

UNITED NATIONS EDUCATIONAL, SCIENTIFIC AND CULTURAL ORGANIZATION

International Co-ordinating Council of the Man and the Biosphere (MAB) Programme

Thirty-fourth session

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ITEM 10 OF THE PROVISIONAL AGENDA: Periodic Review Reports and Follow-Up Information Received since the 33rd session of the MAB-ICC

1. The document SC-22/CONF.234/8 contains the recommendations concerning the periodic reviews on individual biosphere reserves considered by the IACBR at its 28th session in February 2022. Whenever relevant, it also refers to MAB-ICC decision.
2. At its 28th hybrid meeting held from 28 February to 3 March 2022 the Advisory Committee examined twenty-one (21) reports, including 2 national reports related to a transboundary biosphere reserve, and seven (7) follow-up to previous recommendations from sixteen (16) countries.
3. The recommendations of the Advisory Committee on each of these sites are included in Annexes 1 and 2 of this document. These recommendations have been transmitted to the Member States concerned for follow-up. Any additional information provided by 30 May 2022 will be considered by the MAB Council and its Bureau.
4. The Secretariat kindly reminds that the “UNESCO Network of international environmental experts - the UNESCO Earth Network” launched in December 2021 can mobilize experts, including early-career scientist, to support UNESCO biosphere reserves including candidates.
5. The Advisory Committee has clearly indicated in its recommendations the deadline for submission of additional information to align with the timeline of this strategy for the relevant sites and informed countries accordingly.
6. The Secretariat has prepared a color chart summarizing the results of these recommendations for the MAB Council decision (green for sites meeting the criteria; red for sites not meeting the criteria; blue for sites for which additional information was requested).
7. The MAB Council is invited to consider and approve the recommendations made by 28th Advisory Committee, including suggested modifications to be proposed by the MAB Bureau at its Council session.

ANNEX 1: PERIODIC REVIEW REPORTS EXAMINED BY THE 28th IACBR

Country	Name of the site	28th IACBR recommendations (2022)	Comments
CANADA	CLAYOQUOT SOUND	Meets the criteria of the Statutory Framework of the WNBR	
CANADA	BRAS D'OR LAKE	Meets the criteria of the Statutory Framework of the WNBR	
COSTA RICA	AGUA Y PAZ	Does not meet the criteria of the Statutory Framework of the WNBR	
FRANCE	LUBERON LURE	Meets the criteria of the Statutory Framework of the WNBR	
FRANCE	VOSGES DU NORD/PFÄLZERFALD	Meets the criteria of the Statutory Framework and the Pamplona Recommendations of the WNBR	Both national and transboundary reports examined
GERMANY	VOSGES DU NORD/PFÄLZERFALD	Meets the criteria of the Statutory Framework and the Pamplona Recommendations of the WNBR	Both national and transboundary reports examined
LITHUANIA	ZUVINTAS	Meets the criteria of the Statutory Framework of the WNBR	
MALDIVES	BAA ATOLL	Complementary information requested	
PORTUGAL	BERLANGAS	Meets the criteria of the Statutory Framework of the WNBR	

PORTUGAL	SANTANA MADEIRA	Meets the criteria of the Statutory Framework of the WNBR	
SERBIA	GOLIJA-STUDENICA	Meets the criteria of the Statutory Framework of the WNBR	
SPAIN	LA GOMERA	Meets the criteria of the Statutory Framework of the WNBR	
SPAIN	LAS UBIÑAS-LA MESA	Does not meet the criteria of the Statutory Framework of the WNBR	
SPAIN	SIERRA NEVADA	Does not meet the criteria of the Statutory Framework of the WNBR	
SPAIN	DOÑANA	Does not meet the criteria of the Statutory Framework of the WNBR	
SPAIN	MONTSENY	Meets the criteria of the Statutory Framework of the WNBR	
SWEDEN	BLEKINGE ARCHIPELAGO	Meets the criteria of the Statutory Framework of the WNBR	
SWEDEN	NEDRE DELALVEN RIVER LANDSCAPE	Meets the criteria of the Statutory Framework of the WNBR	
SWITZERLAND	ENTLEBUCH	Meets the criteria of the Statutory Framework of the WNBR	
VIET NAM	DONG NAI	Meets the criteria of the Statutory Framework of the WNBR	
ZIMBABWE	MIDDLE ZAMBEZI	Does not meet the criteria of the Statutory Framework of the WNBR	

Recommendations by the International Advisory Committee for Biosphere Reserves:

1. **Clayoquot Sound Biosphere Reserve (Canada).** The Advisory Committee welcomed the Periodic Review report of the Clayoquot Sound Biosphere Reserve, which was designated in 2000.
2. The site is located on the unceded territories of five First Nations located on the west coast of Vancouver Island. It has a regional year-round population of approximately 6,462 but welcomes more than 1,000,000 visitors to the area each year. In the past ten years, the tourism sector developed whereas the fishing and forestry sectors declined.
3. The Clayoquot Biosphere Trust (CBT) is the registered charity that administers the Clayoquot region and acts as a convener organization. It is governed by a ten-member board of directors and their alternates in the region's five First Nations, the Districts of Tofino and Ucluelet, and Area C of the Alberni-Clayoquot Regional District. The CBT is in a stronger financial position than it was ten years ago.
4. The Periodic Review report covering 2010-2020 was conducted remotely due to the COVID-19 pandemic. Two external reviewers participated in 11 meetings between 1 April 2021 and 26 May 2021 with the Executive Director of the Clayoquot Biosphere Trust (CBT) and local residents and representatives of First Nations and settler governments, industries and not-for-profit organizations in the region. The Advisory Committee welcomed the report which included a zonation map.
5. Much of the work of the CBT has involved collaboration with First Nations to support their land-use visions, conservation initiatives, and capacity enhancement for Indigenous leadership, governance, stewardship and economic development. The Advisory Committee appreciated the evidence provided by the external reviewers of the highly valuable intermediation work achieved by the Executive Director of the CBT. Furthermore, partner organizations have acknowledged the importance of the work around language and cultural knowledge sharing. The CBT also provides crucial support during the slow process of reconciliation, ensuring that progress is sustained and continuous.
6. The Advisory Committee concluded that the site **meets** the criteria of the Statutory Framework of the WNBR.
7. **Bras D'or Lake Biosphere Reserve (Canada).** The Advisory Committee welcomed the detailed Periodic Review report and the participatory manner in which it was developed despite the obstacles presented by the COVID-19 pandemic. The Advisory Committee appreciated the involvement of external reviewers and the positive response of the Bras d'Or Lake Biosphere Association (BLBRA) to the recommendations provided by these reviewers.
8. The Advisory Committee noted some minor changes in the zonation, with some parts of the buffer zones now added to the core areas to enhance the conservation function.
9. The Advisory Committee appreciated the vast number of projects and initiatives directed at biodiversity conservation, monitoring and (citizen) science, and the promotion of local economic activities, and recognized that the biosphere reserve has mobilized a large pool of volunteers who contribute to these activities. The Advisory Committee noted the difficulties experienced in attracting funding and recommended that the BLBRA follow up on the reviewers' recommendation to engage in regional, strategic partnerships to attract

- more sustainable and diverse sources of funding. The plans to engage with and attract youth to the area are noted and appreciated. The climate adaptation plans developed by the four municipalities equally contribute to safeguarding the future of the biosphere reserve.
10. The Advisory Committee noted with approval the adoption in 2018 of the Pessamit Call for Reconciliation regarding the Rights of Indigenous Peoples. This aligns well with the co-management agreement committed to Two-Eyed Seeing, which requires all agencies and peoples to work together, bringing their statutes, expertise and interests to share with the group.
 11. The Advisory Committee concluded that the site **meets** the criteria of the Statutory Framework of the WNBR.
 12. **Agua y Paz Biosphere Reserve (Costa Rica)**. The Advisory Committee welcomed the first Periodic Review report of the Agua y Paz Biosphere Reserve, designated in 2007. The submission of the Periodic Review was postponed from 2017 to 2021.
 13. The Agua y Paz Biosphere Reserve is located in northern mainland Costa Rica on the border with Nicaragua. It encompasses ten municipalities and the traditional land of the Maleku people. The biosphere reserve comprises a total area of 916,120.70 ha mostly characterized by farmland, tropical rainforest and wetlands.
 14. The human population in the biosphere reserve has increased steadily from 284,550 in 2006 to 476,960 in 2019, according to the National Institute for Statistics and Census (INEC). Data as of 2016 show that 196,595 people settled in the transition area, 145,626 in the buffer zone and 75,157 in the core areas.
 15. The initial budget for this period was expected to be funded by a variety of contributions from the Tarjeta Verde programme, the UNDP Global Environment Fund Small Grant Programme, agreements with hydroelectric plants, public-private initiatives and public funding. In 2015, UNDP funds amounting to USD 512,644.19 were raised for a series of projects specifically dedicated to maintaining biological corridors and roads in the land of the Maleku people. However, no detailed budget has been presented for the reviewed period.
 16. The main challenges have related to ensuring durable and efficient coordination of the different existing committees and councils, as well as defining a coherent management strategy. As of 2021, an updated version of the management plan was under development. Another main challenge has been arising from farming in the biosphere reserve, such as the expansion of intensive agriculture, the use of chemical fertilizers and pesticides, unqualified labour and extreme weather events.
 17. The biosphere reserve has been successful in communicating and promoting intangible local heritage regionally, notably with the Maleku people, around themes such as cacao and indigenous knowledge of native plants including trees.
 18. Furthermore, the biosphere reserve has generated scientific and academic interest. The Instituto Tecnológico de Costa Rica has been developing a project in one core area (Refugio Nacional de Vida Silvestre Caño Negro) incorporating themes related to the biosphere reserve in its cultural programme.

19. Tourism plays an increasing role in this popular region. From 2007 to 2019, the number of visitors to the Volcán Arenal National Park rose from 83,863 to 128,808.
20. The Periodic Review identified a series of objectives and a work plan to link core areas together, such as Arenal Tempisque and Arenal Huetar Norte, to create biological corridors in buffer zones.
21. This process will also aim to introduce eco-certifications of biosphere reserve for local products, launch a youth network and improve its online presence through a dedicated website and social media.
22. In conclusion, despite some achievements, the Periodic Review detailed some significant challenges in biosphere reserve management. Most notably, the lack of a management strategy and the suspension of the management committee have affected all activities and the effective operation of the biosphere reserve functions.
23. While recognizing the efforts undertaken to address these difficulties, the Advisory Committee concluded that this site **does not meet** the criteria of the Statutory Framework of the WNBR.
24. Taking into consideration the projected increase in the number of visitors, the Advisory Committee recommended the national authorities to undertake a tourism carrying capacity study for the biosphere reserve.
25. The Advisory Committee also requested the national authorities to submit to the MAB Secretariat by 30 September 2022 a revised version of the Periodic Review report with substantial editing and rewriting of its contents to improve the quality and clarity of the provided information and add the missing content.
26. The Advisory Committee further requested the national authorities to submit the following to the MAB Secretariat by 31 May 2022:
 - a. An explanation of how the conservation function of the core areas can be ensured taking into consideration of the large number of people living in these areas; and
 - b. A work plan presenting a timetable and planned measures to (i) establish a functional management committee; (ii) develop a comprehensive management/action plan for the biosphere reserve overseeing the existing management tools; and (iii) revise the current zonation and integrate a transition area into the southern and western part of the biosphere reserve.
27. **Luberon Lure Biosphere Reserve (France).** The Advisory Committee welcomed the detailed Periodic Review report and the participatory manner in which it was developed despite the obstacles presented by the COVID-19 pandemic. The Advisory Committee appreciated the merging of the Periodic Review process with that of the 'contrat de transition écologique', which facilitated the implementation of French environmental ambitions at the local level.
28. The Advisory Committee noted with appreciation the plans of the local representatives to expand the boundaries of the regional park to improve alignment with the biosphere reserve. The Advisory Committee equally appreciated the many activities undertaken to promote sustainable agricultural production as well as responsible tourism. These promotional efforts and educational activities extend beyond the boundaries of the biosphere reserve. The Advisory Committee appreciated that a management plan is being developed for the

- wetlands in the site. The Advisory Committee also considered the honest discussion on the ambiguous impacts of the return of the grey wolf to be insightful.
29. The Advisory Committee recommended that the authorities contact the French National Committee to participate in the ecosystem services analysis.
 30. The Advisory Committee concluded that the site **meets** the criteria of the Statutory Framework of the WNBR.
 31. **Vosges Du Nord Biosphere Reserve (France)**. The Advisory Committee welcomed the very detailed Periodic Review report and the participatory manner in which it was conducted. It noted with appreciation the combination of the Periodic Review with the mid-term evaluation requested by the French Federation of Parks, and noted that delays have occurred due to the COVID-19 pandemic.
 32. The Advisory Committee appreciated the adaptation of the zonation in the Vosges du Nord Biosphere Reserve to make it more compatible with the zonation of its German counterpart. Although this has resulted in a slight reduction in the size of the transition areas, this is consistent with the population decrease in these zones. The Advisory Committee welcomed the development of a joint zonation map for the transboundary biosphere reserve and the joint management structure which has been established with regular meetings.
 33. The Advisory Committee appreciated the attempts to foster sustainable management of the core areas and also to promote more sustainable urban planning and the protection of cultural heritage. Urbanization is not a dominant feature of the biosphere reserve but has increased slightly over the period under review. The Advisory Committee applauded the initiatives to foster inclusion, for instance by ensuring accessibility of heritage sites for people with disabilities and adding the issue of inequality to the policy agenda.
 34. The Advisory Committee noted with appreciation the implementation of the LEADER project in collaboration with le Pays de Saverne Plaine et Plateau to promote sustainable tourism, short and sustainable supply chains based on the integration of local knowledge, and energy transition. As part of a transboundary biosphere reserve, Vosges du Nord has also been able to benefit from EU funding such as the LIFE programme. The Advisory Committee also noted the difficulties in promoting sustainable agriculture due to EU agricultural subsidy regulations, which unfortunately has resulted in the intensification of agriculture on the edges of the biosphere reserve.
 35. The Advisory Committee appreciated the many educational and research activities in the biosphere reserve, which were supported by residents and benefit from the support of the Scientific Council.
 36. Given the activities and initiatives, the Advisory Committee regretted the withdrawal by two municipalities from the (4th) Charter but remained confident of the support of the remaining signatories. The Advisory Committee concluded that the site **meets** the criteria of the Statutory Framework of the WNBR.
 37. **Pfälzerwald Biosphere Reserve (Germany)**. The Advisory Committee welcomed the third Periodic Review report of the Pfälzerwald (national) Biosphere Reserve, designated in 1992. Together with the Vosges du Nord Biosphere Reserve, the site forms the Pfälzerwald/Vosges du Nord Transboundary Biosphere Reserve, designated by UNESCO

- in 1998. In 2020–2021, both national sites provided two reports. The transboundary activities cover the years 2010–2020 and this national report covers the years 2013–2021.
38. The Periodic Review has been conducted through internal and external online workshops held with stakeholders and an online survey of 16 local authorities and autonomous municipalities, which enabled the identification of trends in the development of the biosphere reserve. Additionally, an evaluation team comprising representatives of the MAB National Committee, the State Ministry of the Environment and the biosphere reserve administration visited the site in June 2021.
 39. The expansion of the core area from 2.2 per cent to 3 per cent represents an enlargement of around 1,490 ha, which contributes to the improvement of the biotope network.
 40. Among the notable developments in the period under review, the State Ordinance on the Pfälzerwald Biosphere Reserve, which entered into force in 2020, sets out specific provisions for strengthening biodiversity in the buffer zones. In this context, as recommended by the MAB National Committee, a coordinated concept for forest management in the buffer zones could be proposed in the near future.
 41. The transfer of management responsibility to the Palatinate Association of Local Authorities has strengthened institutional integration and visibility of the biosphere reserve in the Rhineland-Palatinate region. Activities to develop the forestry, viticulture and tourism sectors have been collaboratively planned and conducted through an externally funded project that brought together the Pfälzerwald Biosphere Reserve and municipalities.
 42. Activities related to Education for Sustainable Development were also implemented, such as a transboundary project 'Gardens for biodiversity,' which raised awareness of biodiversity conservation among biosphere reserve residents in their daily lives. Several research studies with a focus on integrative monitoring of protected areas have been also implemented.
 43. The Biosphere Reserve Action Programme for the period 2019-2028, which was developed through a participatory process, aims to further develop the cultural landscape, a model region for sustainable living and transboundary cooperation. With an overall budget that has tripled since the last Periodic Review, this action plan has the means to achieve its ambitions.
 44. The Advisory Committee concluded that the site **meets** the criteria of the Statutory Framework of the WNBR.
 45. **Vosges du Nord–Pfälzerwald Transboundary Biosphere Reserve (France/Germany).** The Advisory Committee welcomed the detailed joint Periodic Review report.
 46. The Advisory Committee noted that the closure of boundaries between the countries involved, due to the COVID-19 pandemic, hampered the review process, but appreciated the efforts made to organize meetings online and incorporate inputs from workshops with local stakeholders in both countries.
 47. The Advisory Committee also appreciated the responses to the recommendations concerning the last joint Periodic Review, conducted in 2010. A joint zonation map has been provided, and the zonation in both parts of the transboundary biosphere reserve has been adapted to render it more compatible. One of the objectives of the new zonation is to create a suitable habitat for the European Lynx, which has indeed returned, and to protect and

- sustainably manage extensive forests in the area as well as the waterways and wetlands. In addition, a new cooperation agreement has been signed and a joint Steering Group established. The Advisory Committee commended the provided overview of the measures and activities undertaken in response to the Pamplona recommendations, as per advice concerning the last Periodic Review.
48. The Advisory Committee noted with appreciation the organization of transboundary markets and other activities to engage residents across borders and expressed hope that plans to develop the transboundary biosphere reserve as a regional model for sustainable development will come to fruition. The Advisory Committee equally commended the authorities for organizing transboundary research initiatives. The transboundary biosphere reserve has been able to make optimal use of funding from a number of EU programmes, such as the INTERREG project Species in Danger and the LIFE Bio corridors project.
 49. The Advisory Committee noted with appreciation the reflections provided on the advantages of transboundary cooperation, as well as the challenges, and commended the authorities on their planned approach to cope with these challenges.
 50. The Advisory Committee concluded that the site **meets** the Pamplona Recommendations for the WNBR.
 51. **Žuvintas Biosphere Reserve (Lithuania).** The Advisory Committee welcomed the submission of the first Periodic Review report of the Žuvintas Biosphere Reserve, designated in 2011.
 52. The Žuvintas Biosphere Reserve is the first Lithuanian protected area established in 1937 and the first and only biosphere reserve in Lithuania. The site provides important habitats for a significant number of threatened and rare species.
 53. The total area of the biosphere reserve is 18,490 ha and comprises three strict nature reserves, one botanical reserve and five botanical and zoological reserves. The core area of the biosphere reserve, the Žuvintas Strict Nature Reserve, covers 5983 ha. The site is home to over 4,000 species of animals, plants and fungi. One of the rarest singing bird species in Europe, the aquatic warbler, lives in the fens on the margin of the mire. Indeed, Lithuania is one of just four countries where this globally threatened bird species still breeds.
 54. The Advisory Committee welcomed the cooperation between local farmers and the Žuvintas Biosphere Reserve Directorate. The use of the special Rural Development Programme supports the maintenance of the wetland and specific meadows to protect the aquatic warbler. The Advisory Committee also noted that the Bank of Lithuania released a commemorative Žuvintas Biosphere Reserve EUR 2 coin in 2021.
 55. The Advisory Committee welcomed the new Advisory Board of the Žuvintas Biosphere Reserve Directorate, which consists of representatives of local communities and municipalities, and will strengthen the involvement of communities in the management of the biosphere reserve.
 56. The Advisory Committee also noted with satisfaction that the biosphere reserve promotes the use of a product label of the Žuvintas Biosphere Reserve. Local residents and small entrepreneurs can use this label for organic and authentic products that do not harm the environment and wildlife. Diverse projects on conservation of biodiversity, agro-

environment, rural development and water management issues are ongoing in the protected area in support of the logistical function of the biosphere reserve.

57. The Advisory Committee observed that the core areas expanded by 470 ha in 2019.
58. The Advisory Committee requested that the zonation map be provided in English, and encouraged the site to be more involved and active in the MAB regional and international networks.
59. The Advisory Committee concluded that the site **meets** the criteria of the Statutory Framework of the WNBR.
60. **Baa Atoll Biosphere Reserve (Maldives).** The Advisory Committee welcomed the first Periodic Review report of the Baa Atoll Biosphere Reserve, designated in 2011.
61. Baa Atoll is the first atoll ecosystem-based biosphere reserve established in the WNBR. The biosphere reserve is an active member of the South and Central Asian MAB Network (SACAM) and the World Network of Island and Coastal Biosphere Reserves (WNICBR).
62. The Advisory Committee appreciated the vigorous efforts made during the Periodic Review process to ensure the involvement of stakeholders through online meetings, ecological assessment of core areas, a questionnaire survey targeting local councils, consultations and workshops, despite the ongoing COVID-19 pandemic.
63. The biosphere reserve is composed of ten cluster components. Nine core areas and surrounding buffer zones provide key ecological habitats for coral reefs, mangroves and wetlands including a globally significant manta aggregation site. These provide a home for globally endangered species of marine megafauna, fishes, migratory birds and other nationally protected species. According to the results of the ecological assessment conducted as a part of the Periodic Review process, the average coral cover of 19 per cent found in Baa Atoll is similar to the live coral cover of the Maldives (between 3 per cent and 54 per cent. The economy of Baa Atoll is highly dependent on marine and coastal biodiversity, in particular, the fisheries and tourism sector, as well as other activities based on the harvesting and processing of biological resources.
64. The Baa Atoll Biosphere Reserve Office within the Ministry of Environment, Climate Change and Technology is the lead agency for implementing the functions of the biosphere reserve. Three management plans have been formulated and implemented for the three core areas: Hanifaru, Olhugiri and Mendhoo. There have been no changes to the main protection regime of the core areas and buffer zones.
65. Concerning the involvement of local people, the Advisory Committee noted that while local communities were consulted on major development and impactful projects, they were not adequately included or well represented in biosphere reserve activities. The Advisory Committee recommended, therefore, strengthening the involvement of local people in the work of the biosphere reserve.
66. The Advisory Committee congratulated the biosphere reserve on the progress made following designation, including the establishment and operation of the Baa Atoll Conservation Fund, the close partnerships with resorts and dive centres, and the management of conflicts between the tourism sector and fishers.

67. The Advisory Committee welcomed the revision and extension of core areas and buffer zones proposed as a result of the Periodic Review process. The total area of the present biosphere reserve is 133,933.89 ha comprising core areas of 3,916.2 ha, buffer zones of 1,824 ha and a transition area of 133,973.8 ha. The proposed extension aims to increase the marine core areas by 41.31 ha and the marine buffer zones by 4,268.77 ha, giving a total area of 144,024.08 ha. The zonation revision used polygons to strengthen ecological connectivity and added new areas for protection identified during the Periodic Review process.
68. One significant change during the past ten years has been the growth of guesthouse tourism in local islands, influenced by a government policy change which eased tourism rules, allowing local tourism on inhabited islands rather than restricting resorts to uninhabited islands. The tourist numbers are not provided in the Periodic Review report, although a sharp increase in guesthouse beds has been identified.
69. There has been no infrastructural development within the core areas or buffer zones; however, various infrastructure development projects in other parts of Baa Atoll have been carried out including harbour and road development, construction of a water and sewerage network and a domestic airport, and land reclamation. The population of the biosphere reserve also increased from 12,170 in 2010 to 15,005 in 2020.
70. The Advisory Committee noted a lack of clarity regarding how the biosphere reserve would ensure the conservation function and sustainable development due to the absence of information on managing the impacts from growing tourism, population increase and climate change. While zonation maps on each cluster component were provided, they did not indicate the boundaries of the transition areas, and the terminology for zones was not presented correctly on the map covering the entire biosphere reserve.
71. In conclusion, the provided Periodic Review report is considered insufficient to assess whether the biosphere reserve meets the criteria. The Advisory Committee, therefore, requested the authorities to provide the following information by 31 May 2022:
- Approaches to manage the impacts on the marine ecosystems from increased tourist facilities/activities and the local population in the biosphere reserve, and infrastructure development close to the core areas and buffer zones;
 - An integrated management plan covering the entire biosphere reserve, not only the three core areas;
 - A zonation map of the proposed extension showing all zones of the biosphere reserve with a proper legend using biosphere reserve terminology;
 - Scientific research or data on the impact of climate change on the atoll ecosystems and any follow-up policies and measures, and;
 - Data on annual visitor/tourist numbers.
72. **Berlengas Biosphere Reserve (Portugal).** The Advisory Committee welcomed this first Periodic Review report of the Berlengas Biosphere Reserve, designated in 2011. The report was presented by the Institute for Nature Conservation and Forest, the Municipality of Peniche, and the School of Tourism and Maritime Technology (Polytechnic of Leiria).
73. The Berlengas Biosphere Reserve is located on the western coast of Portugal and encompasses the peninsula and town of Peniche and the islands of Berlenga Grande, Estela, Farilhões and Forçadas, which together form the Berlengas archipelago, as well as the surrounding waters. The biosphere reserve comprises a total marine area of 17,776.7

- ha and a total terrestrial area of 725.6 ha. The core areas are located on islands and coastal reefs, covering a total area of 18.8 ha.
74. The human population in the biosphere reserve amounted to approximately 16,300 inhabitants in the transition area according to the data from 2011. The buffer zone hosts a seasonal human population, which varies from 20 to 200 inhabitants, in addition to daily visitors. No humans reside in the core areas. There are also no significant changes to the human population expected in the biosphere reserve.
 75. The total budget for the ten-year period was EUR 7,566,216, including EUR 5,133,544 for conservation and research projects. The biosphere reserve is managed jointly through the Berlengas Co-Management Committee, which is chaired by the Mayor of Peniche and includes representatives of the Institute for Nature Conservation and Forest, the School of Tourism and Maritime Technology (Polytechnic of Leiria), and the Society for the Study of Birds, a non-governmental organization (NGO).
 76. The local population participated directly in the Periodic Review process, showing a high percentage of women participants (67 per cent). Various entities linked to local natural heritage and socio-economic and cultural sectors (marine tourism operators, artisanal fishers, shellfish collectors, diving operators, scientific researchers, NGOs, etc.) were also represented.
 77. The main challenges laid out in the nomination form in 2010 have been met overall as a result of activities led by the biosphere reserve. Human carrying capacity and access rules have been defined and implemented, and the LIFE Berlengas project successfully eradicated or curtailed invasive species of mammals, birds and exotic vegetation. The COPESCA2 (2018–2021) and ANZOL+ (2019–2022) projects have provided training and capacity building to improve sustainable fishing and support artisanal fisheries in the biosphere reserve.
 78. In addition, over the last decade, the tourism sector has expanded along with local accommodation, services and products. The entitlement of biosphere reserve status has increased interest in associated research at the Polytechnic of Leiria as well as local environmental volunteering and school programmes about sustainability. Several sites of geological interest have gained recognition and two museums have opened in Peniche, as well as an interpretation centre on Berlenga Grande.
 79. However, some issues identified in 2010 still require further attention, namely the improvement of infrastructure for visitors and seasonal inhabitants, the production of renewable energy, the supply of drinking water and improvement of the sewage system.
 80. Clear objectives of the biosphere reserve for the upcoming decade (2021-2030) were identified during the Periodic Review process.
 81. Firstly, the consolidation of nesting areas and the restoration of a cliff and marine habitats will be the priority for the conservation function. Secondly, in order to capitalize on tourism, the biosphere reserve will plan to launch a digital visitation platform, improve visitation infrastructure, follow a multi-stakeholder co-management approach for tourism and introduce certificates of origin for local natural products. Thirdly, concerning the logistical function, the main aim will be to foster further community involvement and a sense of ownership in the biosphere reserve. A comprehensive study of the marine area and the effect of designation will be undertaken, and conservation targets and indicators introduced.

82. Finally, the biosphere reserve will make the best of planned knowledge transfers, networking and communication plans with Portuguese biosphere reserves, in line with the new 2018–2025 guidelines from the Portuguese MAB National Committee.
83. In conclusion, the biosphere reserve has successfully met the main challenges identified at the time of its nomination and has assembled an efficient group of stakeholders which has led to beneficial impacts on ecosystems, the local economy, and scientific and educational interests. Furthermore, the biosphere reserve has clearly outlined future workable objectives to build on its previous achievements and further integrate the site both locally and nationally.
84. The Advisory Committee concluded that this site **meets** the criteria of the Statutory Framework of the WNBR. The Advisory Committee praised the quality of the report as well as the progress made since the designation in 2011.
85. **Santana Madeira Biosphere Reserve (Portugal)** The Advisory Committee welcomed this first Periodic Review report of the Santana Madeira Biosphere Reserve, designated in 2011, which was presented by the Municipality of Santana.
86. The Santana Madeira Biosphere Reserve is located on the northern coast of the island of Madeira in the Atlantic Ocean. It encompasses the entire municipality of Santana and its adjacent coastal waters. The biosphere reserve comprises a total terrestrial area of 9,553.98 ha and a total marine area of 5,664.06 ha.
87. The human population has decreased steadily over the ten-year period, from 8,591 in 2011 to 6,710 in 2021. No humans reside in the core areas.
88. The total budget is variable, depending on initiatives and stakeholder projects, and averages EUR 200,000.00 per year. However, the Municipality of Santana acts as the main administrator of the biosphere reserve, with regular contributions of EUR 28,636.00 per year. The actual budget is lower than the budget predictions presented at the time of the nomination.
89. The main underlying challenge during the reviewed period revolved around the budget. Although funds were raised and made available throughout the period, the low critical mass of the population and concerns about its decrease have made it difficult to ensure private competitiveness, investment viability and eligibility to access public funding programmes. Indeed, the management and activities of the biosphere reserve have depended on specific projects and initiatives, and direct contributions from the Municipality of Santana, which does not yet have a dedicated budget line for this administrative role. It is expected that regular funds could be granted through the regional government.
90. Despite this situation, the objectives set out in the nomination form have been met successfully.
91. The main achievement over the period has been the strong uptake of the biosphere reserve model by local communities since its designation. This was underlined during public meetings organized as part of the Periodic Review process, which denoted a growing local interest in environmental issues, in great part thanks to the Eco-Schools and Blue Flag programmes. The biosphere reserve maintains permanent contact with local schools to organize outdoor activities and school visits.

92. In addition, management plans and normative instruments for protected sites that constitute the core areas have been implemented, contributing to the greater availability of scientific knowledge about the biosphere reserve. Building on this, the biosphere reserve facilitated research missions from government departments and the University of Madeira. Finally, the dissemination of good practices and eco-certifications has supported local producers and promoted a shift towards sustainable tourism and agriculture.
93. The Periodic Review process identified overarching objectives, pending the completion of a longer participatory process to define a ten-year action plan to take effect in May 2023, with the support of regional public funds and EU grants.
94. Firstly, the biosphere reserve will plan to continue to promote greater visibility, locally and regionally, building on awareness-raising, good practices and acquired local knowledge, which has proven successful in motivating, adding value and raising the self-esteem of small local producers.
95. Secondly, in order to address the budgetary situation, emphasis will be put on reinforcing local capacities and skills to attract initiatives in conservation and socio-economic development, including by fostering cooperation with other Portuguese biosphere reserves and internationally.
96. Thirdly, the biosphere reserve will continue to support research, education and knowledge dissemination activities, notably in the cataloguing and mapping of ecosystem services in the core areas.
97. In conclusion, the biosphere reserve successfully fulfilled the programme presented in its nomination form despite budgetary limitations. During the ten-year period, it has been particularly successful in enabling local communities to take ownership of the biosphere reserve model as an element that valorises the territory, finding particular resonance with local schools and renewing scientific interest in the region. The new objectives and upcoming ten-year plan can be expected to pursue this trajectory and back fundraising.
98. The Advisory Committee concluded that this site **meets** the criteria of the Statutory Framework of the WNBR. The Advisory Committee praised the quality of the report as well as the progress made since 2011.
99. Taking into consideration the projected rise in visitor numbers, the Advisory Committee recommends that a study on the tourism carrying capacity of the biosphere reserve be undertaken.
100. **Golija-Studenica Biosphere Reserve (Serbia)**. The Advisory Committee welcomed the detailed Periodic Review report for the Golija-Studenica Biosphere Reserve, designated in 2001.
101. The Advisory Committee noted that the requested information relating to the previous Periodic Review report from 2011 has been provided to the Secretariat and that the Advisory Committee in its meeting in January 2017 concluded that the biosphere reserve meets the criteria of the WNBR. The Advisory Committee commended the authorities for seeking technical advice in responding to its requests. The Advisory Committee also noted with appreciation that a stakeholder platform has been established as a follow-up to earlier recommendations. The Advisory Committee took notice of the extension of the core areas by 200 ha and the buffer zones by 700 ha.

102. The Advisory Committee noted with appreciation the activities related to the protection of both natural and cultural heritage, as well as the promotion of organic agriculture and eco-tourism. It commended the concerned authorities for developing an Action Plan for the biosphere reserve in consultation with communities and in line with the Lima Action Plan. The Advisory Committee acknowledged that the preparations for the Periodic Review were hampered by COVID-19 restrictions but urged the authorities to involve local residents more substantially in the monitoring of activities and the preparation of the next Periodic Review report. The Advisory Committee also recommended that the local residents be involved more directly in the management of the biosphere reserve through the Multistakeholder Forum, the municipalities and the traditional assemblies, which currently are in dialogue with the management of the biosphere reserve, but principally through consultation.
103. The Advisory Committee appreciated that the many activities were undertaken to promote eco- and rural tourism, the marketing of cultural heritage as well as the sustainable use of forests. It urged the concerned authorities to equally invest in the promotion and marketing of sustainable agriculture in particular consideration of the difficulties with which farmers in the area are confronted and the out-migration.
104. The Advisory Committee commended the authorities on the many activities of biodiversity monitoring and research implemented. Research is also being conducted on possibilities for the promotion of responsible tourism. The Advisory Committee urged the authorities to equally stimulate socio-cultural research in the biosphere reserve.
105. The Advisory Committee concluded that the site **meets** the criteria of the Statutory Framework of the WNBR.
106. **La Gomera Biosphere Reserve (Spain).** The Advisory Committee welcomed the first Periodic Review report of La Gomera Biosphere Reserve, designated in 2012.
107. This biosphere reserve is located in the central Canary Archipelago, surrounded by the islands of Tenerife, La Palma and El Hierro. There have been no changes to the extent of the site. A total area is 84,522.18 ha with a terrestrial core area of 11,595.25 ha, a marine core area of 1,539.468 ha, a terrestrial buffer zone of 13,279.908 ha, a marine buffer zone of 5,790.094 ha, a terrestrial transition area of 12,303.11 ha and a marine transition area of 40,014.346 ha. The population is estimated 21,678 inhabitants, similar to the size at the time of designation.
108. The Periodic Review was prepared on a collaborative basis, mostly through online meetings, webinars, email exchanges and phone calls. During the process, technical personnel from the biosphere reserve, several departments of the Island Council and one local specialist were consulted to ensure a participatory and comprehensive report.
109. The economic sector has not experienced significant changes. While the COVID-19 pandemic has impacted tourism activities, other sectors remained relatively unchanged. The most important economic activities in the territory are still related to services, most notably commerce and catering, in addition to the public sector. However, the island is actively working to strengthen and increase the scale of the renewable energy sector.
110. In regard to ecosystems, a wildfire in 2012 affected several conservation areas including part of Garajonay National Park. Aside from this event, no significant changes were detected during the ten-year period. Climate change-related impacts, however, are becoming increasingly evident and, in combination with rural abandonment, are a subject

- of growing concern. The island has already experienced severe droughts, which remain a threat to natural ecosystems. In response, research on this topic has sought to mobilize the local population and put in place preventive measures, such as an action plan for climate action and ecological transition.
111. In regard to conservation function, a significant increase has been observed in the population size of the giant lizard of La Gomera, thanks to efforts undertaken by special breeding and habitat ground. Conversely, no individuals of *Helianthemum aganae* have been observed since 2006, and the species was declared extinct on the island in 2018.
 112. Since the designation of the biosphere reserve, the Island Council has worked to strengthen the management of the site. The Insular Management Plan for the Island of La Gomera establishes an overarching management plan, and two Strategic Plans of the La Gomera Biosphere Reserve have been drafted (2011/2016 and 2017/2020). The second of these has been extended and is currently in force. Management of the site is overseen by a governing council, an executive council, a scientific council and a participation council. In 2017, a new law on the Land and Protected Natural Spaces of the Canary Islands was passed, which affects the management of parts of the biosphere reserve.
 113. In regard to research and monitoring, an economic crisis at the national level has reduced the financing available for research activities in the territory. At present, there is no specific area dedicated to the creation of lines of research. The current COVID-19 situation has also closed possibilities for studies at all levels.
 114. In regard to communication and visibility, the following documents have been elaborated: (i) a Communication Plan of La Gomera Biosphere Reserve, (ii) a Manual on Good Practices of the La Gomera Biosphere Reserve, and (iii) a new logotype (2017) and corporate manual of the La Gomera Biosphere Reserve brand.
 115. Several positive initiatives and events have taken place over the ten-year period: (i) the designation of a ZEPA (special area for the protection of birds) zone with clear guidelines for management and monitoring; (ii) the detection of several new species in the territory and the creation of a protection plan; (iii) an increase in ecotourism activities and services devoted to development and conservation; (iv) actions to improve waste management including awareness-raising; and (v) research activities on biodiversity, cultural heritage and climate.
 116. The Advisory Committee concluded that this site **meets** the criteria of the Statutory Framework of the WNBR. The Advisory Committee praised the quality of the report as well as the progress made since its designation in 2012.
 117. **Ubiñas – La Mesa Biosphere Reserve (Spain)**. The Advisory Committee welcomed this first Periodic Review report for the Ubiñas – La Mesa Biosphere Reserve, designated in 2012. The report was presented by the scientific council of the Spanish MAB National Committee.
 118. The Ubiñas – La Mesa Biosphere Reserve is located in the Cantabrian mountains in northern Spain. The site includes the villages of Teverga, Lena and Quirós, and the mountain Peña Ubiña (2,417 m), and comprises a total area of 45,164 ha. In 2015, minor adjustments to the zonation were carried out to facilitate the functions of the biosphere reserve.

119. The total budget earmarked for the ten-year period initially amounted to EUR 6,141,773.45. However, a decrease in public funding, notably farming subsidies, over the course of the decade led to lower than expected annual contributions from public bodies. The budget was stabilized in 2017 at EUR 4,800,000.
120. The Periodic Review identified a series of objectives and a work plan to link core areas together, such as Arenal Tempisque and Arenal Huetar Norte, to create biological corridors in buffer zones.
121. The main achievements presented in the Periodic Review indicate some long-term benefits and a certain level of resilience in the biosphere reserve. Conservation efforts have been rewarded by notable population recoveries of the brown bear and the capercaillie, which could support wildlife-watching tourism. The economic recession has led to increased local food production and consumption, as well as a stronger awareness of life in rural and natural regions, in the form of local initiatives and social projects, such as eco-labelling of local products. Finally, despite internal difficulties over the ten-year period, 94 research and scientific-technical projects were implemented in the biosphere reserve.
122. A series of objectives have been defined for each function in the biosphere reserve. Firstly, the conservation function will depend on completing the new integrated management tool, introducing the local sustainable development plan and, at the minimum, maintaining existing public funding.
123. Secondly, the biosphere reserve plans to harness the emerging resilience of the local economy. This will rely on local eco-labelled products and services, investment in new low-cost tourism activities (wildlife watching, heritage), support for initiatives linked to high-quality mountain agropastoralism, and environmental excellency.
124. Thirdly, the biosphere reserve plans to capitalize on its collaboration with wildlife foundations, build on the existing partnership with the Río Plátano Biosphere Reserve in Honduras, and seek a lasting solution to remedy the intermittent closures of the reception centre.
125. Overall, the biosphere reserve will seek to share these benefits by further involving municipalities and support communication with regional authorities.
126. In conclusion, the biosphere reserve has experienced structural and lasting difficulties, both internal and external, which have started to be resolved. In the meantime, the status of the site as a biosphere reserve has contributed to a certain level of resilience and has produced beneficial impacts, while maintaining scientific interest in the site. The objectives laid out for the biosphere reserve aim to address these difficulties by building on this resilience in spite of the difficulties.
127. The Advisory Committee concluded that this site **does not meet** the criteria of the Statutory Framework of the WNBR.
128. The Advisory Committee noted the specific challenges that the biosphere reserve has faced since its nomination and, therefore, requested the national authorities to submit by 31 May 2022:
 - a. A revised zonation map; and

- b. A work plan including a calendar and measures to (i) demonstrate progress towards re-establishment of the integrated management tool; (ii) creation of a management committee; and (iii) increase activities within the biosphere reserve.
129. **Sierra Nevada Biosphere Reserve (Spain).** The Advisory Committee welcomed the second Periodic Review report of the Sierra Nevada Biosphere Reserve, designated in 1986. The report was submitted by the Scientific Council of the Spanish MAB Committee. This work is the result of an initial analysis of working and annual plans and interviews with current and past managerial teams.
130. The biosphere reserve is located in the Andalusian part of the Cordillera Penibética in southern Spain, between Granada and Almeria. The site comprises a total area of 172,238 ha, with a terrestrial core area of 85,883 ha, a terrestrial buffer zone of 69,870 ha and a transition area of 16,485 ha. The limits of the biosphere reserve coincide with the limits of the Sierra Nevada National Park.
131. The total human population in the biosphere reserve amounted to 10,410 inhabitants in 2020 with 381 in the buffer zone and 10,029 in the transition area. No inhabitants are in the core areas.
132. Over the ten-year period, several research projects have been implemented in collaboration with national and international institutions. Considerable ongoing efforts are expected to promote local knowledge aimed at the restoration of traditional agro-livestock infrastructures. In addition, the Natural Park brand is being promoted to revitalize the local economy and environmental education. Finally, the creation of volunteering platforms to promote local culture and biodiversity has played a strategic role in garnering local support.
133. The overall governance framework for the Sierra Nevada Biosphere Reserve relies primarily on the work of the Participation Council and the permanent management structure. They oversee two functional areas of 'biodiversity and traditional uses' (conservation) and 'public use and sustainable development' (management). In addition, the site has prepared its second Sustainable Development Plan, which was approved at the end of 2019, but has yet to be effectively implemented.
134. The Sierra Nevada Biosphere Reserve has numerous active conservation and research programmes focusing on flora, fauna, ecosystems, weather and climate change in mountainous regions. Additionally, actions to improve understanding, critical analysis, knowledge, skills and awareness-raising among visitors and local citizens have been implemented in collaboration with the Junta de Andalucía.
135. The Advisory Committee congratulated the biosphere reserve on these achievements. However, the expert assessment of the submitted Periodic Review showed that the current zonation impedes full attainment of the biosphere reserve's functions, especially the size of the transition area and the development function.
136. Furthermore, the assessment pointed out the absence of a comprehensive management strategy to coordinate the existing management tools in a coherent manner.
137. The Advisory Committee concluded that this site **does not meet** the criteria of the Statutory Framework of the WNBR.

138. The Advisory Committee recommended that the national authorities review the current zonation of the biosphere reserve and extend the transition area to facilitate the development function.
139. The Advisory Committee also requested that the national authorities develop a comprehensive management strategy for the biosphere reserve, which would oversee and take into account existing management tools.
140. As such, the Advisory Committee requested the national authorities to submit to the MAB Secretariat by 31 May 2022:
 - a. A revised zonation map and detailed description of the mining sites located in the biosphere reserve;
 - b. A work plan presenting a clear calendar and planned actions to achieve the extension and rezoning of the biosphere reserve; and
 - c. A work plan presenting a clear calendar and planned actions to introduce a comprehensive management strategy, which coordinates existing management tools in a coherent manner.
141. **Doñana Biosphere Reserve (Spain).** The Advisory Committee welcomed the third Periodic Review report of the Doñana Biosphere Reserve, designated in 1980. The biosphere reserve submitted Periodic Review reports previously in 2001 and 2011, and in the latter the extension of the site was requested.
142. Since the extension of the biosphere reserve its zonation has been revised. The site now has a total area of 269,856.18 ha, with a terrestrial core area of 55,518.60 ha, a terrestrial buffer zone of 68,236.40 ha, a marine buffer zone of 4,778.90 ha, a terrestrial transition area of 140,726 ha and a marine transition area of 599.04 ha. The population has increased progressively since 2015 and is estimated 166,821 inhabitants, all of whom reside within the terrestrial transition area.
143. The Periodic Review was prepared on a collaborative basis, mostly through numerous online meetings, webinars, email exchanges and phone calls. During this process, stakeholders representing various areas, including the biosphere reserve personnel and specialists, were consulted to ensure a participatory and comprehensive report.
144. Management of the site has been strengthened through the elaboration of a Management Plan of Natural Resources (PORN) and a Master Plan for Use and Management (PRUG) of Doñana Natural Space.
145. No significant changes were indicated regarding ecosystem functioning, although issues were identified relating to pressure from intensive agriculture that disrupts the availability of water and threats to the conservation function in the core area.
146. The new zonation proposed by the national authorities presents incontiguous terrestrial and marine buffer zones that could affect the conservation functions of the core area. The marine transition area is extremely small and there is no transition area in the western part of the reserve.
147. The Advisory Committee congratulated the Doñana Biosphere Reserve team and the authors on the excellent quality of the Periodic Review report. The Advisory Committee, however, concluded that this site **does not meet** the criteria of the Statutory Framework of the WNBR.

148. The Advisory Committee requested the national authorities to provide the MAB Secretariat with a more detailed explanation of the proposed rezoning by 31 May 2022 and, if possible, consider a modification of buffer zone and transition area, as explained above.
149. Moreover, the Advisory Committee requested the authorities to update and develop a specific management plan for the biosphere reserve that pays particular attention to major threats and areas of conflict, such as:
 - a. Use and quality of water resources;
 - b. Fire control and prevention;
 - c. Control and eradication of invasive species; and
 - d. Hunting of key species for the ecological balance of the area, especially rabbits, which are the main source of food for eagles and lynxes.
150. It is essential that such a Management Plan prioritizes the articulation of existing management plans and instruments of the Doñana Natural Area with a view to increasing the visibility of the biosphere reserve. The Advisory Committee recommended the development of a communication plan to heighten awareness of the site's membership in the WNBR.
151. The Advisory Committee also recommended that special attention be paid to the conservation of fragile ecosystems that are fundamental to the ecology of the area such as dunes and wetlands. Furthermore, it emphasized the importance of strengthening sustainable nature tourism, considering that the predominance of sun and beach tourism generates negative impacts and does not promote the objectives of the biosphere reserve.
152. **Montseny Biosphere Reserve (Spain).** The Advisory Committee welcomed the third Periodic Review report from the Montseny Biosphere Reserve, designated in 1978. The site is located some 60 km north of Barcelona in the pre-coastal Catalan Mountain range situated in eastern Spain. The Montseny massif bridges the Mediterranean and Eurosiberian-Pirenaic regions and is representative of the Mediterranean Sclerophyll landscape.
153. The Periodic Review process represented a collaboration between the drafting and management teams of the Montseny Natural Park and the biosphere reserve and took the form of meetings and field visits to some of the facilities and initiatives presently underway.
154. The total area of the biosphere reserve includes a core area of 9,058.07 ha, a buffer zone of 22,914.00 ha and a transition area of 18,194.56 ha. The total area now comprises 50,166.63 ha, including 20,000 ha incorporated during the extension in 2014.
155. The approved extension in 2014 integrated 17 out of the 18 municipalities surrounding the biosphere reserve and allowed for a better-structured zonation with a sufficiently large transition area to establish partnerships with the population and municipalities.
156. The management of the biosphere reserve is undertaken by two bodies: the Coordinating Council and the Consultative Commission.
157. The Coordinating Council undertakes coordination and management, and brings together administrations with responsibilities in this area, namely the two provincial councils, several departments of the Generalitat de Catalunya, all the municipalities within the boundaries of the biosphere reserve and county entities, but does not include representatives of social and economic entities.

158. The Consultative Commission is the body responsible for consultation and citizen participation and operates with the participation of representatives of social, cultural, conservationist and scientific entities, as well as representatives of business sectors.
159. The site has drawn up an Action Plan for the Montseny Biosphere Reserve 2021–2030 and a plan for promoting socio-economic development which encourages heritage conservation. One of the strategic axes proposed is knowledge as an axis of development, which involves the following three strategic priorities: (i) positioning Montseny as a node for the promotion of the bio-economy; (ii) the promotion of new economies based on the natural and cultural resources of Montseny; and (iii) the promotion of ecotourism.
160. A Conservation Plan for the biosphere reserve was approved in 2014 and renewed in 2021 and defines land management strategic actions and objectives for the next ten years. The identified working areas are water management, energy efficiency, climate change adaptation, public transport and mobility, gender equality, communication, visual identity and branding.
161. Negative changes include a significant increase in population due to its proximity to Barcelona, especially following the economic crisis in 2008 and more recently during the COVID-19 pandemic. In addition, the large-scale sports activities have provoked social conflicts, especially in the Montseny Massif in autumn and during the snow season. The main identified environmental threats are the introduction of invasive alien species, the overuse of natural areas, unsustainable forestry practices, the abandonment of agriculture, the expansion of timber species over rich semi-natural grasslands, and the disturbance and occasional pollution of the hydrographic network.
162. The Advisory Committee concluded that the site **meets** the criteria of the Statutory Framework of the WNBR. The Advisory Committee congratulated the biosphere reserve on its excellent report and the progress made since its designation, such as the growth in the visibility of the biosphere reserve, community participation, the promotion of gender equality, and cultural and educational initiatives.
163. The Advisory Committee requested the national authorities to submit a clear zonation map of the biosphere reserve including a detailed legend to the MAB Secretariat by 31 May 2022.
164. **Blekinge Archipelago Biosphere Reserve (Sweden).** The Advisory Committee welcomed the submission of the first Periodic Review report of the Blekinge Archipelago Biosphere Reserve, designated in 2011.
165. Blekinge Archipelago Biosphere Reserve is the first such site in Sweden with a focus on issues facing the Baltic Sea. During the period 2011–2021, the area covered most of Blekinge's archipelago and coastal landscape with the marine area totalled 156,000 ha and the land area totalled 56,700 ha.
166. In 2021, an initiative was launched to extend the biosphere reserve to encompass parts of the Sölvesborg municipality, which forms part of the Blekinge archipelago with Hanö, while the medieval city of Sölvesborg functions as the entry point to the archipelago.
167. Then the extension of the biosphere reserve by incorporating Sölvesborg has created a cohesive area that connects to the nearby Kristianstad Vattenrike Biosphere Reserve, which has become an important partner. As a result of the extension, the entire territory has increased by nearly 50,000 ha.

168. The Advisory Committee welcomed this extension which has increased the total permanent population of the biosphere reserve to 107,026 inhabitants.
169. A committed corporate network has been built around the extensive 'Archipelago route project'. Activities in the biosphere reserve have focused on the sustainable hospitality industry, keeping the biosphere reserve clean, sustainable fishing, sustainable agriculture and forestry, information, learning and participation. A collaboration plan for the Blekinge Archipelago Biosphere Reserve has also been developed which describes the conditions of the site and provides an action plan that entails the preservation of important natural and cultural values while ensuring progressive business development within the area. A regional development strategy 'Attractive Blekinge' has also been elaborated.
170. The Advisory Committee congratulated the national authorities on their excellent work and the quality of the report. The Advisory Committee also congratulated the Board of the Blekinge Archipelago Biosphere Reserve on their work undertaken and recommended that the report be shared as a model for the WNBR.
171. The Advisory Committee concluded that the site **meets** the criteria of the Statutory Framework of the WNBR.
172. **Nedre Dalälven River Landscape Biosphere Reserve (Sweden).** The Advisory Committee welcomed the submission of the first Periodic Review report of the Nedre Dalälven River Landscape Biosphere Reserve, designated in 2011.
173. The biosphere reserve has a total area of 740,676 ha following the recent extension.
174. The Advisory Committee noted that the board of the Biosphere Association decided to extend the outer boundary of the biosphere reserve to effectively coincide with the Leader Nedre Dalälven area. The extended boundary also coincides to a greater extent with the boundaries of the municipalities in the area. The extension almost triples the size of the transition area and represents a natural evolution of a local process in the area. Due to the extension of the biosphere reserve, the total population in the biosphere reserve doubled to more than 120,000 people.
175. The Advisory Committee further noted that the activities of the biosphere reserve contributed to international frameworks such as Natura 2000 (the site contains a total of 170 Natura 200 sites), Agenda 2030 (particularly SDG 14 and SDG 15), NordMAB (the network of Swedish biosphere reserves, EuroMAB (the network for European areas), and the collaborative projects 'Biosphere Forests for the Future' and 'Biosphere for Baltic'. In addition, the biosphere reserve has established an office with a coordinator and other staff. The Biosphere Association has also developed action plans with activities linked to the functions of conservation, development and logistic support.
176. This Biosphere Association has worked on ecological, social and economic sustainability in four selected focus areas: sustainable fisheries/fisheries management, open landscapes, sustainable tourism and biological mosquito control.
177. The Advisory Committee congratulated the national authorities on their excellent work and the quality of the report. The Committee also thanked and congratulated the Board of Nedre Dalälven River Landscape Biosphere Reserve on the work undertaken and recommended that the report be shared as a model for the WNBR.

178. The Advisory Committee concluded that the site **meets** the criteria of the Statutory Framework of the WNBR.
179. **UNESCO Biosphere Entlebuch (UBE) (Switzerland)**. The Advisory Committee welcomed this second Periodic Review report of the UNESCO Biosphere Entlebuch, designated in 2001. Its first Periodic Review report was submitted in 2011.
180. The Swiss government recognizes UBE as a regional nature park of national importance, a label that requires extremely comprehensive planning (in particular a ten-year management plan), reporting and evaluation. The Periodic Review is based on this framework which was supplemented notably by two extensive, targeted citizen surveys.
181. The Advisory Committee noted that several actions (e.g. participation in the World Congress of Biosphere Reserve in Peru and EuroMAB meetings, publications, reception of delegations) have successfully shared knowledge on how a biosphere reserve can contribute to implementing the SDGs.
182. The Advisory Committee noted that only minor changes have occurred in the UBE during the past ten years, with a notable exception of a significant increase in the quality of the habitats in the buffer zone and transition area, specifically, including the addition of over 1,200 ha of forest reserves.
183. Regarding the conservation function, restoration projects for raised bogs have been developed and implemented, invasive alien plants eradicated, and measures to improve structural diversity in alpine habitats implemented. The principal goal of these activities was to improve habitats for targeted species and habitats, and a key success in this regard was biotope restoration with the support of volunteers.
184. Regarding the development function, promotion of the regional economy through the brand 'Echt Entlebuch' ('Truly Entlebuch') has intensified with 538 certified products (an increase of 247 compared to 2011) and a company, Biosphäre Markt AG, was established in 2013. Together, these innovations have led among other things to the expansion and renovation of processing facilities for milk, meat and plants.
185. In the governance aspect, following the merger of the two municipalities in 2013, the UBE Association of Municipalities which manages the biosphere reserve now includes only seven municipalities. Some new institutions have emerged contributing to faster and better responses to regional challenges related to the maintenance of agriculture and tourism.
186. The Advisory Committee congratulated the concerned authorities on their excellent work and the quality of the report and recommended that its summary be used as a model for future periodic review reports. The Advisory Committee further recommended that the site be considered as a model region for sustainable development and its practices be shared within the WNBR.
187. The Advisory Committee concluded that the site **meets** the criteria of the Statutory Framework of the WNBR.
188. **Dong Nai Biosphere Reserve (Viet Nam)**. The Advisory Committee welcomed the first Periodic Review report of the Dong Nai Biosphere Reserve. Dong Dai is the new name of the former Cat Tien Biosphere Reserve, designated in 2001. The extension and renaming were approved in 2011.

189. The site is located in the Dong Nai Province in the southeast of Viet Nam. In this region, the plateaus of the central Vietnamese highlands give way to the Nam Bo Delta. The Dong Nai Biosphere Reserve is a renowned tourist destination.
190. Prior to the extension and renaming, the Dong Nai Biosphere Reserve had three core areas: Cat Tien National Park (NP), Dong Nai Culture and Nature Reserve (CNR), including a forest area, forestland, and historical and cultural relics, and the Tri An–Dong Nai Inland Water Conservation Area. However, following the Decision of 16 July 2009 of the Chairman of Dong Nai Provincial People's Committee (PPC) on the integration of the Dong Nai Fisheries Centre (the agency responsible for managing Tri An Lake) into the Vinh Cuu Relic and Nature Reserve (now the Dong Nai CNR), and in accordance with the Decision of 21 November 2011 of the Dong Nai PPC approving the Master Plan for the Dong Nai CNR for the period 2011-2020, the Tri An–Dong Nai Inland Water Conservation Area now forms part of the Dong Nai CNR and is managed by the Dong Nai CNR Management Board. Under this revised structure, the Dong Nai Biosphere Reserve officially has two core areas: Cat Tien NP and Dong Nai CNR.
191. The Advisory Committee noted that following the extension and renaming of the Cat Tien Biosphere Reserve as the Dong Nai Biosphere Reserve, the Dong Nai PPC quickly consolidated a Biosphere Reserve Management Board, and established an Advisory Council, Secretariat, and Management Office of the Biosphere Reserve. The principles of the Dong Nai Biosphere Reserve are clearly stated in the Regulations on Management of the Biosphere Reserve. The local communities participated in the establishment process, as the experience over the past 20 years has shown that they constitute an integral part of the biosphere reserve's activities.
192. The Dong Nai Biosphere Reserve has implemented activities on the basis of the plan 'Conservation and development of the Dong Nai World Biosphere Reserve in the period of 2015–2020 with a vision to 2030'. Educational activities targeting young people and students have been carried out to raise awareness of the conservation and
193. According to the Periodic Review report, the Dong Nai Biosphere Reserve has a total area of 756,000 ha, with core areas of 171,759 ha, a buffer zone of 286,247 ha and a transition area of 297,714 ha. The Advisory Committee noted that in the comparison with 2011 when the extension and renaming were approved, the total area decreased by approximately 28 per cent, the core areas also by about 28 per cent, the buffer zone by about 7 per cent and the transition area by about 34 per cent. The report provided a detailed explanation of these changes, which were not due to a decrease in forest area nor a reduction in lake areas, but rather to measurement techniques and errors of mapping software, conversion to agricultural land and subsequent allocation to ethnic groups for farming in order to help stabilize their lives. The report also states that the described changes do not affect the governance structure or the implementation of activities in the biosphere reserve.
194. Due to the extension and renaming of the biosphere reserve, the administrative units of communes, districts and cities in the area of the biosphere reserve have undergone many changes. Thus, the number of administrative units in the buffer zone and the transition area of the biosphere reserve has changed, leading to concomitant changes in the relevant data.
195. In this regard, the Advisory Committee noted that the total population living in the biosphere reserve has increased since 2011 by 60 per cent in the core areas, and has more than doubled in the buffer zone and almost doubled in the transition area. The Advisory

- Committee recommended monitoring the impact of this increase on conservation and development activities, and proposed that measures be implemented, if necessary.
196. The Advisory Committee noted with satisfaction the increasingly recognized role of traditional and indigenous knowledge of ethnic groups in the Dong Nai Biosphere Reserve, with the appropriate application of traditional practices combined with advanced scientific knowledge in the management of the biosphere reserve.
 197. Conservation and development activities in the biosphere reserve have created new eco-friendly and climate-resilient livelihoods in the core areas and buffer zones, bringing good results.
 198. The Dong Nai Biosphere Reserve has implemented several economic approaches: the development of sustainable types of tourism, the promotion of Dong Nai Biosphere sustainable development of natural resources and biodiversity, and the preservation of cultural values. This approach also helps promote the conservation, development and logistical support functions of the site. More recently, an Action Strategy for the Dong Nai Biosphere Reserve to 2025 has been developed alongside a vision for 2030. Reserve labelling, and payment for forest environmental services (PFES), a breakthrough
 199. The total budget for the Dong Nai CNR from the Forest Protection and Development Fund of Dong Nai Province increased by 280 per cent compared to the initial implementation in 2011.
 200. In general, the economic growth rate of communes and districts in the area of the Dong Nai Biosphere Reserve over the period 2011–2021 has enjoyed a positive trend with each increase higher than that of the previous year.
 201. The Advisory Committee noted that one of the outstanding achievements of the Dong Nai Biosphere Reserve is strong community development through forest protection contracts, PFES and support for communes in the buffer zones through the development of livelihood models.
 202. The Advisory Committee acknowledged the well-prepared Periodic Review report as well as the progress made since the designation and the extension and renaming of the site. The Committee concluded that the site **meets** the criteria of the Statutory Framework of the WNBR.
 203. **Middle Zambezi Biosphere Reserve (Zimbabwe).** The Advisory Committee welcomed the first Periodic Review report of the Middle Zambezi Biosphere Reserve, which is the first biosphere reserve of Zimbabwe, designated in 2010. The site forms part of Region 54 of the African terrestrial regions.
 204. The biosphere reserve covers an area of 3,400,000 ha in the Zambezi valley and is home to threatened species such as the painted wild dog (*Lycaon pictus*) and the Nyala (*Tragylaphus angasii*).
 205. The Advisory Committee commended the national authorities for implementing the recommendations of the MAB Council regarding the 2010 nomination dossier, noting the clearly delineated buffer zone and transition area, surveys to gauge the size of the human population (252,000) and the implementation of projects such as the 'Global Partnership on Wildlife Conservation and Crime Prevention for Sustainable Development' which has enhanced community participation in the management of the area. The Advisory Committee

- appreciated the application of various management plans across the area, including trans-frontier agreements for the Mana Pools World Heritage Site and Matusadona National Park, collaboration with local and international partners including NGOs for research and monitoring, and other efforts to sustain the development function of the biosphere reserve. policy which has been applied nationwide since 2011.
206. The Advisory Committee, however, noted that the list of legal documents and management plans covering the area was not fully accessible in the Periodic Review report. The Advisory Committee also noted, with concern, the overlap of the buffer zone with certain sections of the transition area in the new zonation, the absence of an integrated management plan and management structure, and the need to develop and implement an integrated plan for the entire area, including proper management of the core areas to address identified challenges such as poaching and ecosystem degradation from illegal gold mining in the buffer zone.
 207. The Advisory Committee concluded that the site **does not meet** the criteria of the Statutory Framework of the WNBR.
 208. The Advisory Committee requested the national authorities, in line with the 'Process of Excellence and Enhancement of the World Network of Biosphere Reserves (WNBR) as well as quality improvement of all members of the WNBR', to undertake the following by 30 September 2023:
 - a. Submit the revised zonation map, including all proposed changes;
 - b. Submit all plans and legal documents listed in the report;
 - c. Improve the institutional framework of the biosphere reserve at all levels to ensure multisectoral multistakeholder governance;
 - d. Collaborate effectively with the GEF project to develop and implement a single integrated management plan with a clear coordination mechanism for the entire landscape, and submit the above plan; and
 - e. Provide evidence of extensive consultations with all stakeholders in the management of the biosphere reserve.

ANNEX 2: EXAMINATION OF THE STATUS OF IMPLEMENTATION OF THE RECOMMENDATIONS OF PERIODIC REVIEWS ENDORSED BY THE 28th IACBR

Country	Name of the site	28th IACBR recommendations (2022)	Comments
ANDORRA	ORDINO		The Advisory Committee considered the creation of this laboratory to be compatible with the biosphere reserve designation.
COLOMBIA	CINTURON ANDINO	Does not meet the criteria of the Statutory Framework of the WNBR	General recommendations for Colombian authorities: The Advisory Committee requested the national authorities to provide by 31 May 2022 a progress report on the creation of the MAB committee
COLOMBIA	EL TUPARRO	Does not meet the criteria of the Statutory Framework of the WNBR	
COLOMBIA	SIERRA NEVADA DE SANTA MARTA	Does not meet the criteria of the Statutory Framework of the WNBR	
COLOMBIA	CIENAGA GRANDE DE SANTA MARTA	Does not meet the criteria of the Statutory Framework of the WNBR	
RUSSIAN FEDERATION	VOLGA-AKHTUBA FLOODPLAIN	Complementary information requested	
SPAIN	BARDENAS REALES	Meets the criteria of the Statutory Framework of the WNBR	

Recommendations by the International Advisory Committee for Biosphere Reserves:

1. **Ordino Biosphere Reserve (Principality of Andorra).** The Advisory Committee noted the organization of public information sessions in 2021 to inform the population of the site about a project to establish a research laboratory that aims to become a reference centre in Europe for the treatment of immune system disorders. Classified as a P3 laboratory (i.e. a containment facility for the isolation and manipulation of dangerous biological materials used for various research purposes), the facility will be required to follow international standards and protocols to ensure an adequate level of security. The Advisory Committee considered the creation of this laboratory is compatible with the biosphere reserve designation.
2. **General recommendations for Colombian authorities.** The Advisory Committee thanked the Colombian authorities for the additional information provided as well as for their commitment to the MAB Programme.
3. The national authorities reported last year that they were in the process of setting up their national MAB committee.
4. The Advisory Committee requested the national authorities to provide by 31 May 2022 a progress report on the creation of the MAB committee and to explain how this committee will support the work and all three functions of the El Tuparro, Cinturón Andino, Sierra Nevada de Santa Marta and Ciénaga de Santa Marta Biosphere Reserves, rather than limiting its efforts to the national parks.
5. **Cinturón Andino Biosphere Reserve (Colombia).** The Advisory Committee thanked the national authorities for the additional information provided. However, the Committee noted that the provided information did not clearly indicate how the zonation incorporated the 82 protected areas.
6. The national authorities had stated previously that they would identify and contact the different stakeholders of the three zones and organize workshops and activities to build synergies and enhance the operation of the biosphere reserve.
7. The national authorities also provided information about the different management bodies and associated management plans that exist in the area.
8. The Advisory Committee, therefore, requested that the authorities provide the MAB Secretariat with the following by 31 May 2022:
 - a. A management plan for the whole biosphere reserve, including the core area, buffer zone and transition area, with an emphasis on coordination and synergies with existing national plans, policies and strategies, such as community projects, partnerships with NGOs or the private sector, and, above all, involving the local communities inhabiting the reserve;
 - b. An official document reflecting the establishment and operation of the biosphere reserve committee, involving all relevant stakeholders (national, regional and local government, local communities, academia and NGOs, among others);
 - c. A report clearly presenting information on the size of the core area and explaining how the 82 new protected areas were integrated;
 - d. A revised zonation, particularly of the buffer zone and transition area, in line with the functions set out in the Statutory Framework of the WNBR; and

- e. The results of the workshops conducted in 2021 with the key stakeholders of the biosphere reserve.
9. The Advisory Committee concluded that this site **does not meet** the criteria of the Statutory Framework of the WNBR.
10. **El Tuparro Biosphere Reserve (Colombia).** The Advisory Committee thanked the national authorities for the additional information provided.
11. The national authorities provided information about the different management bodies and associated management plans that exist in the area.
12. The Advisory Committee concluded that this site **does not meet** the criteria of the Statutory Framework of the WNBR.
13. The Advisory Committee, therefore, requested that the Colombian authorities provide the MAB Secretariat by 31 May 2022 with a workplan of the Tuparro Biosphere Reserve including the following elements:
 - a. A management plan for the whole biosphere reserve, including the core area, buffer zone and transition area, with an emphasis on coordination and synergies with existing national plans, policies and strategies, and, above all, involving the local communities inhabiting the biosphere reserve;
 - b. A revised zonation, particularly of the buffer zone and transition area, in line with the functions set out in the Statutory Framework of the WNBR; and
 - c. The results of workshops conducted in 2021 with the key stakeholders of the biosphere reserve.
14. **Sierra Nevada de Santa Marta Biosphere Reserve (Colombia).** The Advisory Committee thanked the national authorities for the additional information provided.
15. The national authorities provided information about the different management bodies and associated management plans that exist in the area.
16. The Advisory Committee concluded that this site **does not meet** the criteria of the Statutory Framework of the WNBR.
17. The Advisory Committee, therefore, requested that the Colombian authorities provide the MAB Secretariat by 31 May 2022 with a workplan of the Sierra Nevada de Santa Marta Biosphere Reserve including the following elements:
 - a. A justification for the extensions of the terrestrial core area and the marine buffer and transition areas with clearly detailed functions. This shall be supported by a clear map of the new zonation;
 - b. A management plan for the whole biosphere reserve that coordinates all existing plans for the different zones; and
 - c. An official document reflecting the establishment and operation of the biosphere reserve committee involving all relevant stakeholders (national, regional and local government, local communities, academia and NGOs, among others).
18. **Ciénaga Grande de Santa Marta Biosphere Reserve (Colombia).** The Advisory Committee thanked the national authorities for the additional information provided.
19. The national authorities provided information about the different management bodies and associated management plans that exist in the area.

20. The Advisory Committee concluded that this site **does not meet** the criteria of the Statutory Framework of the WNBR.
21. The Advisory Committee, therefore, requested that the Colombian authorities provide the MAB Secretariat by 31 May 2022 with a workplan of the Ciénaga Grande de Santa Marta Biosphere Reserve including the following elements:
 - a. A management plan for the whole biosphere reserve that coordinates all existing plans for the different zones; and
 - b. An official document reflecting the establishment and operation of the biosphere reserve committee involving all relevant stakeholders (national, regional and local government, local communities, academia and NGOs, among others).
22. **Volga-Akhtuba floodplain Biosphere Reserve (Russian Federation).** The Advisory Committee expressed its concern about the construction of a road on the floodplain and urged the biosphere reserve authorities to invite the concerned citizens who contacted the MAB Secretariat for a meeting to discuss the situation.
23. The Advisory Committee requested that the authorities submit the Periodic Review report by 30 September 2022 including a detailed study of the impacts of the road on all three functions of the biosphere reserve. The Advisory Committee further advised that a technical mission be sent/conducted in the biosphere reserve.
24. **Bardenas Reales Biosphere Reserve (Spain).** The Advisory Committee welcomed the additional information provided by the national authorities. The Bardenas Reales Biosphere Reserve, designated in 2000, is located in the southeast of the Comunidad Foral de Navarra and covers an area of 39,285.30 ha.
25. The management committee for the site is composed of a general board and an advisory council. The biosphere reserve has elaborated the Strategic Management Plan of the Bardenas Reales de Navarra Biosphere Reserve 2020/2032.
26. The biosphere reserve has no population living within its territory. The 89,374 inhabitants surrounding the biosphere reserve, the 'congozantes', have rights of use of the biosphere reserve including the right to use the lands exclusively and in perpetuity. They are 19 villages, two Pyrenean valleys and one monastery.
27. The Bardenas area does not belong to any municipality. The 'congozantes' constituted a 'Community' in 1705, which is governed by Ordinances approved in 1820 up to the present day. Three centuries ago, the 22 groups of 'congozantes' constituted the Community of Bardenas Reales de Navarra, a Local Entity of Traditional Character with a unique legal regime.
28. Although there is no population living within the biosphere reserve, the inhabitants use the territory on a daily basis for sustainable activities. On the basis that these activities fulfil the development function of the biosphere reserve, the Advisory Committee concluded that this biosphere reserve **meets** the criteria of the Statutory Framework of the WNBR.