park Royal Building (used originally as the control room for the Transit Telescope and later the Mark II Telescope), the Electric Workshop (originally used as the main office for the Observatory) and the Cosmic Noise Hut (used as a control and receiving room for the adjacent 30-Foot telescope, which no longer exists).

The Green is also the location of the Mark II Telescope, the third largest telescope in the United Kingdom and the first telescope of any kind in the world to be controlled by a digital computer. This telescope was built on the site of the former Transit Telescope and only archaeological traces of its existence remain. To the north of the Green, the site is dominated by the 76 metre diameter Lovell Telescope which sits in a working compound containing a number of engineering sheds and its Control Building. This building has been extended on a number of occasions since first completed in 1955 but it still retains its original control room and two wings.

To the northwest of the property, set around the Lovell Telescope, there are spaces open to the general public which include visitor facilities, and part of the Discovery Centre. The rest of the visitor facilities and gardens, including an Arboretum, sit just outside the property to the northeast.

The basic layout and form of the Observatory has not changed since the mid-1960s. However, as a working research facility, there has been periodic adaptation and improvement over the years. A number of smaller telescopes have been erected at the Observatory since that time, and many subsequently relocated away from the site.

The original permanent buildings at the Observatory all survive. The site otherwise includes a network of roads, carparks, open grass and wooded areas, and several water bodies. Along part of the western border but just outside the property, is the International Headquarters for the Square Kilometre Array Organisation (SKAO), the international project planning the next generation large telescope.

The Jodrell Bank Observatory is one of the earliest planned sites for radio astronomy in the world.

The site was first used for radio astronomy in 1945 when Bernard Lovell moved his research from a city location at the University of Manchester in order to undertake experiments in radar without interference from radio transmissions.

The development of radar arose during World War II. After the war, scientists like Lovell who had worked on radar returned to their peacetime research. Lovell was involved in research on cosmic rays and was interested in the possibility of detecting radar echoes from cosmic rays. He borrowed a radar system from the Army for this research. Lovell considered a property owned by the University in rural Cheshire as a site which might be free from interference. The Jodrell Bank Experimental Grounds had previously been used for botanical research. The radar system was set up at Jodrell Bank and Lovell began to use this equipment in December 1945. The first experiments produced important but unexpected results.

The Jodrell Bank team collected large amounts of ex-military apparatus which was invaluable for their research. One important item was a searchlight loaned from the Army and used as the steerable mount for an array of aerials

designed to investigate meteors. This was the first purpose-built scientific instrument at Jodrell Bank. The remnants of the mount are still at the property.

In December 1946, Lovell presented the results of the meteor research. In response, the President of the Royal Astronomical Society announced the arrival of '*an entirely new field of astronomical research*'.

Also in 1946, Lovell was planning a much larger aerial array for his cosmic ray research. While partly built, it was never completed as proposed. Instead, the framework was used for a fixed giant dish-type reflector, known as the Transit Telescope. Completed in 1947 it was 66 metres in diameter, making it the largest in the world at the time. However, the telescope was not successful in cosmic ray research. However, it was crucial in a much wider field of research related to the study of extra-terrestrial radio waves, which became known as radio astronomy.

The Transit Telescope also played an important role in the development of long baseline interferometry – an essential part of modern day astronomy. The telescope was later dismantled, to make way for the Mark II Telescope, however traces of it remain.

By 1948, permanent buildings were being erected for the Observatory. Several of the early buildings still remain. Through this time a range of instruments were constructed, some of which were used for only a short time while others remained for years.

Optical interferometry was also developed at Jodrell Bank in the mid-1950s.

The Lovell Telescope, originally called the Mark I Telescope, was first conceived in 1948 in order to build upon the success of the fixed-dish Transit Telescope, by adding the capability of being able to steer the telescope to any part of the sky. The engineer Charles Husband was responsible for the structural design. Its design involved considerable technical difficulties.

Construction of the 76 metre diameter telescope began in 1952 and it was completed in 1957. One of the early public successes of this telescope was its use to track the carrier rocket for Sputnik 1, the world's first artificial satellite launched by the USSR. Jodrell Bank continued to play a role through the 1960s in tracking both American and Soviet spacecraft.

The construction of the iconic Lovell Telescope generated huge public interest which led to the construction of a visitor centre in 1966. This building was extended a number of times over the years until it was finally demolished and replaced by the Discovery Centre.

Deterioration of the Lovell Telescope was noted by the mid-1960s, and in the early 1970s modifications were undertaken. Significant repairs were also undertaken in the early 2000s, and further work is currently underway.

The Mark II Telescope was designed in the light of issues with the Lovell Telescope. Funding was provided in 1961 and it was completed by 1964, on the site of the former Transit Telescope. Upgrade work was undertaken in 1987 and the late 1990s.

Jodrell Bank has had a substantial impact in science on subjects including the emergence of radio astronomy, meteors and moon studies, the development of very large paraboloidal telescopes, detection of the Andromeda Galaxy, the study of the distribution of hydrogen in the Milky Way and other galaxies, long baseline interferometry, the discovery of quasars, quantum optics, optical interferometry, space tracking, pulsar research, and research into gravitational lensing.

Work on long baseline interferometry started at the Observatory in the 1950s and became an increasingly important focus for its research. This work was fundamental to understanding radio sources such as quasars.

The Observatory has a long history of public engagement with science and its role has fostered public interest in science and radio astronomy.

Boundaries

The nominated property has an area of 17.38 ha, and a buffer zone of 18,569.22 ha.

The property boundary has been drawn to incorporate a minimal area, nonetheless it has been defined so as to include all the attributes that belong to and represent the history of Jodrell Bank as a property of Outstanding Universal Value for its role in history of science.

The proposed buffer zone corresponds to an existing and legally-based Consultation Zone established in 1973 to protect Jodrell Bank from radio emissions in its vicinity. This zone is essential for the effective operation of the telescopes. Since it is quite large, it has proven over many decades to be very effective in protecting the Observatory from radio interference.

ICOMOS requested additional information in its interim report on how the proposed boundary is identifiable on site, as it does not correspond to the whole Observatory boundary site. The State Party replied on 28 February 2019 and advised that the proposed property boundary mostly coincides with the Observatory site boundary, and otherwise is marked by a fence line or by an appropriate signage on site.

State of conservation

The structures at the Observatory have been subject to modifications, repairs and upgrade works since the 1960s. This has included modifications to the Lovell Telescope in the 1970s, as well as repairs in the early 2000s and currently. This work included adding a new reflecting surface with a shallower curve above the original dish, subsequently replaced, and a large new wheel girder system supported by a second inner circular railway track. Later work involved replacement of the drive system, the

outer railway track, original wheels and gear racks. Work is currently underway to restore the original but corroded 1957 surface of the dish.

In the case of the Mark II Telescope, upgrades were undertaken in 1987 and the late 1990s.

For many decades, the main priority for the Jodrell Bank Observatory was research, rather than conservation of its heritage. The first heritage designation at Jodrell Bank occurred in 1988 with the Lovell Telescope. However, it was not until the World Heritage nomination process that conservation of the property's heritage became an explicit part of management.

Based on the information provided by the State Party and the observations of the ICOMOS technical evaluation mission, ICOMOS considers that the state of conservation is generally good.

As noted in the site gazetteer of 2014, the steel elements and load-bearing structure of the Lovell Telescope show signs of ageing and corrosion in spite of regular maintenance.

The buildings and huts while often quite basic in their fabric, generally retain all their original fabric and fittings, and are very well looked after. Most of them show signs of recent repair and upkeep. Some additions and extensions from the 1970s and 1980s look rather worn, partly because of the inferior materials used in their construction.

The Telescope Workshop and the adjoining Dormitory Block are the subject of current repairs. The two Botany Huts (and Blackett's Hut which is not an attribute) from the earliest period have suffered from neglect and disuse over the years, and show signs of serious structural problems. Restoration work is planned.

The property throughout its history has prioritised scientific research over providing well-built structures that would last in the long-term. With the possible exception of the original Control Building, other buildings on the site have a generally quite primitive character and all of them have often been extended or modified. This character is part of the property history which should be carefully considered in management.

Factors affecting the property

Based on the information provided by the State Party and the observations of the ICOMOS technical evaluation mission, ICOMOS considers that the main factors affecting the property are development within the property or in the area surrounding it, and maintenance of the large steel structure of the Lovell Telescope. However, there are generally few factors that might pose a threat to the property and its proposed Outstanding Universal Value.

The property and its setting are well protected against undesirable development. The property and much of its surrounding area are owned by the University of Manchester which is committed to the protection of the

property. Surrounding areas are mostly used for agricultural purposes and significant changes are unlikely. The strict rules for the Consultation Zone controls development within the buffer zone.

It is possible that additional working space may be needed by researchers at the Observatory. Similarly, it is possible that the Square Kilometre Array building in the buffer zone may at some future time need to be extended. Masterplanning for the property and buffer zone may be desirable to anticipate future development needs.

With regard to the Lovell Telescope, the steel structure is subject to an impressive monitoring regime, and maintenance and repairs are regularly undertaken. A major repair and renovation project is currently underway.

3 Proposed justification for inscription

Proposed justification

The nominated property is considered by the State Party to be of Outstanding Universal Value as a cultural property for the following reasons:

- The Observatory is an outstanding example of supreme scientific and technical achievement, which revolutionised the understanding of the Universe.
- The Observatory has physical evidence of the international exchange of ideas as the new science of radio astronomy and the space age developed during the 1940s – 1960s. The property was at the heart of an important flowering of international cooperation and exchange of values and ideas regarding astronomy and other fields of scientific endeavour.
- The technological and landscape ensemble of the Observatory exemplifies through surviving physical evidence the transition from optical astronomy to modern multi-wavelength astrophysics that took place after World War II. This stage in history saw a radical change in the understanding of the Universe. This is also the era of 'Big Science' which is characterised by a dramatic increase in the scale of scientific projects.
- The Jodrell Bank Observatory is inextricably linked to the fundamental and radical concept underpinning modern astronomy related to the scale and nature of the Universe. The Observatory is closely linked to the discovery of this larger Universe and the scientific techniques for its exploration.

Comparative analysis

The comparative analysis is presented in three parts: a discussion of astronomy and World Heritage which considers sites on the World Heritage List, on Tentative Lists, and other sites related to radio astronomy, a discussion of the values for comparison, and finally a section which presents specific sites for comparison. The comparison is made with other sites which have the combination of proposed Outstanding Universal Value and attributes.

The comparison relies upon the two-part ICOMOS-IAU thematic study, *Heritage Sites of Astronomy and Archaeoastronomy in the context of the UNESCO World Heritage Convention: A Thematic Study* (Ruggles and Cotte 2010 and 2017). This study identifies sites on the World Heritage List with possible connections to astronomy, noting that the majority of the sites listed are not related to modern scientific astronomy or its history. The second part of the study further notes that *'there are very few historical observatories on the World Heritage List and no observatories from the 20th century'*. Current properties on the World Heritage List with connections to astronomy are concerned either with pre-scientific cultural interactions with astronomical phenomena or with traditional visible-light astronomy. There are no sites associated with the development of radio astronomy.

The only site on a Tentative List arises in the case of the Astronomical Observatories of the Ukraine which includes the Crimean Astrophysical Observatory which operates a 22 metre radio telescope.

The thematic study looks beyond these lists to consider other possible sites related to radio astronomy. This has been used to derive a list of sites for comparison, which are considered in the nomination. This list has been supplemented with information from *Cosmic Noise: A History of Early Radio Astronomy* (Sullivan 2009) and other sources (eg. Leamington 2017).

The analysis identifies five values to be used for the comparison. These are: site as an operational radio astronomy observatory, pioneering role in the emergence of radio astronomy, period over which site carried out radio astronomy research, extent of remaining physical evidence of contribution to radio astronomy, and presence of one or more iconic radio telescopes.

The analysis then presents several tables comparing the size of various types of telescopes, including transit telescopes, fully steerable dishes, and single dish telescopes. The remainder of the analysis presents information about 19 comparable sites across the world, in a format broadly structured according to the values noted above.

Sites include those associated with the earliest phase of radio astronomy (eg. Bell Telephone laboratories, United States of America, 1931–34 and Wheaton, United States of America, 1937–47), early sites dating from after World War II (eg. Richmond Park, United Kingdom, 1945–48, Jodrell Bank, and the Sydney Field Stations, Australia, 1945–98) through to a very recent and large telescope (FAST, China, 2016–present). Some sites now contain no physical evidence, while many include steerable and/or fixed telescopes of various sizes, from 15 to 500 metres in diameter.

The analysis concludes that the Jodrell Bank Observatory is the earliest radio astronomy observatory in the world that is still in existence and carrying out world-leading research. It is still a working observatory compared to other sites from

the pioneering phase of radio astronomy. The Observatory also contains superior evidence dating from the emergence of radio astronomy. The site includes two major telescopes, of which one, the Lovell Telescope, is iconic, being the first very large steerable telescope in the world, and for a period it remained the largest steerable telescope in the world. The Jodrell Bank Observatory contains the record of the story of the emergence of radio astronomy and its development to maturity, continuing to the present day.

ICOMOS considers that two of the sites identified in the analysis are also iconic, and the scientific research at these sites is at least equally important to that undertaken at Jodrell Bank. These are the Green Bank (United States of America) and Arecibo (Puerto Rico) sites. These sites however did not have the same pioneering role as Jodrell Bank, as they were developed later and they have also changed considerably over time. The Effelsberg site (Germany) might also be considered iconic but was only developed in the 1970s.

There are other sites not considered in the analysis, such as the Mauna Kea Observatory in Hawaii, the Very Large Array in New Mexico, Atacama telescopes in Chile, and the RATAN-600 radio telescope in Russia. However, all of these examples do not relate to the early pioneering phase of radio astronomy, and they would not compare with Jodrell Bank in its range of values.

Accordingly, it is considered that the absence of these properties from the analysis does not detract from the overall conclusion.

ICOMOS considers that the comparative analysis justifies consideration of this property for the World Heritage List.

Criteria under which inscription is proposed

The property is nominated on the basis of cultural criteria (i), (ii), (iv) and (vi).

Criterion (i): represent a masterpiece of human creative genius;

This criterion is justified by the State Party on the grounds that the Observatory is an outstanding example of supreme scientific and technical achievement, which revolutionised the understanding of the Universe.

ICOMOS considers that Jodrell Bank Observatory is a masterpiece of human creative genius related to its scientific and technical achievements. The adaptation and development of radar and radio frequency reflectivity to develop radically new equipment, such as the Transit Telescope and Lovell Telescope, were a key part in the development of entirely new fields of scientific research and led to a dramatic change in the understanding of the Universe. The Observatory was important in the pioneering phase and later evolution of radio astronomy.

ICOMOS considers that this criterion has been met.

Criterion (ii): exhibit an important interchange of human values, over a span of time or within a cultural area of the world, on developments in architecture or technology, monumental arts, town-planning or landscape design;

This criterion is justified by the State Party on the grounds that the Observatory has physical evidence of the international exchange of ideas as the new science of radio astronomy and the space age developed during the 1940s – 1960s. The property was at the heart of an important flowering of international cooperation and exchange of ideas and scientific findings regarding astronomy and other fields of scientific endeavour.

ICOMOS considers that the Observatory does represent an important interchange of human values over a span of time and on a global scale on developments in technology related to radio astronomy. The scientific work at Jodrell Bank was at the heart of a global collaborative network. In particular, several important technological developments such as very large paraboloidal dish telescopes and interferometer were developed at the Observatory, and were later influential in scientific endeavours in many parts of the world.

ICOMOS considers that this criterion has been met.

Criterion (iv): be an outstanding example of a type of building, architectural or technological ensemble or landscape which illustrates (a) significant stage(s) in human history;

This criterion is justified by the State Party on the grounds that the technological and landscape ensemble of the Observatory exemplifies through surviving physical evidence the transition from optical astronomy to modern multi-wavelength astrophysics that took place after World War II. This stage in history saw a radical change in the understanding of the Universe. This is also the era of 'Big Science' which is characterised by a dramatic increase in the scale of scientific projects.

ICOMOS considers that Jodrell Bank represents an outstanding example of a technological ensemble which illustrates a significant stage in human history – the transition from traditional optical astronomy to radio astronomy and the associated consequence for the understanding of the Universe through multi-wavelength astrophysics. The property is also associated with the peacetime development of 'Big Science' as a major change in the way in which scientific research was supported and undertaken. The surviving evidence at the property related to the evolutionary development of radio astronomy from the post-war pioneering phase through to sophisticated, large scale research activity in the field makes Jodrell Bank an outstanding example of such a technological ensemble.

ICOMOS considers that this criterion has been met.

Criterion (vi): *be directly or tangibly associated with events or living traditions, with ideas, or with beliefs, with artistic and literary works of outstanding universal significance;*

This criterion is justified by the State Party on the grounds that the Jodrell Bank Observatory is inextricably linked to the fundamental and radical concept underpinning modern astronomy related to the scale and nature of the Universe. The Observatory is closely linked to the discovery of this larger Universe and the scientific techniques for its exploration.

ICOMOS considers that Jodrell Bank is directly and tangibly associated with events and ideas of outstanding universal significance. The development of the new field of radio astronomy at the property led to a revolutionary understanding of the Universe which was only possible through research beyond the possibilities of traditional optical astronomy to explore the electromagnetic spectrum beyond visible light. Understanding of the nature and scale of the Universe has been dramatically changed by research in radio astronomy at the Observatory.

ICOMOS considers that this criterion has been met.

ICOMOS considers that the nominated property meets criteria (i), (ii), (iv) and (vi).

Integrity and authenticity

Integrity

The integrity of the nominated property is based on the technological and landscape ensemble of the Observatory with its evidence related to the evolution and conduct of radio astronomy from the period after 1945.

ICOMOS considers that the Observatory retains all attributes that reflect the proposed Outstanding Universal Value of the property. The boundaries encompass all the attributes that document the development of the property as a site of pioneering astronomical research. Practically all stages of development from the very beginning, with improvised, re-used or borrowed equipment, onwards are represented by buildings, physical remains or in some cases archaeological remnants. Some important stages, such as represented by the large Transit Telescope, have not survived intact although traces remain. The later, large scale and far more ambitious instruments are still present at the property. This includes the iconic Lovell Telescope with its Control Building. The property also retains many quite modest structures which are, none the less, important for their research use, or which otherwise supported the work of the Observatory. At the heart of the property is an area called the Green which is the location of the Mark II Telescope, and it is bounded by modest research buildings which were the location for much of the early scientific work at the Observatory. This area gathers many elements identified as attributes of the nominated property.

The buffer zone of the proposed property corresponds to the existing and legally-based Consultation Zone established in 1973 to protect Jodrell Bank from radio emissions in its vicinity. This zone is essential for the effective operation of the telescopes, and provides an adequate protection of the integrity of the nominated property.

The buffer zone protects the scientific capabilities of the Observatory from radio emissions in its vicinity.

In general, all the structures are well preserved and the property continues to be dominated by the large scale Lovell Telescope and Mark II Telescope. However, two wooden buildings from the first phase have suffered from neglect and dis-use over the years. Their restoration is to be undertaken. The grounds of the Observatory are well cared for. Recent buildings in the property are constructed in contemporary materials and have a simple and subdued character, making them clearly recognisable as new but without detracting from the overall character of the property.

Authenticity

The authenticity of the nominated property is based on its attributes of Outstanding Universal Value which include the location and setting for the Observatory, its form and design reflecting the development of the property as a research facility, materials and substance of the property including the large scale structures of the two main telescopes, and the ongoing scientific use of Jodrell Bank.

ICOMOS considers that the property is authentic in terms of the potential Outstanding Universal Value. The location has continued unchanged, and the largely agricultural setting is essentially unchanged apart from the construction of the Square Kilometre Array building as part of the ongoing scientific use of the Observatory. The form and design has evolved through time reflecting the important development history of the property. This includes the somewhat improvised character of many structures indicative of the priority given to scientific research rather than the quality of buildings. Materials and substance have been mostly retained although there has been some replacement of deteriorated materials over time. The property retains its ongoing scientific use.

ICOMOS considers that the requirements of integrity and authenticity have been met.

Evaluation of the proposed justification for inscription

ICOMOS considers that the comparative analysis justifies consideration of this property for the World Heritage List.

ICOMOS also considers that the nominated property meets criteria (i), (ii), (iv) and (vi), and that the requirements of integrity and authenticity have been met.

Attributes

The attributes of the property are all related to the central theme of the property and its Outstanding Universal Value – it is a technological and landscape ensemble reflecting the pioneer phase and later development of the science of radio astronomy.

The isolated location in an agricultural setting mostly devoid of other developments provides context for the scientific research which required an absence of radio interference. The built elements, notably the two dominating and major radio telescopes, control buildings, research and support facilities, as well as the archaeological traces of early research instruments embody the evidence of the important history of the Observatory and its role in radio astronomy.

The ongoing scientific use of the Observatory is an important attribute reflecting the continuity of research.

4 Conservation measures and monitoring

Conservation measures

As noted above, a comprehensive conservation approach to the property only formally began with the process to develop the World Heritage nomination. Prior to this, maintenance of facilities was undertaken in the context of the continuing scientific research priorities at the Observatory. Examples of previous work include installation of a new working surface on the Mark II Telescope in 1987, and replacement of the Lovell Telescope wheel bogies in 2007.

Following the revised priorities for the Observatory which included the recognition of heritage values, funding for a major conservation and restoration project was secured from various sources starting in 2014, including from the University budget and the Heritage Lottery Fund. This project includes work to the Lovell Telescope, Control Building and buildings associated with the Green in the centre of the property. The overall project is due for completion in 2021.

Work to the Lovell Telescope is under way, and a program of repairs to the Telescope Workshop and the adjoining Dormitory Block has commenced. In the case of the two Botany Huts which are in poor condition, a restoration project is to be undertaken.

Maintenance and conservation of the Observatory is overseen by highly professional facilities staff, and the maintenance and conservation work is of a high standard. The facilities staff have a clear overview of the state of the buildings and structures, following a five-year cycle of review and maintenance. The conservation work undertaken at the property is of a high standard.

One of the potential challenges for the conservation of the Observatory is to respect and portray the historical character of the buildings and site development. This character often includes relatively primitive buildings,

sometimes with additions undertaken with little regard to aesthetics or quality construction.

The current conservation management plan appears to contemplate the removal of some features of high significance, but which are in poor condition (eg. the Searchlight Aerial). In this case, the plan presumes preservation in situ but also refers to preservation by record if necessary. ICOMOS requested further information on the conservation approach for all attributes in its interim report. The State Party advised, in the additional information submitted in February 2019, that significant structures will be conserved as required, that the Searchlight Aerial will definitely be preserved in situ, Heritage Impact Assessment will be undertaken when any conservation work is considered on the property, and this conservation approach will be reflected in the revised Conservation Management Plan due in July 2019.

Monitoring

A suite of key indicators for monitoring the property has been developed. This includes the timeframe for monitoring. Indicators are linked to the property attributes.

For example, the telescopes are inspected and maintained regularly. Both major telescopes are inspected daily during operational periods by specialised staff. This is critical to prevent damage. More detailed inspections are carried out weekly. Buildings are inspected on a continuing basis. Trees on site are inspected by the University's Arboricultural Team. A condition survey for the whole property will be commissioned every five years and be undertaken by external consultants.

While there is a moderately long list of indicators, which have been developed, what appears to be missing are indicators of the actual condition of attributes, or changes in condition. ICOMOS requested further information on monitoring state of conservation in its interim report. The State Party provided useful additional information on February 2019 summarising the monitoring approach, stressing the use of condition surveys, and proposing to revise the indicators by July 2019 so that they relate more explicitly to the maintenance of attributes in good condition.

ICOMOS considers the conservation measures are generally adequate. Ongoing care will be needed to respect and portray the historical character of the buildings and site development, recognising the relatively primitive character of some buildings and the historical changes undertaken with little regard to aesthetics or quality construction. The revised Conservation Management Plan and associated Gazetteer should be provided, when completed, to the World Heritage Centre and ICOMOS.

In addition, ICOMOS considers the monitoring approach to be generally satisfactory, and that revised indicators will be included by July 2019.

5 Protection and management

Documentation

The most recent records for the property are contained in the Jodrell Bank Observatory Site Conservation Management Plan (2016) and the Site Gazetteer (2014) which contains data sheets on all property features. As noted above, in response to a request for further information from ICOMOS in its interim report, the State Party provided additional information in February 2019, and has advised that the Conservation Management Plan and Site Gazetteer are being revised. These should be completed in July 2019.

An archival survey was also completed in 2017. Primary sources of documentation include scientific and technical papers, citations of papers, an engineering archive which includes documentation about changes to the major telescopes and other instruments, papers and images related to scientific work, the Jodrell Bank National Archive which includes papers written at all stages of the site's development, Sir Bernard Lovell's personal papers, national records of and objects related to the development of Jodrell Bank, media records, as well as books by many of the scientists and engineers who worked at the Observatory. This survey project is continuing.

Legal protection

The various components of the property have all been carefully evaluated by Historic England, the national government conservation body, and most of them have been listed under the *Planning (Listed Buildings and Conservation Areas) Act 1990*. The two major telescopes have been listed in the highest category, Grade 1. There are some components which have no listing at the present time, although they are managed for their heritage values as part of the property.

In addition, World Heritage inscription would mean that all components within the property would enjoy a protection status equivalent to the highest level or Grade 1, in accordance with the *National Planning Policy Framework* (2012) and the spatial planning system which operates through several pieces of legislation, including the *Town and Country Planning Act 1990*.

Any changes to listed buildings require listed building consent, a process that is normally managed by the county conservation officer. When needed, conservation staff from Historic England are involved in this process.

University staff are well aware of the heritage status of the property, the legal requirements for conservation, and their role and responsibilities within the system.

It is noted that the buffer zone, based on a pre-existing *Jodrell Bank Radio Telescope Consultation Zone* for the Observatory, has operated effectively to protect Jodrell Bank for many decades. It was established by the *Town and Country Planning (Jodrell Bank Radio Telescope) Direction 1973*.

Management system

The property is under the management of the University of Manchester with a committee, the Jodrell Bank Site Governance Group responsible for coordination. This committee includes key internal stakeholders such as the three main site user groups. Each of the site user groups has its own well-developed and independent management and operational structures. Roles managing the heritage of the Observatory are integrated to the daily work of the Jodrell Bank Centre for Astrophysics, responsible for scientific and engineering research, telescope operations and engineering, and the Jodrell Bank Discovery Centre which is responsible for visitor management and heritage coordination. These user groups are supported by other management groups within the University.

The third site user group is the Square Kilometre Array Organisation, located just outside the property within the buffer zone but within the overall Observatory.

The future management of the property will be based on the existing University structures, augmented by a World Heritage Site Steering Committee which will have oversight of the property and undertake coordination between the University, users and external stakeholders.

The Conservation Management Plan (2016) is a concise document, which provides an overview of the instruments and procedures for the effective management of the property. The plan is supplemented by an extensive Site Gazetteer, which includes considerable detail including issues and recommendations for site elements. As noted above, these documents are being revised and completed by July 2019.

The Observatory staff comprises about 30 technicians, engineers and astronomers who work directly on or with the major telescopes. They are directly involved in the maintenance and conservation of the structures. The property has a dedicated heritage officer.

Significant repairs to the Lovell Telescope are normally carried out by external specialist engineers, and all painting of the telescope is undertaken by an external project team. Archaeological advice for the property is also obtained externally.

Most of the funds for the management, operation and maintenance of the Observatory come from research budgets expended at the property. These research funds come from a variety of national and other sources, and the University. In addition, the University makes an additional contribution towards the heritage costs of the property. Funding for visitor facilities and engagement is partly funded by the University and otherwise by the operation of the Discovery Centre as a not-for-profit business.

Visitor management

The Observatory has a long experience with managing visitors to the property, commencing in the 1950s. In 2011, a new visitor facility was opened supported by a visitor strategy and financial support plan. There is a current

tourism management plan and enhanced presentation of the property is intended through a new gallery building and exhibition focused on Outstanding Universal Value, new guided tours, new interpretation points at the property and a new website.

Community involvement

The Observatory is located in a rural setting with a very small community in the surrounding area. Nonetheless, the local community considers the Observatory as a much-respected and cherished element, and a landmark in the countryside. The activities of the Observatory, including visitor programs, are much appreciated and supported by the local community.

Representatives of the local community have been consulted about the World Heritage nomination, and there is an ongoing dialogue about the proposal. The local community will also be represented on the proposed World Heritage Site Committee.

Evaluation of the Effectiveness of the Protection and Management of nominated property

The protection and management of the property is generally good, including the existing documentation and archive, legal protection, the management system and visitor management. Community involvement is also satisfactory, noting this will be enhanced if the property is inscribed on the World Heritage List.

ICOMOS considers that requirements for protection and management are adequate.

6 Conclusion

ICOMOS considers the comparative analysis for the Jodrell Bank Observatory justifies consideration of this property for the World Heritage List, and that the nominated property meets criteria (i), (ii), (iv) and (vi). The requirements of integrity and authenticity have been met. The requirements for protection and management have also been met, and the proposed boundaries and buffer zone are adequate.

The state of conservation is generally good, and a current major conservation project is currently underway. Ongoing care will be needed to respect and portray the historical character of the buildings and site development, recognising the relatively primitive character of some structures and the historical changes undertaken with little regard to aesthetics or quality construction.

The main factors affecting the property are development within the property or in the area surrounding it, and maintenance of a large steel structure of the Lovell Telescope. Development within the property is closely controlled through the management system and the buffer zone has proven to be very effective in controlling development around the property. The Conservation Management Plan and associated Gazetteer will be revised by July 2019, together with the monitoring indicators.

7 Recommendations

Recommendations with respect to inscription

ICOMOS recommends that the Jodrell Bank Observatory, United Kingdom of Great Britain and Northern Ireland, be inscribed on the World Heritage List on the basis of **criteria (i), (ii), (iv) and (vi)**.

Recommended Statement of Outstanding Universal Value

Brief synthesis

Jodrell Bank Observatory was important in the pioneering phase and later evolution of radio astronomy. It reflects scientific and technical achievements and interchanges related to the development of entirely new fields of scientific research. This led to a revolutionary understanding of the nature and scale of the Universe. The site has evidence of every stage of the history of radio astronomy, from its emergence as a new science to the present day.

Jodrell Bank Observatory is located in a rural area in northwest England. Originally, scientific activity was located at the southern end of the site, and from that time activity has moved to the north across the site with many new instruments developed and then abandoned. Remnants of early scientific instruments survive.

At the south end of the site is the location of the Mark II Telescope and it is bounded by an ensemble of modest research buildings in which much of the early work of the Observatory took place.

To the north of the Green, the site is dominated by the 76 metre diameter Lovell Telescope which sits in a working compound containing a number of engineering sheds and the Control Building. There are spaces open to the general public which include visitor facilities set around the Lovell Telescope. Other visitor facilities are outside the property to the northeast.

Jodrell Bank Observatory is the hub of the UK's national wide array of up to seven radio telescopes (e-MERLIN) including the Lovell and Mark II Telescopes.

Criterion (i): Jodrell Bank Observatory is a masterpiece of human creative genius related to its scientific and technical achievements. The adaptation and development of radar and radio frequency reflectivity to develop radically new equipment, such as the Transit Telescope and Lovell Telescope, were a key part in the development of entirely new fields of scientific research and led to a dramatic change in the understanding of the Universe. The Observatory was important in the pioneering phase and later evolution of radio astronomy.

Criterion (ii): Jodrell Bank Observatory represents an important interchange of human values over a span of time and on a global scale on developments in technology related to radio astronomy. The scientific work at Jodrell

Bank was at the heart of a global collaborative network. In particular, several important technological developments such as very large paraboloidal dish telescopes and interferometer were developed at the Observatory, and were later influential in scientific endeavours in many parts of the world.

Criterion (iv): Jodrell Bank Observatory represents an outstanding example of a technological ensemble which illustrates a significant stage in human history (1940s-1960s) – the transition from optical astronomy to radio astronomy and the associated consequence for the understanding of the Universe through multi-wavelength astrophysics. The property is also associated with the peacetime development of ‘Big Science’ as a major change in the way in which scientific research was supported and undertaken. The surviving evidence at the property related to the evolutionary development of radio astronomy from the post-war pioneering phase through to sophisticated, large scale research activity in the field makes Jodrell Bank an outstanding example of such a technological ensemble.

Criterion (vi): Jodrell Bank Observatory is directly and tangibly associated with events and ideas of outstanding universal significance. The development of the new field of radio astronomy at the property led to a revolutionary understanding of the Universe which was only possible through research beyond the possibilities of optical astronomy to explore the electromagnetic spectrum beyond visible light. Understanding of the nature and scale of the Universe has been dramatically changed by research in radio astronomy at the Observatory.

Integrity

The property retains all attributes that document its development as a site of pioneering astronomical research. Practically all stages of development from the very beginning, with improvised, re-used or borrowed equipment, onwards are represented by buildings, physical remains or in some cases archaeological remnants. Some important stages, such as represented by the large Transit Telescope, have not survived intact although traces remain. The later, large scale and far more ambitious instruments are still present at the property. This includes the iconic Lovell Telescope with its Control Building. The property also retains many quite modest structures which are, none the less, important for their research use, or which otherwise supported the work of the Observatory.

In general, all the structures are very well preserved and the property continues to be dominated by the large scale Lovell Telescope and Mark II Telescope. However, several early wooden buildings have suffered from neglect and disuse. Their restoration is to be undertaken. The grounds are well cared for. Recent buildings have a simple and subdued character, which do not detract from the overall appreciation of the property.

The Consultation zone, buffer zone of the property, protects the scientific capabilities of the Observatory from radio emissions in its vicinity, contributing to maintenance of the functional integrity of the property.

Authenticity

The location of the property has continued unchanged, and the largely agricultural setting is essentially identical apart from the construction of the Square Kilometre Array building as part of the ongoing scientific use of the Observatory. The form and design has evolved through time reflecting the important development history of the property. This includes the somewhat improvised character of many structures indicative of the priority given to scientific research rather than the quality of buildings. Materials and substance have been mostly retained although there has been some replacement of deteriorated materials over time. The property retains its ongoing scientific use.

Protection and management requirements

Most of the attributes of Jodrell Bank Observatory have been listed under the *Planning (Listed Buildings and Conservation Areas) Act 1990*. The two major telescopes have been listed in the highest category, Grade 1. There are some elements which have no listing at the present time, although they are managed for their heritage values as part of the property.

In addition, World Heritage inscription affords all attributes a protection status equivalent to the highest level or Grade 1, in accordance with the *National Planning Policy Framework* (2012) and the spatial planning system which operates through several pieces of legislation, including the *Town and Country Planning Act 1990*. Any changes to listed buildings require approval.

The buffer zone is based on the *Jodrell Bank Radio Telescope Consultation Zone* which has operated effectively to protect the Observatory for many decades. It was established by the *Town and Country Planning (Jodrell Bank Radio Telescope) Direction 1973*.

The property is managed by the University of Manchester with a committee, the Jodrell Bank Site Governance Group responsible for coordination. This committee includes key internal stakeholders such as the three main site user groups. Each of the site user groups has its own well-developed and independent management and operational structures. Roles managing the heritage of the Observatory are integrated with the daily work of the Jodrell Bank Centre for Astrophysics, responsible for scientific and engineering research, telescope operations and engineering, and the Jodrell Bank Discovery Centre which is responsible for visitor management and heritage coordination. These user groups are supported by other management groups within the University. The third site user group is the Square Kilometre Array Organisation, located just outside the property within the buffer zone but within the overall Observatory.

The management of the property is based on existing University structures, to be augmented by a World Heritage Site Steering Committee which will have oversight of the property and undertake coordination between the University, users and external stakeholders. The Conservation Management Plan (2016) provides an overview of the instruments and procedures for the effective management of the property. The plan, supplemented by an extensive Site Gazetteer, is currently being updated.

The Observatory has a long experience with managing visitors. There is a current tourism management plan and enhanced presentation of the property is ongoing.

Additional recommendations

ICOMOS further recommends that the State Party give consideration to the following:

- a) Providing a summary end of project report following completion of the current major conservation project,
- b) Confirming the timeframe for the conservation of the two Botany Huts,
- c) Continuing to respect and portray the historical character of the buildings and site development. This character often includes relatively primitive buildings, often with additions undertaken with little regard to aesthetics or quality construction,
- d) Providing the revised Conservation Management Plan and associated Site Gazetteer when completed, to the World Heritage Centre, and to ICOMOS,
- e) Considering masterplanning for the property and buffer zone to anticipate possible future development needs;

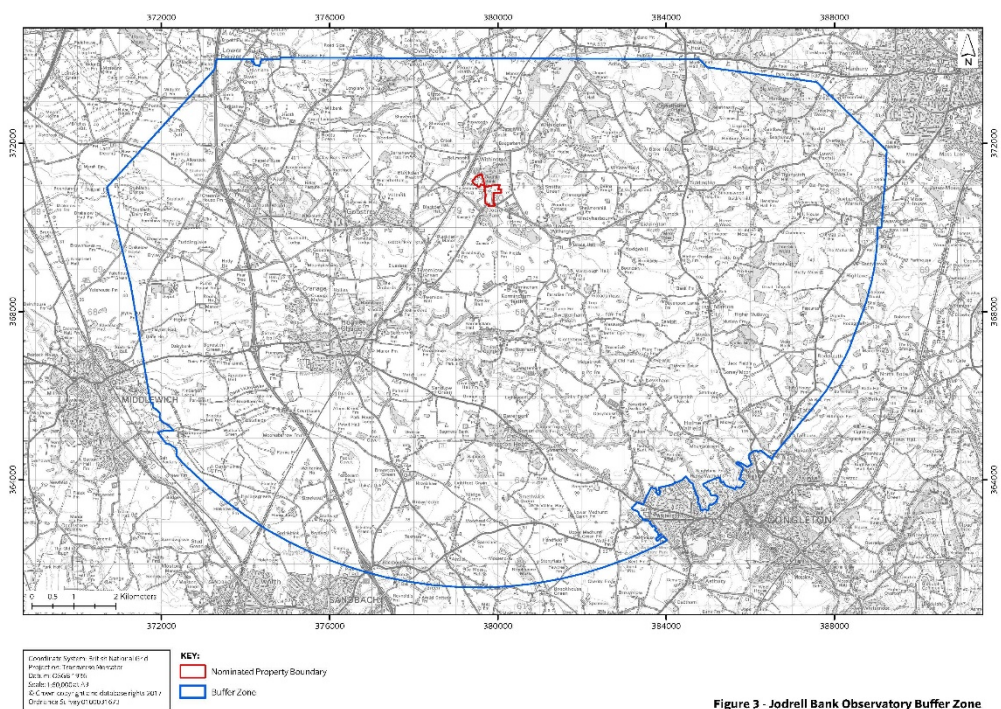
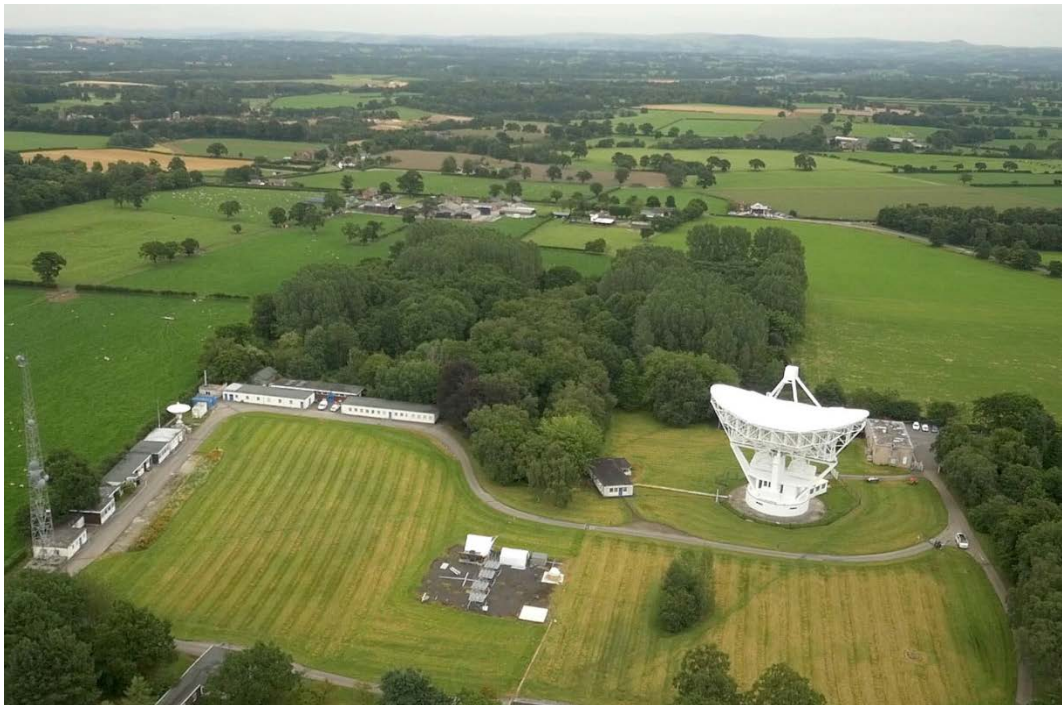


Figure 3 - Jodrell Bank Observatory Buffer Zone

Map showing the boundaries of the nominated property



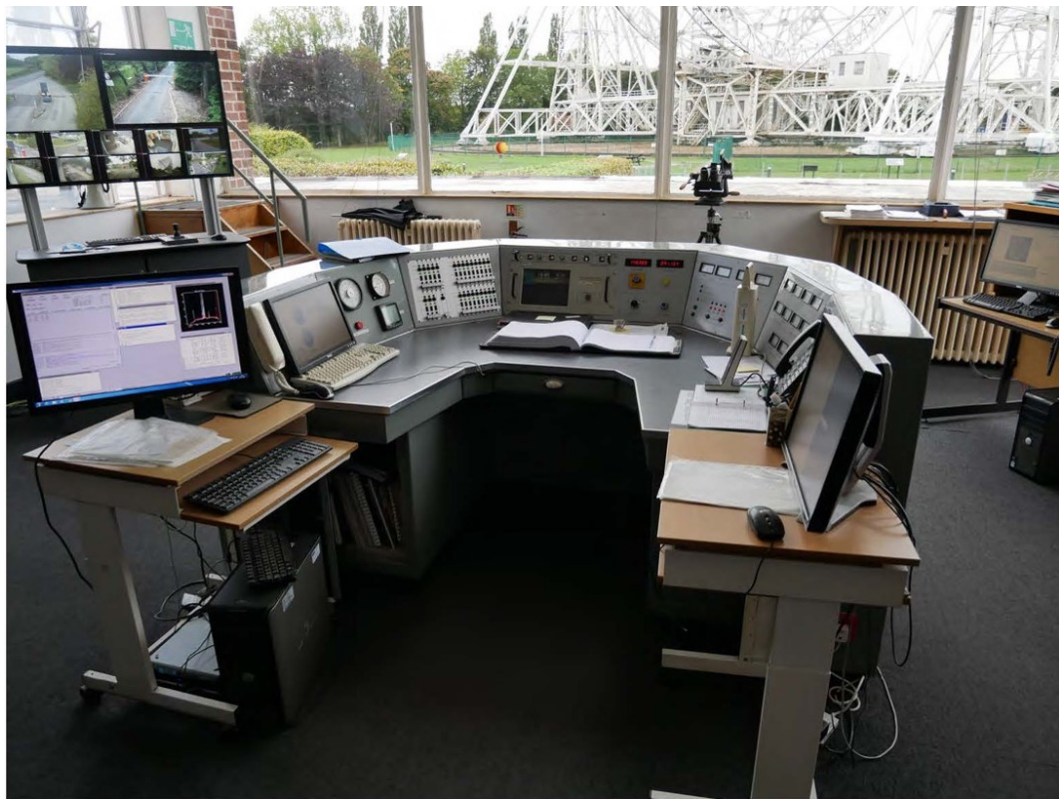
The Lovell Telescope



The Green and Mark II Telescope



The Mark II and Lovell Telescopes



The Control Building

IV Cultural properties

- A Africa**
New nomination

- B Arab States**
New nominations
Nomination deferred by previous session of
the World Heritage Committee

- C Asia – Pacific**
New nominations

- D Europe – North America**
New nominations

- E Latin America – Caribbean**
New nominations

Port Royal (Jamaica) No 1595

Official name as proposed by the State Party

The Sunken City of Port Royal – A Relict and Continuing Cultural Landscape

Location

Town of Port Royal
Kingston and St. Andrew Parish Council
County of Surrey
Jamaica

Brief description

Port Royal was established in 1656, shortly after the occupation of Jamaica by England. The location in the context of the Caribbean region and the conditions of the site allowed the town to become, within a few years, one of the wealthiest and most significant port and trade cities of the British Empire. In 1692, a severe earthquake produced significant damage whereby part of the town was submerged under water and sand. In the 18th century, Port Royal became the most important English naval base on the continent.

The nominated property is comprised of two different parts: the sunken portion of the town, which conserves the remains of the wealthy 17th century settlement; and the terrestrial portion, which encompasses the historic district, with some remains of the pre-1692 town as well as other buildings, sites and structures that testify to later periods of its evolution until the early 20th century.

Category of property

In terms of categories of cultural property set out in Article I of the 1972 World Heritage Convention, this is a *site*.

In terms of the *Operational Guidelines for the Implementation of the World Heritage Convention* (July 2017) paragraph 47, it has also been nominated as a *cultural landscape*.

1 Basic data

Included in the Tentative List

2 March 2009, as "The Underwater City of Port Royal"

Background

The World Heritage Committee examined the nomination of Port Royal, Jamaica, at its 12th Session (Brasilia, 1988). This nomination consisted of the terrestrial area of the property. In its evaluation report dated 20 July 1988, ICOMOS recommended that the

property should not be inscribed on the World Heritage List, on the basis of a comparison between Port Royal and other fortified colonial settlements in the wider region, i.e. Cartagena de Indias (Colombia) and Santiago de Cuba (Cuba). By Decision CONF 001 XIV.C, the World Heritage Committee decided not to inscribe the property on the World Heritage List since it did not meet the criteria for inscription.

In 2012, the State Party benefited International Assistance under the World Heritage Fund for the preparation of the nomination dossier of the Sunken City of Port Royal.

This is a new nomination that encompasses both underwater and terrestrial parts of the original town of Port Royal devastated by an earthquake in 1692.

Consultations and Technical Evaluation Mission

Desk reviews have been provided by ICOMOS International Scientific Committees, members and independent experts.

Comments on the natural attributes of this property, their conservation and their management were received from IUCN on 20 December 2018 and have been incorporated into relevant sections of this report.

An ICOMOS technical evaluation mission visited the property from 13 to 17 August 2018.

Additional information received by ICOMOS

A letter was sent to the State Party on 17 October 2018 requesting further information about maps and boundaries, description of the property, authenticity, comparative analysis, development projects and management.

Additional information was received from the State Party on 14 November 2018 and has been incorporated into the relevant sections of this evaluation report.

An Interim Report was provided to the State Party on 9 January 2019 summarizing the issues identified by the ICOMOS World Heritage Panel. Further information was requested in this report regarding documentation, inventory, category of heritage, boundaries, protection and management and tourism development projects.

Additional information was submitted to ICOMOS on 28 February 2019 and has been incorporated into the relevant sections.

Date of ICOMOS approval of this report

13 March 2019

2 Description of the property

Note: The nomination dossier and additional information contain detailed descriptions of this property, its history and its state of conservation. Due to limitations on the length of evaluation reports, this report only provides a short summary of the most relevant aspects.

Description and history

The nominated property includes the remains, both underwater and terrestrial, of the town of Port Royal established by the British in 1656 and severely damaged and partially submerged under water and sand by an earthquake in 1692, and other buildings, sites and structures that illustrate the evolution of Port Royal, especially as a British naval base, throughout the 18th, 19th and early 20th centuries. The property consists of two clearly different parts: the underwater part, which corresponds to the remains of the sunken area of the town; and the terrestrial part, which encompasses the historic district, with some remains of the pre-1692 town and some buildings, structures and sites corresponding to later periods. The nominated property is surrounded by a buffer zone that includes natural areas, both terrestrial and marine, and some historic buildings and sites.

The marine part of the nominated property has been partially explored and only a small section of the site has been excavated and investigated. Besides the street pattern, it contains the remains of street pavements, numerous houses, three forts, a tavern, a warehouse, fish and meat markets and walls. Numerous artefacts that illustrate the first period of the history of the town were found in this area and have been properly documented, conserved and stored. This area, together with the movable objects found, allows a complete illustration of an English urban settlement in the 17th century.

Additional information provided by the State party on 14 November 2018 allows a more complete description of the existing heritage assets in the terrestrial part of the property. Brick and stone walls surround the historic district and, in some places, separate it into distinct quarters. The street pattern has survived and continues into the sunken part of the town. Lime Street, which was the main artery of the pre-1692 town, is currently located in a playing field but it continues to the sunken part where it is well preserved as an underwater archaeological site.

The main terrestrial architectural structure is Fort Charles, constructed from 1656 onwards and remodelled and restored several times after hurricanes; it was the only fortification still standing after the 1692 earthquake. The remains of Fort Rupert, a component of the original defence system, lie submerged in a lagoon, part of which has been included in the nominated area. The foundations of St. Paul's Church, some 2.13 metres below current ground level, are also a testimony to the first period of

the history of the town. Chocolata Hole was a shallow bay bordered by a quay used by fishers; excavations have revealed the original quayside construction of closely spaced round wooden piles.

Among the terrestrial buildings and structures from the 18th century, the Old Gaol, constructed in 1710 as women's prison, served as a police station until 1980. Several structures of the Naval Dockyard still remain, including ruins of the coaling wharf and the naval storehouse, as well as the Admiralty Houses built from the 1880s to the early 20th century to accommodate senior naval personnel. The present St. Peter's Church, rebuilt in 1725-1726, replaced the original building destroyed by the 1692 earthquake and a second one destroyed by fire in 1703. The church illustrates an English Gothic tradition combined with some local innovations.

The Naval Hospital is a remarkable piece of architecture of the early 19th century, constructed with prefabricated cast iron units imported from England; the other minor components of the hospital ensemble are currently almost in ruins. The Royal Engineer's Arch was erected in 1853 to mark the entrance to the old military complex.

Cultural assets located in the buffer zone include the Victoria and Albert Battery (19th century), the Naval Cemetery (laid out c. 1742), Fort Rocky (19th century, almost in ruins), the Community Cemetery (presumably 18th century), the Coal Wharf (1862) and Hangman's Point / Gallows Point, a site whose name comes from the fact that many hangings took place there. The natural setting is protected under the Ramsar Convention and includes mangroves, sand dunes and coral reefs.

Additional information has been submitted by the State Party in February 2019, providing further documentation on all the archaeological and historical research carried out on the site from 1954 onwards, as well as a series of 7 maps showing the evolution of the urban layout between 1690 and 1983, locating precisely, both submerged and terrestrial historic buildings and features. In addition, the State Party provided a map, which indicates existing 17th century features in the terrestrial part of the nominated property. Moreover, in the additional information submitted in February 2019, the State Party explains that the design of the original urban layout of the 17th city of Port-Royal was established by Firemaster Nicholas Keen. This town planning corresponds closely to the London post-fire building regulations of 1667, in particular in terms of dimension of the network of streets and alleys. ICOMOS considers that this additional information provided at the request of ICOMOS, is helpful to understand the property and the connection between the 17th century underwater archaeological remains and the terrestrial features of Port Royal city, even though there are only a few

remains of the pre-earthquake city in the terrestrial part.

The site where the town is located consisted of a collection of islands that, by the accumulation of sand and other solid materials, formed a long, narrow sand spit that marks the entrance to and protects Kingston Bay, considered one of the largest natural harbours in the world. The site is characterized by sandy, unstable soil; the vegetation provides coastal protection and its roots assist in stabilizing the sand. The area is prone to severe natural disasters such as earthquakes and hurricanes, which have played a significant role in the evolution of the town.

The original inhabitants of the region were the Tainos, from whom several artefacts have been found in underwater explorations. Once Jamaica passed from Spain to England in 1655, a fort was constructed at the end of the sand spit, later named Fort Charles, which marked the origin of the town named Port Royal in 1660. Its location in the Caribbean and the conditions of the site, suitable to anchor ships in the bay and close to the coast, allowed the town to become, within a few years, a significant port and trade entrepôt of the British Empire. The town was protected by a defensive system that included six forts and a wall that marked its boundaries. During the first period of its history, Port Royal played a most significant role in the British Empire and in the Caribbean. It was the point of debarkation of enslaved Africans and a place for pirates and privateers, which made Port Royal one of the richest cities of the region. In 1692, a strong earthquake produced severe damage, whereby part of the town was submerged under water and sand.

After the earthquake the remaining part of the town was rebuilt, mainly of wood. It was again partially destroyed in 1701, by fire. At the beginning of the 18th century the economy of the island grew on account of the production of sugar; at the same time, with the increase of British naval power, Port Royal became an important naval base, especially when a dockyard was developed between 1715 and 1763. At the beginning of the 20th century, the focus of British sea power shifted with the development of a powerful fleet of steam warships based at dockyards in Britain and the Mediterranean; the naval dockyard at Port Royal was closed in 1905. There are very few remains of Port Royal's past as a naval station and dockyard.

A 1907 earthquake that destroyed much of neighbouring Kingston caused only minor damage in Port Royal, but in 1951 Hurricane Charlie swept through, leaving only a few buildings of the town's historic past intact. Currently, Port Royal is a fishing village with a population of some 2000 inhabitants and serves as the base for the Jamaica Defence Force Coast Guard.

Boundaries

The nominated property has an area of 36.40 ha, and a buffer zone of 572.30 ha.

The nominated property encompasses the boundaries of the pre-1692 fortified town and part of the sea area, which contains the remains of the sunken portion of the town. In the terrestrial part, the boundary of the nominated property is defined by the historic town wall on the eastern side and has been extended to include the western quarter of a lagoon where Fort Rupert, one of the original components of the defensive system, lies submerged. The marine part of the property is defined by a polygon, marked with buoys anchored to the seafloor, which encompasses the underwater remains of the original town.

The buffer zone incorporates the natural seascape of Port Royal Harbour, the mangroves and other marine biodiversity. Some cultural elements are also located within its boundaries, among them the Naval Cemetery, the Community Cemetery, the Victoria and Albert Battery and Fort Rocky.

At ICOMOS' request, the State Party provided additional information as regards the rationale for the delineation of the current boundaries of the nominated property and its buffer zone. The State Party reports that the boundaries of the nominated area and buffer zone were drafted by a team of international and national experts in 2012 on the basis of historic maps, excavations conducted both on land and underwater and offshore and onshore survey and verification. It was decided that the boundary of the site should include both the areas underwater and on land which represents the single 17th century Port Royal site.

However, ICOMOS noticed that the narrative proposed by the State Party to support the potential Outstanding Universal Value of the nominated property focuses not only on the original town damaged by the 1692 earthquake, but also on later periods of its evolution. This rationale has not been supported by the proposed delineations as some attributes that could have contributed to the proposed Outstanding Universal Value are located in the buffer zone instead of the nominated property, namely the cemeteries, the Victoria and Albert Battery and Fort Rocky.

Thanks to the additional information submitted in February 2019, ICOMOS considers that the connection between the underwater archaeological parts and the terrestrial remains has been clarified.

ICOMOS considers that the boundaries of the nominated property could be considered adequate if the site is considered as a single property and its delineation include all the attributes related to 17th century archaeological vestiges, both underwater and terrestrial, of the town destroyed by the 1692

earthquake. To do so, the boundaries would need to be adjusted to cover the whole pre-1692 town, as the current proposal cut out one section due to civil settlement and another area occupied by coast guard.

State of conservation

Based on the information provided by the State Party and the observations of the ICOMOS technical evaluation mission, ICOMOS notices that the state of conservation varies according to the different parts and components of the nominated property. The underwater archaeological heritage exhibits, in general, a good state of conservation.

In the terrestrial part, the state of conservation varies from one element to another. In general, the historic structures that testify to the historic town are mixed with new urban fabric and vacant spaces, although the historic street pattern of the colonial town has been preserved and the new buildings are aligned on this pattern.

Fort Charles is the most important piece of historic architecture in the terrestrial part of the property; subject of several restoration works, it exhibits a good state of conservation. The 17th century town line and Morgan's Line brick walls are in a good state of conservation, though, being made of bricks, they require continuous maintenance.

As for buildings of the 18th and 19th centuries, the Old Gaol and St. Peter's Church exhibit acceptable states of conservation but the state of the Naval Hospital is not good: apart of the main building, some of the complementary buildings of the hospital ensemble are almost in ruins. The Admiralty Houses have been completely restored and are in a good state. The archaeological areas in the town, including the vestiges of St. Paul's Church, have been preserved. Fort Rupert is not easily reachable because of its location submerged in the lagoon.

With regard to cultural elements located in the buffer zone, Fort Rocky is almost in ruins, the Victoria and Albert Battery – a partially underground structure – has been restored, and the cemeteries are fragile and in a poor state of conservation because of the land conditions.

Factors affecting the property

Based on the information provided by the State Party and the observations of the ICOMOS technical evaluation mission, ICOMOS considers that the main factors affecting the property are the impact of natural disasters, global climate change and potential development and tourism pressures.

The property is located in a region prone to natural disasters such as earthquakes, hurricanes and tropical storms, all of which have caused damage to the town throughout its history. Such disasters could happen again in the future, could become more

frequent and intense because of global climate change and could represent a constant risk to the integrity and state of conservation of Port Royal. Global climate change could also have an adverse impact in relation to the rise of sea level that, together with natural disasters, could modify the coastline and submerge new parts of the terrestrial area.

As for tourism, the State Party states that there is a plan to convert Port Royal into a sustainable tourism destination. The additional information provided by the State Party on 14 November 2018 includes information on a project for a floating pier and welcome facilities for visitors arriving by cruise ships, located in the buffer zone on land that used to be part of the coal wharf, where some remains still exist, and is very close to the area of the former dockyard included in the nominated property.

Additional information dated February 2019 specifies that the Archaeological Evaluation Brief and Specification is part of the planned archaeological survey for the floating pier project and the Archaeology Division of the Jamaica National Heritage Trust began the Archaeological Impact Assessment (AIA). Where there might be intrusive work for construction of buildings, the JNHT will excavate to ascertain the status of the footprint of the remains of the structures identified from the Desk based assessment and the footprint of pre-1692 Port Royal. The exposed floors of the coaling structures along with other identified heritage assets will be preserved and integrated in the development of the cruise ship terminal buildings.

A Heritage Impact Assessment (HIA) has been conducted by the Jamaica National Heritage Trust; the conclusions of the first draft, dated February 2019, indicate that the Trust has no objection to the development request provided that the Port Authority of Jamaica adheres to the stipulations outlined by the Trust, which include, among others, that all historic structures above ground are to be retained and incorporated into the design, any brick façade to buildings should be original and functional and should not seek to confuse history, the buildings should not seek to represent a particular historical era, but should be contemporary in detail and buffer zone details to the main road are to be established. This approval may be revoked by the JNHT where, in its opinion, there has been a breach of any of the terms and conditions.

ICOMOS notes that the Heritage Impact Assessment has only considered direct impact on the archaeological remains in the vicinity of the proposed ferry terminal and has not considered indirect impacts on the attributes of proposed Outstanding Universal Value in the nominated property, particularly the sunken remains, nor potential impact on the property and its buffer zone.

The floating pier is located very close to the proposed attributes, and the underwater archaeological deposits could be highly disturbed by the action of the cruise ships propellers. ICOMOS considers this project could have a great impact on the integrity and authenticity of the property.

The Heritage Impact Assessment should be widened, or a further Heritage Impact Assessment should be undertaken, to assess potential indirect impacts on the underwater archaeological remains, from cruise ships and potential direct and indirect impacts on the property and its setting as a result of an increased number of visitors, and the development of visitor facilities.

The Heritage Impact Assessment needs to be based on a detailed analysis of possible cruise ship movements. The proposed red line route for cruise ships set out in the supplementary information does not appear plausible in terms of the ability of ships to stick to such a narrow corridor in all weathers and sea conditions. Further, more detailed data needs to be provided on visitor number and routes and their control.

ICOMOS considers that all activities related to the implementation of this proposed cruise ship pier project should be suspended until a more detailed Heritage Impact Assessment has been undertaken that considers impact on potential Outstanding Universal Value, and until this Heritage Impact Assessment has been reviewed by ICOMOS.

Given the great importance of what remains of the 17th century urban layout, there needs to be a much clearer understanding as to how future development will be constrained to respect this evidence.

ICOMOS has also noticed the development of a housing area towards the south of Morgan Line and the historic centre, intended to rehouse families and businesses in newly built homes. Although the project was planned in several phases, no further works have been carried out after the damage resulting from Hurricane Dean in 2007.

3 Proposed justification for inscription

Proposed justification

The nominated property is considered by the State Party to be of Outstanding Universal Value as a cultural property for the following reasons:

- Port Royal is the “catastrophic site” that existed over its 37 years, representing a relict and continuing cultural landscape.
- The underwater part of the property, a time capsule providing a complete snapshot of a 17th century English urban landscape, is one of

the best-preserved archaeological sites in the world.

- Port Royal embodies the system of English 17th century seafaring and trading in African enslavement and trafficking to become the leading entrepôt in the Americas.
- This system left a cultural heritage footprint of fortifications, including six forts that made the site impregnable.
- Port Royal resonates internationally as the infamous centre for piracy and privateering, which contributed to the tremendous wealth of the city.
- Today, Port Royal exists as a famous residential fishing village, dotted with the relicts of the past depicting a continuing cultural landscape of military and naval importance, from its 17th century maritime exploits that continued into an 18th century dockyard and a 19th century coaling wharf.

ICOMOS notes that the property has been nominated as a relict and continuing cultural landscape which are two sub-categories of an organically evolved landscape as defined by annex 3 of the *Operational Guidelines*. However, ICOMOS considers that the arguments proposed by the State Party to support its proposed Outstanding Universal Value are scarcely related to the concept of a cultural landscape as defined in the *Operational Guidelines*. The human interaction with the environment is based mainly on a consideration of the difficult conditions of the site to house a human settlement and on the resilience of the inhabitants of Port Royal over its history. Although some mentions of the natural conditions of the nominated property are included in the proposed statement of Outstanding Universal Value, ICOMOS notes that practically no natural features have been specified in the nominated property, with the exception of the coastal and marine areas containing the submerged part of the town. ICOMOS considers that the influence of the natural conditions of the site, i.e. geology and geomorphology, on the urban structure and morphology cannot be considered a cause for exceptionality, since this is the case in many, not to say most, towns and cities in the world.

In the additional information dated February 2019, the State Party provided definitions and justifications for some of the terms used in the nomination dossier. ICOMOS considers that the nominated property, as a whole, can be considered as a relict archaeological landscape when considering only the remains, both underwater and terrestrial, of the pre-1692 town of Port Royal.

Comparative analysis

The comparative analysis is presented by the State Party in three parts: an internal comparison with another property within the State Party; a comparison to properties within the immediate and wider region; and an international comparison with other properties throughout the world, including World Heritage and Tentative List properties, all with a comparable

combination of proposed Outstanding Universal Value and attributes. Additional information provided by the State Party on 14 November 2018 extended the comparative analysis to include additional properties, especially within the region; that information is included in the comments below.

At national level, Port Royal is compared with Kingston, which is not inscribed on the World Heritage List or on the State Party's Tentative List. An additional comparison with Savanna-la-mar, located in southwestern Jamaica, was provided by the State Party in November 2018. The former, now a major city, was founded across the harbour from Port Royal after the 1692 earthquake. The latter was founded in 1730 and developed as a port facility because its location facilitated the shipping of sugar. Given the significant outcome of the 1692 earthquake, Port Royal remains the only property of its type on the island of Jamaica.

At the regional level, Port Royal is compared with Historic Bridgetown and its Garrison (Barbados, 2011, criteria (ii), (iii) and (iv)) and with Archaeological Site of Panamá Viejo and Historic District of Panamá (Panama, 1995, 2003, criteria (ii), (iv) and (vi)). The augmentation of the comparative analysis dated 14 November 2018 adds Historic Town of St George and Related Fortifications (Bermuda, United Kingdom, 2000, criterion (iv)); Antigua Naval Dockyard and Related Archaeological Sites (Antigua and Barbuda, 2016, criteria (ii) and (iv)); Brimstone Hill Fortress National Park (Saint Kitts and Nevis, 1999, criteria (iii) and (iv)); Old Havana and its Fortification System (Cuba, 1982, criteria (iv) and (v)); Historic Fortified Town of Campeche (Mexico, 1999, criteria (ii) and (iv)); Port, Fortresses and Group of Monuments, Cartagena (Colombia, 1984, criteria (iv) and (vi)); Fortifications on the Caribbean Side of Panama: Portobelo-San Lorenzo (Panama, 1980, criteria (i) and (iv)); and National History Park – Citadel, Sans-Souci, Ramiers (Haiti, 1982, criteria (iv) and (vi)).

The combination of its sunken underwater town and other consequences of the catastrophic 1692 earthquake, its continuous occupation, its fortifications and its use as a naval base from the 17th to 20th centuries substantially differentiate Port Royal from most of these comparative properties.

At the international level, the State Party compares the nominated property with other “catastrophic sites,” some of which are inscribed on the World Heritage List: Archaeological Areas of Pompei, Herculaneum and Torre Annunziata (Italy, 1997, criteria (iii), (iv) and (v)); Pavlopetri (Greece); Kekova (Turkey); and Ozette Archaeological Site (United States of America). The rationale for selecting these properties is that all of them were destroyed or severely damaged by natural disasters – resulting, in the cases of Pavlopetri and Kekova, in sunken cities, as at Port

Royal – although some of them are different from Port Royal with regard to functions or urban and architectural features.

At the conclusion of the comparative analysis, there is a mention of properties consisting of organically evolved cultural landscapes inscribed on the World Heritage List: Kuk Early Agricultural Site (Papua New Guinea, 2008, criteria (iii) and (iv)), six properties in Latin American and the Caribbean (without specific mention of their names), and a cultural industrial landscape in Uruguay (Fray Bentos Industrial Landscape, 2015, criteria (ii) and (iv)).

ICOMOS appreciates the effort made by the State Party to augment the comparative analysis, especially to include other similar properties located in the same region. Nevertheless, ICOMOS considers that the main problem of the comparative analysis, as proposed by the State Party, is the definition of the nature of the property. The selection of “catastrophic sites,” a type of heritage not mentioned in the *Operational Guidelines*, is based on the fact that those sites were destroyed by natural disasters, and in some cases totally or partially sunken, but ICOMOS considers that that situation cannot be considered a cause of exceptionality in terms of implementation of the World Heritage Convention. What could be exceptional, in ICOMOS' view, is how those vestiges illustrate some type of heritage and/or some specific period of history or culture. In the case of Port Royal, ICOMOS considers that the terrestrial and underwater archaeological vestiges of the pre-1692 town offers a possibly unrivalled illustration of an English colonial town in the 17th century which has the potential to demonstrate Outstanding Universal value.

The selection of comparative properties in the region is based mostly on the type of heritage, namely colonial port and trade cities and fortification systems, or, in one case, on the fact of a destroyed city (Panamá Viejo). The State Party acknowledges, in the comparative analysis, that some of these cities or fortification systems were more important than Port Royal from an architectural or technological point of view. The main reason mentioned by the State Party to establish the difference between the nominated property and the other properties is the destruction caused by the 1692 earthquake, and that part of the original town is sunken. Again, in the view of ICOMOS, this cannot be considered a cause of exceptionality within the framework of the implementation of the World Heritage Convention.

ICOMOS also considers that Port Royal being a “site of memory” related to the trade of enslaved Africans, as mentioned in the proposed statement of Outstanding Universal Value, would deserve a comparison with other similar properties at the regional and global levels.

ICOMOS considers that the mention of other organically evolved cultural landscapes in Latin America does not contribute to justifying the potential exceptionality of Port Royal, since those comparatives are related specifically to agriculture, which is not the case for the nominated property.

In summary, ICOMOS considers that the property has the potential to justify consideration of this property for the World Heritage List, on the basis of the terrestrial and underwater archaeological vestiges of the pre-1692 town being an exceptional testimony to an English settlement in the Americas in the 17th century.

ICOMOS considers that the terrestrial and underwater archaeological vestiges of the pre-1692 town offers an illustration of an English colonial town in the 17th century which has the potential to justify consideration of this property for the World Heritage List.

Criteria under which inscription is proposed

The property is nominated on the basis of cultural criteria (iii), (v) and (vi).

Criterion (iii): bear a unique or at least exceptional testimony to a cultural tradition or to a civilization which is living or which has disappeared;

This criterion is justified by the State Party on the grounds that Port Royal was regarded as the most important 17th century English naval port town and a major centre for trade in the Americas, the most significant in the English Empire at the time. The protection of the town, through a system of fortifications, is a unique testimony of the Europeans' successful attempt in the castrametation of strategic locations in the newly conquered territories in the Americas. Fort Charles is the town's only surviving terrestrial fort; the assemblage of excavated buildings contributes to understanding the 17th century town planning and architecture. The town has retained its original layout and the current terrestrial street patterns continue underwater to the sunken town.

ICOMOS notes that the justification of this criterion is based on the role played by Port Royal in the 17th century, on the importance of the defensive system and on the fact that the town has retained its original urban layout. ICOMOS acknowledges the importance of Port Royal as an English colonial town in the Americas in the 17th century; nevertheless, ICOMOS considers that the State Party should focus on the property as an archaeological site including both underwater and terrestrial parts and that these arguments would better fit under criterion (iv).

As for the defence system, the State Party acknowledges, in the extended comparative analysis, that other cities in Latin America and the Caribbean had systems of fortifications and protective walls that are more important, from an architectural point of view, than Port Royal's.

ICOMOS considers that criterion (iii) has not been justified.

Criterion (iv): be an outstanding example of a type of building, architectural or technological ensemble or landscape which illustrates (a) significant stage(s) in human history;

While criterion (iv) has not been put forward by the State Party, ICOMOS considers that the nominated property has the potential to meet this criterion as the sunken remains and surviving 17th century town layout and buildings on land represent a key stage in the development and history of Jamaica and a key stage in English exploitation of the New World (as the first English settlement). In the late 17th century it was the largest and most economically important English settlement in the Americas.

ICOMOS considers that the nominated property has the potential to meet criterion (iv) in relation to the pre-1692 archaeological remains only.

Criterion (v): be an outstanding example of a traditional human settlement, land-use, or sea-use which is representative of a culture (or cultures), or human interaction with the environment especially when it has become vulnerable under the impact of irreversible change;

This criterion is justified by the State Party on the grounds that Port Royal's land and sea uses are intricately linked to the geology and the geography of the area. The conditions of the site provide an excellent anchorage; this created an urban centre for diplomacy and trade under the direct oversight of the English monarchy. From its establishment onwards, Port Royal has been prone to natural disasters that have created a continuing cultural landscape in which historical and archaeological assets span the nominated property's English historical spectrum since its genesis in 1655. During the 18th century, Port Royal became the first and most significant European naval base in the hemisphere.

While acknowledging the relationship between the nominated property and the geology and geography of the area, ICOMOS considers that the influence of the natural conditions of the site on the urban structure and morphology cannot be considered a cause for exceptionality, since this is the case in many, not to say most, towns and cities in the world.

ICOMOS considers that criterion (v) has not been justified.

Criterion (vi): *be directly or tangibly associated with events or living traditions, with ideas, or with beliefs, with artistic and literary works of outstanding universal significance;*

This criterion is justified by the State Party on the grounds that Port Royal is directly associated with the transatlantic trade of enslaved Africans, which lasted for more than 400 years. Its strategic location related to the Caribbean and the Americas enabled Port Royal to play a significant role in this tragic episode (and contributed to its wealth, especially between 1656 and 1692). The nominated property thus could be considered a “site of memory.” Piracy and privateering were also directly associated with the town, and also contributed to its prosperity.

ICOMOS considers that, although the place of Port Royal in the transatlantic trade of enslaved Africans and in piracy and privateering are considered consequential to the wealth achieved by the town, especially before the 1692 earthquake, there are evidently no tangible elements that could be directly associated with these events. The justification of this criterion becomes weak when relating the narrative to the proposed attributes of the property; at the same time, ICOMOS considers that further comparison with similar properties, among them “sites of memory” related to the trade of enslaved Africans, would be needed to justifying the use of this criterion.

ICOMOS considers that criterion (vi) has not been justified.

ICOMOS considers that the nominated property has the potential to meet criterion (iv) in relation to the pre-1692 archaeological remains only.

Integrity and authenticity

Integrity

The State Party states that integrity of the architectural components of the nominated property, both submerged and terrestrial, can be considered acceptable. The boundaries of the nominated property encompass the submerged area of Port Royal and the terrestrial part of the original town that was severely damaged by the earthquake of 1692.

As ICOMOS considers that only the terrestrial and underwater archaeological vestiges of the pre-1692 town has the potential to justify consideration of this property for the World Heritage List, the nominated area should include all the attributes related to 17th century archaeological vestiges and would need to be adjusted, as the current proposal cut out one section due to civil settlement and another area occupied by coast guard.

As for the submerged part of the nominated property, the State Party reports that only a part has been properly excavated and investigated. In the additional information dated February 2019, the State Party provides detailed information on all the archaeological campaigns carried out from 1954 onwards and on their findings and results. The State Party reports that all the surveys have strengthened and deepen the understanding of the scope and the extent of the underwater city and that future research on the site will further the understanding of the site’s archaeology and geomorphological attributes.

In relation to the project for a floating pier and facilities for visitors arriving by cruise ships, located in the buffer zone very close to the area of the former dockyard included in the nominated property, ICOMOS considers that the underwater archaeological deposit could be highly disturbed by the action of the cruise ships propellers, and proposed tourism facilities could impact adversely on the property. Both these projects could have a great impact on the integrity of the property and further detailed impact studies are needed in order to fully assess their potential impact.

On this basis, ICOMOS considers that the required conditions of integrity have not been completely met at this stage.

Authenticity

The authenticity of the submerged part of the nominated property is unquestionable. As for the terrestrial part, the variability in the condition of the proposed attributes suggests different degrees of authenticity.

Fort Charles has undergone several restorations over time; it was used for its original purpose until the 1950s. The materials and substance of the structure are largely intact. The form and design of Morgan’s Line are still clearly visible in the portions that are still extant. Chocolate Hole is currently filled with mud, sand and rubbish; the area has become an open, sandy field.

The other buildings and structures in both the nominated property and the buffer zone have kept, in general and with varying states of conservation, their original forms, designs, materials and locations. Most of the original functions have been changed, or the structures are currently not used.

Considered as a whole, the current townscape of Port Royal has changed significantly, mostly because of the recurrence of harmful natural disasters. The present situation consists of a collection of scattered historic buildings and structures located in a town that, besides the street pattern and the location, has retained little of its historic townscape. Functions have also changed over time. It is necessary to acknowledge the resilience of the inhabitants, which has allowed the resurrection of

a town that has several times been damaged by natural disasters.

ICOMOS considers that in relation to the archaeological remains, the conditions of authenticity have been met but that the submerged part of the nominated property is highly vulnerable due to the project for a floating pier and facilities for visitors arriving by cruise ships.

In conclusion, ICOMOS considers that in relation to the terrestrial and underwater archaeological vestiges of the pre-1692 town, the requirements of integrity have not been fully met at this stage, and that the conditions of authenticity have been met. The submerged part of the nominated property is highly vulnerable due to the project for a floating pier in its vicinity.

Evaluation of the proposed justification for inscription

On the basis of the property being nominated as both a relict and a continuing cultural landscape, ICOMOS considers that there is gap between the definition of such types of cultural landscapes, as defined in the *Operational Guidelines*, and the reasons proposed by the State Party to support the potential Outstanding Universal Value.

ICOMOS considers that the nominated property focused on terrestrial and underwater archaeological vestiges of the pre-1692 town, and considered as a single site and a relict archaeological landscape, offers an illustration of an English colonial town in the 17th century which has the potential to justify consideration for the World Heritage List. Both underwater and terrestrial archaeological vestiges provide evidence of the urban layout of an English town located in the Caribbean and illustrate a comprehensive and almost full picture of the city before the earthquake.

ICOMOS considers that criteria (iii), (v) and (vi) have not been demonstrated. The nominated property has the potential to meet criterion (iv) in relation to the pre-1692 archaeological remains only. The nominated area should include all the attributes related to 17th century archaeological vestiges and would need to be adjusted. The requirements of integrity have not been fully met at this stage, and the conditions of authenticity have been met. However they are highly vulnerable due to the project for a floating pier in its vicinity.

Attributes/Features

The proposed attributes which contribute to the potential Outstanding Universal Value of the property are the underwater part of the property and the archaeological vestiges of the pre-1692 town in the terrestrial part – which need to be more clearly defined. All the other proposed features, buildings, sites and structures that illustrate the evolution of Port Royal,

especially as a British naval base, throughout the 18th, 19th and early 20th centuries are not considered relevant attributes, but merit protection as a vertical buffer zone.

4 Conservation measures and monitoring

Conservation measures

No specific conservation measures have been taken regarding the submerged part of the property. Nevertheless, the situation of the underwater site ensure the preservation of the vestiges, and the State Party has indicated that it will not undertake exploration missions without ensuring the appropriate preservation of the site. The artefacts found in the underwater archaeological site have been properly documented, preserved and stored.

Very little conservation work has been undertaken in the terrestrial part, partly because of the lack of an adequate budget. There are plans clearly laid out for both material and personnel requirements to implement adequate conservation measures in all areas of the terrestrial part.

ICOMOS has noticed that some restoration works have not been carried out in accordance with accepted international principles, the use of Portland cement to repoint brickwork being an example. The State Party should give consideration to designing and implementing a restoration plan that utilizes local trained restoration specialists, thereby building local capacity.

Monitoring

The nomination dossier includes a set of indicators to monitor the state of conservation of the property. The State Party reports that monitoring is currently shared between the Jamaica National Heritage Trust (JNHT) and the National Environment Planning Agency (NEPA) together with other agencies, including the residents of Port Royal. This informal arrangement will be regularized and coordinated by a Co-Management Committee. The nomination dossier includes information on previous reports on the state of conservation of the property.

ICOMOS considers that active conservation measures should be implemented, especially in the terrestrial part of the property. As for monitoring, ICOMOS considers that, although the set of indicators and the monitoring procedures are adequate, there are currently no clear monitoring strategies because of the limited human and financial resources available.

5 Protection and management

Documentation

The documentation of the underwater part of the property has been carried out in relation to the means and technology available at the time of exploration and research. Recent exploration has adequately recorded findings and the underwater landscape in great detail.

Moreover, additional surveys have been carried out and strengthen the understanding of the scope and the extent of the underwater city. The State Party explains in the additional information received in February 2019 that there is a high potential for underwater archaeological findings in the areas along Fishers Row and Thames Street. ICOMOS encourages the State Party to pursue the archaeological research, and especially in this part of the property.

The terrestrial cultural heritage has been mapped in plan view in ArcGIS, but no architectural recording has taken place at this time. Drawings by archaeologist Philip Mayes of his investigations of terrestrial sites exist in files at the JNHT. Terrestrial artefacts are undergoing the same treatment as artefacts recovered from the "Sunken City."

In the additional information provided in February 2019, the State Party reports that the Jamaica National Heritage Trust (JNHT) carried out a basic inventory of the Port Royal sites. As an ongoing project to record the heritage assets, the Trust collaborated with the University of Technology Jamaica to conduct a more comprehensive inventory, whose first phase began in 2018 when the University conducted extensive measurement of Fort Charles. The second phase began with the creation of a systematic inventory of all the historical and archaeological sites in Port Royal. A table summarises the information recorded on each of the heritage assets, which includes image, location, date, historical information, state of conservation and protection, which seems to be a first approach to a systematic inventory.

The State Party admits that adequate documentation of the built environment, both historical and modern, is lacking. In both the Port Royal Management Plan 2017-2023 and the Protected Area System Master Plan there is frequent mention of the need to establish baseline data to enable adequate planning for the restoration, renovation and long-term care of the built historical landscape in Port Royal. At this time, disparate datasets have never been united by any researcher or heritage management office.

Legal protection

The nominated property and its buffer zone are protected within the framework of national and international instruments. The nominated property was

designated a Protected National Heritage Area in 1999, in the framework of the Jamaica National Heritage Trust Act of 1985. Fort Charles was declared a national monument in 1992.

The Natural Resources Conservation Authority (NRCA) Act of 1991 enables the National Environment and Planning Agency (NEPA) to effectively manage the physical environment so as to ensure the protection and conservation of the natural environment, ecological systems, public recreational facilities and marine parks. The area was designated a protected area under the NRCA Act in 1998.

In addition to these main pieces of legislation, there are other national instruments that provide additional protection for the nominated property, among them the Town and Country Planning Act of 1957, the Endangered Species (Protection, Conservation and Regulation of Trade) Act of 2000, the Wildlife Protection Act of 1945, the Shipping Act of 2002 and the National Solid Waste Act of 2001.

As for traditional protection, ICOMOS has noticed that the local community feels proud of the character and history of Port Royal and express a strong desire to protect and maintain the property's townscape and way of life. The local community plays a primary role in the conservation and maintenance of the cemeteries located in the buffer zone.

The buffer zone is part of a protected area that was designated a Ramsar Site under the Convention on Wetlands of International Importance in 2005.

The State Party ratified the UNESCO Convention on the Protection of the Underwater Cultural Heritage in 2011, thereby obliging it to protect its underwater cultural heritage using the best practicable means at its disposal to prevent or mitigate any adverse effects that might arise from activities under its jurisdiction.

Management system

Currently, there is a combination of formal management structures and informal/traditional management processes in Port Royal.

The State Party has drafted the Port Royal Management Plan 2017-2023, which identifies all relevant government agencies and stakeholders that play a role in the sustainable conservation of the nominated property, among them the Ministry of Culture, Gender, Entertainment and Sport (MCGES), the Jamaica National Heritage Trust (JNHT), the National Environment and Planning Agency (NEPA), the Kingston and St. Andrew Municipal Corporation (KSMC), the Port Royal Councillor, the Ministry of Tourism, the Urban Development Corporation (UDC) and the Port Authority of Jamaica (PAJ). There is a draft co-management agreement between JNHT and NEPA, which have legal jurisdiction over the

nominated property. A Co-Management Committee includes other relevant agencies and institutions.

The Natural Resources Conservation Authority has drafted a five-year management plan (Palisadoes-Port Royal Protected Area Management Plan 2015-2020), which serves as a guide for the management of the critical resources and resource uses of the protected area. The plan outlines the management objectives, the threats to the resources and the strategies for realizing key conservation targets through a framework which includes a mechanism for interim evaluation and adaptive management within the protected area.

ICOMOS notices that some parts of the management plan have been implemented and others are planned to be implemented in the future, although additional resources are needed to fulfil all aspects of this management effort.

There are other managerial instruments in place. The Town and Country Planning (Kingston and Saint Andrew and the Pedro Cays) Provisional Development Order, 2017, designated the above-mentioned areas as a development order area. The nominated property and the buffer zone fall within this area of designated development. The Revised Draft Zoning Plan for the Palisadoes-Port Royal Protected Area, 2014-2019, indicates a multiple-use area supporting several vital social and economic activities, including but not restricted to residential, commercial, industrial, fishing, shipping, research and recreational zoning. The zoning of the area will provide an effective management tool that will assist the management authority in protecting and preserving the values of the protected area.

ICOMOS notices that, besides the management plan, there are other managing instruments in place. It is recommended that the State Party ensure coordination and complementarity among them.

Natural disasters and climate change are among the more important factors affecting the property. ICOMOS notices that a section related to disaster management and risk preparedness is included in the management plan, but no specific plan has been elaborated and implemented so far. It will be necessary to address these issues with the participation of all relevant stakeholders, including the local community.

In February 2019, the State Party reports that ships are not allowed to navigate above the underwater city and that all motorized and non-motorized vessels are prohibited from traversing the area. No fishing is allowed within the waters of the underwater city area.

Visitor management

As the main visible testimony of the pre-1692 town, Fort Charles is the most visited site in Port Royal and is equipped to manage visitors accordingly – though little information on presentation and interpretation has been provided in the nomination dossier.

ICOMOS notices that the visitation to Port Royal will increase greatly if proposed development plans are implemented, among them to convert Port Royal into the island's premier port of call and make it the most visited historic site. Although provisions to manage an influx of tourists have been made in the management plan, ICOMOS considers that as this is one of the most sensitive issues related to future management of the property, more detailed analyses are needed.

What is so far missing is detailed approach to how the underwater part of the property is to be presented to visitors, and how the terrestrial remains of the 17th century urban layout are to be appreciated. Both of these call for innovative and imaginative interpretation. Before large number of visitors are attracted to this property, much more detailed thought needs to be given to what they can and cannot see and how the full importance of the property can be portrayed.

The additional information from the State Party dated 14 November 2018 provides detailed information on the ongoing project of a floating pier and welcome facilities for visitors arriving in Jamaica on cruise ships, which could drastically increase the number of visitors to the nominated property. The State Party approved the project after the nomination dossier had been submitted.

As set out above, the location for the welcome facilities is very close to the boundary of the nominated area and compromises land that used to be part of the coal wharf, where some remains still exist. The proximity of the cruise ships to the underwater part of the property and the shallowness of the water there could represent a risk for the underwater vestiges.

Community involvement

The local community of Port Royal has played an active role in the management of the property and in the elaboration of the nomination dossier, especially through the Port Royal Citizens Association. ICOMOS considers that local inhabitants should be engaged in the process of developing the narrative towards a tourism product that positively affects their everyday life while protecting the features that sustain the proposed Outstanding Universal Value, authenticity and integrity of the nominated property.

The nomination dossier specifies that, currently, Port Royal is a fishing village. The State Party provided additional information on this practice in February 2019, explaining that fishing is not allowed within the boundaries of the submerged part of the nominated property.

Evaluation of the effectiveness of the protection and management of nominated property

ICOMOS considers that, overall, the legal protection in place is adequate, but recommends that the protective legal instruments must be strengthened to protect the underwater archaeology from external impact such as increasing numbers of large ships, the linear remains of the 1692 plan in the terrestrial part, and archaeologically sensitive areas, and to guide the tourism development process.

The Port Royal Management Plan 2017-2023 clearly defines objectives and actions to be carried out throughout the span of five years, but ICOMOS considers that, to be effective, additional financial and human resources are required to fulfil all the aspects of the management effort.

Since there are other managing instruments besides the Port Royal Management Plan 2017-2023, ICOMOS considers that the State Party should ensure articulation and complementarity among them. To ensure an effective management system, disaster management and risk preparedness are issues that must be addressed by means of elaborating and implementing a plan specific to these issues.

ICOMOS considers that the project of a floating pier and welcome facilities for visitors arriving by cruise ships represents a risk to the property and that the first Heritage Impact Assessment should be widened, or a new Heritage Impact Assessment undertaken, to consider their potential impacts, both direct and indirect on the property and its setting.

ICOMOS considers that all activities related to the implementation of these projects should be suspended until the Heritage Impact Assessment is finalised, and has been reviewed by ICOMOS.

ICOMOS considers that, overall, the legal protection system is adequate but can be reinforced. The Port Royal Management Plan 2017-2023 has been partially implemented but requires that appropriate resources be guaranteed. The elaboration of a disaster management and risk preparedness plan are a primary necessity, considering the potential risks from natural disasters and climate change.

6 Conclusion

The historical importance of Port Royal within the region is unquestionable. The roles played by the town during its first stage of development and after the devastating earthquake of 1692 have been clearly explained by the State Party. But perhaps of more importance are the consequences of that earthquake for the way it produced an exceptional situation, where part of the town was submerged, constituting a valuable testimony of a significant part of a

17th century English colonial town in the Americas at the first stage of its evolution.

The submerged remains at Port Royal have revealed and preserve the most complete information yet gathered on 17th century English colonial town planning, architecture, diet, cooking and other aspects of daily life. Because of the catastrophic inundation and sinking of the deposits, artefact assemblages occur within the rooms and buildings in which they were used and because Port Royal is underwater – the organic preservation is high and preserves a range of items not normally found on terrestrial sites. Excavations have demonstrated that entire streets, blocks and buildings disappeared beneath the water with amazingly little distortion to walls and floors.

The remaining terrestrial part, even though it underwent a process of evolution, that includes a prominent role as a British naval base until the first decade of the 20th century nevertheless is equally important for the important vestiges that are preserved of the rest of the pre-1692 town, particularly the remains of its urban layout, and archaeological remains of buildings.

Several terms used in the nomination dossier, as relict and continuing cultural landscape, catastrophic site and living archaeological site, to define the property raised difficulties.

ICOMOS considers that the property, as a whole, has the potential to justify Outstanding Universal Value if considered as a single archaeological site, partly underwater and partly underground, for what it testifies of the town destroyed by an earthquake in 1692.

ICOMOS considers that this property should be considered as a relict archaeological landscape, and that the focus of the proposed justification for Outstanding Universal Value should be revised accordingly. The above ground buildings that relate to its later history could be considered as a vertical buffer zone.

The underwater archaeological site is extremely fragile and must be protected as far as possible from all external threats. ICOMOS considers that currently it is under potential threat from the proposed development of a floating pier that would enable cruise ships to visit the area. The information so far provided on potential routes for cruise ships is basic. Much more detailed analysis is needed to understand more fully the potential disruption caused by increased ships, and much larger ships, on the underwater archaeology. Such impact must be avoided; it cannot be mitigated.

It is unfortunate that the floating pier to accommodate cruise ships was approved after the nomination dossier had been submitted. The location of the pier, although outside the property, is near enough to it to raise concerns. So far no adequate impact Heritage Impact Assessment has been carried out to demonstrate the full scope of direct and indirect impacts on the property.

A revised or new Heritage Impact Assessment needs to be based on a detailed analysis of possible cruise ship movements. The proposed red line route for cruise ships set out in the supplementary information does not appear plausible in terms of the ability of ships to stick to such a narrow corridor in all weather and sea conditions.

Allied to the proposed cruise ship pier is a proposal for a new visitor centre adjacent to the property and in an archaeologically sensitive area. Again much more detail is needed as a basis for a full Heritage Impact Assessment to assess the direct and indirect impacts on the property relating to the siting of the building and increased visitation.

Both of these proposals point up the need for attention to be given to how the property might be presented before large numbers of visitors begin to arrive. What is so far missing is detailed approach to how the underwater part of the property is to be presented to visitors, and how the terrestrial remains of the 17th century urban layout are to be appreciated. Both of these call for innovative and imaginative interpretation in relation to what visitors can and cannot see, on the ground, in museums and in visitor centres, and how the full importance of the property might be portrayed.

Regarding conservation and protection of the underwater part, it would be helpful if this could be guided by the principles for protection set out in the 2001 UNESCO Convention on the Protection of the Underwater Cultural Heritage.

ICOMOS acknowledges the effort made by the State Party in elaborating the nomination dossier and in investing the necessary resources over a considerable span of time. It considers that the Sunken City combined with its terrestrial part does have considerable potential to justify Outstanding Universal Value but that this needs to be more clearly defined and articulated in terms of attributes in the terrestrial part. There will also be implications in terms of protecting these attributes and ensuring that they can be understood and appreciated.

The property is currently extremely vulnerable as a result of the proposals for cruise ships and increased visitation. The potential impact of these projects must be more fully explored and ways found to avoid threats to the underwater heritage, and threats from over-visitation, before protection and management can be seen to be adequate.

7 Recommendations

Recommendations with respect to inscription

ICOMOS recommends that the examination of the nomination of The Sunken City of Port Royal – A Relict and Continuing Cultural Landscape, Jamaica, to the World Heritage List be **deferred** in order to allow the State Party, with the advice of ICOMOS and the World Heritage Centre, if requested, to:

- Consider the site as a single entity and a relict archaeological landscape which include all the attributes related to 17th century archaeological vestiges, both underwater and terrestrial, of the town destroyed by the 1692 earthquake,
- Revise the justification of Outstanding Universal Value accordingly, and clearly define the attributes, particularly in the terrestrial part,
- Adjust the boundaries to cover the whole pre-1692 town, as the current proposal cuts out one section due to civil settlement and another area is occupied by a coast guard,
- Extend the protection of the terrestrial part to include the linear vestiges of the 1692 town as well as all relevant archaeological areas,
- Suspend work on the proposed cruise ship pier and proposed visitor centre until detailed Heritage Impact Assessments have been undertaken for both and submitted to ICOMOS for review,
- Prepare a revised or new Heritage Impact Assessment for the proposed cruise ship pier that considers both direct and indirect impacts on the property from cruise ships; this should be based on a detailed analysis of possible cruise ship movements that go beyond the simple red line so far proposed; takes account of all weathers and types of ships and is guided by appropriate technical expertise,
- Prepare an Heritage Impact Assessment for the proposed visitor centre that is based on a detailed analysis of visitor numbers and visitor flows and analyses both direct and indirect impact on the property and its setting,
- Strengthen the protective legal instruments to guide the tourism development process,
- Ensure the availability of human and financial resources to properly implement the actions described in the management plan,
- Ensure articulation and complementarity among the different managerial instruments,

- Elaborate and implement a disaster management and risk preparedness plan;

Any revised nomination should be visited by a mission to the site.

Additional recommendations

ICOMOS further recommends that the State Party give consideration to the following:

- a) Completing a comprehensive and detailed inventory of terrestrial and submerged cultural resources relating to the 1692 town,
- b) Ensuring that the conservation and protection of the underwater archaeological remains, are guided by the principles for protection set out in the 2001 UNESCO Convention on the Protection of the Underwater Cultural Heritage;

ICOMOS also recommends that the State Party considers the change of name of the property. Although the “Sunken City” is the denomination usually employed to refer to the site, it mentions, in heritage terms, only a part of the nominated property. ICOMOS considers that the references to relict and continuing cultural landscape should not be used in the title of the nomination.



Revised map showing the boundaries of the nominated property (February 2019)



Aerial view of the city of Port Royal



Fort Charles



Underwater floor pavements



White clay smoking pipes *in situ*

The Colonial Transisthmian Route of Panamá

(Panama)

No 1582

Official name as proposed by the State Party

The Colonial Transisthmian Route of Panamá

Location

Province of Panamá and Province of Colón
Panama

Brief description

The nominated serial property is the first of three proposed stages of nomination of The Colonial Transisthmian Route of Panamá to the World Heritage List. The nomination is proposed to extend two existing World Heritage properties (Archaeological Site of Panamá Viejo and Historic District of Panamá; and Fortifications on the Caribbean Side of Panama: Portobelo-San Lorenzo) by adding two historical routes that crossed the isthmus of Panamá – the Camino de Cruces and the Camino Real – which provided the land interchange between the Caribbean Sea and the Pacific Ocean. A critically important node in the Intercontinental Royal Road, the transisthmian route was a significant part of the Spanish colonial system in the Americas from the 16th century. In its full extent, the three-stage proposal includes evidence of the routes (through fluvial and terrestrial environments), historic towns, archaeological sites, and the defences needed to protect the transportation and exportation of the rich resources of the Americas and the immense and multi-directional flows of goods and people (including the trafficking of people from Africa). The route was used by Spain until the mid-18th century, and is the direct antecedent of the historic Panama railroad of the 19th century and the Panama Canal, which opened in 1914.

This proposal concerns the first of three stages and includes three sections of the Camino de Cruces and two components which are the already-inscribed World Heritage property of the Archaeological Site of Panamá Viejo and Historic District of Panamá.

Category of property

In terms of categories of cultural property set out in Article I of the 1972 World Heritage Convention, this is the first stage of a three-stage serial nomination of *monuments, groups of buildings and sites*. This first stage is a major boundary modification (in accordance with Paragraphs 165, 166 and 167 of the *Operational Guidelines*) and comprises five components, two of which are the existing World Heritage property Archaeological Site of Panamá Viejo and Historic District of Panamá. The proposed re-nomination is also conceptualised as a heritage route, in accordance with Annex 3 of the *Operational Guidelines*.

1 Basic data

Included in the Tentative List

24 January 2017

Background

The Historic District of the Town of Panama with the Salon Bolivar was inscribed on the World Heritage List in 1997 (Decision CONF 208 VIII.C), and in 2003 an extension to include the Archaeological Site of Panamá Viejo was approved by the World Heritage Committee (Decision 27 COM 8C.40). The current name of the property, Archaeological Site of Panamá Viejo and Historic District of Panamá, was adopted at that time. A retrospective Statement of Outstanding Universal Value was confirmed by the World Heritage Committee in 2013 (Decision 37 COM 8E).

State of conservation reports for Archaeological Site of Panamá Viejo and Historic District of Panamá have been considered by the World Heritage Committee in 2008, 2009, 2010, 2011, 2012, 2013 and 2017.

Based on decision 37 COM 7B.100 (2013), a joint World Heritage Centre/ICOMOS 'High Level' Reactive Monitoring Mission (November 2013) recommended further consideration by the State Party of three options:

1. A significant boundary modification to focus the inscribed property on the Archaeological Site of Panamá Viejo alone, and to include the new buffer zone by law 91/2007;
2. A combination of Option 1 with a reduced area for the Historic District of Panamá, focusing on those remaining attributes that can convey their contribution to the Outstanding Universal Value of the overall property;
3. A phased proposal in which an overall new vision is included regarding components of the property as parts of a broader territorial system related to the inter-oceanic and intercontinental commerce over five centuries. In discussing this option, the mission report noted that this option would require a re-nomination for different values and a revised Statement of Outstanding Universal Value.

A proposed modification to the boundary of Archaeological Site of Panamá Viejo and Historic District of Panamá was submitted in 2015, and in 2016, the World Heritage Committee decided not to approve the modification (Decision 40 COM 8B.34). This proposal included relatively small reductions in the size of the Historic District of Panamá, the addition of buffer zones to both components, and a name change for the property. At that time, additional recommendations made by the World Heritage Committee included taking actions to incorporate Heritage Impact Assessments into the management system, thus ensuring that all new programmes, projects or laws are assessed in relation to the Outstanding Universal Value; undertaking three-dimensional view-shed and view corridor analyses to identify specific sensitive areas that need to be protected, in addition to the existing buffer zones; reducing or

mitigating the visual impact of existing developments; and ensuring the long-term financial sustainability of conservation and management efforts through adequate governmental funding.

Also, in 2016, the World Heritage Committee recalled that the State Party was requested to submit a significant boundary modification by 1 February 2018, and that an absence of the implementation of this request would result in the property being deleted from the World Heritage List at its 43rd session in 2019 (a possibility first included in the World Heritage Committee's decisions about this property in 2013).

In 2017, the World Heritage Committee received a state of conservation report for Archaeological Site of Panamá Viejo and Historic District of Panamá, and while noting that a major boundary modification was in preparation, the Committee expressed its serious concern that most of the factors affecting the property that had been identified in earlier reports continued to exist.

In January 2017, the State Party submitted its proposal for The Colonial Transisthmian Route of Panamá in its Tentative List, and from February to September 2017 an ICOMOS advisory process provided advice on the implementation of this proposal, including the staging, selection of components, justification of Outstanding Universal Value, legal protection, conservation and other related matters.

The current proposal is a direct implementation of the 'High Level' Reactive Monitoring Mission (2013) and aspects of the ICOMOS advisory process (2017). It responds to the World Heritage Committee's request to submit a major boundary modification for consideration at its 43rd session to avoid the deletion of Archaeological Sites of Panamá Viejo and Historic District of Panamá from the World Heritage List (despite the fact that it has not been inscribed on the List of World Heritage in Danger). The current proposal therefore includes significant modifications to the boundary, criteria and name of Archaeological Site of Panamá Viejo and Historic District of Panamá, in accordance with Paragraphs 165, 166 and 167 of the *Operational Guidelines*.

According to Paragraph 139 of the *Operational Guidelines*, serial nominations may be submitted for evaluation over several nomination cycles, provided that the first property nominated is of Outstanding Universal Value in its own right. The State Party has proposed a three-stage nomination process as follows:

- The current proposal and evaluation is the first stage, submitted in 2018;
- The second stage, for submission in 2020, will include two sections of the Camino Real;
- The third and final stage, for submission in 2022, will include the Caribbean fortifications of Portobelo and San Lorenzo (which are already inscribed in the World Heritage List).

The Fortifications on the Caribbean Side of Panama: Portobelo-San Lorenzo, was inscribed on the World Heritage List in 1980 on the basis of a different rationale and according to criteria (i) and (iv). In 2012, this property was included on the List of World Heritage in Danger (decision 36 COM 7B.102). The State Party has indicated to ICOMOS that the staging of the current proposal is shaped in part by the pressing need to apply the corrective measures identified by the World Heritage Committee for removal of this property from the List of World Heritage in Danger. These fortifications on the Caribbean coast have therefore been scheduled for the third and final stage in 2022.

Consultations and technical evaluation mission

Desk reviews have been provided by ICOMOS International Scientific Committees, members and independent experts.

An ICOMOS technical evaluation mission visited the property from 9 to 12 October 2018.

Additional information received by ICOMOS

An Interim Report was provided to the State Party on 21 January 2019 summarising the issues identified by the ICOMOS World Heritage Panel. Further information was requested in the Interim Report, including the overall nomination strategy; justification of the nominated components; boundaries and attributes; and conservation and management.

Additional information was received from the State Party on 21 February 2019, and has been incorporated into the relevant sections of this evaluation report.

Date of ICOMOS approval of this report

13 March 2019

2 Description of the property

Note: The nomination dossier and additional information contain detailed descriptions of this property, its history and its state of conservation. Due to limitations on the length of evaluation reports, this report only provides a short summary of the most relevant aspects.

The State Party has proposed a three-stage nomination process. The description and history therefore include references to the overall planned nomination, but with a focus on the first stage, which is under current consideration.

Description and history

The nominated serial property is the first of three proposed stages of nomination to the World Heritage List. As proposed, the complete nominated serial property would include the two historical routes that crossed the isthmus of Panamá – the Camino de Cruces, and the Camino Real – which provided the land interchange between the Caribbean Sea and the Pacific Ocean, as well as four already-inscribed components: the Archaeological Site of

Panamá Viejo; the Historic District of Panamá; the Caribbean fortifications of Portobelo; and the Caribbean fortifications of San Lorenzo.

In its full extent, the nomination proposal includes evidence of the routes (through fluvial and terrestrial environments), historic towns, archaeological sites, and the defences needed to protect the transportation and exportation of the rich resources of the Americas. The transisthmian routes were used by Spain until the mid-18th century, and were the direct antecedents of the historic Panama railroad of the 19th century and the Panama Canal of the modern period.

Part of the Spanish Intercontinental Royal Road, the transisthmian routes were significant parts of the Spanish colonial system in the Americas from the 16th century. Following the expeditions of Columbus in 1502-03 and further Spanish exploration in 1513 establishing that the isthmus was a land bridge, the routes were created to link the two oceans, and to link the empire with its colonies. The most prominent was the terrestrial route, the Camino Real, which dates from 1510 and initially connected Panamá Viejo to the early settlement of Nombre de Dios on the Caribbean coast. This route will be included in Stage 2 of the nomination proposal.

From the late 1520s, a second transisthmian route – the Camino de Cruces – was established, which was partly based on transport on the Chagres River. This route went from Panamá Viejo to Venta de Cruces on the Chagres River, then about 50 km down river to the town of Chagres (guarded by the fortress of San Lorenzo El Real de Chagres), and finally by boat for more than 50 km to Nombre de Dios (later, Portobelo). The Camino Real was the quicker but more expensive route, and was used primarily during the dry season. The Camino de Cruces was slower and more dangerous but less expensive, and was used primarily during the rainy season. There was another route that branched off the Camino de Cruces (called the Camino de Gorgona) which provided an alternative means of travel between Panama City and the Chagres River, but this route was less well developed than the other two.

From the 1560s there were frequent attacks along the Panama coast, and the need for fortifications and other defences emerged. The fortresses at Chagres (San Lorenzo) and Portobelo were planned and constructed in the early 1590s.

Nombre de Dios was abandoned because it became notorious for its unhealthy climate and its inability to become self-sufficient. Silting of the port also made it difficult for larger boats to navigate. Nombre de Dios was finally destroyed by English naval officer Sir Francis Drake in 1595, and by 1597 the port function was moved to Portobelo.

Panamá Viejo was abandoned following a devastating pirate attack in 1671 and a 'new town' was established – the current historic centre of the city of Panama, which is the oldest continuously occupied European city on the

Pacific Coast of the Americas. The Historic District is characterised by its original European street plan and architecture. The importance of Panama to the Spanish colonisation of the Americas over more than three centuries is demonstrated through historical and political evidence, and the imposing stone architecture of its public and religious buildings.

From 1739, Spanish trade began to use the Cape Horn route around the southern tip of South America, and by the end of the 18th century the organised Caribbean fleets had disappeared, reducing the centrality of Panama's transisthmian routes. Spain's presence ended in the Americas, and in 1821 Panama became part of the Republic of Gran Colombia. Interest in building a canal or railway to cross the isthmus was apparent by the late 1820s, and was developed from the mid-19th century onwards. The development of Colón on the Atlantic Coast led to the decline of Chagres and Portobelo, but Panama City continued its development on the Pacific side. The Panama railway was built in 1850-55 along a similar alignment as the Camino de Cruces, and the Camino Real fell into disuse. Construction of the Panama Canal according to the lock design of Gustave Eiffel began in the 1880s. Existing settlements were removed within the boundaries of the Panama Canal Zone, which was administered by the United States until 1979.

The Archaeological Site of Panamá Viejo and the Historic District of Panamá are conceptualised in this proposal as the starting points of the Camino Real and the Camino de Cruces, which crossed the isthmus of Panamá linking the two great oceans and connecting with the Intercontinental Royal Road. The Camino de Cruces route comprises both terrestrial and fluvial sections, and had both defensive and infrastructure purposes. The State Party describes this as a 'Strategic Triangle' (consisting of Panama City, Portobelo and San Lorenzo) and refers to the provisions in the *Operational Guidelines* to recognise heritage routes in the World Heritage List.

Stage 1 of the serial re-nomination process includes five components – three components that comprise the Camino de Cruces, the Archaeological Site of Panamá Viejo and the Historic District of Panamá – which are briefly described below:

Camino de Cruces Section 1 is the fluvial (river) section of the heritage route, beginning near the mouth of the Chagres River at San Lorenzo on the Caribbean coast and extending upriver 10.9 km, finishing near the Gatun Dam spillway (part of the Panama Canal). This segment is located within the San Lorenzo Protected Forest and Protected Landscape. A number of archaeological sites are found near the river mouth, including evidence of fortifications from a number of historical periods.

Camino de Cruces Section 2 is a long terrestrial section of the heritage route, extending 20.7 km from the archaeological site of Venta de Cruces on the Chagres River to Avenida Cincuentenario, near the offices of the Camino de Cruces National Park. This segment is located

within the boundaries of the Soberanía National Park and the Camino de Cruces National Park. The width of the route segment is 2.9 m.

The route is characterised by mountainous topography with thick vegetation, and is crossed by a number of rivers and washes created by rainwater. Some parts have historic stone paving in place. The creation of cuttings (called 'gullies' in the nomination documents) is observable evidence of the engineering and construction of the route itself, and the labour of enslaved workers.

Note: Other than a short section of the Camino de Cruces in the Soberanía National Park, this part of the nominated property was not able to be fully accessed by the ICOMOS technical evaluation mission.

Camino de Cruces Section 3 is a shorter section (596 m) located adjacent to a semi-urban district of Panama City. Accordingly, it is highly used by school groups and other members of the community who have an interest in the history of the route. This section is located within grassland and secondary forest landscapes.

The Historic District of Panamá and the Archaeological Site of Panamá Viejo are the two components of the existing World Heritage property, the former inscribed in 1997 and the latter an extension added in 2003. Both of these components are included in the current re-nomination proposal.

Boundaries

The nominated area of Stage 1 totals 631.98 ha and the buffer zones total 37,134.5 ha.

Camino de Cruces Section 1: The boundary is determined by the alignment of the shoreline, extending for 25 m inland on each side. The buffer zone is the extent of the San Lorenzo Protected Forest and Protected Landscape.

Camino de Cruces Section 2: The boundary is determined by the alignment of the trail (which has a width of 2.9 m) and 25 m on each side, all set within the larger area of two National Parks.

Camino de Cruces Section 3: The boundary is determined at its northern end by a highway, and at its southern end by the suburban district of Clayton. At the 'sides', the boundary is determined by the alignment of the trail, with 25 m on each side into the dense vegetation. The section is set within the larger setting of the Camino de Cruces National Park.

As noted above, the Archaeological Site of Panamá Viejo and the Historic District of Panamá are already inscribed on the World Heritage List and are presented within the re-nomination proposal with almost unchanged boundaries (taking up Option 3 proposed by the 'High Level' Reactive Monitoring Mission). The boundary of the Historic District of Panamá is established by the extent of the city wall. The buffer zone is defined by the extent of legally protected areas, including the Santa Ana

neighbourhood and part of the El Chorrillo neighbourhood. The Salón Bolívar was not included, due to problems with its authenticity and based on the recommendations of the Reactive Monitoring Mission, and ICOMOS advice during the advisory process.

There are height restrictions on new constructions in the buffer zones of the Archaeological Site of Panamá Viejo and the Historic District of Panamá. For each of these components, the buffer zones provide protection in the seafront, maritime and terrestrial settings. The buffer zone of the Historic District of Panamá extends into the water, beyond the location of the Cinta Costera highway.

ICOMOS explored with the State Party whether a reduction in the area of the Historic District of Panamá is warranted, based on the proposed justification for Outstanding Universal Value, past state of conservation reports, and decisions of the World Heritage Committee (in particular, with regard to the serious concerns raised by the construction of the Cinta Costera highway, which is now completed). The State Party has responded in February 2019 that delimiting a smaller area that does not include the former city wall would remove a key attribute of the proposed justification for Outstanding Universal Value. Furthermore, the State Party argued against the importance of the visual relationship between the Historic District of Panamá and the sea, because of the existence of the defensive city walls.

In summary, ICOMOS considers that the boundaries of the nominated components are potentially appropriate, although the arguments about the unimportance of the visual relationship with the sea for the Historic District of Panamá are not accepted; and there could be a future need to reconsider the boundaries of Sections 2 and 3 of the Camino de Cruces in light of future research findings. There is a need for continued survey and documentation of the sections of the route in these densely vegetated and challenging terrains; and there exists some possibility that additional attributes such as alternative trails could be identified in the future.

State of conservation

The state of conservation of the three sections of the Camino de Cruces is variable but generally acceptable. For Section 1, water releases from the Gatun Dam result in fluctuating water levels. At low levels, erosion of the shoreline from the wave action arising from boat traffic could raise conservation concerns. For Sections 2 and 3 of the Camino de Cruces, there is evidence of paving stones being dislodged due to foot traffic, erosion and the often-muddy conditions.

The state of conservation of the already-inscribed World Heritage property of Archaeological Site of Panamá Viejo and Historic District of Panamá has been the subject of sustained concern by the World Heritage Committee. State of conservation reports for the inscribed property were submitted by the State Party in 2008, 2009, 2010, 2011, 2012, 2013 and 2017.

A number of these concerns relate to the impact of the Cinta Costera project on the Outstanding Universal Value of the Historic District of Panamá. The maritime viaduct/road part (Cinta Costera or Coastal Highway III) of that project has been completed. In addition, serious concerns were raised in 2017 about development pressures and projects in the buffer zone and wider setting of the Archaeological site of Panamá Viejo, and details about the Casco Viejo restoration project of the old Club Unión were requested by the World Heritage Committee.

As noted above, while not part of the current (first) stage of nomination, it is relevant to the overall nomination strategy that, at present, the World Heritage property of Fortifications on the Caribbean Side of Panama: Portobelo-San Lorenzo was included on the List of World Heritage in Danger in 2012 because of the significant and accelerated degradation of the historic fabric of the fortifications, as well as long-standing issues with the establishment of boundaries, buffer zones, legal protection, management system and management of encroachments and urban pressures. In its most recent decision about this property, the World Heritage Committee in 2018 decided to retain the property on the List of World Heritage in Danger, and while noting that new funding from the Inter-American Development Bank had recently been provided for the conservation and management of the property, the Committee expressed its regret that the implementation of the corrective measures had not progressed.

The 43rd session of the World Heritage Committee (Baku, 2019) will receive further reports on the state of conservation of each of the inscribed World Heritage properties relevant to the overall nomination strategy now being proposed.

Factors affecting the property

Based on the information provided by the State Party and the observations of the ICOMOS technical evaluation mission, the main factors affecting the nominated property relate to the pressures on the Archaeological site of Panamá Viejo and Historic District of Panamá arising from inappropriate development, including intrusive development within the property and high-rise development within the wider setting. Each of the property's components is vulnerable due to the rapid growth of, and demographic changes to, the metropolitan areas of Panama City. In addition to the development already undertaken in connection with the Cinta Costera project, these two urban components are affected by traffic, gentrification and deterioration of the original fabric of standing structures, as well as specific large development projects that have been identified by the World Heritage Committee as posing threats to the property's Outstanding Universal Value. In 2013, the Reactive Monitoring Mission found that improvements were evident, but that many challenges remain.

ICOMOS considers that the main factors affecting the Camino de Cruces sections are natural forces (particularly erosion and vegetation growth) and visitor pressure (particularly on the extant paving fabric). Potential threats to Section 1 of the Camino de Cruces are the visual and noise impacts of boat traffic, particularly in light of the State Party's expectation that these will increase in the future when access and tourism infrastructure are improved. Potential threats for Sections 2 and 3 of the Camino de Cruces relate to future visitation and development plans, and natural forces. In Section 3, the current visitor levels are much higher, due to its semi-urban context.

3 Proposed justification for inscription

Proposed justification

The nominated property is considered by the State Party to be of Outstanding Universal Value as a cultural property for the following reasons:

- The Colonial Transisthmian Route of Panamá is the central node of an inter-oceanic axis, the Intercontinental Royal Road, which contributed in a significant way to the global pattern of trade, colonisation and political and religious domination for several centuries;
- The Transisthmian Route demonstrates an exceptional blend of ideas and knowhow related to control, protection, settling, planning, building and religion;
- The Transisthmian Route illustrates the influence of pirates, corsairs and buccaneers of the Americas;
- The Transisthmian Route demonstrates an exceptional and early approach to territorial planning, influenced by Renaissance concepts, and the creation of a territorial defensive system;
- The Transisthmian Route is considered to be a 'symbol of universal epics' that has inspired literature, works of art, new technologies and infrastructure;
- The Transisthmian Route provided a predecessor for later modern infrastructure from the 19th century onwards, including the Panama Canal, for moving people and goods between the oceans.

Comparative analysis

The comparative analysis is presented by the State Party according to the framework suggested by the 2005 ICOMOS 'Filling the Gaps' study – that is, by chronological, thematic and typological analyses. A solely regional focus has not been adopted, although comparisons with examples in Latin America and the Caribbean region tend to be the most relevant. The comparative analysis looks at land routes and sea routes, and at sites associated with the Intercontinental Royal Road, whether on the World Heritage List or not.

Noting the distinction between pilgrimage routes and trade routes, the State Party has provided comparisons

with relevant heritage routes inscribed on the World Heritage List: Incense Route – Desert Cities in the Negev (Israel, 2005, criteria (iii) and (v)); Camino Real de Tierra Adentro (Mexico, 2010, criteria (ii) and (iv)); Qhapaq Ñan, Andean Road System (Argentina, Bolivia, Chile, Colombia, Ecuador, Peru, 2014, criteria (ii), (iii), (iv) and (vi)); and Silk Roads: the Routes Network of Chang'an-Tianshan Corridor (China, Kazakhstan, Kyrgyzstan, 2014, criteria (ii), (iii), (v) and (vi)). Various similarities and differences are noted. Paraty – Culture and Biodiversity, which has been nominated by Brazil for consideration by the World Heritage Committee at its 43rd session in 2019 under criteria (ii), (v), (vi), (vii) and (x), is also relevant, although the focus of the nomination is completely different.

The comparative analysis concludes that, while other heritage routes (including properties inscribed on the World Heritage List) have some similarities with the current proposal, none of these mirrors the specific characteristics of The Colonial Transisthmian Route of Panamá that are central to its proposed justification for Outstanding Universal Value: the central node of an inter-oceanic axis, the global pattern of trade and political/religious domination, and the specific functionality and defensive system that it illustrates.

ICOMOS considers that the comparative analysis justifies consideration of this property for the World Heritage List.

Criteria under which inscription is proposed

Although the existing World Heritage property (the Historic District of Panamá and the Archaeological Site of Panamá Viejo) was inscribed under criteria (ii), (iv) and (vi), the re-nomination proposal is nominated on the basis of cultural criteria (ii), (iv), (v) and (vi).

Criterion (ii): *exhibit an important interchange of human values, over a span of time or within a cultural area of the world, on developments in architecture or technology, monumental arts, town-planning or landscape design;*

This criterion is justified by the State Party on the grounds that the colonial transisthmian route was a significant part of the Intercontinental Royal Road developed by Spain to establish governmental, political, commercial, economic and social hegemony over its colonies in the Americas from the 16th century. This created an exceptional interchange of ideas, traditions, materials and skills between European and local peoples (and interacted with the global systems for the transportation of enslaved Africans).

The existing World Heritage property is inscribed according to this criterion on the grounds that it demonstrates an interchange of values through inter-oceanic and intercontinental communications over several centuries. ICOMOS considers the Camino de Cruces components potentially enhance these aspects, as the route was an important element of the land interchange between the Atlantic Ocean/Caribbean Sea and the Pacific Ocean that formed part of the

Intercontinental Royal Road linking three continents throughout the modern era.

The Colonial Transisthmian Route of Panamá therefore has the potential to demonstrate this criterion.

Criterion (iv): *be an outstanding example of a type of building, architectural or technological ensemble or landscape which illustrates (a) significant stage(s) in human history;*

This criterion is justified by the State Party on the grounds that the re-nominated property is an outstanding example of a heritage route, linking the two oceans as part of the Spanish Empire for more than three centuries. The transisthmian route demonstrates an outstanding achievement in terms of its engineering and trade, traversing different geographic areas and terrains.

The existing World Heritage property is inscribed according to this criterion, on the grounds that it exhibits house and church forms that represent a significant stage in the development of a Spanish colonial society, and that the building technologies and architecture over four centuries represent the transitions of the colonial and post-colonial society.

ICOMOS considers that the justification of the proposed colonial transisthmian route according to this criterion is based on a different rationale, but that it can potentially demonstrate an outstanding example of a technological achievement that speaks to the transcontinental flows of culture, resources and colonial power during a crucial stage in the history of the Americas.

The Colonial Transisthmian Route of Panamá has the potential to demonstrate this criterion.

Criterion (v): *be an outstanding example of a traditional human settlement, land-use, or sea-use which is representative of a culture (or cultures), or human interaction with the environment especially when it has become vulnerable under the impact of irreversible change;*

This criterion is justified by the State Party on the grounds that the transisthmian route is an outstanding example of land use and human interaction with the environment, including the importance of using the isthmus to join two oceans, and the overcoming of the challenges of creating the route through various landforms and natural environments. The arguments include the demonstration of the wise use of geographical space, selection of settings for the defensive system, and adaptation of technologies and techniques to the natural character of the isthmus.

ICOMOS notes that the existing World Heritage property has not been inscribed according to this criterion; and considers that the arguments concerning the importance of the interoceanic route are more appropriate to other criteria as the use of land and the siting of defensive facilities do not seem outstanding in the sense required

for this criterion; and the isthmus and the landscape context do not in themselves demonstrate a type of land use or human settlement. ICOMOS therefore considers that criterion (v) is not demonstrated.

Criterion (vi): *be directly or tangibly associated with events or living traditions, with ideas, or with beliefs, with artistic and literary works of outstanding universal significance;*

This criterion is justified by the State Party on the grounds that the transisthmian route stands as a powerful symbol of the link between the two oceans, which has continued in various forms from the 16th century to the present transportation systems. The State Party therefore considers that the heritage route is an inspiration for modern infrastructure, and a symbol of a historic alert or fear of foreign nations and piracy. The State Party also mentions the representation of the route in literary works and works of art.

The existing World Heritage property is inscribed according to this criterion, on the basis that it is closely associated with the European discovery of the Pacific Ocean, the history of Spanish colonisation of the Americas, the African diaspora and histories of piracy and proxy war.

ICOMOS considers that, based on the evidence provided, the heritage route is not an outstanding example or expression of these aspects, and that the historical and continuing significance of crossing the isthmus are better justified via other criteria. ICOMOS therefore considers that criterion (vi) is not demonstrated.

ICOMOS considers that the serial approach is justified and that the Stage 1 nominated property has the potential to meet criteria (ii) and (iv) once issues of integrity, conservation, protection and management have been fully addressed.

Integrity and authenticity

Integrity

The integrity of the nominated serial property is based on the rationale for the selection of the components and their ability to convey the potential Outstanding Universal Value of the nominated property; and the intactness of the material evidence of the individual components. The adequacy of the boundaries, the state of conservation of the nominated property and the way major pressures are managed are also determinants of integrity. The State Party emphasises the ability of the components of this first stage of the re-nomination process to represent the crossing of the isthmus, and points to the intactness of the route of the Camino de Cruces, considering its antiquity. The State Party also highlights the natural setting in which the route occurs.

The selection of the components of the series is justified by the State Party in order to re-nominate the property as a heritage route, traversing Panama from the Caribbean Sea to the Pacific Ocean. In this first nomination stage, it is proposed to extend the existing Archaeological Site of Panamá Viejo and Historic District of Panamá World Heritage property by adding three sections of the Camino de Cruces.

The integrity of the Camino de Cruces Section 1 (the fluvial section of the route) is excellent, based on its size and lack of modern intrusions. It is accessible only by boat, and the waterway and setting are protected as part of the San Lorenzo National Park.

The integrity of the Camino de Cruces Sections 2 and 3 (terrestrial sections of the route) is vulnerable, especially the segments of Section 2 that have extant stone paving surfaces. These are vulnerable due to erosion and dislodging of stones by foot traffic. Section 3 has higher visitation due to its semi-urban context, which will require active management. The alignment of the route itself appears to be intact. There are some discontinuities in the connections between the sections of the route, and with the urban components that could be better resolved through research and interpretation.

For the Archaeological Site of Panamá Viejo, there are significant pressures on integrity due to the urban context. Its setting has been compromised over time by encroachments at its boundary and high-rise buildings in the background. The archaeological evidence, foundations and standing walls are readable and delineate the form and outline of the former settlement. The archaeological site itself is well maintained, and the significance of the property is conveyed through its numerous stone masonry ruins, particularly the cathedral tower. There is a regular monitoring and cyclical stabilisation programme in place. While there have been substantial concerns about the integrity of the urban components in the past, ICOMOS considers that the condition and integrity of Archaeological Site of Panamá Viejo is improving. The relocation of the Vía Cincuentenario – a major vehicular thoroughfare that traversed the property – is considered to be an improvement by reducing the impacts of traffic pollution, noise and vibrations on the ruins.

Similarly, for the Historic District of Panamá, ICOMOS notes ongoing issues with integrity, due to the severe deterioration and loss of historic buildings, demolition of urban ensembles and buildings, and large-scale urban development and infrastructure projects within the protected area (most notably the Cinta Costera project and the now-completed maritime viaduct which has detrimentally impacted on the relationship between the Historic District and the sea, and irreversible negative visual impacts.) Recent efforts by the State Party to rehabilitate/restore historic buildings have begun to demonstrate improvements in the state of conservation, but there are continuing challenges. High-rise development has occurred in the larger setting, with

impacts on the visual setting; and there are issues in the articulation of the urban form and fabric between the buffer zone and the wider urban area.

ICOMOS has also examined the ability of this first stage of the nomination proposal to meet the requirements of integrity as a heritage route, and raised concerns with the State Party that the first stage of the current proposal does not fully include its end-point or node on the Caribbean coast (the fortification of San Lorenzo). The State Party has argued that Camino de Cruces functioned as a route prior to the establishment of the fortification at San Lorenzo on the Caribbean coast, and is therefore not a necessary part of the Stage 1 proposal. Furthermore, the State Party has explained that it is not possible to include the site of San Lorenzo in Stage 1, due to its inclusion in the List of World Heritage in Danger. While ICOMOS understands these points, the omission of this 'terminal' point for the route is potentially problematic for meeting the requirement of integrity for the heritage route.

ICOMOS also questioned the connections between the Archaeological Site of Panamá Viejo and the Camino de Cruces, since the mapping does not clearly link them. The State Party provided additional information in February 2019 that demonstrates the centrality of Panamá Viejo (up until its abandonment) to both the Camino Real and Camino de Cruces, and the importance of the bridges at either end of the city layout, the Puente del Matadero and the Puente del Rey (King's Bridge). Before 1673, the Camino de Cruces began at the Puente del Matadero, which is supported by the location of the site of Fortín de la Natividad. This is useful, however ICOMOS considers that a lack of clarity remains about the connectivity between the early city (Panamá Viejo) and the Camino de Cruces, whose alignment beyond the Puente del Matadero is currently assumed to have hugged the coastline. The links between these parts of the overall route and the new town during the later operations of the heritage route are also unclear. The modern urbanisation of this area might make it impossible to establish the connectivity and links with certainty. Further research and surveys are needed to establish a coherent understanding of where and how the route was located and used during these different historical periods.

Authenticity

The authenticity of the property is based on the ability of the nominated components to represent the heritage route and its associated historical and cultural processes. The authenticity of the route is based on the relatively unchanged state of the route and much of its setting; and the establishment of the later Panama railway and the Panama Canal, which have replicated the colonial route's crossing of the isthmus and its global and regional importance.

While the route of the Camino de Cruces has been broken in some places over the centuries, ICOMOS considers that the three sections of the Camino de Cruces demonstrate authenticity in their locations, alignments

and settings, and by the extant historic fabric, such as stone paved segments. These are vulnerable to erosion and other natural forces, and to damage from anticipated growth in visitor levels. The authenticity of the Archaeological Site of Panamá Viejo and the Historic City of Panamá has been detrimentally affected in the past by the deterioration of attributes and historic fabric, and by intrusive developments, including the Cinta Costera viaduct/road and other infrastructure projects.

ICOMOS considers that the authenticity and integrity of the components of this stage 1 of the nominated heritage route are vulnerable to a wide range of factors, as discussed above.

In conclusion, ICOMOS considers that while the heritage route has been broken in some places over the centuries, the sections of the Camino de Cruces meet the requirements for authenticity. The proposal as a whole has the capacity to meet the requirements of authenticity and integrity once the identified conservation issues have been addressed for the Archaeological Site of Panamá Viejo and the Historic District of Panamá, and the management system is fully implemented.

Evaluation of the proposed justification for inscription

ICOMOS considers that the comparative analysis justifies the consideration of this nominated property for the World Heritage List. The nominated serial property has the potential to demonstrate Outstanding Universal Value in relation to criteria (ii) and (iv).

ICOMOS considers that the rationale for the nomination is promising, but the first stage of a staged serial nomination needs to demonstrate Outstanding Universal Value in its own right. Further work is therefore needed to address the remaining conservation issues for the the Archaeological Site of Panamá Viejo and the Historic District of Panamá, and fully implement the proposed management system. ICOMOS anticipates that when these issues are addressed, the proposal has potential to demonstrate criteria (ii) and (iv).

The staged approach to this proposal also raises additional concerns, given the inscription of Fortifications on the Caribbean Side of Panama: Portobelo-San Lorenzo on the List of World Heritage in Danger, and the need for substantial documentation work on the Camino Real, leaving questions about the overall capacity of the staged nomination process to be realised. It is suggested that the State Party be given additional time to complete these fundamentally important investigations and to implement the corrective measures for Fortifications on the Caribbean Side of Panama: Portobelo-San Lorenzo before major modifications to the existing properties are approved by the World Heritage Committee.

ICOMOS considers that at this stage of the re-nomination process, the Outstanding Universal Value of the nominated serial property is not yet demonstrated.

4 Conservation measures and monitoring

Conservation measures

The state of conservation of the proposed heritage route is considered by the State Party to be generally fair, although there are variations due to the characteristics and settings of the Stage 1 components.

As noted above, there are continuing challenges for the Historic District of Panamá. While improvements have been made, there remain unresolved issues that have been the subjects of previous World Heritage Committee decisions and recommendations. The State Party estimates that it will take another 7 to 10 years to complete the rehabilitation of the attributes of the Historic District.

Measures are being developed to strengthen the conservation of the Archaeological Site of Panamá Viejo and these are detailed in a revised Management Plan, including removal of intrusive elements and buildings, and tree planting to ameliorate noise and visual impacts. Some previous stabilisation works at the Archaeological Site of Panamá Viejo have a 'too obvious' appearance, for example using fired brick as supports for edges of threatened walls. The introduction of a wooden staircase inside the church tower and the construction of a mirador at its top are relatively heavy interventions, although not visible except from within the tower itself.

A number of significant ruins within Panamá Viejo are scheduled for stabilisation works, including the Matadero and King's bridges that connected the caminos with Panamá Viejo. Materials being used for ruin stabilisation are sympathetic to the original fabric, including soft lime mortar and similar types of replacement stone.

The museum at Panamá Viejo has a well-staffed conservation laboratory to support conservation works, as well as other areas within Panama.

ICOMOS notes that there are continuing issues with the conservation of the attributes of the Historic District of Panamá and the Archaeological Site of Panamá Viejo, as detailed in state of conservation reports. The maintenance of these has clearly begun to improve, yet still more progress is required, and the conservation approach could be further reviewed to ensure that the outcomes are not overly zealous.

The State Party has also provided updated information about the progress of conservation measures at the Portobelo and San Lorenzo Caribbean fortresses, which will be included in Stage 3 of the nomination proposal.

While the recent improvement in resourcing (supported in part by a reimbursable loan of US\$45 million provided by the Inter-American Development Bank) will assist, it is clear that conservation works are an important and pressing work-in-progress.

Monitoring

A monitoring system is set out in the nomination dossier covering indicators, frequency and location of records for all nominated components. The nomination dossier also outlines the organisational responsibilities for monitoring.

ICOMOS considers that the monitoring system will be generally adequate once it is fully implemented.

ICOMOS considers that while there are continuing issues for the conservation of Panamá Viejo and the Historic District of Panamá, improvements are noted, and the conservation measures for the three route sections are appropriate. The monitoring system is satisfactory but needs to be fully implemented.

5 Protection and management

Documentation

Survey work has been conducted to determine the location and extant historic fabric associated with Sections 1 to 3 of the Camino de Cruces. In particular, the existence and condition of stone paving segments has been documented. ICOMOS recommends continuing the documentation of the paved segments that are located in the nominated sections of the route.

The important archaeological site of La Venta (Venta de Cruces) has not yet been adequately documented or studied. This site was founded in the 16th century as a terminal for the land portion of the Camino de Cruces. The State Party has indicated that archaeological investigations here are a priority. Furthermore, prior to developing the route for more intensive visitor use, it is recommended that an archaeological research design be developed to locate and record potential braided (parallel) sections of the trail.

Documentation and survey of the proposed sections of the Camino Real commenced in late 2018 and are the subject of ongoing work by the State Party to enable the timetable for Stage 2 of the re-nomination process to be met. According to the additional information provided by the State Party in February 2019, approximately 20 percent of the Camino Real has been surveyed.

Legal protection

Legal protection of the nominated components is provided by national and local government laws for the protection of natural and cultural heritage. A comprehensive list of laws is provided in the nomination dossier. The State Party has specified the main protective designation for each component, as follows:

- Camino de Cruces Section 1: National Protected Area (San Lorenzo Protected Forest and Protected Landscape), Law No. 21 of 3 July 1997;
- Camino de Cruces Section 2: National Protected Area (Soberanía National Park), Executive Decree 13 of 27 May 1980; and National Protected Area

(Camino de Cruces National Park), Law 30 of 30 December 1992;

- Camino de Cruces Section 3: National Protected Area (Camino de Cruces National Park), Law 30 of 30 December 1992;
- Archaeological site of Panamá Viejo: *National Conjunto Monumental Histórico* (Historic Urban Ensemble), Law 91 of 22 December 1976;
- Historic District of Panamá: *National Conjunto Monumental Histórico* (Historic Urban Ensemble), Law 91 of 22 December 1976;

There are a large number of other legislative measures that apply to the nominated property, including: National Directorate of Heritage Resolution 186 (2013) which provides guidelines for the conservation and administration of World Heritage properties; Law 67 of 11 June 1941 which establishes protection of monuments and archaeological objects; Law 63 of 6 June 1974 which establishes the National Institute of Culture (INAC) and its responsibilities for management and protection of Panama's cultural heritage; Resolution 1172-11/DNPH of 27 February 2011 one of several laws which establish requirements for projects within monumental ensembles; and Executive Decree 119 of 7 June 2011 which establishes the National Commission of Cultural and Natural World Heritage. Numerous other laws are briefly described that relate to tourism, environmental protection, national park management, underwater archaeology and the management of the Panama Canal, and so on. In addition to these legal provisions, there are also a number of laws that specifically apply to one or several of the nominated components. These are listed in the nomination dossier.

The National Institute of Culture (Instituto Nacional de Cultura de Panama – INAC) is the lead agency for the implementation of the legal protection of the nominated heritage route.

The legal protection and management of the three sections of the Camino de Cruces is based on the legislation covering the two National Parks and the Protected Forest and Protected Landscape in which they are situated. While this provides a high degree of protection from development pressures, it also raises questions regarding the ability of the whole property to be protected (and managed) as a single entity within an overarching regime. This is recognised by the State Party. ICOMOS considers that an overarching national law that can protect the Outstanding Universal Value will ultimately be required.

Management system

The National Commission of Cultural and Natural World Heritage was established in 2011, and includes representation from government agencies with responsibilities for the management and protection of the State Party's World Heritage properties (including the components of the proposed heritage route).

The 'strategic management level' involves public and private sector agencies (*patronatos*) involved in Panama's World Heritage properties. A Memorandum of Understanding was signed in September 2018 between the relevant agencies involved in the management of the heritage routes to coordinate management actions and projects. These agencies include, amongst others, the Ministry of the Environment, National Parks authorities and the Panama Canal Authority.

The 2018 Memorandum of Understanding is the mechanism used to ensure coordination amongst these levels and between the various agencies involved. Roles are specified, including the responsibilities for the budget.

A Management Plan has been developed for the heritage route, and was submitted with the nomination dossier. This is an overarching document that establishes management principles and issues, and outlines coordination at the levels of the executive (national coordination), the 'executor' or individual management agencies, and the municipal/local authorities. There is a brief table of actions provided, along with indications of the financial resources and staging. However, this document is not yet at the level of detail needed to support the day-to-day and long-term decision making, and a full and integrated management plan for the heritage route is still under development.

The Management Plan aims to frame and encompass the separate management plans or public use plans that exist for each of the five Stage 1 components:

- Management Plan – World Heritage Sites of Panama (dated 2012)
- Archaeological site of Panamá Viejo – Management Plan (2014-2019)
- Public Use Plan for the San Lorenzo Protected Forest and Protected Landscape (2017-2021)
- Public Use Plan for the Soberanía National Park (dated 2017)
- Public Use Plan for the Camino de Cruces National Park – Draft (dated 2017)

The objectives, contents and project outlines of these plans have been provided by the State Party in the nomination dossier. ICOMOS considers that the diversity of the components, each with very different conservation requirements, together with the range of different management agencies, each with different core purposes, raises the need to establish a single regulatory framework that encompasses the whole property's values and diversity. The State Party acknowledges that the management plans for most of the components require updating, and this work is programmed into the planning for the completion of the entire serial nomination in 2022.

As noted above, the nominated sections of the Camino de Cruces are located within the catchments of the San Lorenzo Protected Forest and Protected Landscape, Soberanía National Park and Camino de Cruces National Park, as well as the Panama Canal Authority. The National Institute of Culture and the Ministry of the

Environment have agreed to cooperate to formulate a Management Plan for the areas within these protected areas that have archaeological remains associated with the heritage route.

The State Party is working toward a new management model, in cooperation with the relevant agencies. It is intended that the resulting strategic management entity will be legally established as a non-profit organisation to provide long-term management of the property.

The revised management plan for the Archaeological Site of Panamá Viejo is a welcome step toward improving the condition and management system of the property. Throughout the past decade, the World Heritage Committee and ICOMOS have expressed concerns about the effectiveness of the existing management system, which needs to be supported by priorities set within the broader national decision-making agenda. Improvements to the management of this property have been progressively made by the State Party. The reimbursable loan from the Inter-American Development Bank has provided funds for some elements of this proposal, including an Emergency Plan and administrative strengthening for the property currently on the List of World Heritage in Danger.

Although requested by the World Heritage Committee in its most recent decision concerning the State of Conservation of the Archaeological Site of Panamá Viejo and Historic District of Panamá, information about Heritage Impact Assessment (HIA) processes has not been included in the nomination documents. Given the development pressures that have affected the World Heritage property, ICOMOS considers this to be critical and urgent. The continued development of the management system should ensure that HIA processes are formally established in conformity with the ICOMOS *Guidelines on Heritage Impact Assessments for Cultural World Heritage Properties*, with a specific section focusing on the potential impact of projects on the Outstanding Universal Value of the relevant World Heritage property.

The most common natural hazard risks are those associated with intense storms, including floods and excessive humidity. Some components might be vulnerable to a rise in sea level associated with climate change (particularly the Archaeological Site of Panamá Viejo). An Evacuation Plan is in place for the Historic District of Panamá. Risk Preparedness and measures regarding climate change are identified as 'key issues' for the Management Plan. However, aside from monitoring activities, few actions have been identified in the Action Plan.

Visitor management

Current visitor levels vary across the proposed Stage 1 components. According to information provided to the ICOMOS mission, the recent figures for Stage 1 of the proposal are: Archaeological Site of Panamá Viejo (78,196 per year in 2017); Historic District of Panamá

(544,000 per year in 2015); San Lorenzo Protected Landscape (19,980 per year in 2015); Soberanía National Park (5776 per year in 2015); and Camino de Cruces National Park (3270 per year in 2017). The number of visitors to the three sections of the Camino de Cruces is not known, but the forecast for the number of future visitors is low. Tourism is not currently a significant pressure.

In relation to Section 2 of the Camino de Cruces, at least some of the route is easily accessed by visitors, although fallen trees and vegetation growth are an ongoing challenge. The Soberanía National Park has a public use plan that foresees visitor facilities and amenities along this section of the route. The visitor levels are greater for Section 3, due to its semi-urban setting. Studies to determine the preferred carrying capacity of Sections 2 and 3 are recommended to manage future visitation.

The relatively higher levels of visitors to the Archaeological Site of Panamá Viejo are due in part to its proximity to the urban population of Panama City. Visitors access the site from a visitor centre via a controlled open-air bus. Various events such as concerts are held at Panamá Viejo.

It is challenging to promote this re-nomination as a single property, and interpretation and presentation actions are outlined by the State Party for each of the components. In the Historic District of Panamá, this includes the 'Casa del Arte' education and community arts project, which is nearing completion.

There is no current interpretation provided in Section 1 (the fluvial section) of the Camino de Cruces. There are some efforts at way finding and interpretation within Section 2 of the Camino de Cruces, but these appear to be in poor condition due to lack of maintenance. The humid environment presents physical challenges to their regular maintenance. Interpretation panels have been provided along the route in Section 3. The State Party has indicated that there are plans for these panels to be upgraded. Mobile apps are being considered to improve the interpretation of the route.

Community involvement

The management system is based on a concept of sharing and participation by local communities, and there are management principles identified which recognise the importance of community benefits, social value, sustainable development and local identity. Brief information has been provided on the issue of community involvement. There are objectives and actions in the management plan in several sections relevant to community involvement: quality of life of inhabitants, social and economic viability, traditions and crafts, and community participation in decision making (for the Archaeological Site of Panamá Viejo and the Historic District of Panamá). The revised management plan for the Archaeological Site of Panamá Viejo was developed through a participatory process, including the development of a 'vision' for the World Heritage site.

Evaluation of the effectiveness of the protection and management of the nominated property

While the State Party is working toward a beneficial approach to the legal protection and management of the proposed heritage route, these aspects are currently not yet well coordinated or fully in place. The legal protection and management of the nominated sections of the route depend on the arrangements in place for the National Parks and other protected lands that they traverse, and would be strengthened by developing more specific mechanisms that are oriented toward the potential Outstanding Universal Value of the heritage route. The vulnerability and pressures for the Archaeological Site of Panamá Viejo and the Historic District of Panamá are well-identified. The 2018 Memorandum of Understanding and the planned changes to the management instruments will be welcome improvements, but will not be in place for several years. Given that the two existing World Heritage properties (Archaeological Site of Panamá Viejo and Historic District of Panamá; and Fortifications on the Caribbean Side of Panama: Portobelo-San Lorenzo) need considerable attention, this relatively weak legal and management framework for the heritage route is a concern. Heritage Impact Assessment processes need to be established in relation to the management system and the frameworks for legal protection, particularly for the urban components.

ICOMOS considers that the protection and management of the nominated heritage route should be further strengthened to ensure coordination of the management of the serial property. The planned management entity should be made operational, and the Management Plan expanded to better address visitor management, risk preparedness and Heritage Impact Assessments.

6 Conclusion

This proposal is a significant modification to the rationale for inscription, boundary, criteria and name of Archaeological Site of Panamá Viejo and Historic District of Panamá (in accordance with Paragraphs 165, 166 and 167 of the *Operational Guidelines*). It follows a number of World Heritage Committee decisions, a 'High Level' Reactive Monitoring Mission and an ICOMOS advisory process for the inscribed properties. These actions have attempted to respond collaboratively to serious concerns raised by the World Heritage Committee about the state of conservation of the World Heritage properties. The State Party has made improvements in response to those concerns, though many challenges remain and the state of conservation is still poor in some respects.

Paragraph 139 of the *Operational Guidelines* provides for serial nominations to be submitted for evaluation over several nomination cycles, provided that the first property nominated is of Outstanding Universal Value in its own right. Although two of the Stage 1 components are already inscribed on the World Heritage List, the significant modifications to the rationale for inscription, boundary and

criteria for the Stage 1 re-nomination proposal have required a full assessment of the proposed Outstanding Universal Value.

The decision to entirely re-conceptualise the World Heritage properties as part of an important heritage route has been taken by the State Party following these reactive monitoring and advisory processes. This proposal foresees a way forward that connects a number of different components within the larger cultural and historical processes that created them. ICOMOS considers that this proposal is a promising one that is well considered, and has the potential to contribute to the representivity of the World Heritage List. The proposal demonstrates the potential global and regional significance of the Colonial Transisthmian Route of Panamá and its links with the inter-oceanic routes that enabled immense systems of trade and colonial rule to be established.

ICOMOS is also aware of the rationale for presenting this proposal in stages, as this was discussed as part of the ICOMOS advisory process in 2017. At the same time, it is clear that the coherence of the proposal depends on the implementation of *all* stages in the three-stage process. The timetable and work required to successfully complete the remaining stages therefore present a risk, particularly in light of the need for the State Party to prioritise the improvement of the state of conservation for the two existing World Heritage properties. To meet the proposed timetable, Stage 2 will need to be submitted by February 2020. The State Party has made assurances that progress toward this future submission is on schedule, but ICOMOS considers that the work required is considerable and its completion might not be possible within this short timeframe.

The State Party has stated its commitment to addressing the conservation issues that have been identified (including the needed corrective measures to Fortifications on the Caribbean Side of Panama: Portobelo-San Lorenzo), and to meet the full re-nomination process by 2022. The State Party has explained that the Board of Directors of INAC has approved the necessary funds for preparing the second stage of the nomination, and for launching the non-profit organisation that will manage the World Heritage property. The recent provision of funds through the mechanisms of the Inter-American Development Bank will assist with several of these steps. However, these initiatives are not yet fully in place, and it is important to recognise that these are ambitious objectives.

The State Party contends that the route itself demonstrates the defensive system, and that the first stage of the re-nomination is of Outstanding Universal Value in its own right. While ICOMOS accepts information from the State Party that the Camino de Cruces functioned as a route prior to the establishment of the fortification at San Lorenzo on the Caribbean coast, it also agrees with the State Party that the San Lorenzo and Portobelo fortifications represent the 'gates' to the isthmus and are exceptional features of the defensive system.

In its evaluation of this first stage of the re-nomination process, ICOMOS considers that while there is considerable promise for the future of this proposal, the Outstanding Universal Value of the nominated serial property is not yet demonstrated. ICOMOS considers that the rationale for the nomination is potentially compelling, but that there is a considerable amount of work still required. Further work is needed to operationalise the management system, and to continue to improve the state of conservation of the Archaeological Site of Panamá Viejo and Historic District of Panamá.

There are significant sites within the nominated components that require further research, documentation, and active management and interpretation, particularly the archaeological site of La Venta (Venta de Cruces). Looking to the future stages, ICOMOS has questioned the omission of the site of Nombre de Dios on the Caribbean coast in the nomination proposal. Nombre de Dios is historically significant, and seems potentially relevant to the revised justification for Outstanding Universal Value as it pre-dated the construction of the Portobelo fortifications. Additional information provided by the State Party outlines a range of processes that have detrimentally impacted on this early site (including extraction of sand for the Panama Canal, destruction by mining and looting). The current documentation of this area has revealed approximately 30 m of the Camino Real paving, and stone building foundations of an unknown age. The State Party has expressed doubt about the ability of this site to meet the World Heritage requirements of integrity, but has undertaken to continue archaeological research at this site, and to consider its incorporation into the heritage route in the future if sufficient evidence is revealed.

In relation to the requirements for protection and management, ICOMOS considers that, while the State Party is working toward a potentially useful approach, the legal protection and management of the proposed heritage route is complex and is not yet well coordinated or effective. The legal protection and management of the route's components depend on the arrangements in place for the National Parks and other protected lands that they traverse, and would be strengthened by developing specific mechanisms that are oriented toward the potential Outstanding Universal Value of the heritage route. The vulnerability and pressures for Archaeological Site of Panamá Viejo and Historic District of Panamá are well identified, and challenging, and formal Heritage Impact Assessment processes that can specifically address the potential impacts of new developments and projects on the Outstanding Universal Value of inscribed properties should be developed as a priority. The 2018 Memorandum of Understanding and planned changes to the management instruments will be welcome improvements, but will not be in place for several years. Given that the two existing World Heritage properties need considerable attention, the relatively weak legal and management framework for the heritage route is a concern.

ICOMOS anticipates that, once these issues are addressed, the re-nomination proposal has potential to meet the requirements of Outstanding Universal Value according to criteria (ii) and (iv). ICOMOS notes that this represents a change in the criteria under which the existing property of Archaeological Site of Panamá Viejo and Historic District of Panamá has been inscribed on the World Heritage List, and considers that criteria (v) and (vi) are not met for the colonial transisthmian route proposal. Furthermore, ICOMOS notes that the criteria that are relevant to the re-nomination as a heritage route are not the same as those that have been recognised in the existing inscription of the Fortifications on the Caribbean Side of Panama: Portobelo-San Lorenzo (criteria (i) and (iv)). The *Operational Guidelines* permit such modifications through the major modification provisions; however, it seems prudent to recognise that the three-stage proposal poses some complexities that need to be fully understood.

The staged approach to this proposal also raises additional concerns, given the current inclusion of Fortifications on the Caribbean Side of Panama: Portobelo-San Lorenzo on the List of World Heritage in Danger, and the need for substantial new survey, research and documentation work to be completed for the Camino Real (Stage 2), leaving questions about the overall ability of the staged nomination process to be realised. It is suggested that the State Party be given additional time to complete these fundamentally important tasks.

The issues for Panama's World Heritage properties have been complex to resolve. Based on the momentum that has now been established by the State Party for the re-nomination proposal, ICOMOS considers that it is desirable to resolve these long-standing issues in a timely manner, including the identified actions to improve the state of conservation and effective management of the Archaeological Site of Panamá Viejo and Historic District of Panamá. It is suggested that the re-nomination should be submitted for evaluation before 1 February 2022, and that Stages 2 and 3 should not be submitted prior to the re-submission of Stage 1 (since each of these seems unlikely to meet the requirements for Outstanding Universal Value on its own, as is required by the *Operational Guidelines*).

During this already-planned period of intensive work, the State Party might wish to reconsider its rationale for the staging of the re-nomination process. For example, given that the State Party has committed to meeting the Desired State of Conservation for removing the Fortifications on the Caribbean Side of Panama: Portobelo-San Lorenzo from the List of World Heritage in Danger, it might be possible to reconceptualise this proposal into two coherent stages (rather than three), with each of the associated terminal fortifications on the Caribbean included with the two major routes (Camino des Cruces and Camino Real). Based on the information provided by the State Party, ICOMOS assumes that the needed research, documentation, management and conservation

actions for the Camino Real (including the Fortification of Portobelo, and possibly also the site of Nombre de Dios) is required, but if these objectives can be achieved within the proposed re-nomination timeframe, it might become unnecessary to present the re-nomination in stages at all. Regardless of these future decisions, ICOMOS does not consider that Stages 2 and 3 should be submitted until the successful inscription of Stage 1. In order to satisfactorily resolve this complex re-nomination proposal in a timely manner, ICOMOS is available to assist with the State Party on the consideration of future options, if requested.

7 Recommendations

Recommendations with respect to inscription

ICOMOS recommends that the examination of the nomination of The Colonial Transisthmian Route of Panamá, Panama, which is an extension (including changes to the boundary, rationale for inscription, criteria and name of the property) to the inscribed property of Archaeological Site of Panamá Viejo and Historic District of Panamá, be **deferred** in order to allow the State Party, with the advice of ICOMOS and the World Heritage Centre, if requested, to:

- Enable the presentation of a revised first stage of the proposal which can meet the requirements of Outstanding Universal Value, and, in particular, to:
 - Fully implement and operationalise the management system, including the allocation of funds for the planned conservation, documentation and management actions;
 - Integrate the separate management plans into a single, comprehensive and legible overarching Management Plan, ensuring that the protection and presentation of the proposed Outstanding Universal Value of the heritage route is a primary objective;
 - Establish the management authority for the entire serial property;
- Continue to implement management and conservation measures at the Archaeological Site of Panamá Viejo and Historic District of Panamá (according to the recommendations of the World Heritage Committee in relation to Decision 40 COM 8B.34), including, among others:
 - Incorporating a Heritage Impact Assessment approach into the management system, so as to ensure that any programme, project or legislation regarding the property be assessed in terms of its consequences on the Outstanding Universal Value and its supporting attributes;
 - Conducting three-dimensional view-shed and view corridor analyses to identify specific sensitive areas that need to be protected, in addition to the existing buffer zones;

- Reducing or mitigating the visual impacts of existing developments through reduction of the sources of the impacts; and
 - Ensuring the long-term financial sustainability of conservation and management efforts through adequate funding.
- Develop and fully implement a Heritage Impact Assessment approach into the management system so as to ensure that any programme, project or legislation regarding the property is adequately assessed in terms of its consequences on the proposed Outstanding Universal Value of the heritage route.

The fully revised proposal responding to these recommendations should be submitted for evaluation before 1 February 2022. The timeframe for the submission of Stages 2 and 3 should be revised accordingly, to either follow or accompany the re-nomination of Stage 1. With this longer timeframe, the State Party could reconsider the staging of the overall proposal in consultation with ICOMOS and the World Heritage Centre, if requested. Due to the anticipated changes to the documentation, management and state of conservation, ICOMOS considers that it will be essential for any revised nomination to be visited by a mission to the sites.

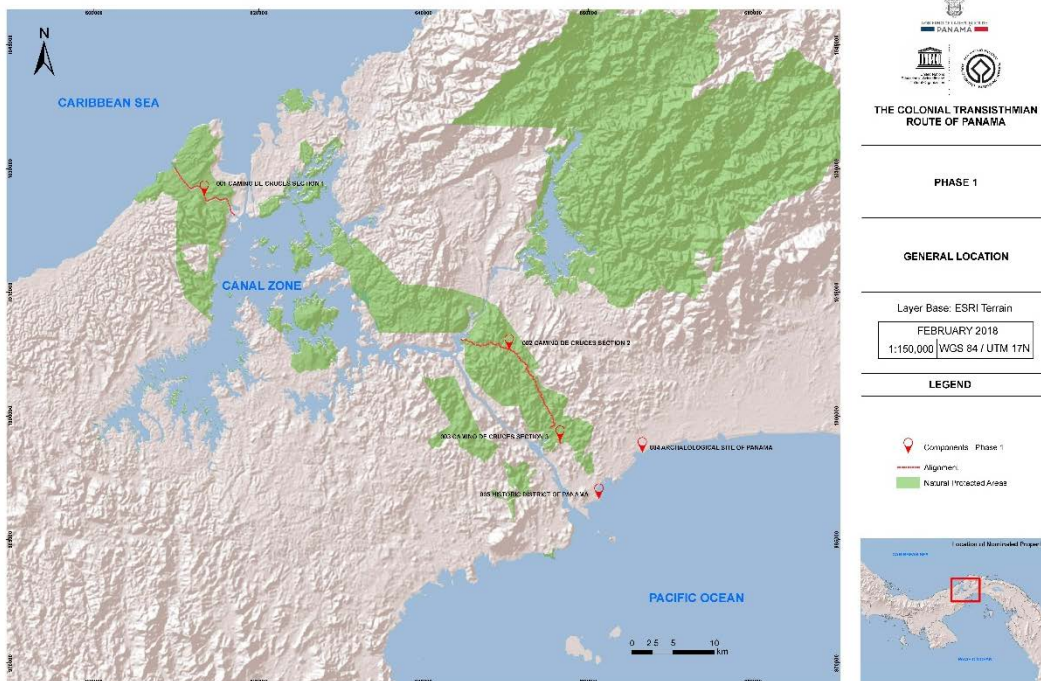
Additional recommendations

ICOMOS recommends that the State Party give consideration to the following:

- a) Prioritising and satisfactorily implementing the corrective measures identified by the World Heritage Committee for Fortifications on the Caribbean Side of Panama: Portobelo and San Lorenzo,
- b) Continuing to deepen the historical, archaeological and topographical research, including:
 - a. Archaeological research at the site of Nombre de Dios, incorporating knowledge of this place and its history in the interpretation of the heritage route, and considering its future inclusion in the serial property in order to represent the important terminal points of the route over time;
 - b. Survey and documentation of the terrestrial route sections of the Camino de Cruces and Camino Real in order to determine the presence and condition of alternative trails within the overall route;
 - c. Complete the documentation of the important archaeological site of La Venta (Venta de Cruces), and prepare an archaeological management plan for this and other significant archaeological

sites in the sections of the Camino de Cruces;

- c) Reviewing the conservation approaches to the built attributes of the existing and proposed components to ensure their continued authenticity,
- d) Improving the monitoring of visitation and associated impacts in light of expected future growth in tourism activities,
- e) Developing risk preparedness strategies for the heritage route, acknowledging the different risks to the proposed components,
- f) Conducting studies on the carrying capacity of Sections 2 and 3 of the Camino de Cruces and incorporating them into the visitor management strategies,
- g) Ensuring that all major restorations or new constructions which may affect the Outstanding Universal Value of the nominated property are communicated to the World Heritage Centre before any decisions are made that would be difficult to reverse, in accordance with Paragraph 172 of *Operational Guidelines*;



Map showing the location of the nominated components



Chagres River at Camino de Cruces – Section 1



Camino de Cruces – Section 2



Aerial view of the Archeaeological site of Panamá viejo



Aerial view of the Historic District of Panamá

