

CULTURE & DEVELOPMENT

UNDERWATER CULTURAL HERITAGE IN LATIN AMERICAN AND THE CARIBBEAN

DOSSIER
Cervera's squadron
in Santiago de Cuba

Florence
Declaration



United Nations
Educational, Scientific and
Cultural Organization

Regional Office for Culture
in Latin America and the Caribbean

UNESCO Havana



cooperación
española



Patrimonio
cultural
Consejo Nacional
Cuba



Nº13
2015





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CULTURE AND DEVELOPMENT Nº 13

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EDITORIAL



On July 3 1898, Admiral Pascual Cervera Topete was ordered to confront the U.S. fleet that was blocking his way out of the bay of the city of Santiago de Cuba. In broad daylight, the Spanish squadron, composed of four armoured cruisers and two destroyers, was mercilessly shelled and pursued. Once defeated, the ships hugged the coast trying to save as many crew members as possible.

Over a century later, the armoured cruisers Infanta María Teresa (flagship), Vizcaya, Almirante Oquendo and Cristóbal Colón, and the destroyers Furor and Plutón lie in the shallow waters of the bay of Santiago de Cuba and make up, along with the natural environment around them, the Batalla Naval de 1898 Underwater Archaeological Park. The Castillo del Morro San Pedro de la Roca, a complex network of fortresses, magazines, strongholds and batteries, inscribed on the World Heritage List in 1997 as the most comprehensive and best preserved example of Spanish military engineering in the Americas, watches over the shipwrecks from high ground.

The UNESCO Regional Office for Culture in Latin America and the Caribbean, based in Havana, together with the National Cultural Heritage Council of Cuba and the Government of Santiago de Cuba, with the support of the National Commission for UNESCO, the Technical Coordination Office of the Spanish Agency for International Development Cooperation (AECID) in Cuba and the Defence Attaché of the Spanish Embassy in the country, has launched the project Protection and management of underwater and coastal cultural heritage for job creation in Santiago de Cuba.

The initiative seeks to strengthen national and local capacities to effectively manage underwater and coastal cultural resources, formulate a national strategy for the protection and management of the Underwater Cultural

■ Fernando Brugman

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Heritage (UCH), and contribute to the establishment of a centre for this heritage. Moreover, the updating of the Management Plan of the Castillo del Morro San Pedro de la Roca, which aims to include the management and conservation of the remains of the fleet and focus on preventing illicit traffic in archaeological remains, would allow an articulated implementation of the UNESCO conventions of 1970 (prevention of illicit traffic), 1972 (World Cultural and National Heritage), and 2001 (Underwater Cultural Heritage).

The Caribbean Sea, particularly the Cuban waters, is home to one of the main world shipwreck and archaeological reserves in the world. Treasure hunters, collectors and amateur or self-taught archaeologists have had varied access to this heritage, which has often been detrimental to its protection and preservation and has sadly ended with the irreversible destruction of valuable historical and archaeological information.

The entry into force of the 2001 UNESCO Convention on the Protection of the Underwater Cultural Heritage has represented an achievement in the field of submerged archaeological site safeguarding. It has already been ratified by 50 countries (including 17 of Latin America and the Caribbean), and many other States are considering its ratification. There is a need, however, to continue building capacities for the effective implementation of this international instrument and urging the countries that have not ratified it yet to do so as early as possible and join those that are protecting, conserving and managing their UCH.

Santiago de Cuba will mark the 500th anniversary of the foundation of the city in 2015, bearing very much in mind that an integral part of its history and identity lies under the waters of its bay.

CULTURE IN THE POST-2015 DEVELOPMENT AGENDA



Gibara, Cuba © UNESCO / F. Brugman



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As we approach the September 2015 United Nations Summit for the Post-2015 Development Agenda –during which the priorities and areas of action for sustainable development for the coming decades will be identified, the international community is increasingly aware of the need to integrate culture in the agenda.

Culture, in its manifold expressions ranging from cultural heritage to cultural and creative industries and cultural tourism, is both an enabler and driver of the economic, social and environmental aspects of sustainable development. This is a fact widely recognized through numerous examples.

Indeed, by ensuring the links and balance between the three dimensions of sustainable development, culture can contribute to elaborating a model of development that responds to current concerns and that addresses future challenges, that improves the effectiveness of development policies and that strengthens the participation of national, regional and local authorities in the definition and implementation of programmes and strategies that promote a transformational change.



In this context, UNESCO continues to work with governments, other United Nations agencies and non-governmental organizations to ensure the inclusion of culture, as an enabler and a driver of sustainable development, in the Post-2015 Development Agenda.

In recent years, we have witnessed a large number of high-level meetings on the relationship between culture and sustainable development, in which successful experiences and initiatives on the ground were showcased.

In 2013 alone, a series of documents were approved, notably the “Hangzhou Declaration” adopted at the Hangzhou International Congress on “Culture: key to sustainable development” held in China in May; the conclusions of the high-level thematic debate on Culture and Development of the United Nations General Assembly held in June; the ECOSOC Ministerial Declaration adopted in July; the 2013 Special Edition of the UN Creative Economy Report, which was published jointly by UNESCO

and UNDP; and the “Bali Promise” adopted at the World Culture Forum in Bali (Indonesia) in November.

In 2014, the second high-level special thematic debate on Culture and Development, convened in May at United Nations Headquarters in New York by the President of the UN General Assembly in collaboration with UNESCO, brought together 18 ministers and high-level representatives of Member States (including Argentina, Bahamas, Brazil, Haiti, Jamaica, Paraguay, Peru and Trinidad and Tobago), who stressed the importance of integrating culture in the forthcoming development agenda, particularly within five key areas in which culture can play a decisive role: poverty eradication, quality education, sustainable environmental management, sustainable cities and social cohesion and inclusion.

These efforts have been further encouraged by “The future we want includes culture (#culture2015goal)” campaign, driven by a coalition of over 600 non-

governmental organizations that gathered some 2,000 signatures from 120 countries with the aim of including explicit targets and indicators for culture in the Post-2015 Development Agenda.

More recently, the “Florence Declaration” was adopted during the third UNESCO World Forum on Culture and Cultural Industries held in Florence (Italy) in October, in which a series of principles and recommendations aimed at governments, civil society actors and the private sector were set forth regarding effective strategies to encourage transformative change and to place culture at the heart of future policies for sustainable development.

Furthermore, in the framework of the above-mentioned forum, the first UNESCO report on Gender Equality, Heritage and Creativity was launched. This groundbreaking report, which is the result of decades of UNESCO’s reflection and commitment to promoting human rights, including women’s rights, in all spheres of cultural life, illustrates how culture can be a powerful ally for achieving gender equality and build more prosperous and inclusive societies.

As the participants of the special thematic debate on Culture and the Post-2015 Development Agenda held last May categorically stated, culture is a powerful resource for poverty eradication. According to the World Bank, culture will help meet the ambitious goal to reduce the percentage of people living on less than US\$ 1.25 a day to 3 per cent by 2030.

According to the 2013 Special Edition Creative Economy Report, cultural and creative industries are one of the most dynamic and fastest-growing sectors of the world economy, contributing to sustainable economic growth, income generation and the creation of stable jobs. Today, almost 5 per cent of the gross domestic product (GDP) of Ecuador and 3.4 per cent of the GDP of Colombia is generated by cultural activities. In Argentina, the creative sector employs some 300,000 people, accounting for 3.5 per cent of the national GDP. In addition, cultural and creative industries offer countries the opportunity to diversify, expand and strengthen national economies, thereby contributing to the reduction of social inequalities.

Moreover, with over one billion people traveling around the world in 2012, the relationship between tourism and culture offers a unique opportunity to contribute to inclusive economic growth, social development and institutional stability. Sustainable cultural tourism is an economic driver based primarily on the protection of cultural heritage and the promotion of cultural activities and industries, which enhances the international profile of destinations, enables resource creation to increase competitiveness, strengthens local communities and encourages dialogue and mutual understanding. In this regard, the need for truly sustainable cultural tourism must be emphasized, that is, compatible with the safeguarding and the adequate management of the cultural values of the sites visited, while avoiding

their distortion, as well as their disappearance due to overexploitation or the eradication of traditional economic activities.

Nowadays, it is widely recognized that the ways in which people learn, acquire and transmit knowledge are closely linked to the geographical, historical and linguistic context. Therefore, educational strategies and programmes that take cultural diversity into account are most likely to be more effective in providing quality education.

Educational curricula that take the local context into consideration and include arts education endow citizens with the necessary skills to meet the challenges faced by contemporary societies, thereby contributing to promoting freedom of expression, fostering pluralism and, ultimately, achieving more integrated societies. This is the case of Brazil, which has invested in recent years in the creation of training centres for the arts, which have since become drivers of social inclusion, urban revitalization and job creation.

Likewise, culture, and more specifically traditional knowledge and local environmental management practices, have the ability to substantially contribute to environmental sustainability and greater ownership by the communities concerned. These skills and practices, which constitute a valuable intangible cultural heritage, provide us with useful tools to ensure agricultural sustainability and food security, to prevent the loss of biodiversity, as well as to address environmental challenges, disaster risk reduction and mitigating the effects of climate change. In this context, the water management systems of San Cristóbal de las Casas (Mexico), which are based on the Mayan cultural tradition regarding water as a community resource that should be managed by the entire community, strengthens ties between its members and ensures the sustainable management of natural resources.

Thus, the integration of cultural aspects and traditional methods in environmental development entails the active participation of local communities and encourages a more harmonious relationship between humankind and the environment.

By 2030, 70 per cent of the world’s population is expected to live in cities. This poses a number of challenges, particularly the need to establish a sustainable management system for urban planning and development.

Cultural heritage, historic cities and museums represent a strategic resource for local development in a time of rapid urban transformation, since the regeneration of historic centres, the sustainable redevelopment of urban areas and public spaces and the participation of local communities in the protection, management and enjoyment of heritage result in an improvement of the living conditions of the population and the preservation of the social fabric -In short, sustainable cities.



Activated anchor at Chinchorro Bank, Quintana Roo, Mexico © J. Avilés

Likewise, cultural and creative industries are essential to ensure that cities develop a rich and vibrant cultural life, attract investment and promote cohesion between its communities.

In addition, access and full and equal participation of all people in cultural life is an essential requirement to improve social cohesion and inclusion and to contribute to building a better future.

Culture has an enormous potential to generate dialogue among members of society, to strengthen civil society and to promote democratic life, while encouraging the exercise of freedom, tolerance, understanding, peace and reconciliation. It also represents an effective foothold for tightening social links in disaster and crisis response. This was the case in the aftermath of the 2010 earthquake in Haiti, when the affected population used theatre, dance and music as means of expression and mechanisms to overcome the trauma suffered in the wake of the tragic event.

The next few months are crucial for advancing this effort shared by governments, international organizations, civil society and the private sector. The final report of

the Open Working Group for Sustainable Development Goals presented at the United Nations General Assembly last September serves as a starting point for future negotiations on the Post-2015 Agenda for Sustainable Development. Now more than ever we must focus our energies on keeping culture included in the international development agenda that will be adopted in September 2015. [C&D](#)

A photograph of a diver in a cave, illuminated by a bright light source, creating a dramatic scene with long stalactites hanging from the ceiling. The diver is positioned in the center, facing away from the camera towards a bright opening. The cave walls are covered in greenish-brown mineral deposits.

THE 2001 CONVENTION AND SUSTAINABLE DEVELOPMENT

■ **Ulrike Guerin**

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It is often said that the oceans are the world's biggest museum. Indeed, on the bottom of not only the oceans, but also rivers, lakes and even wells, there lies a most fascinating and extensive legacy of cultural heritage.



Sunken cities, shipwrecks, venerated and prehistoric sites embody a, as of yet, mainly unused and unknown potential for research and education, while also illustrating historic reactions to climate change, which has occurred throughout the history of human existence. These sites also present a great potential for the development of sustainable tourism, and many are both very attractive and potentially accessible to visitors. A large number of iconic sites have, however, not yet been researched, protected and made accessible. On the contrary, many precious heritage sites are highly threatened by treasure-hunting and industrial operations.

While the world has already registered the need to better protect the ocean's natural heritage, cultural heritage has yet to be completely acknowledged in the context of the sea. The importance of this challenge has already been recognized by a specific UN resolution¹ and been inscribed in the UNESCO 2001 Convention on the Protection of the Underwater Cultural Heritage. A meeting of the Ministries of Culture of the Latin-American and Caribbean States in autumn 2013 also focused especially on this issue, seeking to improve the situation. Despite these expressions of support, concrete action is now necessary.

Submerged archaeological sites become threatened every day by treasure hunting, pillaging, industrial work and trawling. Legal, but also operational protection must be provided. A special chance to achieve this is presented by the UNESCO 2001 Convention on the Protection of the Underwater Cultural Heritage.

The importance of underwater cultural heritage

Taking the pulse of the interest of the media, universities and scientific circles, underwater cultural heritage is becoming increasingly interesting as a subject of research and within the public eye.

An important factor is that new data show that 90% of human development has taken place on territories that lie underwater today. This means that thousands of prehistoric sites lie on the floor of the Caribbean, the Black Sea, the Baltic and the North Sea. Equally important is the study of the millions of historic shipwrecks and sunken cities that have not yet been studied adequately if one takes into account the numbers of losses at sea and known catastrophic events. These sites are valuable time capsules that have captured snapshots of life in past epochs through the act of submersion. Moreover the special interest in underwater cultural heritage comes not only from its beauty and richness, but also from its differences to heritage on land. While on land, archaeologists tend to find, in general, graves and historic buildings, and only a small proportion of biological material is preserved, underwater sites, on the other hand, are often more meaningful, preserve biological material better and contain more objects of everyday life.² For cultures whose main building materials were wood and similar substances, the exploration of underwater finds is thus particularly promising. The same applies to victims of offerings and places of worship in caves, lakes and springs. Examples of global importance are the finds of the Cenotes and Blue Holes in Mexico and the Caribbean Islands.



Despite the growing understanding of the importance of underwater cultural heritage, the investment in underwater archaeological research is still weak. It remains primarily a story of chance-find-investigations, and an overall scientific approach prioritizing research and investigation is often lacking. In the vast majority of countries, there is still no specialized archaeological department in place to identify, study and develop submerged heritage. Experience has clearly shown, however, that without archaeologists to provide support and advice, the police corps of these countries are insufficiently armed to fight against the looting threat to wrecks and sunken dwellings. Without archaeologists sites cannot be identified and researched, and they cannot be valued as they should.

Worse, many sites are being destroyed. Deep sea fishing leaves deep scars in ancient wrecks, coastal promenades are constructed over historic structures, sand is mined in prehistoric rivers and their archaeological sites. This does not only concern small sites. Even the remains of the Pharos of Alexandria (Lighthouse) are lying under concrete blocks poured in the water to break waves.

The most serious, and greatest ethical, concern is the increasing pillaging and commercial exploitation of shipwrecks. The improved protection of cultural heritage on land, and the increased demand for authentic artifacts for the art market, mean that the interest in the exploitation of historic wrecks increases.³ A basic problem here is the public perception on shipwrecks. They are too often understood as lost treasure rather than as fully valid archaeological sites. The change in public opinion, and the perception of underwater cultural heritage, is thus an important challenge. A key factor will here certainly be the facilitation of public access to underwater sites to allow the public to actually see and care for the sites concerned.

The 2001 Convention

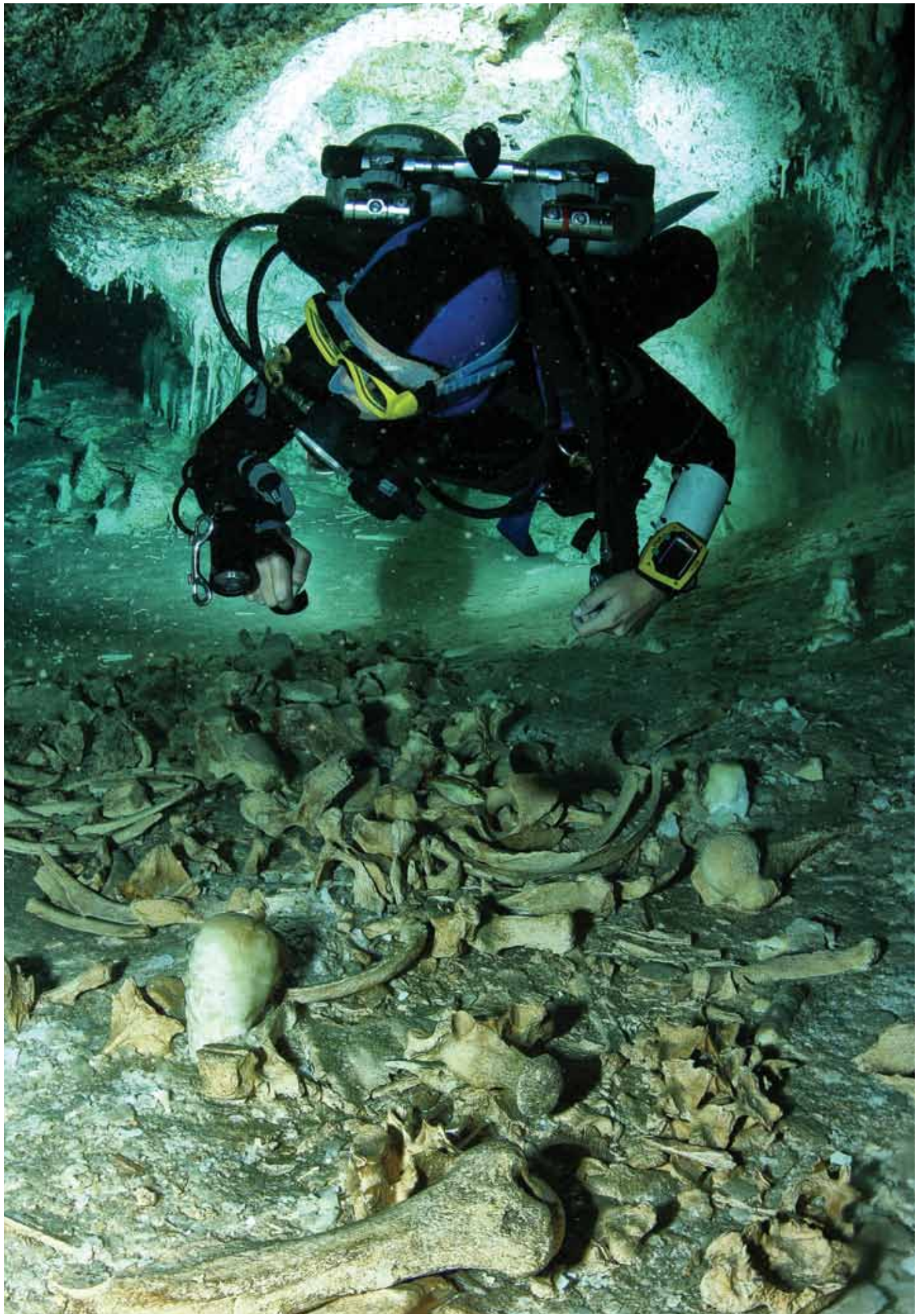
For several decades now, UNESCO has endeavored to ensure the protection of underwater cultural heritage. Indeed, UNESCO has engaged in fostering the protection of underwater cultural heritage since the 1960s, when a UNESCO mission first mapped the submerged remains of the Pharos lighthouse in Alexandria harbor, the remains of one of the Seven Wonders of the Ancient World.

Since then, it has adopted a major legal treaty to protect submerged remains (the 2001 Convention), trained hundreds of underwater archaeologists worldwide, engaged in policy work to achieve a better protection of sites, and fought against treasure-hunt and pillaging. It has also provided a forum for States in order to adopt a common approach to heritage protection, and endeavoured to change the public perception of underwater cultural heritage to make it known and appreciated for what it is – a unique legacy of humanity. A major achievement in UNESCO's work to protect submerged sites was the adoption of a Convention. Since 2001, UNESCO has offered its Member States the opportunity to ratify the 2001 Convention on the Protection of the Underwater Cultural Heritage. As of September 2014, 49 states have ratified this Convention. This may seem like a lot, but it is not enough. It is, in fact, very little considering that almost every State in the world should value underwater heritage, because the vast majority of them have a coastline that has played a very important role in their development throughout history. However, the importance of cultural heritage is not yet prioritized enough, and often the social importance of the oceans is disregarded. Its importance is too often reduced to its function as a source of food. Additionally, the potentials of submerged heritage remain too often unused. Action and awareness has to be increased.

Underwater heritage sites are beautiful sites. They are highly attractive for the public and offer a great possibility for sustainable development. Museums, dive trails and glass bottom boat tours are only some of the possibilities to enrich a country's tourism potential through its submerged historic sites. They make their location unique, unique for the identity of the State, and also unique for its visitors.

In recent years, more than 400 large wrecks were completely destroyed with up to 700,000 artifacts per wreck released for sale. Particularly striking cases:

- the exploitation of the Spanish shipwrecks off Florida and in Latin America;
- the exploitation of Portuguese shipwrecks in Mozambique and Cape Verde;
- the first discovered 9th century Arab dhow, the "Belitung Wreck" was destroyed by treasure hunters, and the hastily salvaged cargo was sold.
- In 2007 off Portugal the Nuestra Senora de las Mercedes was pillaged of its 17 tons of cargo;
- In 2014 massive wrecks are again targeted in Indonesia and Colombia.



Diver in the Chanhol cave discovering skeleton, Tulum area, state of Quintana Roo, Mexico © J. Avilés

The UNESCO Convention proves the existence of an international effort and desire to protect this heritage and to foster public access to it. Many states in the Latin-American and Caribbean region are already party to it. It now comes however down to the countries that have not yet done so to ratify the UNESCO 2001 Convention and apply it in the waters under their jurisdiction to form a universal protective net for underwater cultural heritage.

The content of the Convention

The Convention on the Protection of the Underwater Cultural Heritage was adopted by the UNESCO General Conference on November 2, 2001. This landmark legal instrument is the international community's response to the destruction of submerged archaeological sites, but responds also to the need to give scientific guidelines for underwater archaeology. It allows the States Parties to obtain comprehensive protection for underwater heritage wherever it is located, to harmonize the protection of this heritage with that of heritage on land and to provide archaeologists with guidelines on how to treat underwater cultural heritage.

The 2001 Convention is the main international legal instrument related to underwater archaeology. It focuses on heritage aspects, and does not regulate the ownership of heritage. It also does not change established maritime zones, and is thus in absolute harmony with UNCLOS. It contains

- basic ethic principles for the protection of underwater cultural heritage;
- a state cooperation system;
- strong measures to prevent the pillaging of submerged sites and the trafficking of illicitly excavated objects;
- practical rules for the treatment and research of underwater cultural heritage in the Annex.

The Convention recommends preservation in situ, if there is no valid significant contribution to protection, knowledge or the enhancement of underwater cultural heritage to be expected by recovery. It clearly refuses the commercial exploitation of cultural heritage.

The crucial role the Convention plays in the scientific development of underwater archaeology and in the protection of underwater cultural heritage cannot be stressed enough. It is an absolute centerpiece of this discipline, widely endorsed and supported by all kinds of professional associations, NGOs and scientific institutions.

While it's main text is a rare piece of practical protection provided through legal regulations, its Annex guides, in a most comprehensive manner, activities related to submerged heritage. This is done in such a forward-looking and sound manner, that the text is actually useful and groundbreaking for heritage on land as well.

The Convention provides for strong measures against the destruction of underwater cultural heritage. In

regards to pillaging, measures such as the closure of ports, the lending of jurisdictional help to stop illegal interventions, the seizure of materials etc. are provided for. In that sense, the Convention is a highly recommendable and useful piece of treaty-legislation for States.

To foster the Convention UNESCO created a National Cultural Heritage Law Database, which gives access to national laws protecting underwater heritage, and produced publications to improve the understanding of the Convention as well as to make information on it on the field of underwater cultural heritage protection better known (especially including a Manual on the Annex). UNESCO also endorses best practices by granting patronage to selected national or international projects for safeguarding underwater cultural heritage.

The Convention can also count on the power of a bi-annual Meeting of its States Parties, as well as a 12 member Scientific and Technical Advisory Body, joining elite underwater archaeology experts. This latter Advisory Body is available to help states that need assistance in the development of their underwater archaeology, or face specific issues, such as the recent question in Haiti of the identification of a wreck site alleged to be the Santa Maria of Columbus.

The interest of underwater heritage for sustainable development

Many States have already ratified the Underwater Cultural Heritage Convention. One of the reasons to do so is the great interest in the potential of underwater cultural heritage. A word shall therefore be said about the value of underwater heritage for sustainable development:

Many States, especially those in the Caribbean and Latin-American region, benefit especially from travel and tourism. For the latter cultural heritage is of great interest, but also of often unused potential. A basic factor for the question of why underwater cultural heritage should offer so much potential is that tourism and culture are linked, and the latter provides an incentive for the first. Studies show that at least 37% of global tourism has a cultural motivation. Sustainable tourism development thus needs to take into account the promotion of distinctive cultures and the protection and promotion of cultural heritage, especially through the development of access to heritage sites. Nature is only a part of what attracts travellers and, especially in regards to beach tourism, it is also not always sufficiently unique to justify overseas travel.

Underwater cultural heritage is especially interesting for coastal and island States to diversify their coastal and maritime tourism, and it is present abundantly in all of them.

Increasing Dive Tourism might be an especially interesting option for States facing issues with short-term cruise-tourism, as divers visiting submerged sites spend

a longer time in a region than tourists visiting artefacts displayed in “dry” museums or coming with cruise ships. Scuba diving shows increasing popularity, with estimates of a global growth of 12-14% per annum for newly certified divers. An increase in the average age of divers over the years indicates, however, that new aspects have to be identified to interest the younger population, such as, for instance, strengthening access to cultural sites.

Despite these potentials, a recent UNESCO study for the Maldives as example SIDS State shows that there is currently still a focus on beach tourism, with a mainly unused potential held by cultural heritage, especially underwater cultural heritage. Many, if not most, smaller Island states share this situation. And many seek to change it.

These are blunt numbers and statistics. Apparently far separated from the cultural and educational considerations that UNESCO normally advances, but that is only seemingly so. These numbers show, in clear figures, the great interest that the uniqueness of cultural heritage triggers among nations. They show the interest

in sharing heritage, its educational value and the interest in cultural diversity. They also demonstrate the economic development potential the attraction of these cultural treasures embodies. Culture is development.

So, what are indeed the potentials of underwater cultural heritage in a real world situation? In States that cannot yet count on a sufficient number of trained underwater archaeologists, how can these potentials be used?

As shown, submerged sites are an attractive option for developing cultural tourism in Island States. Some examples of underwater heritage in the Caribbean and Latin-American region might help to illustrate the scope of these potentials. There are, for instance, the sunken city of Port Royal (Jamaica), the Spanish Fleet wrecks of the Caribbean Islands, the Santa Maria and Maria Galante Columbus wrecks (Hispaniola), the Cenote sites of Mexico, the sunken cities and offering sites in the lakes of Nicaragua, Peru/Bolivia and Guatemala etc.

The potentials of such sunken sites are great. They are present in a large numbers. They are, as of yet, mainly unused or even undiscovered, but attractive to visitors. A place supposedly lacking in culture can indeed be to be incredibly attractive – underwater. China has given a development example in this sense with the immense Nanhai Museum in Hailing Island. Forms of tourism that can be especially developed around submerged heritage are cultural, dive and cruise tourism. Moreover, exceptional underwater heritage can, like land-based heritage, be a strong factor for urban development. There are possibilities for cultural routes and possibilities to greatly enhance the image of certain locations. Also, the coupling of land and underwater sites and the creation of dedicated museums present great potential.

But, and there is always a ‘but,’ there are also challenges. Many underwater heritage sites are yet unknown; underwater archaeologists are needed to discover and research them. Capacity and equipment are needed. Many sites do not yet benefit from any legal or operational protection, they are left to pillage and destruction, and often treasure-hunters know them better than the police; international agreements, such as the UNESCO Convention, and national laws are needed. Little effort has yet been made to make the sites accessible, either in situ or in a museum; adding value to the sites is necessary. Also many sites are not, on first sight, accessible to tourists, as they lay either in deep water, under sediment or are smashed into pieces.

So how to go forward? How to decrease the challenges and use the potentials? How to treat heritage right for all its potentials, its cultural potentials, its development potentials, its importance and uniqueness to the country?

Studies show that at least 37% of global tourism has a cultural motivation.

Every USD invested in heritage increases the economic activity around a site by a factor of up to 12 (increase for hotels, food sales, transport benefit, guides).

- Italy's Monza and Brianza Chamber of Commerce commissioned research, which considered heritage monuments' image, branding and aesthetic qualities to determine an overall monetary value.
- The Eiffel Tower (7.1million visitors/year) was placed at an overall value of USD 586 billion for the surrounding industry.
- The Duomo in Milan at USD 110 billion;
- Madrid's Prado at USD 78 billion; and
- Britain's Stonehenge at USD 15 billion.

For underwater cultural heritage:

- the Vasa Shipwreck Museum brings in annual income approx. 270 million USD to Stockholm;
- Yongala Wreck, Australia, attracts more than 10.000 divers a year paying a minimum of 2,24 Million USD for dive tours ;
- the population of Red Bay, Canada, lives off tourism based on the Red Bay wreck due to the end of their fishing income;
- the Viking Ship Museum, Denmark, brought in 2011 a local tourism revenue of approx. 5.8 Million USD.

A main answer lies in international cooperation under the 2001 Convention. Only a strong network of experts and States can help to create a movement that allows states to fall back on help and create, through this, their own national capacities.

Comparing the potentials of scientific underwater archaeology to the potentials of treasure-hunting

One issue shall be added to this text that often comes to mind like the famous Hippopotamus standing in the room when speaking of underwater cultural heritage - treasure. Is there treasure? Yes, there is – whatever one might consider as treasure. There are cultural treasures, educational treasures, but in some cases, the cases most related by the press, there might even be gold and silver treasures lying underwater. Could thus shipwreck gold be a solution to poverty and allow development? Would fast gold not be more interesting for a State than the long-term way of building scientific competence and public access projects?

The answer is, as you may guess, no. Development is sustainable if a State invests in a way that the fruits of the investment come back to the country in the long term. Sharing heritage with adventurers and picturesque fortune hunters does not lead to sustainable development. It also does not lead to any filled bank account for any State, especially not in comparison with the value the State loses to the treasure-hunters.

Peter Throckmorton, pioneer underwater archaeologist, wrote in 1990, in a well-known article concerning the extensive shipwreck treasure hunting in Florida⁴ that:

“Florida’s policy towards its underwater antiquities has cost the State millions.[...] If Florida had [...] invested USD 10 million in two great maritime museums back in the 1960s, instead of giving leases to salvors, the State would be nearly half a billion dollars richer each year...”

Treasure-hunters had destroyed and emptied Florida’s shipwrecks of their artefacts and given only ridiculous bits to the state. Had, however, the shipwreck treasures found in Florida in the last 50 years been correctly treated and deposited into a museum appropriate to their richness, and had an investment been made to display them, instead of spilling them on the numismatic market or among private collectors, it would have been a great source of sustainable tourism development today. But, the sharing with treasure-hunters cost more to the state than it brought, and did not create any development. It only fostered investment fraud and a myriad of legal fights.

Many States all over the world came to the same insight already and ratified the UNESCO Convention on the Protection of the Underwater Cultural Heritage. It can be trusted and hoped that soon it will be many more. [C&D](#)

References

¹ A/RES/66/231

² A Swedish comparison of two basically similar sites shows that the conservation of biological material came to 2% of the land archaeological site (Sigtuna, 11th century) compared to 93% of the site in terms of organic material in the underwater archaeological site (Birka, 8-10. Century).

³ The lessons that have been learned from the errors of the exploitation of land heritage are unfortunately not yet in all in countries teacher for the dealing with underwater cultural heritage. While many states request the return of lost or exported (land) heritage, every day just as important underwater cultural goods leave their countries of origin and this often even with the consent of the states concerned or at least with little reaction.

⁴ The economics of treasure hunting with real life comparisons, Peter Throckmorton

UNDERWATER CULTURAL HERITAGE IN LATIN AMERICA AND THE CARIBBEAN

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The UNESCO Convention on the Protection of the Underwater Cultural Heritage (2001) defines this type of cultural heritage as “all traces of human existence having a cultural, historical or archaeological character, which have been partially or totally underwater, periodically or continuously, for at least 100 years.” (Art. 1a)

The Latin American and Caribbean region has been writing the history of the different nations and peoples that make it up through a close relationship with the aquatic environment. Thus, the reed boats built under the pre-Columbian cultural traditions on the Pacific coast of Peru, the Mayan Cenote offerings on the Yucatán Peninsula, and even the vessels that are witness to European colonization activities in the “New World” have left a historical and archaeological legacy that is today found submerged.

Remains of urban fabric, temples, and religious offerings and activities have left their mark on the bottom of lakes like Titicaca (Peru and Bolivia) and Atitlán (Guatemala), showing that internal waters also played an important role in the conceptualization of the world and the development of pre-Columbian cultures. Wrecks like Nuestra Señora del Juncal or HMS Agamemnon in





Wood fragment found in the wreck of the reef Cocque Vieille ©Maksens Denis / BNE

waters of Mexico and Uruguay, respectively, are not only a historical monument to the victims of a tragic accident, but also a time capsule that has over decades preserved the memory of people who interacted among themselves in the early stages of the formation of political and social realities of Latin America.

Only the protection of these submerged remains and appropriate research into and public access to them will make it possible to complete many lost lines in the historical development of a continent and save part of its cultural memory from unrecorded oblivion.

Given the almost total absence of appropriate legislative frameworks for the protection of submerged cultural property, of appropriate management programmes, and of formal university training in the field of underwater archaeology, the extremely rich underwater cultural heritage of Latin America has been subjected to continuous commercial exploitation and destruction. This has involved activities carried out by treasure hunting companies that, protected by many governments in the region, sought economic profit through the sale of recovered archaeological material. The plundering and looting on wrecks of Dutch, British, French or Spanish origin have caused irreparable damage and a huge loss that affects all of society in terms of understanding its common historical memory.

The concern of the international community over this loss, however, resulted in the adoption of the Convention on the Protection of the Underwater Cultural Heritage as an international safeguarding measure. Since its adoption by the General Conference of UNESCO, at its thirty-first session in 2001, the Organization has been working in collaboration with the international scientific community and various Latin American institutions to redress this situation and achieve appropriate ratification and implementation of the 2001 Convention throughout the region. This action has focused on three basic objectives:

1. Ratification of the 2001 Convention and harmonization of legal protection frameworks;
2. Training of professionals and researchers in underwater archaeology and cultural heritage protection; and
3. Awareness-raising among various political, social and economic actors related to underwater cultural heritage and among the general public.

Ratification of the 2001 Convention and harmonization of national laws

The Latin American and Caribbean region already has 17 States Parties to the 2001 Convention, which have to a greater or lesser extent begun to establish the necessary infrastructure and recruit appropriate staff to meet the objectives of the Convention. This has been possible thanks to growing awareness by States, which have been sharing experiences and comparing

situations with various experts in underwater archaeology and cultural heritage protection, who have been supplied by UNESCO for regional events.

The latest regional ministerial meeting, which was organized by UNESCO in October 2013 in Lima (Peru) in collaboration with the Spanish Agency for International Development Cooperation (AECID) and the Ministry of Culture of that country, was a step forward in the political recognition of the importance of this heritage to strengthen not only the cultural identities of the peoples of Latin America, but also to contribute to their sustainable development. Thus, the States present in the meeting adopted a roadmap that gave top priority to the protection of the underwater cultural heritage and the ratification of the 2001 Convention. Latin America and the Caribbean has become the most represented region at the Conference of States Parties to the Convention in 2014.

This event was held after eleven meetings organized by UNESCO for political leaders and scientific experts since 2002. Among them are those held in Kingston (Jamaica) in 2002 and 2011, Bogotá (Colombia) in 2004, Quito (Ecuador) in 2007, Saint Lucia in 2008, and Cozumel (Mexico) in 2010.

The meeting held in July 2014 in Nassau (Bahamas) provided follow-up to the Lima Agreements, which were reflected in two declarations: one for Latin America and the other one for the Caribbean. Participating countries pledged to work together on the development of regional projects related to cultural routes (common themes), such as the arrival of Christopher Columbus in the Americas and his subsequent voyages to the region. The recent case of the Santa María, the vessel used by Columbus during his first voyage, in Haiti, which resulted in a groundless finding statement, has sparked great interest in the life and history of this man who paved the way for the encounter of two worlds, which left quite an imprint on the identity of Latin America and the Caribbean. Working together also means exchanging knowledge and research findings on underwater archaeology. There is no doubt that international cooperation is the key for countries, regardless of their status and level of development, to see the benefits of research, preservation and promotion of this historical legacy that has been preserved under water. The Lima Declaration also urges Governments to include the protection of the underwater cultural heritage on the agendas of regional organizations, such as ECLAC and CARICOM, to cooperate in the implementation of the 2001 Convention.

The Caribbean countries also met in July 2013 in Saint Kitts and Nevis to review legal issues related to the protection of the submerged heritage. Many Central American and Caribbean countries do not have sufficiently explicit laws to protect the cultural heritage and, in just a few cases, make any reference to the submerged patrimony. A regional cooperation action



Training course in St. Eustatius © UNESCO/Camille Louis

can produce short-term beneficial results. Participants in this meeting worked together to develop a model law that includes the protection of the cultural heritage from a holistic perspective, with special emphasis on the safeguarding of the underwater cultural heritage.

They also worked under the Small Island Developing States (SIDS) Programme, which has made significant room for the protection of the cultural heritage, particularly the one found in the sea, which is highly relevant to this group of countries.

But collaboration is also carried out at the national level. In this connection, mention should be made of the National Workshop that was organized by the National Cultural Heritage Commission under the umbrella of the Ministry of Education and Culture of Uruguay, on 24 July 2014, in collaboration with the UNESCO Regional Office in Montevideo and the National Commission for UNESCO, intended for the authorities involved in the protection of the underwater cultural heritage. Uruguay has curbed the damage caused to its underwater heritage by treasure hunting companies through major changes in its legislation and is now positively considering the ratification of the 2001 Convention.

Training

Another priority in the implementation of the 2001 Convention involves the training of professionals in the study, protection and management of the underwater cultural heritage to integrate them into teams of competent national authorities and research/higher-education centres. The training programme

on underwater archaeology and cultural heritage management in the region was established in 2009, after the Convention entered into force.

The first phase of this training programme included a number of courses on basic techniques necessary to identify, evaluate and design measures to study and protect the underwater cultural heritage. After a first course on research and management of underwater and maritime archaeology in 2010 in Campeche (Mexico), which was organized in collaboration with the National Institute of Anthropology and History (INAH), a training course intended for all of Latin America and the Caribbean was staged at the National Museum of Underwater Archaeology (ARQUA) in Cartagena (Spain) in 2011, which was followed by a specialized course on underwater property records in Cuba in 2012 for all Spanish-speaking Caribbean countries.

Drawing on the success of the foundational courses on underwater archaeology and cultural heritage protection, which were organized by the UNESCO Office in Bangkok for Asia, the Regional Office for Culture in Latin America and the Caribbean and the Maritime Programme of the Netherlands Cultural Heritage Agency (Rijksdienst voor het Cultureel Erfgoed - RCE) undertook a process to adapt the materials developed by UNESCO Bangkok to the regional context and have them translated into Spanish, with a view to harmonizing methodologies and other tools. The content was developed by international experts; most of them were members of the scientific and technical committee on the 2001 Convention. Thanks to the



Exhibition "Drive into history", Havana @UNESCO La Habana

continued support of RCE, these materials were used at the 1st Foundational Course for the English-speaking Caribbean during a training action in Port Royal (Jamaica) in 2012 and, more recently, at the 2nd Foundational Course of UNESCO on Underwater Cultural Heritage Management in Caribbean States. The event was held from November 17 to December 13 at the Archaeological Research Centre on the island of St. Eustatius for the English- and Dutch-speaking Caribbean countries. Participants from Belize, Bonaire, Curacao, Cuba, Dominican Republic, Haiti, Saba, St. Eustatius, Surinam, Venezuela and South Africa received both theoretical and practical training on different aspects that need to be addressed by officials in charge of preserving and protecting the underwater cultural heritage in their respective countries.

The theoretical training was complemented with field actions at real underwater archaeological sites, such as the wreck of Steamer City of Alexandria, off the beach of Guanabo (Cuba), the submerged remains in the city of Port Royal (Jamaica), and submerged port facilities on St. Eustatius. Course results have provided the relevant authorities with an overview of the current situation at these sites, as well as potential negative impacts on them

In South America, the 1st Foundational Course on Underwater Cultural Heritage Study and Management was held in Buenos Aires and Puerto Madryn (Argentina) between November and December 2013 in collaboration with AECID and the Underwater Archaeology Programme (PROAS) at the Argentinean National Institute of Latin American Thought and Anthropology. This programme came to reinforce the Iberian-American Project Strengthening the Conservation of the Underwater Cultural Heritage in the Southern Cone, which was coordinated by the National Culture Division and the National Cultural Heritage Commission of Uruguay, together with the National Museum of Underwater Archaeology - ARQUA (Spain) under the IBERMUSEOS Intergovernmental Programme.

These training actions have made it possible to establish a regional network to encourage States to collaborate on and develop good professional practices through cooperation and exchange of information and experiences. They have also made it possible to provide States with professionals appropriately trained to develop research programmes aimed at conducting underwater cultural heritage inventories and designing suitable protection and enhancement measures, either at university centres or other relevant institutions.

Social awareness-raising

The cultural heritage, in all its expressions, is part and parcel of our societies and identities. There is therefore a need for local communities to understand the importance and significance of various manifestations of this heritage, in this case the one found under water and made relatively invisible, in their history and cultural landscapes. This understanding is essential for protection and promotion purposes.

One of the lines of action of UNESCO has been assisting States in organizing activities with the aim of increasing awareness and knowledge about the submerged heritage by local communities and the general public.

On the 10th anniversary of the Convention in 2011, the UNESCO Regional Office in Montevideo organized, in cooperation with the Uruguayan National Commission for UNESCO and the National Cultural Heritage Commission, several conferences and a photographic exhibition entitled *Cultural Secrets beneath the Waves*, which illustrated the diversity of this heritage and its extraordinary state of conservation, including outstanding examples of this country.

During the visit of Irina Bokova, Director-General of UNESCO, to Cuba, an impressive three-month exhibition of large format photographs entitled *Dive into History*, was opened. They were exhibited at the gates surrounding the Castillo de la Real Fuerza in Old Havana, and were later displayed at the Castillo del Morro in Santiago de Cuba, parallel to the 33rd Caribbean Festival and the commemoration of the 115th anniversary of the Spanish-Cuban-American War.

The exhibition *Dutch Presence in Cuban Waters*, sponsored by the Maritime Programme of RCE and the National Council of Cultural Heritage, in collaboration with the Office of the Historian of the City of Havana and Sermar S.A., was recently inaugurated at the Castillo de la Real Fuerza in Havana. The project, which covers the 17th century, specializes in naval history and archaeology.

Supported by the Spanish government, through its Agency for International Development Cooperation (AECID) in Cuba, an important project is being carried out for the effective implementation of the Convention on the Protection of the Underwater Cultural Heritage and the generation of jobs in Santiago de Cuba. It deals with the management and administration of underwater and coastal cultural resources, and includes research and awareness-raising about the existence of Cervera Fleet wrecks, which make up the Batalla Naval de 1898 Underwater Archaeological Park. It recreates the war between Spain, the United States and Cuba on the coast of Santiago de Cuba.

Conclusions

While Latin America and the Caribbean is the region with the highest number of ratifications of the 2001 Convention and of members of the Scientific and Technical Advisory Body since its establishment, there is still a need for increased political commitment to and greater social involvement in its implementation.

The submerged heritage remains “invisible” in the eyes of the society that owns and manages it. It therefore continues to be threatened by legal frameworks that fail to recognize its importance and historical and social values. Protection and enhancement measures are necessary to strengthen the cultural identities of the region and are of the utmost importance for the development of sustainable cultural policies. [C&D](#)

Notes

¹ Antigua and Barbuda, Argentina, Barbados, Cuba, Ecuador, Grenada, Guyana, Haiti, Honduras, Jamaica, Mexico, Panama, Paraguay, Saint Kitts and Nevis, Saint Lucia, Saint Vincent and the Grenadines, and Trinidad and Tobago.

² Decree No. 306/006 established that all contracts signed for the search and recovery of underwater cultural heritage property by individuals should be terminated and that no new requests should be accepted.

³ According to Article 27, this Convention shall enter into force three months after the date of deposit of the 20th instrument referred to in Article 26, but solely with respect to the 20 States or territories that have so deposited their instruments. It shall enter into force for each other State or territory three months after the date on which that State or territory has deposited its instrument.

⁴ Over 25 students from Latin America and the Caribbean were trained at the course in Campeche.

⁵ The Ibermuseos Programme is a cooperation and integration initiative of Iberian-American countries to promote and articulate public policies in the area of museums and museology. <http://www.iber-museos.org/> (consulted on November 7, 2014).

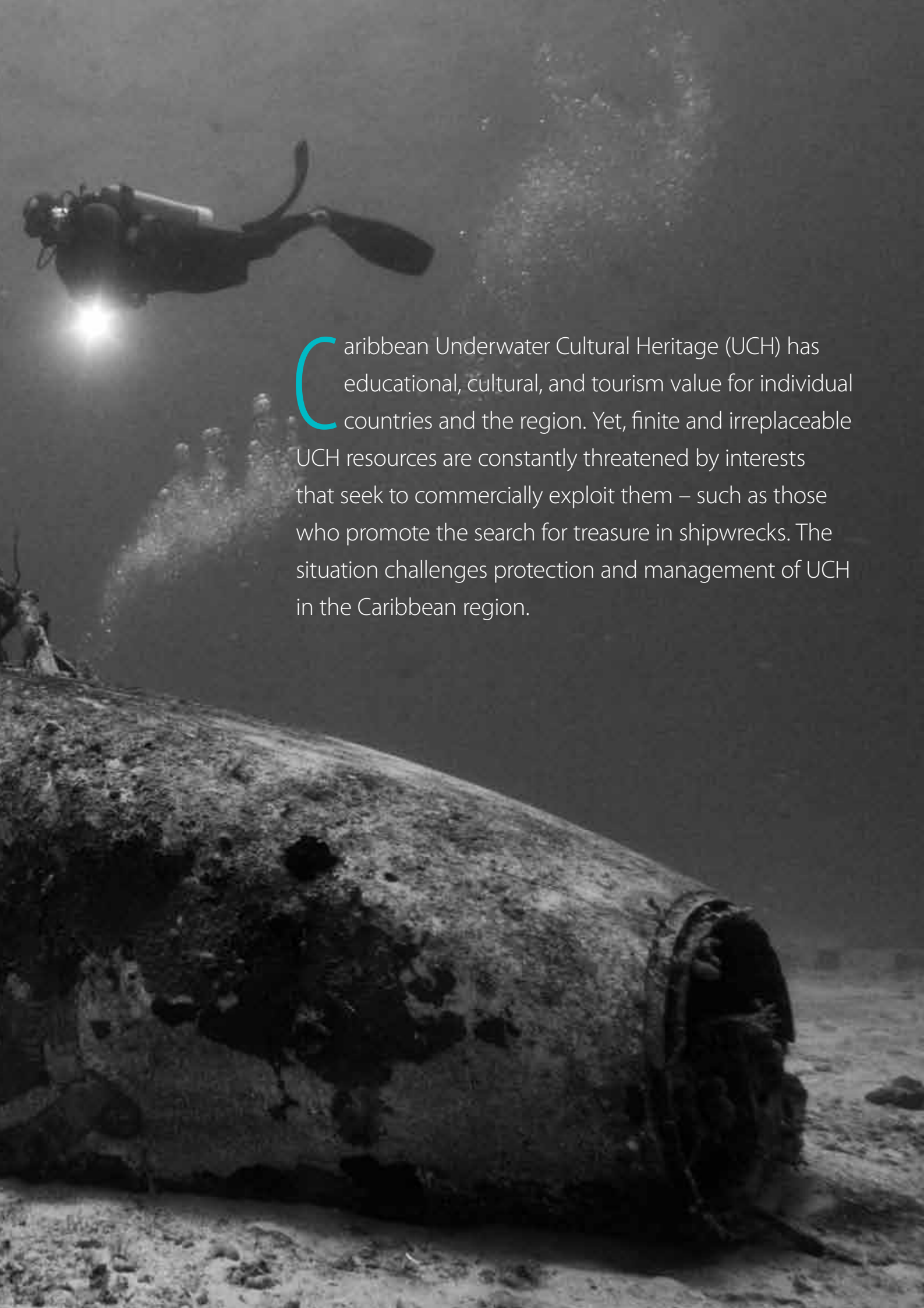
⁶ The 1st Meeting of States Parties to the 2001 Convention (Paris, 26-27 March 2009) established the Scientific and Technical Advisory Body under paragraph 4 of Article 23 of this international instrument.

COOPERATION IN THE CARIBBEAN

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Caribbean Underwater Cultural Heritage (UCH) has educational, cultural, and tourism value for individual countries and the region. Yet, finite and irreplaceable UCH resources are constantly threatened by interests that seek to commercially exploit them – such as those who promote the search for treasure in shipwrecks. The situation challenges protection and management of UCH in the Caribbean region.

Caribbean UCH relates to past peoples and cultures and the study of objects and features located in the underwater and maritime landscapes of the region, in oceans, seas, bays, lakes, rivers, springs, marshes, and cenotes. It's true value lies in prehistoric and historical heritage sites that survive to reveal tangible and intangible evidence of intercultural experiences among indigenous peoples, explorers, conquerors, settlers, enslaved laborers, passing merchants, and colonial powers, evolving into the unique multilingual Caribbean cultures of today. Sites of settlement, fortification, fresh water procurement, navigational aid, fishing, anchoring, careening, shipbuilding, shipwreck, shipwreck salvage, and aircraft lost at sea, as well as ports, harbors, wharves, and bridges have been discovered. At times, especially at catastrophic earthquake and shipwreck sites, amazing levels of preservation of cultural material have been found.

Cooperation in the Caribbean

In spite of cultural, linguistic and legislative differences among the English-, Spanish-, French-, and Dutch-speaking countries, some independent and others in various levels of dependency, Caribbean countries share a common heritage and are working toward establishing common goals in protection and management of their UCH. A technical commission on UCH - the Latin American and Caribbean Group (GRULAC) - was established in 1997. GRULAC met prior to and during the international negotiation of the 2001 UNESCO Convention on the Protection and Management of UCH. At the Paris meetings, they presented a unified voice in support of numerous points, including the 1996 ICOMOS International Charter on the Protection and Management of Underwater Cultural Heritage, a charter defining best professional practice, which served as the foundation for the Annex to the 2001 UNESCO Convention, an international legal document adopted in 2001 by 88 countries.

Worldwide regional UNESCO meetings followed with the aim to encourage countries to ratify the 2001 Convention, including in the Caribbean (Jamaica 2002, 2011; St. Lucia 2003, 2008). This has been followed by capacity-building training courses in Latin America, and also in the Caribbean (Jamaica 2012; St. Eustatius 2014).

On 2 January 2009, the 2001 Convention entered into force. At this writing, GRULAC countries represent 17 of the 50 ratifications on record: Antigua and Barbuda, Argentina, Barbados, Cuba, Ecuador, Grenada, Guyana, Haiti, Honduras, Jamaica, Mexico, Panama, Paraguay, Saint Lucia, Saint Kitts and Nevis, Saint Vincent and the Grenadines, and Trinidad and Tobago – a large percentage being Caribbean countries. Notably, Caribbean countries are discussing establishing compatible national legislation, and have asked the ICOMOS International Committee on Underwater Cultural Heritage (ICUCH) and UNESCO for guidance. The 1996 ICOMOS Charter and the 2001 UNESCO Convention are widely acclaimed international instruments that now form the basis for protection and management of the world's UCH. Their endorsement by a growing number

of Latin American and Caribbean countries sets a positive example for countries worldwide to take action to identify, protect, and manage it, regardless of their political and economic situations.


Over the years, case studies have appeared in publications for many Caribbean islands (see Further Reading): the British Overseas Territories of Anguilla, the Cayman Islands, and the Turks and Caicos Islands; the French islands of Martinique and Guadeloupe; the Dutch islands of Saint Maarten, Saint Eustatius, Saba, Curacao, and Bonaire; the Commonwealth of Puerto Rico, a territory affiliated with the United States; independent countries in the Greater Antilles, including the Bahamas, Cuba, the Dominican Republic, Haiti, and Jamaica; and independent countries in the Lesser Antilles, including Barbados, Dominica, Grenada, Saint Kitts and Nevis, Saint Lucia, Saint Vincent and the Grenadines, and Trinidad and Tobago, among others.

Recurring Themes

As Caribbean island nations work toward developing research and preservation programs, and heritage tourism, they are considering proper uses of heritage, and rejecting advances from commercial salvors and treasure hunters.

Recurring themes that are emerging in the region include heritage legislation, management, scientific research, meaning to descendent communities, regional and international perspectives, and future directions. While some countries have more experience in undertaking protection and management of UCH than others, there is a growing understanding in the region that commercial exploitation is non-beneficial and should be avoided. Today in the Caribbean, heritage professionals are using creativity and also helping to develop legislation to manage cultural resources. They are seeking to share knowledge, technical skills, and expertise. While assistance in capacity-building projects and programs is welcomed from the international community, sustainability must come from within the Caribbean region.

A Positive Future

Today we can be optimistic about the future of UCH management and protection in the Caribbean – now we have tools created in negotiations among countries of the world. The 1996 ICOMOS Charter and the 2001 UNESCO Convention provide a means by which countries can speak the same language and follow the same rules for protection, management, interpretation, and public access and benefit for UCH – guidelines for “best practice” and for establishing compatible national legislation. The key is “cooperation” among stakeholders – the magic word stressed by an insightful Argentinian lawyer during the Paris negotiations. Countries, governments, professionals, and the public who communicate and cooperate through local, regional, and international agreements and who are committed to sharing technical and professional capacity and resources have the future in their hands. 

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COOPERATION BETWEEN SPAIN AND LATIN AMERICA AN THE CARIBBEAN

Cooperation between Spain and Latin America and the Caribbean on underwater cultural heritage has a long history. In this regard, it was precisely during the negotiations of the text of the 2003 UNESCO Convention on Underwater Cultural Heritage that such collaboration began, leading to various cooperation modalities that will be briefly described below

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Thus, within the framework of UNESCO and, in particular, under the 2001 Convention, the principle of cooperation, which was extensively discussed in Article 6 and which is central to the issue at hand, was established. It reads: “States Parties are encouraged to enter into bilateral, regional or other multilateral agreements or develop existing agreements for the preservation of underwater cultural heritage.”

The Parties to such bilateral, regional or other multilateral agreements may invite States with a verifiable link, especially a cultural, historical or archaeological link to the underwater cultural heritage concerned, to join such agreements. This clause, which had been contained in the United Nations Convention on the Law of the Sea and which was introduced following a proposal from Spain, was supported by all GRULAC members and entails special importance, particularly for its “inclusive” character, as it makes it sure that no State can be prevented from protecting a shipwreck of its “interest”.

Within this framework, a Memorandum of Understanding between Spain and Mexico was signed on June 5, 2014, setting forth that “cooperation modalities may include exchanges of historical, archaeological and/or technical information, participation in seminars, conferences, training courses and workshops, as well as sharing of equipment and staff, including specialists, consultants and other experts for programs and projects.”

The first action under this Memorandum involved a research project entitled **Fleet of New Spain from 1630-1631**. This is the most important project that has since 1995 been implemented by the National Institute of Anthropology and History of Mexico. In essence, it seeks to facilitate the understanding of navigation processes and nautical accidents that occurred in the early decades of the 17th century, based on a study over the tragedy of the Fleet of New Spain, which took place in 1631 in Mexican waters, focusing on the loss of its two flagships (Santa Teresa and Nuestra Señora del Juncal).

In this period, historical research into over 4,000 documents and consultations at the General Archives of the Indies and the Archives of Simancas (Spain), Mexico, Guatemala, Cuba, Colombia and Great Britain made it possible to identify more than 200 cultural relic sites.

If there is no national coordination, it will be very difficult to develop good cooperation with foreign countries. In this regard, it is important to note that our country adopted, on November 30, 2007, a National Plan for the Protection of Underwater Archaeological Heritage, which was further developed in a "Green Paper on Underwater Heritage." This plan contains a decalogue of measures covering documentation, physical and legal protection, and training, in close coordination with all authorities concerned.

This has resulted in the signing of agreements, such as those with several Autonomous Communities, mainly for the preparation of archaeological maps, an agreement between the Ministry of Education, Culture and Sports and the Ministry of the Interior to implement a programme called SIVE (Comprehensive Lookout System) for the protection of underwater archaeological heritage in early 2011, and a cooperation agreement between the Ministry of Culture and the Ministry of Foreign Affairs to establish appropriate cooperation mechanisms, especially when the property in question is in international waters or in waters under the jurisdiction or sovereignty of third countries, which was signed on August 31, 2011.

This agreement has made it possible to develop an archaeological map in El Salvador, restore shipwreck artefacts in the Dominican Republic, and work in Haiti in partnership with UNESCO. Here, a group of Spanish specialists has just advanced the main scenarios regarding the possible location of the Santa Maria, wrecked off Haitian coasts in 1492, as well as the conclusions reached under a research project by the Fomento del Mar Foundation in 1991, sponsored by the Sociedad Estatal Quinto Centenario.

In order to promote the ratification of the Convention, funding has been made available for a number of meetings in Peru, Argentina and Uruguay, as well as for sub-regional workshops in the Grenadines and St. Kitts and Nevis. They have been organized in collaboration with UNESCO. This action clearly shows the commitment of Spain to such instrument.

An example of this collaboration involves the recent case of **Nuestra Señora de Las Mercedes**. The Spanish State, through the Ministry of Culture, brought the treasure-hunting company named Odyssey to the Court of Tampa for the plundering of this shipwreck. After seven years of litigation, to which Spain contributed, in the words of court members, extraordinary documentation obtained from the Archives of the Indies and of the Navy to demonstrate that the vessel was actually State-owned and registered as such, the

Court ruled in favour of Spain. The interesting thing about this case was the exceptional international legal precedent it set and the collaboration it generated. Thus, a Ministerial Order assigning the cultural property from the frigate *Nuestra Señora de Las Mercedes* to the National Museum of Underwater Archaeology established that "the Ministry of Education, Culture and Sports shall develop and promote cultural awareness-raising policies in accordance with the principles of the UNESCO Convention on the Protection of Underwater Cultural Heritage by:

- a. Promoting knowledge and awareness among the public about the cultural nature of these goods in order to involve society as a whole in the protection of underwater archaeological heritage, thereby emphasizing the social function of these objects.
- b. Making these goods available to Humanity, particularly sharing this common heritage with Iberian-American countries and other territories that are historically, culturally and/or archaeologically link to the collection."

This paved the way for the inclusion of the following clause in the Memorandum of Understanding between the Plurinational State of Bolivia and Spain: "Thanks to the historical and cultural ties between Bolivia and Spain, countries that share a period of their history, the Government of Spain expresses its willingness to, under specific agreements adopted by the signatories in keeping with national legislation, exhibit some of the goods recovered from the shipwreck *Nuestra Señora de Las Mercedes* in Bolivia, so that local citizens can appreciate this heritage objects."

Finally, mention should be made of the work of the National Museum of Underwater Archaeology in Cartagena (Murcia) in the field of training. In collaboration with UNESCO, the Museum has organized and hosted courses for Latin American and Caribbean professionals.

All these actions contribute not only to raise awareness and protect underwater cultural heritage but also to boost economic development on the basis of qualitative rather than strictly economic and/or productivity-related aspects. In this regard, an excellent example is to be found in a project seeking to formulate and implement a national strategy and establish a research and training centre in Cuba with the financial aid of the Spanish Agency for International Cooperation. It is directly linked to the generation of jobs, mainly for the most disadvantaged sectors. [C&D](#)

Brazil

LAWS, RULES, INFORMAL PROCEDURES AND LEGAL UNCERTAINTY

The early practice of underwater archaeology in Brazil dates back to the mid 1970s, when there was a first excavation incorporating the perspective of submerged archaeological studies¹ into the site where the shipwreck of Sacramento, sunk in 1668, occurred in Barra do Salvador (Rambelli, 2002).

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The research undertaken in the field of scientific underwater archaeology has been given a boost since the 1990s. However, between the late 1970s and throughout the 1980s, many shipwreck sites were studied following a rather old-fashioned line of thought: underwater relics (whole objects or objects preserving most of their integrity) served to illustrate a tragic maritime history, a real science. As will be discussed in a while, much of the material that was excavated and recovered was finally taken by individuals for sale. Such a sad picture was aggravated by the fact that scientific or outreach texts on those research works were extremely limited (Rambelli, 2002).

It was in the early 1990s that archaeologists and students at the Museum of Archaeology and Ethnology of the University of São Paulo (MAE/USP) began to deal with this issue in papers like master and PhD dissertations (Rambelli, 1998, 2003; Scatamacchia; Rambelli, 2001; Bava de Camargo, 2002, 2009; Calippo, 2004, 2010; Duran, 2008; Guimarães, 2010), especially in the lower Ribeira Valley, southern coast of São Paulo. The initial institutional framework for archaeology research at the time may well have been developed at the Round Table on Underwater Archaeology held within the context of the 7th Scientific Meeting of the Brazilian Society of Archaeology (SAB) in 1993 in João Pessoa, state of Paraíba (Rambelli, 2002).

The State University of Campinas (UNICAMP) played an outstanding role in the early 2000s, when it helped to develop a closer link between underwater archaeology and public archaeology, including other interfaces (Rambelli, 2006; Funari; Rambelli, 2007; Fontolan, 2010; Silva, 2011; Tega, 2012). The framework necessary for this period was developed after the publication of the Yellow Book in 2004 and the holding of an International Symposium on Underwater Archaeology parallel to the

13th Congress of SAB in Campo Grande, state of Mato Grosso do Sul, in 2005 (Alves, 2011).

Since the 2000s, academic circles have begun to move to study and research centres in northeast Brazil, where underwater projects had been boosted. It can be said that this shift also involved a change in sources of funding: the state of São Paulo was no longer the great promoter. This role was taken up by the Union. The initial framework for this phase came up at an International Symposium on Maritime Archaeology in the Americas, held in Itaparica, state of Bahia, in October 2007, under the auspices of the Federal University of Bahia (UFBA). Seven years later, undergraduate and postgraduate courses are being regularly organized, including undergraduate final work presentations, and master's and doctoral theses addressing the issue of underwater archaeology, at the federal universities of Sergipe (UFS), Pernambuco (UFPE), and Piauí (UFPI) (Duran; Bava de Camargo, 2014).

If this academic trend is not carefully reviewed, it is necessary to highlight a significant increase in underwater archaeology activities related to the granting of environmental licences to businesses. Referred to as Preventive or Contract Archaeology, this practice aims to meet market demands. Decree No. 230, adopted by the National Institute of Historical and Artistic Heritage (IPHAN) in December 2002, made it possible to see an exponential growth in the number of permits for archaeological research in areas under environmental licences (Tega, 2012). While this increase is much more modest in terms of research licences for projects that negatively affect submerged environmental areas, it was initially significant, especially in the first two years of this decade, when the national economic situation was rather satisfactory.



Teaching site for underwater archeology © C. Rocha, 2014

Despite this recent and, somehow, multi-faceted history, which involved a wide range of individuals and institutions - thanks to the lure of adventure and magic of underwater activities - there may well be a common thread that weaves all characters and events: the legal uncertainty regarding the protection and management of underwater cultural heritage in Brazil. Although much

of the underwater research is funded by the government through its development agencies, submerged archaeological activities are faced with major obstacles deriving from a piece of legislation plagued with gray areas and giving priority to economically powerful treasure hunting groups. This has to do specifically with Federal Law 7.542/1986, amended by Law 10.166/2000.

Law 7.542/86 was enacted 25 years after Federal Law 3.924/1961, a legal instrument that promotes research into, and management and comprehensive protection of archaeological sites, ensuring that all archaeological remains found in the Brazilian territory should be owned by the Union. It was not until 1986 that local authorities, alarmed by illicit trafficking in submerged archaeological property, enacted a law requiring that 100% of underwater cultural heritage should belong to the Union (Rambelli, 2002). Before this legislation was passed, individual agreements between the parties (explorers and government) had been in force. The share usually stood at 80 to 20, with 80% of the goods going to explorers and only 20% to the government (Rambelli, 2002).

Although Law 7.542/86 was not entirely wrong, it actually was retrograde in terms of archaeological thought. However, it ensured that all research findings should be part and parcel of the cultural heritage of the nation, under the care of federal authorities. This was not welcomed by explorers and treasure hunting companies that tried to change the Law in the early 1990s. This was one of the reasons why the first meeting on underwater archaeology was held in the country, parallel to the meeting of SAB in 1993 (Rambelli, 2002).

Law 7.542/86 is still in force. A huge problem has arisen because Law 10.166/00 amends Article 20 of the former, giving explorers at submerged archaeological sites up to 40% of the value of the property recovered, depending on the degree of difficulty of the task. This way of fixing prices for submerged cultural goods - guided by a scientifically incomprehensible distinction between material archaeological remains of a shipwreck and the cargo the ship itself was carrying - does not only go against well-established practices in connection with heritage on land, but also runs counter to Federal Decree Law 1.530/1995, which makes it possible to implement the United Nations Convention on the Law of the Sea (1982) in the Brazil, including its waters. Law 10.166/00 is unconstitutional because it goes against Article 216 of the Federal Constitution of 1988 (Rambelli, 2002).

The situation is compounded by the fact that the government is not very likely to sign the 2001 UNESCO Convention on the Protection of Underwater Cultural Heritage or the Annex thereof in the near future.

Despite all odds, there are positive prospects for the management and preservation of the submerged cultural heritage in Brazilian waters. A number of inter-institutional good practices have been identified, and there is recognition of the work of archaeologists, which is constantly threatened under laws 7.542/86 and 10.166/00 and the interpretations thereof.

Firstly, there is synchrony between IPHAN and Navy procedures. However, no technical cooperation agreement has so far been signed to formalize joint actions, as recommended by the Board for Coordination and Review (CCR) at the Federal Public Prosecutor's Office (MPF) on 14 February 2011. In practice, the Navy

does not grant search and removal permits without the blessing or decision of IPHAN. These bureaucratic arrangements also depend on the interpretations of intermediary bodies at such federal institutions: before permit requests get to the General Staff of the Navy, they are submitted to the Port Authority; and before they get to the National Council of Archaeology at IPHAN, they are submitted to the regional superintendence. These procedures are not always understood in the same manner.

Secondly, there has been significant progress, as already mentioned, in market-oriented archaeology in the past 12 years, after the publication of Decree No. 230 by IPHAN. Before that, however, the area of endeavour for archaeologists was extremely limited; most of these professionals were restricted to research institutions and public museums. At present, the majority of archaeologists are working all over the national territory, especially in areas where there is good infrastructure in place.

Therefore, archaeologists are no longer considered exotic, socially alien figures. Although the number of these professionals is still smaller than that of biologists or anthropologists operating on environmental licences, there has been a significant increase in their categorization. The old aristocratic hobby has become an income-generating profession for ordinary people.

In a somehow saturated, dynamic market under certain economic stagnation, new niches need to be explored by archaeological companies, including the works that have an impact on the submerged environment.

As is the case in any other research activity, archaeologists do not make a living from selling their findings, but their labour. The same applies to Contract Underwater Archaeology, which focuses on granting licences for port, dredging and filling works, as well as for the construction of bridges and hydroelectric power plants. Consequently, the submerged environment is gradually losing its halo of mystery, adventure and fear to become a workplace for archaeologists (whose training is, as a rule, extremely agrocentric). They end up becoming fully aware of how valuable submerged research for scientific purposes is. Moreover, the larger the number of research works, the greater the potential for their dissemination in society.

While the picture is promising, the development of Contract Underwater Archaeology is still subject to the entrepreneurial spirit of each business person-archaeologist, and to the interpretation of laws and rules for submerged research by IPHAN managers and inspectors (Dantas, 2013). Currently, there is much debate about who could perform research activities under water, as there is no clear definition of the powers of scientific divers and of those working in shallow seas. Consideration should be given to the fact that scientific diving in Brazil is still to be recognized as a formal activity undertaken by scientists and students.

Finally, these informal and, in some cases, wrong procedures in connection with underwater archaeology and the protection and management of submerged cultural heritage could be regulated and standardized upon the ratification of the Annex to the UNESCO Convention on the Protection of Underwater Cultural Heritage and, from a shorter term perspective, upon the passing of a bill currently under review by the Chamber [of Federal Deputies], that is, PLC 45/2008. Consideration should also be given to the fact that the Brazilian standard-setting system makes no distinction between terrestrial and submerged archaeological property (Soares; Funari, 2014). Just bringing into mind the Federal Constitution and/or Law 3.924/61 would neutralize the provisions of Law 10.166/00 as a legal instrument. The entry of PLC 45/08 into force would further clarify the role of stakeholders involved in rescuing sunken property and/or conducting archaeological research into world heritage in Brazilian waters. [C&D](#)

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Notes

¹It should be stressed that the research coordinator was not an underwater archaeologist; the work was carried out by divers who were not archaeologists, led from the surface.

Uruguay

SAN SALVADOR RIVER

SAFEGARDING OF THE FIRST SHIPS



Remains of Argentine Stomship Santa Maria del Lujan, peninsula of Punta del Este

Valerio Buffa y Alejo Cordero

Commission of Cultural Heritage of the Nation
Ministry of Education and Culture

Gerardo Sosa

Journalist

For over 480 years, the evidence of the first European explorers in Uruguay remained submerged and buried. Between 1527 and 1574, the mouth of the San Salvador River in the department of Soriano (Uruguay midwest) was a key point in the colonization process seeking to ensure the protection of the first vessels that crossed the Atlantic. First, they were looking for an inter-ocean passage and, later, for the longest rivers in the south. Some others were just heading for Asunción or Sierra de la Plata, well deep into South America.

In the first two decades of the 16th century, most of the continent remained unknown territory, and southern

explorations concentrated on the Atlantic and the eastern ports of Río de la Plata (present Uruguayan territory). In other words, the port of San Salvador River had seen Atlantic vessels five years before Francisco Pizarro arrived in Peru and 17 years before he reached the Potosí Mountains.

In January 2011, a find provided valuable insight into the management of underwater cultural heritage and boosted the development of Uruguayan archaeology in general and underwater archaeology in particular.

After over 100 hours of diving sessions between 2011 and 2013, the find was identified as an elliptically shaped ballast mound structure 5.30 metres long by 2.00 metres wide. It consisted of large-, medium- and small-sized rocks, and was associated with metal artefacts (wrought iron nails, caulking tools), fragments

of ceramic containers for transport overseas (jars), and remains of plant fibres (cordage).


The San Salvador artefacts exhibit chronological attributes typical of the 16th century. The presence of the ballast mound, equipment and tools suggests the possibility of some kind of nautical manoeuvre made on a hull in the area. According to historical documents, they were used to adapt transatlantic vessels to go upriver the Uruguay, Paraná, Paraguay and Chiquitos in the very heart of the continent.

This submerged find was the starting point for the subsequent recognition of an archaeological site on land, very close to the river, about 90 meters from shore. Work on the land area of the site made it possible to identify an extraordinary amount and variety of indigenous and European archaeological material.

The concentration covers an area of 350 metres by 150 metres. The archaeological material identified as of European origin consists of fragments of the type of jars used as commercial containers for the transport of liquids and solids (the same ceramic types are present on the underwater archaeological structure, and of fragments of European majolica associated with indigenous ceramics in an occupied area. This provides material evidence (underwater and terrestrial) of some of the activities documented by chroniclers.

During the 16th century, three Spanish expeditions settled in the San Salvador River area. The first one was under the command of Sebastián Gaboto who arrived in Río de la Plata in 1527. The expedition of García de Moguer reached the region shortly afterwards. The third one was led by Ortiz de Zárate in 1574.

The archaeological site of San Salvador is one of the most important finds in the history of archaeology in Uruguay. It is a site where work is being done simultaneously on underwater and terrestrial components. It provides archaeological evidence for a historical period that has been poorly represented and addressed by the discipline in the region, that is, the period of the first European contacts with the northern region of the American continent. On the other hand, it has helped to strengthen the role of maritime archaeology in the country, showing that the discipline can in fact address an issue that has been usually analyzed from the terrestrial perspective.

In view of the finds described, San Salvador poses quite a challenge to state agencies at the national and local levels in terms of conservation, outreach and education. It can also be used to further the development of historical tourism and strengthen local identity. 

The Uruguayan State has since 2006 prevented the commercial exploitation of underwater heritage

Archaeological research in San Salvador River was possible after over 20 years of work, with the Commission of Cultural Heritage of the Nation (CPCN) laying the foundations for a scientific approach to the Underwater Cultural Heritage (hereinafter referred to as UCH), utterly opposing the commercial exploitation of underwater heritage.

Uruguay has been leading this process in South America. Between 1995 and 1997, a transfer agreement was signed with archaeologists of the National Institute of Anthropology and History of Mexico who were managing the project called the New Spain Fleet (Pilar Luna and Jorge Manuel Herrera in Uruguay and Mexico, respectively).

In 2000, an agreement with the Park Service of Canada made it possible to organize the first course of the Nautical Archaeological Society for South American professionals. In 2004, Dr. Herrera and Dr. Jon Adams, along with the underwater team at CPCN, received a grant from the British Royal Academy to implement the agreement in partnership with the Centre for Maritime Archaeology at the University of Southampton.

As a direct result of these awareness-raising and capacity-building actions, the Uruguayan Government put an end to the commercial exploitation of UCH in 2006. It is currently making the relevant arrangements to adhere to the 2001 UNESCO Convention on the Protection of Underwater Cultural Heritage.

Encouraged by the significant underwater archaeological sites in the country, such as San Salvador, the technicians in charge of the Maritime and River Heritage Area have been trained, including the specificities of UCH management: maritime archaeology, conservation of water-saturated materials, and their promotion and protection.

This experience has paved the way for other international agreements currently under implementation with the governments of Peru, Chile and Brazil, as well as with foreign universities and multilateral agencies.

In 2014, local experts participated in a UNESCO photographic exhibition *Cultural Secrets beneath the Waves*. A new agreement with the Government of Peru and the Organization is making it possible to organize a similar exhibition on UCH in the Andean country and has provided for Uruguayan and Peruvian specialists to work together for the first time in recording and inventorying actions.

A programme called Scholar Exchange in Conservation is underway at Clemson University in the United States to develop conservation procedures for water-saturated materials. A local technician is being trained by the United Nations to specialize in the legal protection of maritime cultural heritage.



Dredging boat Vitruvius working at the Port of Valparaíso © ARKA / D. Carabias

Chile

VALPARAÍSO: HERITAGE UNDER THE ZERO LEVEL OF THE CHIEF PORT



Diego Carabias A.

ARKA Director - Maritime Archaeology

Background

The port of Valparaíso (33°01'S) [Figure 1], located on the western coast of South America, evolved from a marginal and secondary facility vis-à-vis the port of Callao in colonial times to a major enclave years later in the South Pacific. Indeed, its strategic location as a port of call on the interoceanic route through Cape Horn and the Strait of Magellan, its role as a commercial entrepôt, and tariff policies, among other factors, made it possible for Valparaíso to become, in the mid 19th century, an important hub for international maritime trade and the chief port in the Republic of Chile. A globalized financial capitalist system, rapid economic, demographic and social development, and the cosmopolitan character of the city gave rise to a particular architectural style and urban form between the slopes of the hills and the sea, both of which paved the way for the inclusion of historic Valparaíso on the UNESCO World Heritage List (2003).

Despite its function as a port, the bay of Valparaíso, broad, deep and exposed to north wind storms that regularly hit the area in the winter season, used to provide inappropriate structural conditions for the shelter of the dozens of ships anchored in it. Every year, there was extensive damage due to these weather events, with numerous material losses in terms of ships and cargoes and even occasional fatalities. The construction of large, modern protection works only



Globular jugs glazed © ARKAF, Aena

came in the early decades of the 20th century, when commercial traffic was in decline in Valparaíso, following the establishment of new shipping routes through the Panama Canal and the consolidation of other ports like that of San Francisco (California).

Around 300 cases of historic shipwrecks have been recorded in the waters of the bay from the mid 16th century to the present. A significant part of the remains of these ships were located directly beneath the coastline of the city, after a sustained process of expansion and artificial filling to reclaim land from the sea. Meanwhile, the bottom of the bay contains considerable archaeological and heritage potential.

Valparaíso and its Underwater Cultural Heritage

The early works of archaeological exploration of the Underwater Cultural Heritage (UCH) in the bay of Valparaíso were conducted between 2002 and 2004 under a Chile-France scientific cooperation project. The seabed of the bay was extensively prospected using methods of remote sensing, side-scan sonar and magnetometer. In a coastal area stretching along 8 km at a depth of up to 50 metres, around one hundred wrecks or shipwrecks of various features and periods were identified and relocated through non invasive archaeological documentation work.¹ Among other things, this exploratory research revealed a high density of shipwrecks in the west end of the bay, where the historic anchorage is located. A part of these preliminary data served to support the nomination of Valparaíso to the UNESCO World Heritage List (2003).

A New Legal Framework for UCH Protection

At the turn of the century, on the basis of the Sofia Charter Guidelines (1996), UCH was defined and explicitly incorporated into the heritage legal framework in 1999 under the Exempt Decree No. 311 (MINEDUC), which includes all traces of human existence, which have remained on the seabed of the territorial sea and internal waters for over 50 years. These elements, together with their archaeological and environmental context, are protected as historical monuments by Law No.



17.288 on National Monuments. Although Chile has not ratified the UNESCO Convention on the Protection of the Underwater Cultural Heritage (2001),² the basic principles contained in the Annex thereof apply de facto to UCH scientific interventions.

Archaeology and Dredging

Protected submerged cultural resources began to be gradually incorporated into the Environmental Impact Assessment System (SEIA). In Valparaíso, harbour deepening projects involving dredging activities [Figure 2] were undertaken by Terminal Pacífico Sur Valparaíso (TPS), making it possible to identify new sites located inside the dock or sheltered area that had been archaeologically prospected. Adopting standards under implementation in North America and Europe for archaeological and dredging works, pioneering studies on cultural resource management and preventive and rescue archaeology were developed.³ These studies, properly planned and executed, covered various fieldwork actions, including extensive archaeological exploration, monitoring, sounding, and excavation at three sites. In situ physical protection methods were also tested. A wooden hull was successfully removed and repositioned outside the dredging area to mitigate impacts. A rigorous process of stabilization, conservation, analysis and documentation of the archaeological material recovered was carried out at a laboratory to put together and document a large reference collection.

The Indefatigable: A State Means of Transport for the Consolidation of the Republic

The most outstanding example of archaeological and dredging works in the country involves the case of the remains of the Chilean Navy transport boat called The Indefatigable, shipwrecked in 1855 following an accidental explosion and fire at the naval anchorage site. Built in 1848 as a merchant vessel in Baltimore (United States), this three-master, 200-ton sailing ship was purchased by the Government of Chile in 1851 and adapted for the supply of the newly established colony in the Strait of Magellan (Punta Arenas). While at the service of the State, it was involved in the 1851 Civil War



Nautical telescope of english origin © ARKA/F. Acuña

operations and assisted in transferring European settlers to southern Chile, among other actions.

Called S3 PV, the site with the remains of The Indefatigable was discovered in 2005 during a recognition inspection prior to some dredging work, and was subjected to various interventions in 2006, 2009 and 2013 [Figure 3], which have made it possible to document well preserved archaeological contexts, and recover, preserve and analyze a wide range of material culture [Figure 4]. In combination with the use of documentary sources, the research has also made it possible to gather unpublished information and substantially deepen the knowledge about the social and material living conditions aboard a Navy ship in the mid 19th century. A part of this research work is contained in a documentary film that has been exhibited at national and regional educational, scientific and cultural institutions.⁴

The Grand Tax Wharf in Valparaíso: The Steam Navigation Period

Built between 1873 and 1883, the Tax or Customs Wharf is the first major port work developed in Valparaíso [Figure 5]. The L-shaped facility was 305-metre long and featured a bridge 68-metre long and 14.5-metre wide. The wharf itself was 237-metre long and 15.5-metre wide, accommodating two deep-draft vessels and another two standard size boats on the outside and cargo boats on the bridge. The operation was carried out using hydraulically controlled cranes and winches. With the onset of major improvement works at the port in 1912, the wharf was decommissioned. Part of the structure was reused: the system of steel piles served to support the new front line of the current anchor stations.

In 2011, a dredging project under archaeological monitoring revealed evidence that was not related to a wreck. Pre- and post-dredging archaeological work showed a large, diverse amount of material: bones of slaughtered animals, slag and mineral coal, bricks, crockery, liquid and food cans, pharmacopoeia, and personal items. Among many elements of material culture of British origin, the presence of corporate crockery of the Pacific Steam Navigation

Company (PSNC) [Figure 6] stood out. The Liverpool-based PSNC was the main shipping freight and passenger company in this period. It covered the route between England and the West Coast or the Pacific Coast of South America between 1840 and the mid 20th century.

The high density of wastes in a sort of large submerged dumping ground associated with the Tax Wharf is partly explained by regular cleaning works at boats and docks in the period, when wastes used to be thrown into the sea. The steamboats of the regular shipping line that arrived in Valparaíso exhibited some preference for the Tax Wharf, while sailboats favoured downloading via lighterage. The analysis of ceramic and glass material and other recovered items revealed a sample with a high concentration of goods manufactured between 1890 and 1910.

The archaeological study⁵ of the remains associated with the Tax Wharf showed an intense, sustained use of the port infrastructure for over three decades, including information on consumption patterns, food discards, and hygiene standards aboard steamships moving from Europe to South America. Likewise, the site has made it possible to have a more precise understanding about the management and use of maritime areas inside the port and the historical evolution of the coastline of Valparaíso.

Valparaíso, Potash Traffic and Large Sailboats: The Case of The Potsdam (1891)

Between 2011 and 2012, a non-invasive research project addressed, in a peculiar study over VP_53 archaeological site, an undetermined wreck known as Las Locitas in the sector of Bajo del Buey, an area providing access to the bay, a sensitive archaeological spot as it poses a major obstacle to navigation. The wreck, named this way by local divers due to the presence of abundant pottery artefacts, had been historically plundered in search of “souvenirs” and objects of ridiculous interpretations.

In situ archaeological analysis of diagnostic elements on the ship led to the conclusion that it was the hull of a solidly built sailboat, with a length of over 70 metres

and a weight of 1,500 tons, typical of the last quarter of the 19th century. The list of associated artefacts, which number and recurrence indicate that they were part of the cargo of assorted merchandise carried included barrels of cement, utilitarian chinaware, glass bottles of liquor, pharmacopoeia glass jars, porcelain dolls, and clay marbles, among others.

The comparison between the archaeological evidence and the available documentary information made it possible to conclude that the wreck is that of the German boat Potsdam, accidentally wrecked on January 18, 1891 during a baffling incident in the context of the Civil War. The incident led to a series of diplomatic exchanges and claims between Germany and Chile.

The Potsdam was part of the famous "P" fleet of F. Laeisz, a German shipping company specialized in saltpetre, guano and coal movement between Europe and Chile. As the boats were especially manufactured in steel and reinforced to withstand increased sails, they developed great speed and managed to make the crossing around Cape Horn. Applying discharge technologies and efficient labour organization schemes, the clippers managed to significantly reduce the duration of voyages that could take several months and keep control over the movement of these products until the mid 20th century, a period when steam navigation had prevailed on all shipping routes.

The positive historical identification of the wreck and its preliminary archaeological assessment represent a major step forward and show how remains are contextualized and become significant through the application of scientific approaches. The VP_53 Las Locitas site is a primary source of insider information about consumer goods imported from Europe in the late 19th century.

Exhibition Sea and Port Memory

The progress made in the subject was presented to the public at the Exhibition Sea and Port Memory: New Research Works on Underwater Cultural Heritage (UCH) in Valparaíso Bay. It was held parallel to a 2013 cycle on The Memory, organized by the Extension Centre at the headquarters of the National Council for Culture and the Arts (CENTEX). Designed and produced by ÀRKA Office, with public funding and private contributions, the exhibit revealed the historical importance of the port of Valparaíso and the archaeological research into the UCH present there, and included a limited archaeological sample.

In collaboration with the UNESCO Regional Office for Culture in Latin America and the Caribbean, based in Havana, the exhibition featured the photographic series Dive into History, which focused on the Convention on the Protection of the Underwater Cultural Heritage (2001) and showed emblematic sites in different parts of world. For its part, the Secretariat of the Convention generously provided audiovisual material and publications with free public access. The activities



Exhibition Sea and Port Memory © ÀRKA/O. Carabias

included an invitation to Tatiana Villegas, Assistant Specialist of the UNESCO Havana Regional Programme for Culture in Latin America and the Caribbean, who gave a talk at CENTEX on UCH and the scope of the UNESCO Convention, the importance of protecting this heritage, and the benefits it generates for communities.

Sea and Port Memory, the first exhibition organized in Chile to showcase submerged archaeological materials recovered under scientific standards, sparked great public interest. It was visited by 7,525 people, including a large number of guided visits for schools in the region of Valparaíso.

Conclusions

In recent years, Chile has made significant progress towards UCH research and protection. In particular, the development of maritime/underwater archaeology is closely related to Valparaíso, a port with great archaeological potential, where successful strategies have been implemented to reconcile infrastructure development and growth with the protection and scientific study of submerged cultural resources. Unlike other Latin American countries, such as Mexico and Argentina, where the State has qualified teams and appropriate infrastructure to implement actions autonomously, Chile has developed this work mostly through independent offices and researchers, while authorities have only played the role of monitoring and evaluation of such actions on heritage resources.

It is important to note that one of the recommendations of UNESCO (2003) had to do precisely with inventorying and protecting the infrastructure related to historical port functions and transport systems, and developing a management plan for the area. These recommendations, however, have not been implemented to date. In the light of the announcement of major investment projects



in the port, like the Terminal 2, and other commercial undertakings, such as Puerto Barón Mall, it is vital to assess, in an appropriate and timely manner, the impact of these initiatives on the archaeological heritage present either on the seabed or the subsoil of the coastline.

In the last 10 years, impact archaeological research into Valparaíso UCH under high standards has generated substantial information that has made it possible to have a broader, more comprehensive understanding of the historical and cultural development of the port city. Through public outreach activities, this heritage under the zero level begins to be seen as a significant and integral part of the cultural legacy of the country, and its proper management is being recognized as a potential source of sustainable development for the future of the Chief Port. In this regard, the establishment of a regional research centre of excellence in maritime/underwater archaeology in Valparaíso seems to represent a basic, crucial first step along these lines..^{C&D}



Glass bottles © ARKA/F. Aceña

Notes

¹ See Carabias, D. and M. Chapanoff, 2006. Project Valparaíso Sumergido: Resultados preliminares de un plan de evaluación del patrimonio cultural subacuático de la bahía de Valparaíso, Chile. In: *Historias sumergidas: Hacia la Protección del Patrimonio Cultural Subacuático en Latinoamérica*, C. del Cairo and M. C. García (eds.). Day-Student University of Colombia, Bogotá. Pp. 124-131. See also Carabias, D., 2005. *Patrimonio Cultural Subacuático de Chile: El rescate de un legado sumergido*. In: *Chile, País Oceánico. Ocho Libros publishing house*. Santiago, Chile. Pp. 124-131.

² UNITED NATIONS EDUCATIONAL, SCIENTIFIC AND CULTURAL ORGANIZATION (UNESCO) ²⁰⁰¹. *Convention on the Protection of the Underwater Cultural Heritage*. Paris: November 2, ²⁰⁰¹. Available online at: <http://unesdoc.unesco.org/images/0012/001260/1260655.pdf>

³ ARKA, 2009 [MS]. *Plan Integral de Supervisión, Intervención y Manejo, Proyecto "Dragado de Mantenimiento del Frente de Atraque N° 1 – Puerto Valparaíso"*, Valparaíso Municipality, 5th Valparaíso Region. Presented at the National Monuments Council. Requested by Terminal Pacífico Sur Valparaíso S. A.

⁴ See <http://www.elinfatigable.cl>.

⁵ ARKA, 2012 [MS]. *Report on Underwater Archaeological Site Characterization S3-4 PV, Fiscal Port, Valparaíso. Project "Expansion and Improvement at Dock No. 1, Port of Valparaíso, Valparaíso Municipality, 5th Region*. Requested by Terminal Pacífico Sur Valparaíso S. A., REF. Inf10 / 2012. December 2012.

Peru

UNDERWATER CULTURAL HERITAGE

Aquatic areas cover around 70% of the Earth and remain mostly unexplored. They provide contrasting verification elements and keep in their depths vestiges that are still unknown on the formation of the planet; the evolution of species, including the human race; the conquest of new territories; civilization processes; and the development of high cultures from prehistoric times to the present.

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In Peru, along 3,079 kilometres of coastline, rivers, lakes and ponds, the aquatic environment is a witness to one of the richest and most fruitful civilization processes in the world. Over 12,000 years ago, when the first human groups arrived in the Americas, these settlers depended on the sea, then settled along the Pacific coast in a semi-sedentary manner, and developed the coastline as a stage to exploit marine resources and make perfect adaptations. Just as the first terrestrial systems were covered with thick layers of sediment, sea level and coastal changes at the end of the Pleistocene made those located in these areas flood and remain protected underwater. With the passage of time, the development of adaptive systems and the optimal utilization of coastal resources, these groups managed to have a stable economy that led to population growth and permanent settlement, as a prelude to a Neolithic process that gave rise to Andean Culture.

Subsequently, the domestication of plants and animals caused a significant economic and social change, determined by the transition from a subsistence system based on hunting, fishing and gathering to a production economy. However, economic and ideological relations and activities/practices related to the sea and similar aquatic environment further evolved, increased and diversified, as reflected in the material vestiges of pre-Hispanic cultures and in practices, arts, knowledge and skills that have been conserved to this day as part of our tangible and intangible heritage (Picture 1).

In the historical period that followed the colonization process, large maritime companies linked Tahuantinsuyo and the Americas with the rest of the world and provided for smooth flow of people, goods and products and, along with them, ideas, thoughts and habits. Several foreign vessels arrived in Peru and helped close economic and social ties, as until today, when the sea plays a fundamental role in the integration of Peru into a globalized world.

The exploitation of natural resources, industrial development, and land management, which are today indispensable for the economic development of the country, are having quite an impact, like the inevitable climate change, which is transforming coastlines. These actions threaten and negatively affect the conservation of the cultural heritage of the nation, especially in the coastal and aquatic environment that has not been explored.

Legal protection framework

The Underwater Cultural Heritage of the Peruvian State belongs to the Nation. It is protected by General Cultural Heritage Act No. 28296; the Regulation thereof, specifically Chapter 7; the Regulation on Archaeological Research (Decree No. 003-2014-MC); and other standards. This set of legal instruments demand administrative authorization for any direct intervention on the underwater cultural heritage and promote in situ protection. The administration and management of the underwater cultural heritage of Peru are a responsibility

of the General Cultural Heritage Division. General Act No. 28,296 and the regulations thereof establish that the underwater cultural heritage comprises all manifestations of human endeavour, either tangible or intangible, which due to their importance, value and/or cultural significance should be expressly declared as such or upon which there is legal presumption to be so, and the one submerged in water areas of the country, that is, underwater in the Peruvian territorial sea, lakes, rivers and other areas, partially or completely, periodically or continuously. The underwater cultural heritage of Peru is not constrained by any chronological and/or cultural association. Related research covers ancestral knowledge and oral traditions related to the intangible heritage within a specific territory, forming a cultural landscape, and favouring the development of new ecosystems.

The Regulation on Archaeological Research (2014-MC) sets out the guidelines for the implementation of evaluation, research, monitoring, conservation, enhancement and museological projects, and all activities conducted on movable, immovable, underwater or related cultural heritage. This regulation specifies that, for monitoring plans and serendipity, in situ conservation of submerged goods is the preferred option.

As stipulated, the underwater cultural heritage of Peru is understood and managed as a geo-cultural heritage unit. It is indispensable to obtain an administrative authorization to initiate any direct intervention, and the latter should be governed by the methodology of the archaeology discipline adapted to the underwater environment through autonomous scuba techniques, with the aim of achieving the highest standards of scientific rigour and personal safety. It is important to remember that any intervention on an underwater deposit is a dangerous practice for those who execute it and expose cultural heritage to risk. Therefore, the regulations of the Ministry of Culture require compliance with administrative and methodological protocols in order to prevent economic damage and human losses.

Aware of the importance, richness, variety and vulnerability of the Peruvian coastal, maritime and underwater cultural heritage, the State through the Ministry of Culture and the General Cultural Heritage Division has implemented a management policy that includes the following priority activities: (1) developing specific policies for the management and protection of the underwater cultural heritage; (2) developing regulations for the protection of UCH; (3) developing regulations for interventions on UCH; (4) conducting a national inventory of underwater heritage property; and (5) formulating and implementing specific procedures, directives, protocols, recommendations, actions and strategies for direct and indirect interventions on UCH.

National Inventory and register for an active protection of the underwater cultural heritage of Peru

In September 2013, the first works seeking to make a national inventory of underwater heritage property were undertaken. This is the ultimate tool for its protection, thanks to identification, registration, assessment, declaration, intangibility and monitoring procedures. Inventorying is important because of the detailed knowledge that is developed over the composition, location and status of heritage goods in order to design and implement management and conservation plans for protection purposes.

Inventorying activities have this year been carried out in four different settings in the departments of Lima (2), Arequipa (1), and Puno (1). These sites were chosen because they were very likely to have non-inventoried coastal and underwater cultural heritage property. The local exploratory work made it possible to identify four submerged heritage sites, three in the sea and one on Lake Titicaca. Three of them are directly associated with continental and/or island coastal areas, so they will be treated and operated individually, but taking into account that they are all part of an integrated system. For two of these sites, there are already proposed lines of delimitation and buffer zones, while the other two require continued work to determine their extent and further the delimitation, declaration and intangibility processes in areas that house cultural heritage property of the nation

The sites Islands of Pachacamac and El Huarco in Lima, Islay in Arequipa, and a deposit on Lake Titicaca will be included in the photographic exhibition Cultural Secrets beneath the Waves - Peru, a UNESCO dissemination programme that aims to raise awareness among authorities and the general public about the importance, variety and richness of the underwater cultural heritage of the country.

Research, dissemination and education for the conservation of underwater cultural heritage and the benefit of communities: pachacamac islands archaeological research programme

The Pachacamac archaeological site is located 31 kilometres away from Lima. Its monument sector covers around 450 hectares, and its cultural expressions way back to 1800 BC. It is thus the most important pre-Hispanic coastal sanctuary in the country. Off its coast, the existence of an island and an islet is the material representation of two major deities of the Inca pantheon: Cavillaca and daughter.

In September 2013, the Pachacamac Islands Archaeological Research Programme was undertaken. It was conceived as a pilot programme of the Ministry of Culture under the Qhapaq Ñan Project for scientific, administrative, methodological and social purposes. The implementation of the first two stages has made it possible to begin the national inventory of underwater heritage property through the identification, documentation and assessment of the archaeological potential, including its coastal, continental, island and underwater components, and formalize the administrative policy for research projects related to this discipline. This programme has benefited from the advising and collaboration of experts from Chile, Mexico, Uruguay,



Horizontal fisherman from the north coast of Peru in a "caballito de totora", boat used since pre-hispanic times © Surf torroles

Aware of the importance, richness, variety and vulnerability of the Peruvian coastal, maritime and underwater cultural heritage, the State through the Ministry of Culture and the General Cultural Heritage Division has implemented a management policy that includes the following priority activities:

- 1) developing specific policies for the management and protection of the underwater cultural heritage;
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- 4) conducting a national inventory of underwater heritage property; and
- 5) formulating and implementing specific procedures, directives, protocols, recommendations, actions and strategies for direct and indirect interventions on UCH.



Cavillana and daughter, Pachacamac Islands ©

the United States, Spain and France, over the stages of conception, fieldwork, conservation, and analysis of materials.

Using non-intrusive identification techniques, a rigorous registration system, reliable procedures for appropriate, timely recovery and conservation of elements (assessment only), in situ protection of vestiges identified, information dissemination activities, and theoretical and practical training workshops for archaeologists in new methods and techniques applied to underwater archaeology, the Pachacamac Islands Programme seeks to contribute to the scientific introduction of this discipline in Peru

After two fieldworks, the peculiar characteristics of the landscape and the cultural evidence identified made it possible to confirm a series of economic, political, administrative and ritual activities that relate the Archaeological Sanctuary of Pachacamac to the coastal and maritime sub-zone and the islands from the pre-Hispanic to the Republican period, and suggest specific, complementary local activities under a smooth, functional system

Important information

Peru has not ratified the UNESCO Convention on the Protection of the Underwater Cultural Heritage. However, its legal framework and active national management policy take into account what is stipulated in the Convention, including: (1) the obligation to preserve the country's underwater heritage as world heritage; (2) the priority given to in situ conservation; (3) the non-commercial exploitation of the underwater cultural heritage; and (4) the support provided to the work and training of archaeologist, the exchange of information, and international cooperation to implement multidisciplinary projects under high technical and scientific standards.

The above-mentioned activities have been carried out by the Ministry of Culture in coordination with national organizations like the Navy of Peru and the National Service of Protected Areas, and by the State (SERNANP-Ministry of Environment), with the aim of ensuring long-term heritage protection. The Qhapaq Ñan Project (national headquarters of the Ministry) has been involved and has shown its commitment to and constant support for the identification, research and dissemination of the underwater cultural heritage for a better understanding of the Inca road network and related aquatic spaces.



The UNESCO dissemination programme Cultural Secrets beneath the Waves - Peru is part of the technical cooperation programme between the General Cultural Heritage Division and the Department of Archaeology (Maritime and Underwater Cultural Heritage Sector) at the National Cultural Heritage Commission of the Oriental Republic of Uruguay. Similarly, the training programme relative to methods and techniques for the analysis and conservation of underwater recovered materials also involves the Warrent Lash Conservation Center at the Clemson University. [C&D](#)

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Acknowledgements

UNESCO; the work team at the General Cultural Heritage Division (Ministry of Culture), including its director Mrs. Ana María Hoyle; the National Cultural Heritage Commission of the Oriental Republic of Uruguay, including its archaeologists Alejo Cordero and Valerio Buffa; the Qhapaq Ñan Project (National Headquarters / Ministry of Culture), including its General Coordinator Giancarlo Marcone; the General Immovable Archaeological Heritage Division / Ministry of Culture, including its director Luis Felipe Mejia; the Peruvian Navy / Harbour Master Offices, the Warrent Lash Conservation Center, the Society of Underwater Archaeology Researchers (SIAS-Spain), SUAPS / Université Paris X (France); Paulina Acuña, Alejo Cordero, Valerio Buffa, Ismael Cordero, Zacharias Weissman, Rodrigo Areche, and Alexander López for their valuable participation in fieldwork; Stephanie Cretté and Néstor Gonzáles (WLCC / Clemson), Carmen Rosa Uceda, Katiusha Bernuy, Rommel Ángeles, Nicolás Lira, Laura Carrillo, Flor Trejo, Natalie Abad, Karen Villanueva, and Bruno and Pol Parés for their continued collaboration, counselling, advising, and support.

Colombia

LA GLORIA BAY

FIRST SPANISH PORT ON THE MAINLAND?



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Santa María de La Antigua del Darién, the first Spanish city on the mainland (1510), represents a landmark in historical and cultural development on the American continent. It was from there that Vasco Núñez de Balboa "discovered" the Pacific Ocean for the west, an ocean that had been known to and navigated by native people who turned it into a corridor for communication and exchange of objects and ideas that we are only beginning to understand today.

The sources available to reconstruct the history of the Spanish settlement of Santa María de La Antigua del Darién, while it was inhabited between 1510 and 1524, can be divided into two main groups: those made up of direct eyewitnesses who lived in or knew the city and those who collected data indirectly from others. Similarly, in connection with its typology, we could also make a distinction between "chronicles" and relationships typical of those early days of American colonization—made to be read and the documentation resulting more or less spontaneously from colonization and government activities: correspondence, royal orders and certificates, petitions, instructions and ordinances. The accuracy and credibility of each of the groups obviously vary; reliability is not always appropriate, especially in the case of indirect sources; but we must be aware of the fact that most of the direct information received by court in those years about the colonization of the mainland was completely biased and moulded on the interests of those who supplied it.

The city of Santa María de La Antigua was founded on an existing native settlement on the banks of a river rather than on the coast, probably on the old bed of the Tanela River. However, everything seems to indicate that the old riverbed could not make it possible for Spanish ships to get to the city. All references found on the port of Santa María de La Antigua situate it on the coast:

On September eleventh· five hundred and fourteen· there were talks between said Lord Governor and the treasurer and accountant· in the presence of the Bishop· As this city was so full of grass and marshes and the sidewalks were in such a poor condition· people could not walk on them· The swamps were home to many toads and harmful animals· There was nothing done in the church· the stock exchange and the foundry or anything else following instructions from His Highness· The roads from the city to the beach near the port or the estuary could not be used without great risk· all of which was necessary to remedy...²

At some distance from the city:

While Vasco Núñez was in Darién, after his residence was authorized, he sent, without Pedrarias knowing what he was up to, Francisco Garavito to the island of Cuba, and he

brought back some people on a boat. He came to the port of Darién, which was a league and a half from the village. While the people were still on board, he let Vasco Núñez know how Garavito had made it...³

There are no precise data on the exact location of or descriptions about it. Only some reference to the local infrastructure has been found:

*Gonzalo de Los Ríos paid 5,175 maravedis for six labourers who had worked 10 days on the canopy of the dry docks, under an order issued on 2 February 1515.*⁴

This had to do with certain construction works, probably storage facilities on the mainland, along the beach. They do not seem to have covered any other area or undergone any adaptation. When people today speak of the port of Santa María de La Antigua or simply of the port of Darién, they probably refer to a natural harbour rather than to the surrounding buildings. In fact, the first time that Fernández de Oviedo made any mention of it, he termed it anchoring berth:

*...And the third one left for Darién and reached the berth of the city in the Gulf of Urabá on the twenty ninth day of the month of June, one thousand five hundred and fourteen.*⁵

We should therefore think that the ships that came to the colony of Darién anchored on the coast or at the entrance to some of the many branches of the river whose mouth was at this sea. It may have been possible that even the boats would seek refuge in the marsh or swamp where Tanela waters flowed into. In any case, it does not seem that the port in question was very appropriate. This would reinforce the idea that no major adaptation works were undertaken there:

*Other ships that have come here from La Hispaniola had been so poorly serviced that they have decided to stay here, because the inconvenience of that port is really enormous. They are treated so badly, aside from the poor facilities provided at the port and the high cost of maintenance works, that they feel outraged and would never plan to return here.*⁶

It is hardly surprising that Pedrarias had laboured at finding another location for the city and the port:

*I read your letter dated eighteenth of October one thousand five hundred and fourteen. You should indeed write about everything there: keep on; you serve me well (...). It is right that you wish to find a good port; let me know when you find it. And if people enjoy the air and are not in a hole, about to drown, it will be even better, because the sun would not hurt them. In my view, this will be much healthier.*⁷

In fact, the port of Acla was founded in 1515 and became the new port of Darién because it was much more appropriate:

And when the Governor was close to Caxeta, which is located on the northern coast, he disembarked at a port said to be Acra and wrote us that there was a very good, deep harbour protected from all winds and clean to disembark, that there was also land for people of plain, for crops and cattle on land and for hunting and fishing at this port, that there was very good wood for boats of all sorts,

*and that they had found no haze as in other nearby places, except as in Castile, and willingness to beach ships...*⁸

Port archaeology

The archaeological project that is financed by the Ministry of Culture aims to develop a Special Management and Protection Plan (PEMP), seeking to identify and demarcate the old colonial city, and determine whether or not La Gloria Bay was the original port of Santa María.

In this regard, a large team of researchers was established to cover both terrestrial and underwater tasks. The latter were undertaken by a group of specialists led by the Universidad del Norte, with support and scientific advice from the Texas State University, the Bureau of Safety and Environmental Enforcement, and the National Park Service, with the backing of the Colombian Institute of Culture.

Field works were carried out in August 2013, combining remote surveying and underwater inspection techniques, covering the entire bay and its surrounding areas.

The equipment called Marine Magnetic Explorer, the lightest and most sensitive magnetometer available on the market, was used. This was done with the support and participation of qualified personnel from the National Park Service of the United States, specifically the Cultural Submerged Centre. At the same time, geographic information was retrieved through GPS with differential correction. However, this feature could not be used at La Gloria Bay. The energy required by the equipment was provided by a 12-volt car battery.

As the goal was to identify cultural resources found in the seabed and buried in the sand, the transects that could make it possible to cover a wide area were defined, with an intensity of up to five metres in the areas that so required. In all cases, the idea was to recover as much magnetic information as possible so as to be accurate after the data were processed using SonarWiz Chesapeake Technology 5.0 software. The transects of magnetic surveying were developed at an average speed of 4 knots, and the distance between the lines was defined at 15 metres. This distance varied slightly due to currents, waves, wind and, of course, human error.

The resolution of the magnetometer used is lower than 1 gamma (specifically 0.001 nT), meaning that there was little "noise" on the magnetic readings obtained over surveying. The decline of "noise" is crucial because it makes it possible to locate small ferrous objects. The Marine Magnetic Explorer produces a very low level of "noise" because only the processed data and the energy are actually transmitted by the dragline.

The demarcation of anomalies became necessary during the remote surveying process so as to conduct inspection dives. At the beginning, the idea had been to determine the origin and characteristics of

each anomaly, basically contrasting complementary information. Since each anomaly was properly georeferenced, it was possible to use buoys to demarcate their respective position (Bowens, 2009).

Similarly, scuba snorkelling was used for the wall of the bay. Visual inspection was intended to help conduct GPS mapping and identify cultural elements that would provide information on this trait, probably resulting from human action. Likewise, the goal was to identify "intentionality" in the arrangement of the rocks, the presence of a mortar or any other underwater detail that would help understand their presence and

requires buoy signalling for the coordinates of an anomaly (Bowens, 2009). Although it is a technique that takes some time, it was applied due to the number of anomalies, the poor visibility, and the depth of dives.

Results of the field work and final considerations

The work of the research team during the 2013 field season was successful and met its objectives. The exploration methodology combined different techniques, including magnetometry, visual inspection, circle searching and metal detector, to cover the entire bay and its surrounding areas.





The inspections carried out by divers along the enclosing wall, to the southeast of the bay, did not yield positive results in terms of material culture. Evidently, the jagged rocks that make up this feature have to do with the formation of Tarena Island, whose outcrop makes up the enclosure to the bay.

In the case of this wall, it was not possible to detect any mortar or any other evidence suggesting that there had been some human activity in the area. The arrangement of the rocks might well point to this possibility. However, the geological assessment that was conducted by geomorphologist Reinaldo Quintero in the late 1980s showed that this is a natural formation (Correal, 1983), thereby ruling out the premise that provided the basis for this research phase. In his work, Correal mentioned the presence of underwater, pre-Hispanic pottery fragments around 20 m off the coast, but our visual inspections were negative in this sector of the bay.

The historical data that were collected do not provide for detailed descriptions of the port in the ancient city. Mention is never made of the location or any work of adaptation, except for the presence of some structures, possibly storage facilities (Medina, 1913). The analysis of satellite photography shows some interesting, quadrangular features to the southeast of La Gloria Bay, which could be associated with these ancient structures.

So, it is believed, judging by just a few descriptions, that the port was located on the Atrato River or very close to it, rather than on the coastline. It is interesting to note that no mention is made of the port on ancient maps, which must have provided geographic reference for such maps at the time. Even in those of the 18th century, mention was made of San Sebastián de Urabá and Santa María de La Antigua del Darién, leaving La Gloria Bay aside. The first mention of it as a Spanish port ways back to the mid 20th century, that is, to the expedition of King Leopold of Belgium (Mertens, 1956).

The search for the old port continues. Everything seems to indicate that La Gloria Bay was not the original port of Santa María de La Antigua del Darién. Satellite analysis shows changes on the coastline due to heavy sedimentation generated by the large Atrato River. In this regard, the identification of the original coastline, together with the surveying of the rectangular features detected, would shed light on the exact location of the colonial port.

Finally, this work demonstrates that Colombia has developed the technical and scientific capabilities necessary to undertake research into its underwater cultural heritage. It is too early to accurately assess the actual impact of recent guidelines under Decree 1698 of 2014, regulating Law 1675 of 2013, which has sparked much controversy. [C&D](#)



Notes

¹On the location of the city and the efforts made to find it; Carmen Mena: *El oro del Darién. Entradas y cabalgadas en la conquista de Tierra Firme (1509-1526)*, Andalusian Public Foundation, Andalusian Study Centre / Higher Scientific Research Council, Seville / Madrid, 2011, pp. 61-68.

²Several agreements signed by Pedrarias Dávila, Bishop Juan de Quevedo and Royal Officers, relative to the proper administration of Castilla del Oro (1514-1515). In: José Toribio Medina: *El descubrimiento del Océano Pacífico: Vasco Núñez de Balboa, Hernando de Magallanes y sus compañeros*, Volume II, University Press, Santiago de Chile, 1913, p. 493.

³“Relación de los sucesos de Pedrarias Dávila, en las provincias de Tierra-firme y de lo ocurrido en el descubrimiento de la Mar del Sur y costas del Perú y Nicaragua, written by Governor Pascual de Andagoya.” In MEDINA: *El descubrimiento...* p. 197.

⁴Order given to Alonso de la Puente, treasurer of His Highness in Castilla del Oro, on the twenty-sixth day of June one thousand five hundred and fourteen, when the Armada brought Pedradas de Ávila, who came following an order of the Governor, until the last day of September of one thousand five hundred and twenty, when he finished and delivered the accounts to Gil González de Ávila, who had been empowered by His Highness to take the amount of two thousand eight hundred and ninety and one thousand seven hundred and seventy maravedis and two hundred and ninety pesos of low-grade gold and two hundred pesos of mined gold, as follows (1514-1520). In MEDINA: *El descubrimiento...* p. 426.

⁵Gonzalo FERNÁNDEZ DE OVIEDO: *Historia general y natural de Las Indias*, Lib. XXIX Chapter VII.

⁶From the Bishop of Darién to Toribio Cintado so that he informs the King. In MEDINA: *El descubrimiento...* p. 438.

⁷From the king to Pedrarias Dávila, the Bishop and Royal officers, on matters of government and administration, 2 August 1515. In Medina: *El descubrimiento...* pp. 73-74.

⁸Letter from Alonso de la Puente and Diego Márquez to His Majesty, indicating that the Governor had left to punish the Indians for the deaths of Christians in Santa Cruz. It also announced that there had been certain discoveries in the country, and touched on some points relative to the Bishop ministry and other news relating to the story. Darién, 28 January 1516. *General Archives of the Indies*, Patronato, 26, R.8.

⁹All data were stored as SonarWiz.CMF files, which also included the geographical position provided by the GPS unit called Garmin 62, ensuring quality in the location of anomalies.

¹⁰This equipment is considered to be a remote sensor that can be operated by one person. It is an effective piece of equipment for underwater archaeologists because it facilitates the detection

of general metal elements. On the other hand, underwater detectors work on the principle of pulse induction (Bowens, 2009).

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Cervera's fleet in Santiago de Cuba

Photo: J.V. González



Cuba

FOR A DOCUMENTED, PROTECTED AND SUSTAINABLE UNDERWATER HERITAGE

■ Gladys Collazo

President

National Council of Cultural Heritage, Cuba



Boilers from battleships Almirante Oquendo © J.V. González

The precept "Let's preserve the underwater cultural and natural heritage for present and future generations" was enunciated by the Havana Charter, a document that was signed at a Regional Meeting on Underwater Cultural Heritage, held in Havana on 7-11 May 2001.

At the Meeting, participants from Spain, France, the United States, Portugal, Colombia, El Salvador, Venezuela, and various bodies and institutions of Cuba discussed policies, experiences and case studies related to the protection and conservation of underwater heritage. The Havana Charter was a starting point for

joint work by Latin American and Caribbean countries gathering on the occasion.

The signatories of the Charter, including marine biologists, archaeologists, historians, museologists, anthropologists, curators, jurists, divers, photographers, geographers and speleologists, all united by the magic of underwater heritage, aware of its importance and, above all, concerned about the continuous threats that undermine its protection, agreed on this document that the underwater heritage is owned by the State in which it is located and that States have the exclusive right to regulate and authorize interventions made

therein and should enact the appropriate legislation for this purpose. They also reaffirmed the need to make it public that the correct way to protect this heritage has to do with the action taken to preserve, conduct research into, and document it. Therefore, excavations should be authorized by the competent authority, and interventions on submerged heritage should be made only under the strict control and in the presence of specialists in underwater archaeology with the know-how required.

An element taken into consideration was the fact that much of this heritage of humanity is located in territorial waters of developing countries, where there are many economic and technical difficulties to come up with the right approach. These realities make it extremely necessary to promote cooperation between States and experts for multinational protection and restoration projects.

Dr. Marta Arjona Pérez, president at the time of the National Council of Cultural Heritage, the institution that sponsored this important event, ratified the commitment of Cuba, as a signatory State of the Underwater Heritage Convention. To reaffirm this commitment, the Council under the umbrella of the Ministry of Culture, which has the highest responsibility for the cultural heritage of the nation and will mark in 2015 the 20th anniversary of its foundation, established in 2014 the National Centre for Underwater Cultural Heritage, with the ultimate goal of determining the submerged heritage related policy.

This centre will bring together specialists at the Archaeology Subcommittee of the National Monuments Commission, the Cabinet of Archaeology at the Office of the Historian of the City of Havana and SERMAR, as well as experts from across Cuba, who study underwater heritage. The challenges to be faced at this stage include establishing rules and regulations for underwater cultural heritage activities, developing an archaeological census, and putting together a scientific-technical programme of maritime archaeology and naval history. It is essential to train professional staff on these issues and count on the assistance and support of the UNESCO Regional Office in Havana.

Another important aspect is its sustainability. A key operational strategy should seek to systematically regulate and control the use of heritage sites as tourist attraction centres, including underwater parks, wrecks and dive sites.

The interpretation centre for underwater heritage in eastern Cuba will be very instrumental in devising formulas that ensure the sustainable development of activities under the principles of the Convention. **C&D**



Cuba

SAN PEDRO DE LA ROCA CASTLE

■ Nilson Acosta

Vice president, National Council of Cultural Heritage
Cuba

The colonization of the Americas by the European powers, which began with the arrival of Christopher Columbus in the Caribbean islands over half a millennium ago, played a decisive role in shaping the nations of the region, their population, economy, society and the cultural legacy that has been transmitted to the present generation.

The Caribbean was the geographic and strategic centre on which the European powers (Spain, France, England, and Holland) focused their expansion and domination manoeuvres in the New World. Early on, the irreconcilable interests between the metropolises were revealed far beyond the Atlantic. The disputes for the control of the islands and the practice of privateering and piracy highlighted the need to fortify Caribbean towns and cities.

Spain, the metropolis of much of the territory, protected its first villages since the late 16th century, building fortifications on the islands, including Santo Domingo, Havana and San Juan (old Caparra), which along with the defensive works in Cartagena de Indias, Porto Velo, Veracruz, Campeche, among others on the mainland, made up the colossal Spanish defence system in the Americas.

Santiago de Cuba, the last village founded by conqueror Diego Velázquez on the island in mid 1515, was no exception. Located in the southeast portion of the country, with a pocket bay, protected from the ravages of nature and strategically close to regional navigation routes, it was often harassed by enemy powers.

In 1632, Captain Juan de Amezqueta Quijano devised a plan to protect the bay and, a year later, his successor Don Pedro de la Roca undertook the fortification works on the eastern margin of the entrance to the bay, on a huge cliff overlooking the surroundings. The first stage of such works, headed by engineer Juan Bautista Antonelli, was completed by 1643, including a four-sided, 30-men garrison.

The compound that is now known by the name of

Castillo del Morro San Pedro de la Roca had to be gradually rebuilt. In 1662, it was partially destroyed by English privateer Henry Morgan, and in 1678 an earthquake damaged part of its structure. By the end of the 17th century, the bulwark, moat, revellín (outdoor defensive work), and drawbridge were finished.

In the 19th century, the castle was used as a prison for Cuban patriots who fought for the independence of the island. At its cells, the rigours of colonialism were felt by Dominga Moncada, the mother of General Guiller món Moncada; Major General Bartolomé Masó; Flor Crombet; Pedro Agustín Pérez; General José Ramón Leocadio Bonachea, and outstanding intellectuals like Emilio Bacardí Moreau, a leading figure in national and local culture. Indeed, at the end of this century, the castle was an exceptional witness to the naval battle that put an end to Spanish colonialism in the Americas, when the fleet of Admiral Pascual Cervera was sunk at the entrance to the bay by its U.S. rival.

In the first half of the 20th century, the building was occasionally abandoned and its structure was partially damaged, especially its wooden sections. In the 1960s, there were a number of interventions carried out under the technical direction of Dr. Francisco Prat Puig to bring it back to life and use it for cultural purposes (since 1978).

The building, which was declared National Monument on 25 December 1979, housed the Piracy Museum and, after a new, more comprehensive assembly work, in addition to covering the phenomenon of piracy in the Caribbean, its halls began to exhibit details on the fort construction process, the colonial defence systems, the use of the building as a prison, and the naval battle in Santiago de Cuba, all supported with collections of important pieces that show its three-century historical evolution.

At present, the defence system at the entrance to the bay of Santiago de Cuba is made up of the Castillo del Morro fortress, which rises as a five-story fortified promontory about 70 metres above sea level, the battery of La Estrella, the fort of La Avanzada, the casemate of



Castillo del Morro San Pedro de la Roca © J. Laramendi

Las Comunicaciones, the small forts I and II, and the high and low batteries of La Socapa. They are all examples of military engineering works built from the 17th to the 19th century. In the protected area of the site, which was inscribed on the World Heritage List in 1997, the villages of Cayo Granma and Caracoles are located.

The compound conservation work has been conducted by the Office of the Curator of the City of Santiago de Cuba and the Provincial Centre for Cultural Heritage, which have been implementing a detailed management plan for the conservation and dissemination of its heritage value.

The property was inscribed on the prestigious UNESCO List thanks to its outstanding universal value, based on the following criteria:

Criterion IV:

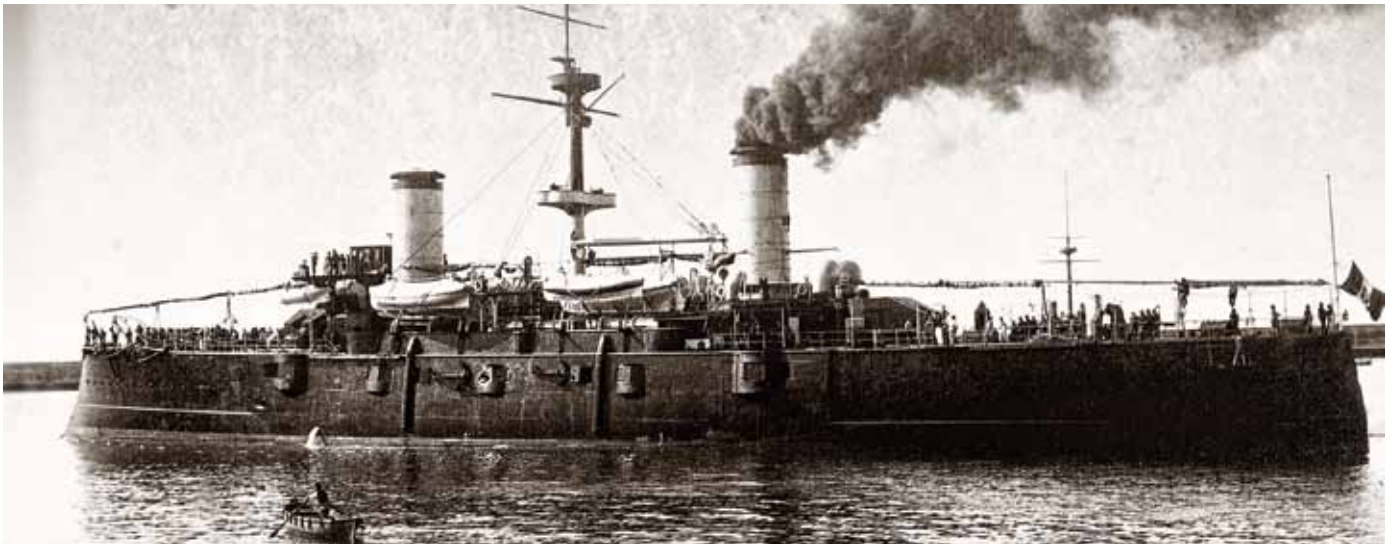
El Castillo del Morro is a significant example of military construction. The fortress and the defensive works that complement it are really outstanding: they are the largest and most representative example of the principles of Renaissance military engineering adapted to the requirements of the European colonial powers in the Caribbean.

Criterion V:

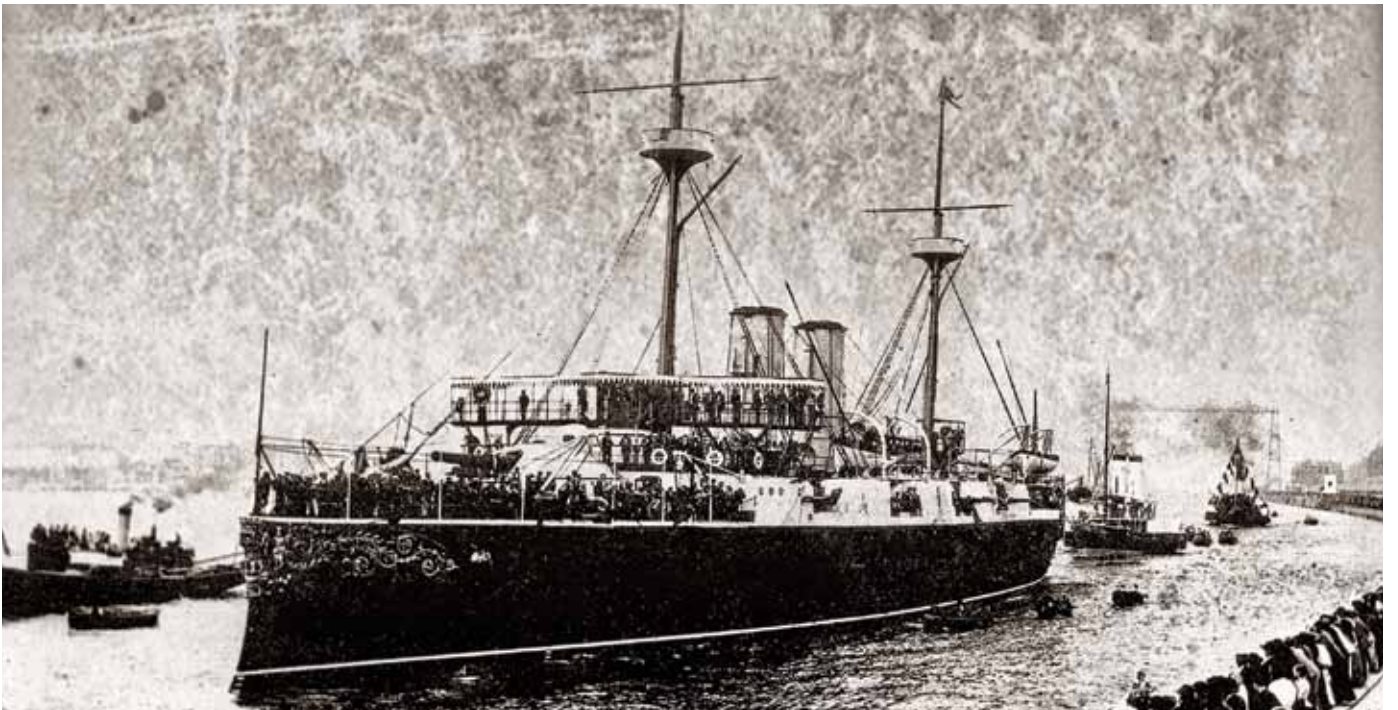
The Castillo del Morro site is a unique example of the territorial occupation that resulted from the establishment of a coastal defence system on unspoiled land. The various components that make it up ensured the protection of the city of Santiago de Cuba and its port from the frequent attacks of pirates, privateers and imperial powers that tried to hold supremacy in the Caribbean island. [C&D](#)

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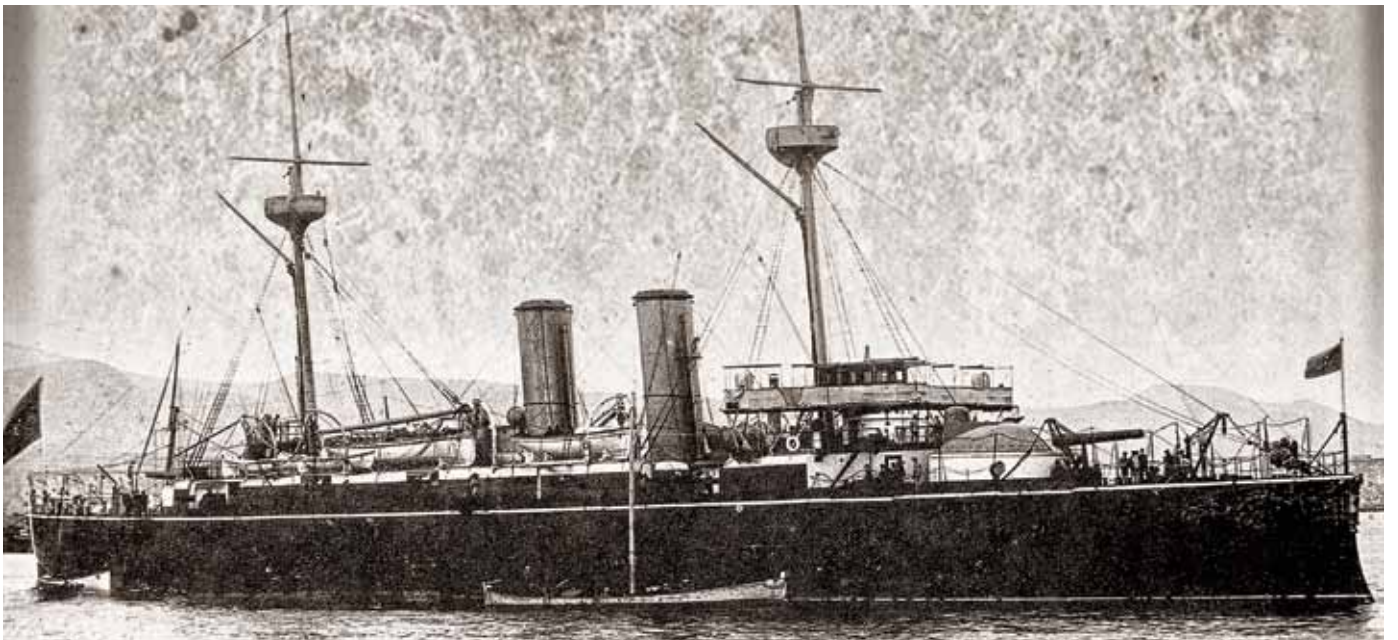
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Cuba

HISTORICAL IMPORTANCE OF THE CERVERA'S SQUADRON

■ **Colonel José Pardo de Santayana**

Defence Attaché at the Spanish Embassies
in Cuba and the Dominican Republic

One of the most naturally beautiful places in Cuba is located close to the coastal road linking Santiago de Cuba and the west of the country. The Caribbean Sea seems to caress the base of the Sierra Maestra mountain range, resulting in a landscape of stark contrasts that only hosts a few small plains where most human activity unfolds. The peace of the sea, lush vegetation, and the charming spots that have preserved their traditional appearance are dazzling.

One of the details that inevitably strikes the traveller is a steel structure strangely emerging from one of its beaches. It is a large gun that belonged to the armoured cruiser *Almirante Oquendo*, one of the vessels of Admiral Cervera's squadron which suffered one of the most painful defeats in the history of the Spanish Armada on this coast.

In July 1898, the city of Santiago de Cuba and its surroundings witnessed a historical event of limited physical dimensions but enormous historic significance. This marked both the end of a long war throughout Cuba and the beginning of the involvement of the United States on the island. As a result, an old empire collapsed, a new one emerged, and the Cuban nation came up as an independent State.

The Spanish overseas power had lasted four centuries and had largely determined the history of the American continent in its post-Columbian era. From the arrival of the caravels of Columbus in the New World in 1492 to what is known in Spain as the "Disaster of '98," the Spanish presence on "the Indies" and the shipping

routes over seas and oceans around the continent was one major factor in the development of various facets of human activity in the Americas and left quite a significant imprint on a global scale.

The Spanish-American War was also the pretext used by the northern neighbour to come out of its international isolation and emulate the European powers under a process of colonial expansion. The United States was in the throes of economic and industrial development, and exhibited a growth rate much higher than any other nation at the time. Thus, its intervention in the Cuban war was of paramount importance for the future role of the American colossus as a great political, economic and military power during the 20th century and beyond.

For Cuba, despite the constraint of American tutelage that excluded the island from Spanish surrender agreements, the summer of '98 events in the east marked the beginnings of this emancipated nation. Independence came after a long process that had included three wars; the first of which lasted ten years and began with a call for an uprising to overthrow Spanish colonialism, known as *El Grito de Yara*, in 1868. Since then, however its relatively small size, Cuba has played a significant role in the modern world.

The Spanish government wanted to end, once and for all, a war that threatened to reach even larger proportions and jeopardized the very survival of the Spanish monarchy. Without delving into the development of that war, it is worth recalling its very last weeks, those related to the Spanish squadron on the island. Its tragic, heroic end played a decisive part in the conclusion of the armed conflict because, after having isolated Cuba by sea, Spain could no longer continue struggling.

Cervera's squadron arrived in the port of Santiago de Cuba on May 19, 1898. It was soon blockaded by the U.S. Navy under Admiral Sampson. There was a 42-day artillery duel between attacker ships and coastal defences. On June 22, the ground forces landed in Daiquirí, 40 kilometres east of Santiago. Eight days later, 18,000 Americans attacked 6,000 Spaniards under the command of General Linares, who were defending the city. Another 5,000 rebels also joined the land forces. The other local troops kept the rest of the 100,000-strong Spanish army on the island at bay. On July 1, the American army under General Shafter stormed San Juan and El Caney hills; they met fierce resistance. However, the capitulation of the city was just a matter of time.

Cuba was not sold, as had been proposed by the Americans before they got involved in the conflict, or handed over without fighting out of honour and national dignity. On July 3, Admiral Pascual Cervera Topete was asked to get out of the harbour where he had taken refuge and face the American fleet that was blockading the exit.

The order meant "suicide", a certain defeat without the right to react. The narrow mouth of the bay of Santiago and its navigability conditions forced Cervera ships to emerge one at a time in broad daylight. The American vessels, positioned in a semicircle at the outlet of the bay, destroyed the Spanish ships all at once, as they hovered offshore in line, on a position favourable to enemy fire.

By contrast, the U.S. vessels, placed perpendicularly, were more difficult targets. The artillery technology at the time made ship guns more accurate in trajectory than in range. This made it easier to destroy a target aligned with the projectile trajectory.



Admiral Pascual Cervera Topete

The squadron consisted of the armoured cruisers *Infanta María Teresa* (flagship), *Vizcaya*, *Almirante Oquendo* and *Cristóbal Colón*, as well as destroyers *Furor* and *Plutón*. Cervera opted for a hopeless but gallant escape attempt, ramming his vessel into the *Brooklyn*, opening a breach on the enemy formation and attracting fire toward it in the hope that at least one vessel could get away. The flagship with Admiral Cervera on board was the first to emerge. The Spanish ships were shelled right after they left the bay and had no chance of salvation. The entire squadron was destroyed, driven ashore, or sunk. Once defeated, the vessels tried to approach the coast and save as many crewmembers as possible. It is for this reason that the wrecks are located in shallow waters and near to shore.

The Spanish sailors who were not killed became prisoners of war. The sunken and stranded ships scattered along the coast for a hundred kilometres, from the outlet of the bay to the front of La Mula beach. A total of 332 Spanish sailors were killed; 197 were injured; and 1,300 were captured. Two captains (*Villaamil* and *Lazaga*) succumbed on board their ships (*Oquendo* and *Furor*, respectively).

The flagship (*María Teresa*) was the only one that the Americans could take back as trophy after the battle, but it did not resist the voyage and sank in passing through the Bahamas.

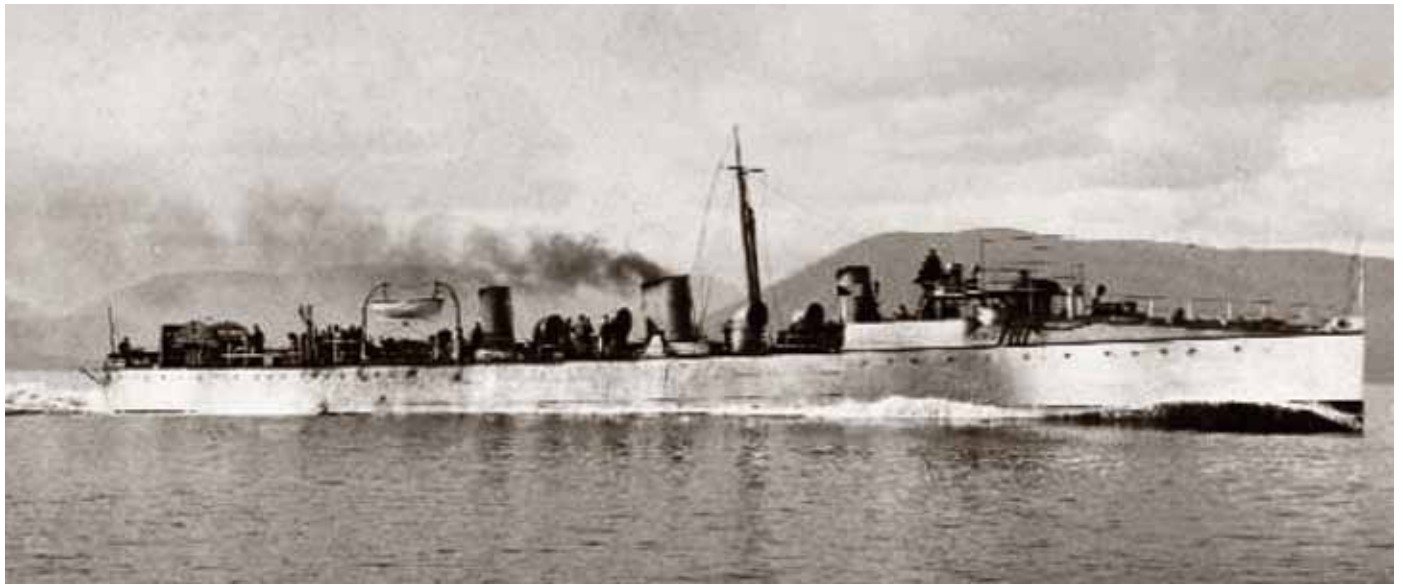
The seabed guards, as the remains of five of the six ships involved in the naval battle, together with the wrecks of ships from other periods, bear witness to human evolution in successive stages of history. The silence and stillness of the ocean floor, the crystal-clear waters of the Caribbean, and the sediments of marine life, covering the steel frames with a layer of velvet, provide solemnity and rest to an emblematic underwater cemetery.

The "last Spanish galleons," in addition to closing the chapter of Spanish underwater heritage in American waters and the curious coincidence that the biggest wreck of all bears the name of Christopher Columbus, the author of the first paragraph of the script, are one of the most complete and accessible archaeological collections of the first era of steel ships, prior to the world wars, at a time when just a few naval battles were fought.

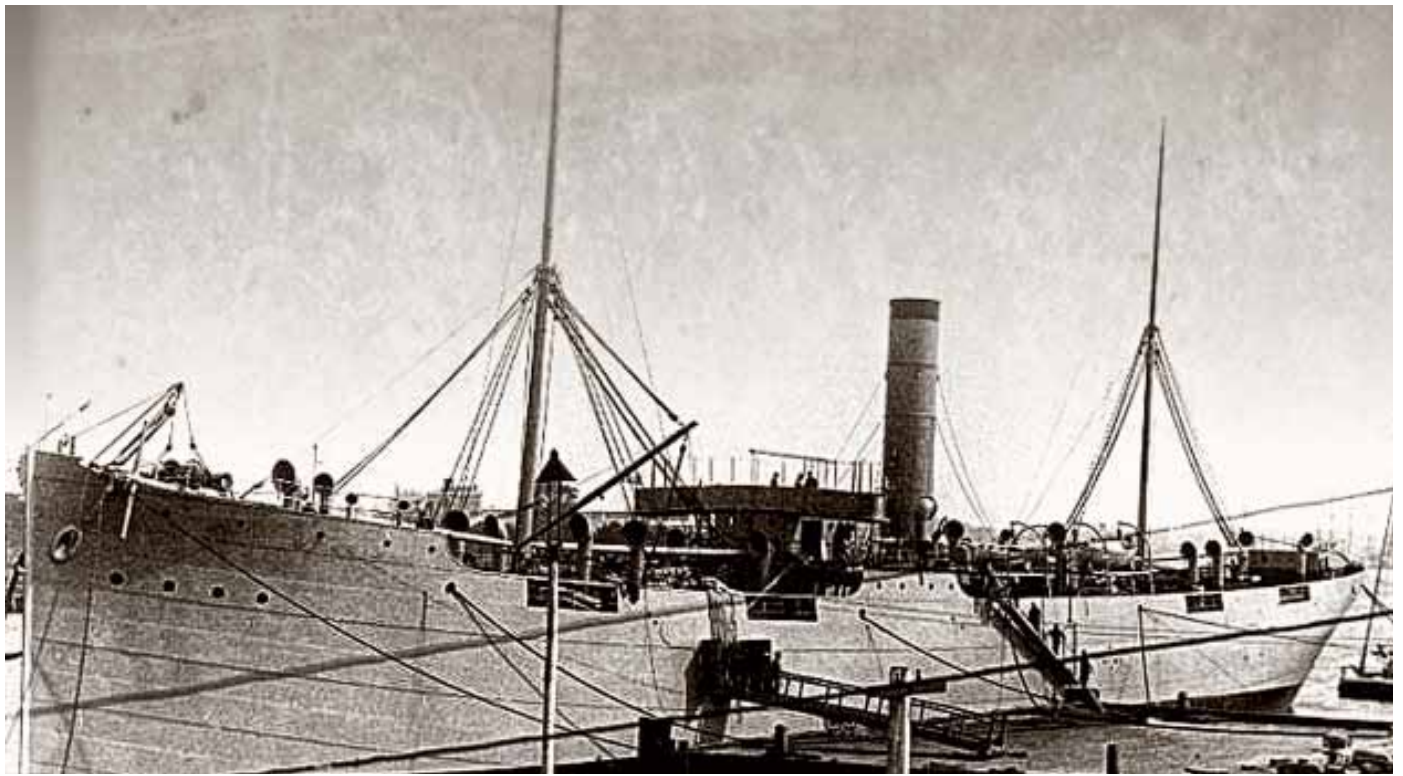
There is no better place for humans to read pages of naval history in such detail, beauty and technical simplicity than the coast where the five ships of the Spanish Armada ended up putting in. The memory of the men who gave their lives in that feat of arms is also an invitation to approach the place soberly and respectfully. There are thus many reasons to protect the wrecks of Cervera as part of the extremely rich underwater heritage off the Cuban coast. [C&D](#)

Images

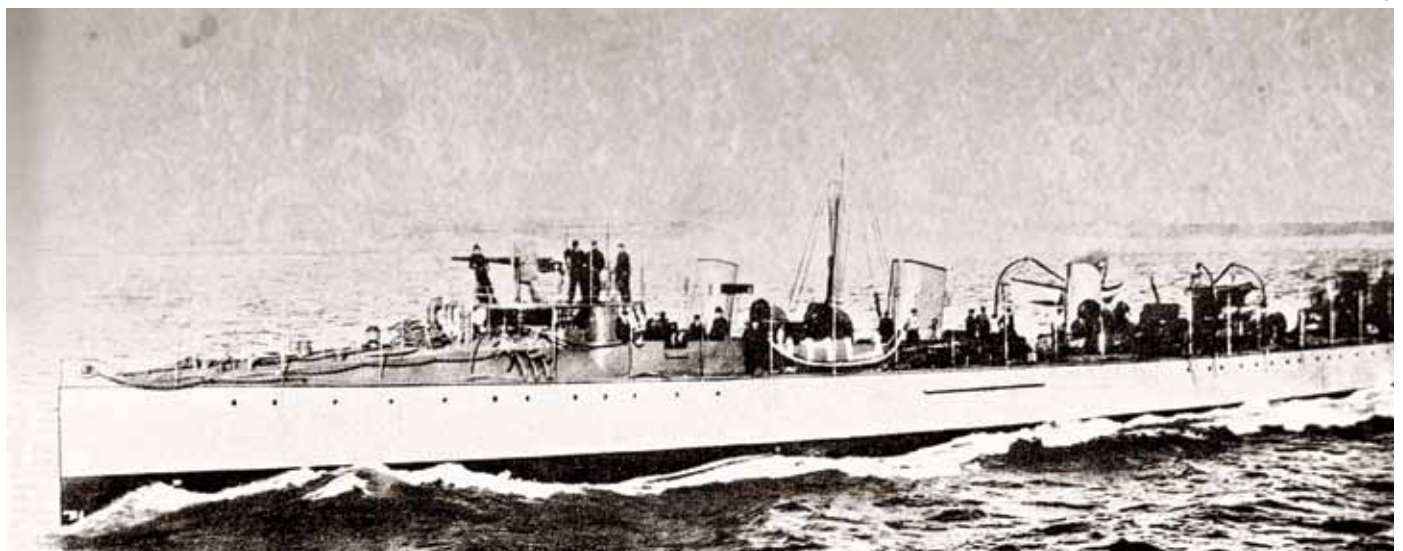
- 1 Armoured Cruiser *Cristóbal Colón*
- 2 Armoured Cruiser *Almirante Oquendo*
- 3 Armoured Cruiser *Vizcaya*
- 4 Destroyer *Furor*
- 5 Buque Carbonero USA USS *Merrimac*
- 6 Destroyer *Plutón*



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Cuba

THE GHOST WRECK OFF SIBONEY BEACH

■ **Jesús Vicente González**

Director of Project Batalla Naval 1898
Underwater Archeological Park



Remains of the deck and starboard of USS Merrimack © J.V. González

On 7 July 2005, the south-eastern coast of the Cuban archipelago was mercilessly hit by hurricane Dennis. Two days later, a first-aid team prepared to conduct a rescue campaign, without suspecting that the Siboney Beach in Santiago de Cuba had a unique surprise in store for them.



In the heat of the rescue work, the remains of an unknown ship, which had never before been seen in the area, were unexpectedly found around three or four feet deep, very close to the shore. The find was immediately notified to the Provincial Representation Office of the Ministry of Science, Technology and Environment, where a team of specialists in archaeology was established right away, in conjunction with the Biodiversity Study Centre. In parallel, a multidisciplinary group made up of experts working for the Underwater Cultural and Natural Heritage Management Project began to conduct research into the identity and cause(s) of the shipwreck.

As the news spread, a crowd of onlookers, television crews and media representatives started to reach the shore of the beach. The media made the finding public under the suggestive title Ghost Boat in Siboney. Neither journalists nor older people interviewed by researchers managed to determine the identity of the ship: not even the oldest fishermen in the area had seen it before. It was obvious that the exceptional and unforeseen occurrence had been due to the amount of alluvial deposits (sand and stones) removed from the beach foreshore by the sea power during the hurricane, depositing them on the coast line and turning them into a dune of significant proportions, which disappeared after a few months due to the influence of stabilizing dynamics at the site.

The movement of sediments had partially dug up and discovered the perfect structure of a vessel that appeared to be "severed" by the action of time and the extremely hostile environment where it laid. The force of the storm had exposed, at a depth of around one metre, an unknown wreck that needed to be identified and catalogued but, above all, to be protected from natural and man-made action.

After months of massive search, which included geographical location and marking works, prospecting tests, vessel construction pattern analysis, geophysical



© J.V. González

studies of the natural area and its biodiversity, photography and photogrammetry of the archaeological site and, especially, a deep historical analysis of documentary sources, traditions and legends, plus a collaborative consultation of foreign specialists and files, enough evidence was gathered to determine the name of the ghost ship and, more than that, its place in history.

Based on a priori assumptions and theories of the team and group involved, it was possible to confirm and document, thanks to sources at the time, the existence of a ship called The Scow, which arrived along with the large American means of transport in 1898, amid the Spanish-American War. With the steam engines broken, William Shafter, General of the U.S. Fifth Army Corps,

who was leading the landing troops, decided to place it tangentially to the end of the embankment and the floating dock, improvised by American engineers to facilitate the landing of troops, weapons and other means in Siboney Beach, one of the sites chosen by the Americans to carry out their plan to take the city of Santiago de Cuba, the second largest on the island.

Then, The Scow was renamed Shafter Bridge by the soldiers and registered even on the general documents pertaining to the Spanish-American War. The vessel thus facilitated a landing that was not well organized, with horses drowned and luggage lost, despite little resistance from Spanish forces and the support of Cuban forces besieging the city of Santiago de Cuba. This



was also the beginning of a military adventure by the American General, who had to move his own personal anatomy of over 300 pounds in particularly hot weather conditions.

Everything seemed to indicate that the ghost wreck was geographically associated with the barge used as a footbridge. There was no documentary evidence that it had survived the war, because it was no longer mentioned as part of the American fleet.

During the investigation, historical photos of the site dating from the famous landing of U.S. forces in 1898 were found. Some of them were very eloquent: they showed a means of transport of U.S. forces (Breakwater)

aground and bilged, almost at the same location as the finding.

One of the most perplexing situations occurred when, dating the remains of the wreck, it became evident that it had been built in the early 19th century, which apparently ran counter to the historical setting where Shafter Bridge had supposedly completed its useful life. However, documentary and graphic references were found, showing that the barge-footbridge had been used as a vessel long before it arrived in Siboney.

The study of archaeological evidence, pontoon remains, railway wheels, fittings of the rigging of the ship, machine parts, many other incredibly well conserved pieces and, finally, some photographs supplied by Patrick McSherry, editor of the Spanish American War Centennial website confirmed the findings of Cuban researchers. There was full coincidence with the description made by Shafter on his documents relative to the barge used for landing and the ghost boat in Siboney: the humble, useful Shafter Bridge, which reappeared over a century later to provide its own version of one of the most important events in the history of mankind: the Spanish-American War.

Months after the storm and largely due to the dynamics of the coastal site, the wreck was again almost entirely covered by sediments of the seabed, providing natural protection from spoliation and man-made and natural actions. However, in October 2012, a new extreme hydro-meteorological event hit Cuba's south-eastern coast, a few miles away from Siboney Beach. Hurricane Sandy moved tons of sediment and exposed the structure of the boat again, causing significant damage to some of its structural elements.

The natural process of sedimentation has once again given Mother Nature the beneficial task of guarding with its protective mantle what nature itself undressed with its unbridled fury. The ghost ship off Siboney, whose exact name has not been specified, is a peculiar witness, but not the only one, to an extremely important war in the course of world history.

On 25 January 1898, under the pretext of ensuring the interests of Americans on the island, threatened by the war between Spaniards and Cubans, the battleship Maine arrived in Havana. It was sent by the U.S. government in an alleged courtesy visit, which would be returned by a visit of the Spanish armoured cruiser Vizcaya to New York City. On February 15, an explosion, which continues generating hypotheses and research, lighted the port of Havana: the Maine blew up, thereby creating conditions favourable for the United States to get involved in the conflict and declare war on Spain, which had spent all men and pesetas to preserve its domination over the island, despite the eager quest of Cubans for independence.

With the declaration of war and the naval blockade on the island, and following a request of the Spanish Captain



General in Cuba, the Spanish government dispatched the Spanish Caribbean Squadron, commanded by Admiral Pascual Cervera, to the island to contribute to its defence. After an eventful journey, he arrived in Santiago de Cuba Bay on 19 May 1898.

Meanwhile, the United States ordered its squadron, commanded by Admiral William Sampson, to blockade the bay of Santiago de Cuba to trap the Spanish ships in. In an effort to prevent them from leaving, they sank the collier Merrimac on June 3, an operation that was not entirely successful because the ship sank perpendicularly and on one side only, which had not been the expected plan: sinking it precisely in the harbour channel in order to blockade any in/out attempt.

On July 2, Admiral Cervera was ordered to leave the bay and do battle, despite a disadvantageous situation in terms of number of ships and weaponry, compared with the American fleet. At 9.30 a.m., on July 3, the Spanish squadron left Santiago de Cuba through the narrow channel of the bay, in a rough line ahead formation.

First went the flagship: the armoured cruiser Infanta María Teresa, followed in that tragic parade by armoured cruisers Vizcaya, Cristóbal Colón and Almirante Oquendo and, at a distance, by destroyers Furor and Plutón. But access was closed by the American battleships Brooklyn, Texas, Iowa, Oregon and Indiana, and by the auxiliary ships Gloucester and Vixen, located in a semicircle.

The flagship, armoured cruiser New York, with Admiral Sampson on board, was somewhat far away because the Admiral was going to meet General William Shafter on

Siboney Beach. Five minutes later, Infanta María Teresa appeared in front of the Castle of El Morro. In order to protect the escape of the rest of the fleet, the vessel made, at full speed, for the first enemy ship, holding as much as it could the shower of fire and shrapnel coming from four American vessels. In a few moments, several fires started on board and spread quickly due to the large amount of wood carried. Meanwhile, Vizcaya, followed by Cristóbal Colón, crossed the exit and, upon the relevant instruction, tried to escape at all costs.

The fourth boat to leave, Oquendo, received a barrage of shots even before appearing on the scene, which caused large fires on board. The ship smashed on the rocks of Juan González Beach, just as Infanta María Teresa did, very close to the entrance to the bay. As soon as Furor and Plutón appeared, they were attacked by the American ships, which quickly defeated them in a disproportionate struggle. Plutón was almost halved after its deck was hit by a projectile and ran aground on the coast. Its scant crew managed to survive. Furor had a more tragic end: it sank into deep water about a mile away from the shore.

The only two ships left, Cristóbal Colón and Vizcaya, fled from the American squadron. The slow pace of the latter made it lose ground and, at 11.10 a.m., was transformed into a furnace of fire and death, running aground in Aserradero. The situation of Cristóbal Colón was very delicate, although it was considered the fastest warship at the time. American vessels were recovering lost ground, since Cristóbal Colón had run through its supply of high-quality coal and was forced to use inferior graded obtained in Santiago. Oregon was on its heels

and, after it, there came Brooklyn, Texas and New York.

It was reached by U.S. ships and could not continue fighting, since it had no bow and stern and its long-range guns had never been installed. Commander Emilio Díaz Moreu then ordered to head toward La Mula Beach and open the scuttled valves to ensure the complete loss of the ship and avoid delivering the last vessel of the Spanish squadron to the enemy.

All this happened at 1.15 p.m. In four hours, 29,000 tons on ships and 112 guns were lost, 323 people were killed, and 151 were wounded. The sinking of Cristóbal Colón marked the end of Spanish realm, the birth of the American empire, and a new era.

The coastline of the south-eastern part of the province of Santiago de Cuba was the scene of one of the most momentous events in the naval history of Cuba and the world. The bloody, unequal naval battle that ended with the sinking of the fleet under Vice Admiral Pascual Cervera Topete put an end to Spanish colonial rule in the Americas and resulted in the emergence of the most powerful empire in the history of mankind: the United States of America. Paradoxically, the Spanish-Cuban-American War culminated with the loss of armoured cruiser Cristóbal Colón, the very name of a man involved in a controversial history that has developed over 500 years and has given rise to the Americas of today.

The remains of that naval crusade make up the current Batalla Naval de 1898 Underwater Archaeological Park. It includes six archaeological sites where there lie wrecks linked to the landing and naval conflict, as well as all material evidence somehow related to the ships and/or to the events, such as masts, topmasts, mast rigging remains, fittings, parts of turrets and artillery (medium- and large-calibre shells), as well as other elements like sets of boiler tubes, balusters,

and propulsion systems. Due to the environmental characteristics of the area where these wrecks are located and the historical events that led to the sinking of the ships, it is only natural that the archaeological pieces are scattered within a range that varies from a few metres to one kilometre.

The Juan González, Bueycabón, Rancho Cruz, Verde Mar and La Mula beaches in Ocujañal the Turquino and the port of Santiago de Cuba itself are archaeological sites where there lie, in different degrees of conservation, mostly worn away by time and history, the remains of the fearful Spanish Caribbean Squadron: armoured cruisers Cristóbal Colón, Almirante Oquendo and Vizcaya; destroyers Furor and Plutón; and American collier Merrimac. They gained prominence in a history that now has a new exceptional witness: the Ghost Ship off Siboney Beach.

Unlike the others, the latter was part of a drama that had its epicentre on the mainland: heavy troops landed over it to participate in the storming of Santiago de Cuba, in fierce fighting against a battle-hardened Spanish army that was then facing both Cubans and Americans. The latter were not appropriately prepared, had no suitable uniforms for the intense heat of eastern Cuba, used black powder that betrayed their positions, and were exposed to diseases that decimated their troops and to the racial, ideological and cultural conflicts of a young nation trying to break into the destinies of the world, making its debut as a new empire.

All these wrecks are extraordinary witnesses to events that changed the international geopolitical scene of the late 19th century and are also an invitation to decipher the language of the treasure of the underwater cultural and natural heritage, as a window to world history. [C&D](#)

Cuba

THE CABINET OF ARCHAEOLOGY IN THE OFFICE OF THE HISTORIAN OF THE CITY OF HAVANA

Punta Macao underwater site: A muddy layer covering archaeological findings is observed in winter. © Cabinet of Archaeology, OHCH

Mónica Pavia y Antoni Fonollà

Underwater Archeologic Section at the Cabinet of Archaeology
of the Office of the Historian of Havana

The Cabinet of Archaeology was inaugurated by Dr. Eusebio Leal, historian of the City of Havana, on November 14, 1987. It has ever since become a research centre on historical archaeology, including a special library with over 6,000 volumes and an Underwater Archaeology Section.

Today, the Cabinet is made up of a group of specialists from various disciplines (archaeologists and historians), and its function is to study and safeguard the archaeological heritage located in the Historical Centre of the city. Its scientific interests include research in all areas where there is or may be any evidence of ancient urban sites or underwater cultural heritage elements that can improve the knowledge of the history of our ancestors on the island, their customs and ways of life.

One of the main activities that have been developed is the study of underwater sites, submerged or otherwise, which give any insight into the history not only of the

city but also of the entire island. Their identification and analysis have made it possible to establish some human settlement sites, trade routes unknown to specialists in the field, techno-typological and case studies, among others, thereby contributing to the examination, protection, preservation and dissemination of the Cuban Underwater Cultural Heritage, in line with the precepts of the 2001 UNESCO Convention. As a signatory of this international instrument, Cuba has since May 2008 been conducting historical and archaeological research and implementing its regulations in coastal areas and territorial waters.

Punta del Macao Site

It is located east of the city of Havana (Guanabo Beach). This indigenous site, which was discovered by a group of amateur archaeologists (CRABIMO), includes wooden objects in perfect conservation status, such as carved spheres with geometric designs, located under the sea in a peat deposit marked by anaerobic, favourable conditions.

In the 1970s, researchers at the Academy of Sciences of Cuba under the leadership of archaeologist Aida Martínez and with the participation of CRABIMO and the René Herrera Fritot amateur groups, conducted several



soundings. Three creeks and a trench were excavated parallel to the coastline. These works made it possible to determine the presence of two human settlements, one belonging to the pre-agro-potter period and the other one, to the agro-potter period (various stages).

The Underwater Archaeology Section at the Cabinet recently resumed site explorations and studies with the invaluable contribution of Eugenio Galvani, an outstanding expert in this field. Important pieces were recovered during one of these explorations in the winter. On this occasion, wooden balls and other findings got exposed on peat land. This peculiar exposure of the submerged area was due to north-easterly winds that cause tidal waves that remove the sand that protects the muddy layer in the winter, while covering it back in the summer. In addition, a survey was carried out to delimit the area that has the greatest archaeological potential for future research projects.

Navegador Wreck

This wreck is located in Boca Chipiona, a small cove in Santa Cruz del Norte municipality (Mayabeque province).

It was a frigate built in New York in 1805, baptized Navigator, and bought by Havana merchant Francisco Layseca in 1813. He changed its name to Navegador, alias San Francisco, and dedicated it to trading with the British.

During its voyage from the port of Portsmouth on November 27, 1813 to the port of Havana, it was hit by strong northerly winds that damaged its masts and spars, and broke its rudder. It drifted and then sank on the reefs of Boca Chipiona.

In September 2011, thanks to the information provided by Roberto Hernández Díaz, a resident in Santa Cruz del Norte, the Section performed the first exploration and confirmed the finding of the wreck. Later in 2012, a 15-day campaign was conducted to survey and collect artefacts on its surface, which were in danger of falling into the hands of treasure hunters because they had for years been plundering the site. The study of the cargo of this wreck, consisting of fine English china, glassworks, hardware items, mill wheels, etc. will generate additional knowledge about trade relations between Havana

and other European ports in the early decades of the 19th century. A comparison between them and some findings in Havana urban contexts will shed light on the commercial history of the city.

Ramón Rojas Wreck

It is a Chilean frigate sunk east of the city of Havana in an area known as El Chivito beach, on March 19, 1859. In September 2013, an archaeological campaign was conducted to survey the site and geo-reference the most significant findings using GPS equipment. Two anchors, a long chain of over 30 metres, part of the boat structure and its cargo of bricks, floor tiles and glazed ceramic tiles were found at the first dives. Following the intervention at this site, a teaching methodology on underwater archaeology was put together and made available to Cuban and other Caribbean specialists.

Havana Traditional Waterfront

An assessment is being made of the historical and archaeological heritage present in this popular area, including prospecting and locating underwater and coastal archaeological evidence in the section between the Castle of San Salvador de la Punta and the Big Tower of Saint Lazarus, at a depth of up to 25 metres. The idea is to geo-reference and locate on a plan all the sites and evidence found. Several anchors from the 16th to the 20th century; a site including five guns, possibly from the 17th century; some mounds of ballast; and three sets of structures cut into the reef lapiez, where bathing huts were built in the 19th century, have been located to date.

This work is part of the survey programme for the recovery of the Traditional Waterfront, seeking to confront the challenges of climate change, funded by the Swiss Agency for Development and Cooperation (SDC).

Santa Cruz del Norte Slipway

According to the oral tradition in Boca de Jaruco village, this site used to be a shipyard built in colonial times. In September and December 1995, Cabinet specialists identified and explored it, and conducted a series of interventions, including cleaning, mapping, and underwater exploration at the ramp, which made it possible to check its excellent technical conditions to facilitate the launching of boats from the shipyard.

Along with the archaeological works, an archival research was undertaken and included consultation of source documents, specialized literature, and talks and interviews with some national and international authorities engaged in naval studies (Dr. Joseph L.

Casado Soto, Dr. Roger Smith, Dr. Pilar Luna, Dr. César García del Pino, and Dr. Ovidio Ortega). They all agreed that the remains on Boca de Jaruco slipway were the oldest and most comprehensive in the country, dating from the 16th and 17th centuries.

To avoid their destruction, the Cabinet group of underwater archaeologists produced a dossier and requested their protection through inclusion on the List of Cultural Property. Resolution No. 8 of the National Monuments Commission, dated 5 June 2013, declared it National Monument of the Republic of Cuba.

The team, in collaboration with Canadian specialists Dariuz Wojcik and Maria Valentino, recently conducted a survey of the slipway using a 3D laser scanner, which is still in the development and data processing stage.


Underwater Archaeological Map of Havana, Mayabeque and Artemisa

The Section is developing an underwater archaeological map of the former province of Havana, now divided into three provinces: Havana, Mayabeque and Artemisa. For this purpose, a recording sheet including historical information about the wreck, archaeological interventions, photographic reportage, and geo-referenced data has been elaborated. This work will facilitate the planning of archaeological research and better protection of the sites.

All collected data were included in a geographic information system (GIS) for future consultation by specialists over the Internet.

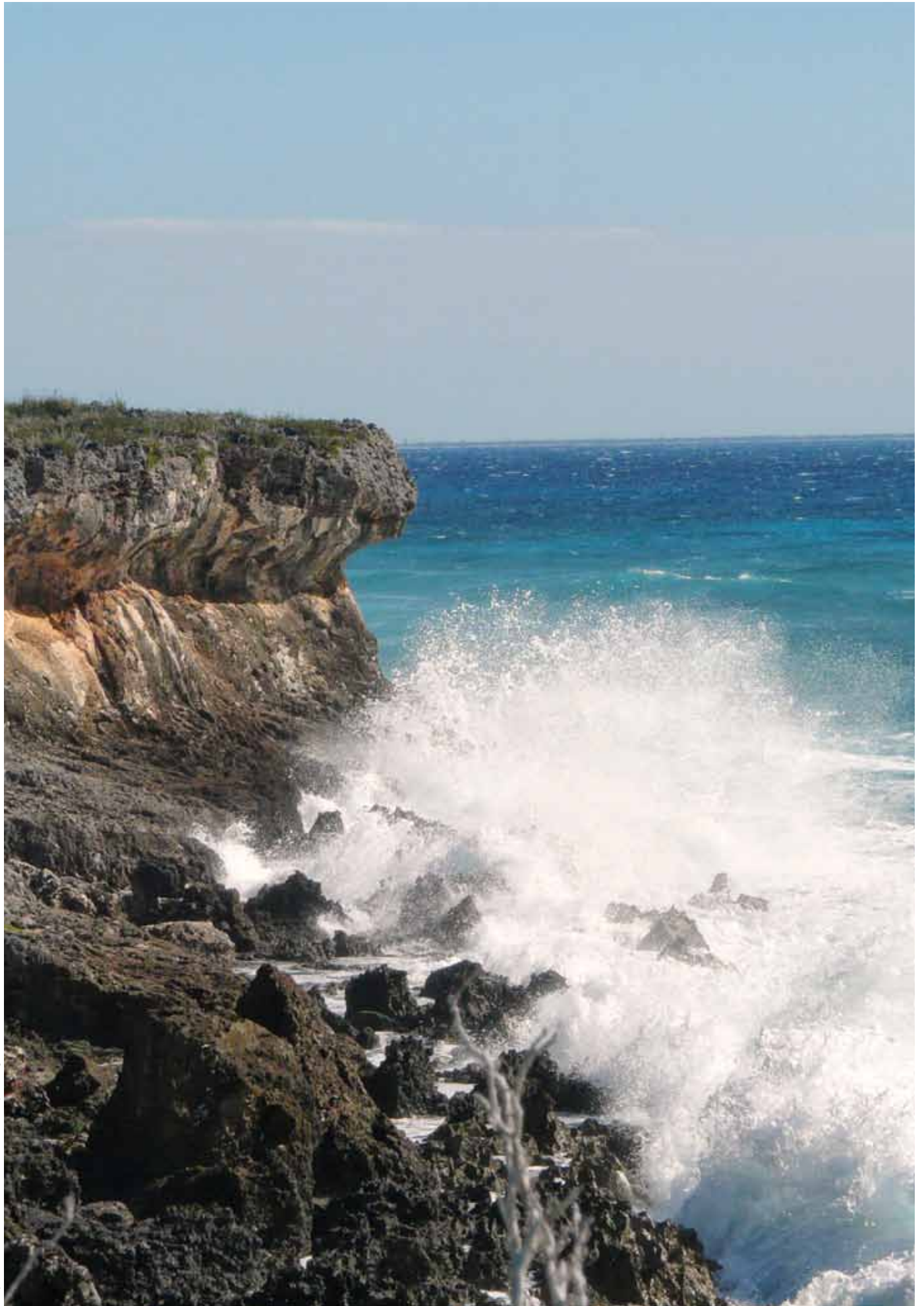
Dissemination Work

Dissemination has been one of the objectives of the Section after it was established. To this end, several introductory courses on underwater archaeology, a postgraduate course by Professor Dr. Xavier Nieto in collaboration with the San Gerónimo de La Habana University, and a summer workshop for adolescents, which was very well received by this age group, have been held. An exhibition of underwater archaeology films is also organized in February and March every year to show the public the results of different excavations and the difference between scientific excavations and treasure-hunting operations.

Finally, the Section has disseminated research findings in various publications and at three temporary exhibitions on the Navegador frigate. It will also feature a permanent exhibit at the Museum of Archaeology. 



Dissemination work among adolescents: Exhibition of China fragments belonging to Navegador wreck. © Cabinet of Archaeology, OCH



Rocky cliff, south coastline of Guanahacabibes © L. Miquez Lauger, 2013

Cuba

GUANAHACABIBES BIOSPHERE RESERVE

Actions relative to the implementation and monitoring of the Convention on the Protection of the Underwater Cultural Heritage and the Man and the Biosphere (MaB) Programme are flagship activities of the United Nations Educational, Scientific and Cultural Organization (UNESCO) under the responsibility of its respective Culture and Natural Sciences Sectors. Through them, the Organization helps to guarantee effective, sustainable enjoyment of the legacies of the cultural and natural heritage of humanity. A brief presentation of these tools and an approach to the analysis of their use at the Península de Guanahacabibes Biosphere Reserve appear below.

■ Frank Ortiz Rodríguez

Coordinator, Natural Sciences Sector,
UNESCO Havana Office

■ Lázaro Márquez Llauger

Coordinator, Península de
Guanahacabibes Biosphere Reserve

The Man and the Biosphere Programme (MaB) began to be implemented in 1970, after it was adopted by the General Conference of UNESCO at its sixteenth session in Seville (Spain). Its Action Plan defined biosphere reserves as areas of terrestrial and coastal/ marine ecosystems or a combination thereof.

Reserves are proposed by Member States and have the following three functions: Conservation (contribute to the conservation of landscapes, ecosystems, species and genetic variation); Development (foster economic and human development which is socio-culturally and ecologically sustainable); and Logistical Support (backing for demonstration projects, environmental education and training, and research and monitoring related to global, regional, national and local issues of conservation and sustainable development).

The Third World Congress on Biosphere Reserves, held in Madrid (2008), recognized the role of biosphere reserves as pilot sites providing opportunities for research into climate change mitigation and adaptation to its effects, ecological economies and points of collaboration with other international innovative initiatives related to the environment. They also serve to obtain scientific

knowledge and identify best practices for the use of natural resources and for the management, restoration and rehabilitation of ecosystems, earth sciences, and to strengthen the relationship between science and society at the global, regional, national and local levels.

By definition, biosphere reserves have natural or semi-natural systems that are subject to management activities to ensure the protection and maintenance of biological diversity, while providing a sustainable flow of natural products and services to meet national or local needs, based on certain conditions that tend to reconcile and harmonize the use and preservation of natural resources through appropriate management methods, according to the principles of sustainable economic and social development.

UNESCO has recognized six biosphere reserves in Cuba, which have the most unique and important ecosystems and habitats in the island territory. This makes it possible to ensure the protection of representative samples of physical-geographical regions, biotic communities and genetic resources and species, and also promote respect for the ecological, geomorphologic, historical, cultural or aesthetic attributes that support their nomination.

As the biosphere reserves in Cuba are recognized as managed resources protected areas, they are administered under the National System of Protected Areas. Therefore, they are in line with the current legal regulations and are defined as certain parts of the national territory incorporated into land-use management of ecological, social, historical and cultural significance to the nation, especially dedicated, through effective management, to the protection and maintenance of biodiversity and associated natural, historical and cultural resources in order to achieve specific conservation and sustainable use objectives.

The Peninsula de Guanahacabibes Biosphere Reserve

Declared UNESCO Biosphere Reserve in 1987, this area is especially significant for the conservation of the underwater cultural heritage. It is located in the westernmost region of Cuba, just where the Caribbean Sea joins the Gulf of Mexico through the Yucatan Channel, a belt of sea that stretches along 210 km and separates Cape of San Antonio (Cuba) from Cape Catoche (Mexico). It includes terrestrial, coastal and marine areas that cover 121,572 ha, 39,830 of which are in the core zone (the Guanahacabibes National Park).

Its extremely rich biodiversity turns it into one of the most important protected spaces in the Antilles and the island Caribbean, both for its terrestrial and marine biota. Its extraordinary biological wealth is supported by its unique geographic location, bordering the Western Caribbean Sea and the Gulf of Mexico. The excellent broad-based nature of major Antillean marine, coastal and terrestrial habitats and their conservation status have been favoured by their territorial isolation from major sources of man-made pollution in Cuba, such as large cities and industries, and by the existence of limited, poor, unattractive soil for farming and ranching.

Guanahacabibes is a karst plain of marine origin, with formations of mangroves and wetlands along the northern coast. The highest points on the peninsula are located to the south, on the cliffs that can reach heights of up to 19 metres above sea level. The western block exhibits important areas of interior marshes between emerged barrier reefs.

Semideciduous, evergreen and mangrove forests are conserved in core zones, as is sandy and rocky coast vegetation, where more than 700 plant species occur. The semideciduous forest features the highest number of endemic species in Cuba.

The marine area covers 30,896 hectares and has a spectacular seabed, mainly in the southern region of the peninsula. The coastal reef has the distinctive profile of a single terrace which culminates in a deep escarpment of varied structure. It is considered a habitat of special interest because it provides an important link for conservation throughout the territory. It is also considered by many authors as one of the best conserved coral reef ecosystems in Cuba and one of the most diverse in the Caribbean.

Tourist development has been promoted in recent years, especially the nature tourism modalities. Over 15,000 tourists visit this peninsula every year, and a gradual increase in their number is feasible. Its beaches, caverns, seabed, rich and varied flora and fauna, and breathtaking landscapes are all special tourist attractions.

Due to its unique geographical location, the Peninsula of Guanahacabibes is associated with a naval history rich in shipwrecks. For centuries, an intense maritime traffic developed around its shores as a result of the trade routes of the West Indies Fleet. Havana was a gathering port and destination for all the fleets of the Americas. This situation lasted for nearly three centuries and was further intensified with the historical role of the colony since the early 16th century. Thus, hundreds of fatal accidents took place due to poor geographical knowledge of the coastal morphology, varying and adverse weather conditions, strong sea currents, and the presence of shallow reefs throughout the southern coast of the peninsula.

Other causes had to do with corsairs and pirates who made Guanahacabibes, well into the 19th century, an ideal place for refuge and actions against vessels that ventured to approach its shores. They resulted in sunken boats and, consequently, in the great underwater heritage wealth resting now on the island shelf, including the marine area of the Península de Guanahacabibes Biosphere Reserve.

More than 20 underwater archaeological sites associated with shipwrecks from the 16th to the 20th century have been registered in the marine sector. Sixteen major shipwrecks have been identified and documented, including the wreck of a large Dutch boat in 1698 off El Holandés beach. Also important is the wreck of the steamer Crown Prince, which occurred as a result of the grounding caused by a hurricane in 1910. The wreck remains partially submerged off La Majagua beach and is a major attraction in the diving area.

The underwater explorations that have been carried out to date have identified the exact location of some of the wrecks and have made it possible to find guns, anchors, helmets, colonial ceramics, bombards, culverins, bells, crucifixes, and ballast stones.

Due to its historical, archaeological, cultural and economic importance, the underwater cultural heritage deserves to be given top priority in functional zoning and management programmes underway in the Península de Guanahacabibes Biosphere Reserve.

The scientific research and monitoring programme includes activities designed to identify sites associated with the underwater cultural heritage, assess their condition, and determine their vulnerability to



Remains of the English Steamer Crown Prince that sank in 1910 off Playa la Majagua, Peninsula of Guanahacabibes © L. Márquez, 2014.

natural and man-made events. The joint monitoring and protection programme aims to provide a set of measures for the preservation of underwater cultural heritage sites, including using buoys for marking boundaries and patrolling the marine sector so as to ensure the integrity of heritage sites and eliminate the threats they are exposed to.

The activities under the environmental education programme are implemented applying an integrated approach that focuses on strengthening citizen participation by promoting capacity building for local community representatives, decision-makers and development actors to raise awareness about the need to preserve underwater heritage and make the general public realize how valuable and significant the underwater cultural heritage is and how important its protection is.

The public use programme generates activities seeking to enhance the role of underwater heritage as a tourist attraction in the marine area, develop the tools and regulations necessary to ensure public access to underwater cultural heritage sites, and apply standards that are consistent with site protection and management.

The management plan, as a guiding tool that makes it possible to establish and regulate the use of resources and the actions required for conservation and sustainability purposes, identifies historical and cultural sites in the Guanahacabibes Biosphere Reserve as an integral part of functional zoning to determine areas with wrecks, shipwrecks and other items that are unique expressions of the underwater cultural heritage. The current plan for the reserve sets forth regulations for the use, management and protection of local resources and values, as well as conservation actions to be implemented. [C&D](#)

Puerto Rico

THE TEXAS A&M UNIVERSITY AND ITS NAUTICAL ARCHAEOLOGY PROGRAM

Filipe Viera de Castro

Center for Maritime Archaeology and
Conservation, Texas A&M University

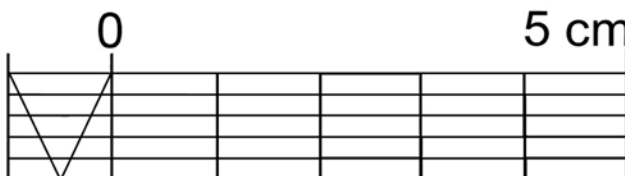
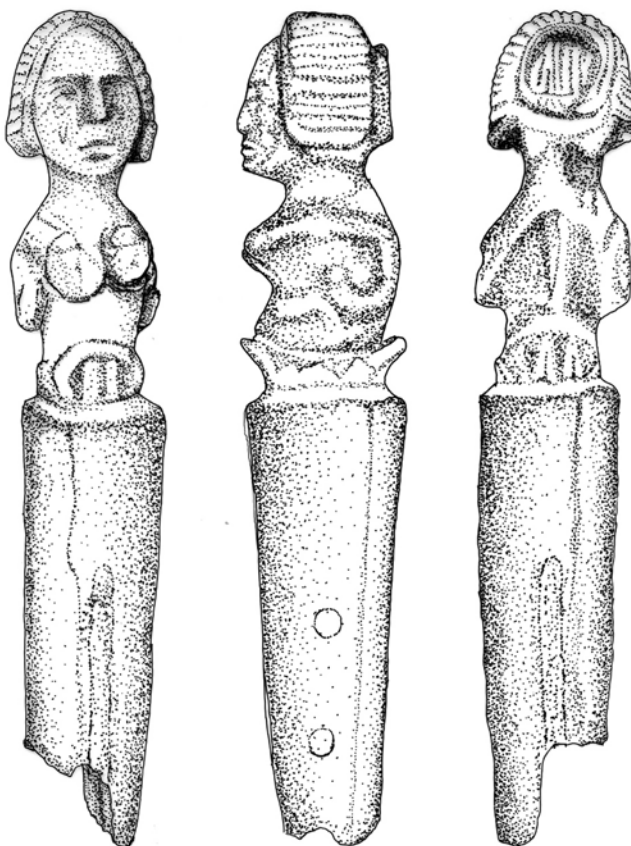
Richard Fontánez

Instituto de Investigaciones Costaneras

Gustavo García

Instituto de Investigaciones Costaneras

Created around four decades ago, the Nautical Archaeology Program at Texas A&M University has promoted archaeological interventions in over three dozens of countries worldwide, supported by the non-profit Institute of Nautical Archaeology, which is located at Texas A&M University. The relations of Texas A&M University and Puerto Rico go back three decades and a number of projects has been carried out in that country that deserve mention here.



Puerto Rico had been inhabited for several millennia when Christopher Columbus first landed on its shores in 1493, during his second voyage. After that date, European ships demanded Puerto Rican waters regularly and eventually settled the archipelago. The colonization started officially in 1509, under the coordination of Juan Ponce de León, with the building of Villa Caparra, not far away from today's San Juan Bay (Carrión 1995) and the exploitation of the region's gold resources. La Caparra was abandoned in 1521 and its inhabitants resettled on the small island of San Juan Bautista, on the north margin of the bay. This new village of San Juan thrived and excited the greed of Spain's enemies. During the 1530s the production of gold declined and by 1540 the region's economy shifted to agricultural exploration. Ginger, sugar and livestock were made Puerto Rico wealthy (Scarano 2005) and as a result San Juan became coveted by pirates and privateers, and the city was fortified. Many ships from the Spanish flotas system called on San Juan to load water and victuals upon arrival on the Caribbean, and two of the three main New World routes passed by Puerto Rico, either through the Mona or the Anegada passages.

During the 16th century French, and later English pirates and privateers demanded Puerto Rican waters, bringing European warfare technology into the new world and forcing Spanish officials to develop new fortifications and defense strategies everywhere, including in Puerto Rico (Arnold 2001).

In spite of foreign pirates and privateers, Spain kept a firm grip in the New World for another three centuries, and Puerto Rico is a good example of Spain's supremacy. In 1595, Francis Drake and John Hawkins led a failed English assault to capture Puerto Rico. Hawkins is said to have lost his life, together with many of his men (Andrews 1972).

Another attempt to take San Juan was carried out three years later, in 1598, by George Clifford, the 3rd Earl of Cumberland, with a powerful expeditionary force. Although he succeeded in capturing the fort of San Felipe del Morro, the fortress was not held for long and the Earl of Cumberland left the Island for good (Negroni 1992).

Like the English, Dutch interest in the Caribbean expanded with the growth of the north European economies. After failing to retake the Brazilian city of Bahía from the Portuguese, the Dutch general Boudewijn Hendrikszoon sailed to Puerto Rico in the autumn of 1625 and tried to take San Juan in vain. As many of the previous attackers, he left without conquering the citadel of El Morro or the island (Newton 1933).

Historical documents suggest that ship traffic on and around the Island were greatly reduced during the 17th century. This was the result of a combination of general political and economic crisis in Europe, religious wars, and regulations within the Spanish fleet system, which excluded the island from trade. As its economy slowed down, Puerto Rico attracted fewer vessels.

During the 18th century Puerto Rico became a center in the European fight for hegemony in the Caribbean. In 1797, General Abercrombie launched an English attempt to capture the island, but failed like all his predecessors (Alonso and Flores 1998).

The region's proximity to Texas, its rich culture and history, and its shipwrecks and maritime landscapes made Puerto Rico appealing to the scholars and students in the Nautical Archaeology Program at Texas A&M University, and triggered the first contacts in the 1980s.

Like the USA and most Caribbean and Latin American countries, during the 1970s and 1980s Puerto Rico suffered its share of destructions at the hands of treasure hunters, sport divers, and fishermen. Guns and lead ingots were salvaged from several sites around the island in the 1970s and 1980s.

Reacting against treasure hunter's incursions into the country, in 1987 the Puerto Rico legislature enacted Law #10, which created the Puerto Rico's Underwater Archaeological Council (the Council), the entity that would thereon be responsible to protect the Island's submerged cultural resources. The first directors of the Council's office was Carmen Márquez, who held the position from 1989 to 1990 and then briefly from 1998 to

1999. In 1995 Mrs. Márquez obtained a master's degree in nautical archaeology from the Nautical Archaeology Program (NAP) at Texas A&M University (TAMU).

From 1990 to 1991, and then from 1999 until today, the Council office has been directed by Mr. Juan Vera. After participating in multiple underwater archaeological investigations in Cuba during the late 1980s, he approved several courses in the NAP at TAMU during the early 1990s.

Between 1995 and 1997, the office of the Council was directed by Jerome Lynn Hall, who in 1996 obtained his PhD degree in nautical archaeology, also from the NAP at TAMU. During his tenure, Dr. Hall taught an introductory underwater archaeology course at the University of Puerto Rico's Department of Anthropology and invited multiple scholars to participate in underwater archaeology initiatives in Puerto Rico. Some of these scholars were Hawk Tolson (NAP graduate), who gave a presentation on the sinking of the S.S. Edwards Fitzgerald, Richard Willis (NAP graduate and presently in the US Navy Historical Center), Dr. Wayne Smith (professor at TAMU), who trained local archaeologists in the principles and techniques of archaeological conservation of shipwreck materials, and Dr. Roger Smith (also a NAP graduate), who worked on shipwrecks throughout the Caribbean and is currently Florida's State Underwater Archaeologist.

In more recent years Dr. Richard Fontánez, who was interim director of the Council office between 1991 and 1995, and its field director between 1995 and 1997, has been involved in several underwater archaeological investigations around Puerto Rico (Fontánez 1992, 1995a, 1995b, 1995c, 2001 and 2006). Dr. Fontánez holds a master's degree in maritime history and underwater archaeology from East Carolina University (ECU), and through him several archaeologists from ECU have participated in projects in Puerto Rico. Among them are Frank Cantelas, Wayne Lusardi and Raymond Tubby.

Gustavo Garcia, who obtained a master's degree from the NAP at TAMU in 2005, wrote a thesis entitled "The Rincón Astrolabe Shipwreck," which deals with the story of the wreck found off the coast of that municipality in 1987 (Garcia 2005 and 2008). Together with Dr. Fontánez, he is co-founder of the "Instituto de Investigaciones Costaneras" (the Instituto), a not-for-profit organization established to conduct underwater archaeological research in Puerto Rico.

The attitude of the Nautical Archaeology Program and the Institute of Nautical Archaeology towards the countries where they work has changed a lot since its earlier years. From more or less independent projects promoted in foreign countries and published by Texas A&M University scholars with diverse degrees of success, over the years the Nautical Archaeology Program moved to cooperative projects, carried out in straight cooperation with local scholars and divers, which incorporated an increasingly important component of

local knowledge and an always growing involvement with the local cultures and interests. The last projects developed by the Nautical Archaeology Program in Puerto Rico encompassed a series of surveys carried out in order to plan further actions, which depended on selecting sites and research questions, as well as raising funds and awareness to further the study and protection of the country's underwater cultural heritage.

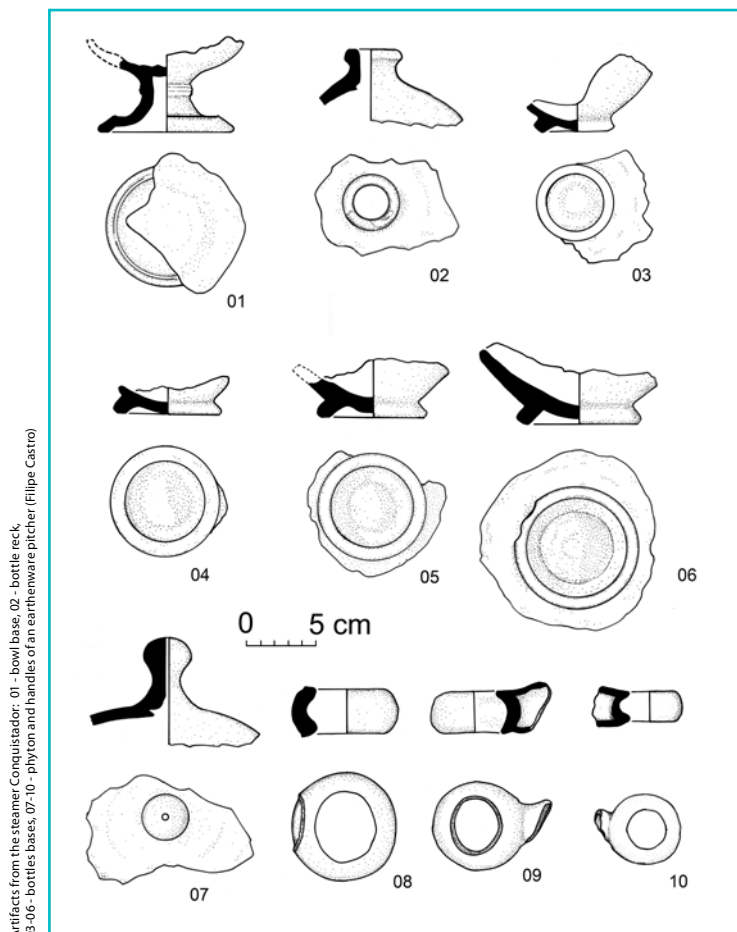
The Nautical Archaeology of Puerto Rico Project

In June 2007 the authors met with a number of Puerto Rican officials to introduce the Centre for Maritime Archaeology and Conservation and Texas A&M University's Nautical Archaeology Program and setup a three-phase project. We planned starting the first phase in 2008, which consisted of a diagnostic of the submerged cultural heritage situation in a selected area of the Puerto Rican coast. The main objectives of this phase were to evaluate the number, chronologic span and condition of known shipwreck sites, and document the destructions by treasure hunters and looters.

The second phase would consist of a number of prognostics pertaining to the situation of particular areas or shipwreck sites in order to classify them in terms of their stability and threatens, in relation to their rarity and archaeological relevance. The third phase would encompass intrusive interventions and depended on the cooperation with the Council of Council of Underwater Archaeology, the available funding, and the development of a conservation laboratory in Puerto Rico.

The 2008 field season began on July 1st and ended on July 21st. The area of study was situated between four points (N 18° 27' 20.88", W 065° 54' 26.69" and N 18° 28' 27.35", W 066° 07' 26.43") and spanned the coasts of the municipios of Loíza, Carolina, and San Juan (Figures 1, 2 and 3). Given the short duration of the field season, only selected portions of this area were surveyed, according to their archaeological potential. In the course of that field season 20 sites were located and inspected, and about 80 sites with potential interest were identified through conversations and interviews with local divers and informants. The sites surveyed were geo-referenced for future use (Castro et al. 2008, 2009, 2010a, 2010b).

Lack of funds in 2009 prevented an intrusive campaign and the authors focused on the cultural heritage database, gathering data and conducting interviews. In the summer of 2010, a joint team from Texas A&M's Centre for Maritime Archaeology and Conservation, the Consejo para la Conservación y Estudio de Sitios y Recursos Arqueológicos Subacuáticos, and the Instituto de Investigaciones Costaneras, with the support of the Institute of Nautical Archaeology, surveyed a stretch of the Island's west coast, around the town of Rincón, where in the last week of December 1986 a shipwreck was found and partially salvaged (García 2005). Possibly English and possibly dating to the mid-17th century, the Rincón Astrolabe Shipwreck was named after an astrolabe found near the ballast pile, dating to 1616 and



possibly of Iberian origin (Figures 4 and 5). The 2010 summer season consisted of a survey of the purported positions of four shipwrecks known to exist in the area, with a special focus on the Rincón Shipwreck, thought to be the remains of *Defiance*, one of Prince Rupert's ships, lost in 1652 during a hurricane, with his brother Maurice on board (Ollard 1969).

The team found that a noticeable process of coastal erosion in the area covered all the shipwreck sites with six to eight feet of sediment, protecting them from further damage, but making inspections difficult and expensive. Furthermore, the presence of a pristine coral reef near the Rincon Shipwreck site made it impossible to excavate the site without endangering the environment with the sediment fan that such a deep excavation would undoubtedly generate.

Conclusions and Future Plans

As the authors work on the publication of the 2010 field season, no immediate plans to survey in Puerto Rico exist, mostly due to the global economic crises and the lack of research funds it generated. The author's friendship and common interest in the country's culture, history, and cultural heritage remains. The Nautical Archaeology Program hopes to return to Puerto Rico and continue the project started in 2017. [C&D](#)

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Acknowledgements

The authors thank Mr. Charles Consolvo and Dr. Peter Amaral for their generous support, Mikal Woods and Richard Fitzgerald, Texas A&M University Center for Maritime Archaeology and Conservation, the Institute of Nautical Archaeology, the Instituto de Cultura Puertorriqueña, the Alcaldía of Rincón, Taino Divers, Mr Miguel Págan, and our indefatigable skipper Freddy González Martínez.

Dominican Republic

MONTECRISTI

UNDERWATER CULTURAL HERITAGE IN THE DOMINICAN REPUBLIC

Ruth Pion
Anthropologist

Many countries provide for the protection of cultural heritage in their laws and somehow cover properties belonging to the Underwater Cultural Heritage. The Dominican Republic is no exception.

The interest in discovering the goods submerged off the coast of the nation came up in the early 1970's, when the Dominican government signed contracts with several U.S. private companies dedicated to the search and rescue of old ships. The agreements stipulated that the State would receive 50% of the artefacts recovered and would reserve the right to retain all goods considered to be of historical, cultural and/or archaeological value. The operations carried out by these companies made it possible to find shipwrecks such as Nuestra Señora de Guadalupe, Conde de Tolosa, and Nuestra Señora de la Pura y Limpia Concepción. The extremely large number of recovered artefacts attracted much attention and highlighted the need to initiate a programme of underwater research for the identification, recording and study of historic shipwrecks situated in territorial waters and national maritime zones, and for the inventorying, conservation and restoration of archaeological objects for educational and/or museographic purposes. Against this background, the Dominican State established the Underwater Archaeological Rescue Commission (CRAS) to institutionalize the management of the underwater cultural heritage (UCH) present in the country.

Institutional and legal frameworks

Years later, Decree 289-99 made it possible to set up the National Bureau of Underwater Cultural Heritage (the current Department of Underwater Cultural Heritage / DGPCS), thereby replacing CRAS as the entity in charge of rescuing, restoring, conserving and enhancing submerged cultural heritage properties. This piece of legislation also expanded the coverage of the Department, while recognizing water reservoirs as repositories of UCH. On the other hand, there is a national institution accredited as "rescuer" of the goods that are part of such heritage, that is, the

National Authority for Maritime Affairs (ANAMAR), which was instituted by Law 66-07 and considered the Dominican Republic as an Archipelagic State. ANAMAR is responsible for everything pertaining to the territorial sea. Its goal is to conduct research into and make rational use of the resources available in Dominican waters. If aligned with the principles of non-commercial exploitation of UCH, as set forth in the 2001 UNESCO Convention, this agency would be in an excellent position to secure the protection of national shipwrecks. Fortunately enough, there is an unspoken agreement that limits research on natural aquatic resources.

With regard to the latest legislation, the Law on Culture 41-00 considers the goods "submerged in water" as part of the "cultural heritage of the nation." The Dominican Constitution, as recently amended, under the section of cultural rights, stresses the interest of the State in guaranteeing the preservation of all heritage goods and establishes that UCH should be protected from plundering and smuggling. In addition to this, the Dominican State and its various agencies have since 2012 sought to move towards sustainable development in all areas. The Ministry of Culture has proposed a number of policies aimed at increasing efficiency at the entities responsible for protecting the cultural heritage of the nation and developing new tools to strengthen the initiatives under implementation. The most immediate result has been the uprooting of the tradition to operate through concessionaires. The contracts signed with treasure hunting companies, both national and international, were cancelled this summer. Undoubtedly, this move can result in a step forward towards the ratification of the 2001 UNESCO Convention.

DGPCS is in the process of restructuring collaborative agreements with universities and non-profit organizations. The only organizations that are authorized to operate in the country include the University of Indiana and the Anglo-Danish Maritime Archaeology Team (ADMAT). The latter has for over ten years been working on the wrecks off the northern

coast of the country. Led by Dr. Simon Spooner, several archaeological campaigns are carried out every year as "field schools" in the province of Montecristi, where students and professionals interested in underwater archaeology and UCH can start practicing and getting trained.

Research in Montecristi

The north shore is full of shipwrecks to be discovered. The bays of Montecristi have for many years been used for anchorage and shelter for boats coming from Europe. The combination of atmospheric events and numerous coral reefs which act as a natural barrier was the perfect recipe for sinking many ships.

Dr. Spooner and his team have conducted comprehensive studies on shipwrecks such as *Le Casimir* and *Le Dragon*, ranging from historical research to excavation and interpretation of the data obtained therefrom. Every shipwreck has its own specificities. The name of the vessel under research is not always known. Sometimes, the discovery is made first; the archaeological evidence is then processed; and finally the files are scrutinized seeking to find some consistency. Such is the case of the Tile Wreck. It is situated in the Bay of Jicaquito, behind El Moro de Montecristi. The remains of the ship are 2.5 meters deep and are covered with a thick layer of mud and alluvial deposits from nearby mangroves, which makes visibility difficult but helps preserve the organic archaeological material. Due to the shallow location and easy access, the wreck was well known by local people.

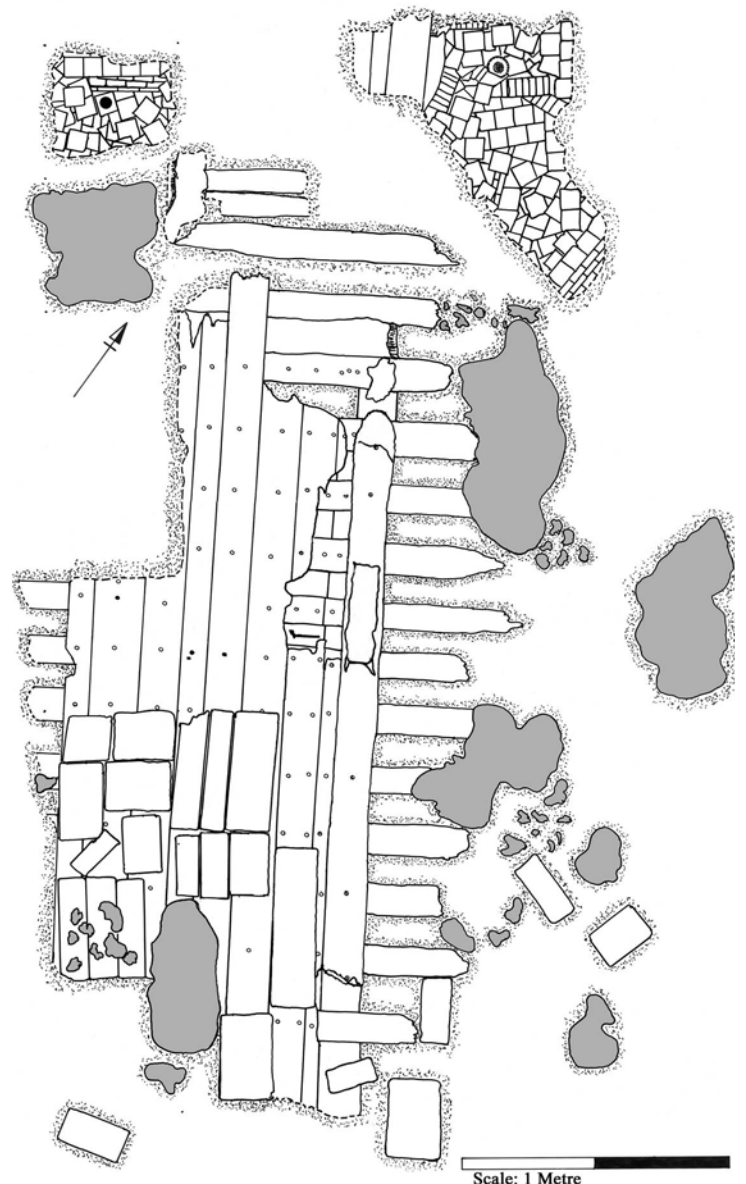
As UNESCO is giving priority to in situ conservation, the first decision made was to leave the wreck untouched, just as it was. However, by 1999, massive looting actions made it necessary for the authorities to get involved. Around 1,500 tiles were used to decorate homes in the community, and seven small guns disappeared from the site before they could be registered. ONPCS (now DGPCS) managers adopted a number of measures to seize the cultural property in the vicinity.

Prospective sounding was led by DGPCS technical director Francis Soto. An excavation grid composed of 1 x 1 square meter boxes of PVC was installed. The total length of the grid for the first intervention phase was 8 x 4 square meters; it provided support for divers not to come into direct contact with the fragile wooden artefacts at the site. After removing the sediment, parts of the boat's keel, keelson, mast foot and merchandise, as well as the central structure of the hull were found intact. Considering the looting of this site, the number of artefacts and structures that had survived is really incredible. Photographs of each box, including its contents, were taken for documentation and recording purposes.

The next step consisted in taking measurements and positioning each of the structural elements of the vessel and the artefacts therein: guns, anchors, tiles, granite blocks, etc. The archaeological goods of the Tile Wreck were then transported to ADMAT, where preventive conservation actions were implemented. Considering

the danger to which they were exposed in their original environment, it was decided that the best option would be to keep them at ADMAT facilities, where they would be guarded and protected.

Based on the evidence found, it was possible to establish a hypothesis about the shipwreck, although the boat has not been identified yet. Some pieces have been sent to El Louvre Research Centre for study and analysis, upon express authorization from the State. Whenever the site is exposed, unexcavated areas are explored, looking for artefacts that would help complete the puzzle. High




Site map of the Tile Wreck, drawn to scale, showing the exposed areas of the ship to discover

technology devices such as magnetometers and metal detectors are being used for these purposes. Once ashore, the artefacts are measured, photographed, labelled, and stored. The information is recorded on databases and software programmes. Participants are called upon to describe everyday activities in a general field diary and incorporate scale drawings and sketches, as developed. The excavation site is then covered with sand bags to protect the integrity of the remaining wooden structures that are not brought to the surface. All underwater operations are supervised by a DNPCS inspector.

On the other hand, the proposal made by the Indiana University to establish Live Sea Museums in Montecristi has been very well received by the community.

Challenges and Prospects

While the Dominican Republic has an institutional structure and a legal framework in place to establish measures for the protection and enhancement of UCH, many challenges remain. The lack of professionals in underwater archaeology and conservation, the poor state of facilities for the storage and preservation of underwater archaeological objects, and the lack of staff and infrastructure for the proper protection of sites at risk make it very difficult to advance.

Montecristi is the fifth largest tourist development area in the nation. Its population is mainly engaged in agriculture, salt production and fishing. Tourist attractions in the region include protected areas and historical heritage sites. Its rich underwater cultural heritage can make a significant contribution to local, sustainable development. If actions are appropriately implemented, Montecristi could play a leading role in promoting cultural tourism in the country. As shipwrecks are spaces of great tourist interest, the promotion of protection and enhancement actions at submerged sites could also help establish new industries, generate jobs, and diversify economic activities, while preserving submerged cultural resources off the coast. 

Notes

¹See Borrell, P. (1983). *Historia y rescate del galeón Nuestra Señora de la Concepción y Arqueología Submarina en la República Dominicana*.

²Article 5 of Decree 289-99: "The Bureau's main aim shall be to develop and implement, on its own behalf or through third parties (by granting concessions), a programme to rescue, restore, conserve and enhance Underwater Cultural Heritage properties in reservoirs, territorial sea, contiguous zone, continental shelf and exclusive economic zone, as defined in the national legislation and international agreements that the Dominican Republic has ratified."

³Article 16 of Law 66-07: A Body of Public Law called the National Authority for Maritime Affairs is instituted to ensure research, conservation and management of living and non-living resources of the sea, the seabed and the subsoil thereof. It shall be entrusted with the task of representing everything pertaining to the sea and the rights and use thereof.

PARAGRAPH – It is herein declared that the implementation of a cadastre of resources, both living and non-living, renewable and non-renewable, and of those existing in superjacent waters, seabed and subsoil of the Exclusive Economic Zone is of high national interest, as are the rescue operations of old ship treasures, wrecked within the Exclusive Economic Zone, which are all part of the National Cultural Heritage.

⁴At the National Consultation on the Protection of Underwater Cultural Heritage, held in Santo Domingo in June 2011, ANAMAR authorities came up with a very strong position for the commercial exploitation of UCH.

⁵Article 1 (2) of Law No. 41-00 of 2000: "The cultural heritage of the nation includes all tangible and intangible goods, values and symbols that are part of cultural expressions of the Dominican nation, such as traditions, customs and habits, as well as all goods, including those submerged in water, tangible and intangible, movable and immovable, which have special historical, artistic, aesthetic, plastic, architectural, urban, archaeological, environmental, ecological, linguistic, sound, musical, audiovisual, film, scientific, technological, testimonial, documentary, literary, bibliographical, museographic and anthropological values, as well as the manifestations, products and representations of popular culture."

⁶Article 64 (4) of the Constitution of the Dominican Republic, 2010: "The cultural heritage of the nation, both tangible and intangible, is under the protection of the State, which shall ensure its protection, enrichment, conservation, restoration and enhancement. The cultural heritage goods of the nation are inalienable and unattachable, and the ownership thereof is imprescriptible. The heritage properties in private hands and

underwater cultural heritage goods shall be equally protected from illegal export and despoliation."

⁷See National Development Strategy 2030, Public Sector Multi-Year Plan 2013-2016, and Ministry of Culture Strategic Plan 2012-2016.

⁸National or foreign private companies contracted by the State through the Ministry of Culture and DGPCS, which are involved in searching and/or recovering properties under 50-50 arrangements.

⁹For further information, visit website: <http://www.admat.org.uk/>

¹⁰It is given this name because of the massive number of tiles or shingles found in it.

¹¹The ADMAT conservation centre is located in the area of Costa Verde in Montecristi. The facility was originally designed and built for shrimp farming, so there are lots of pools and holding tanks that are now being used to store artifacts.

¹²The general data on artifacts are stored in Excel format. Each piece has a digital card designed by ADMAT, containing detailed information and photographs. For the graphic representation of the site, the Site Recorder software programme is utilized.

¹³The idea is to use the Tile Wreck and Pipes Wreck for the establishment of Living Sea Museums in Montecristi, under an initiative for sustainable development and the protection of the marine resources off adjacent coasts.

Guyana

GUYANA PROTECTS ITS UNDERWATER HERITAGE

■ **Louisa B. Dagers**

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Prehistoric grinding grooves from the Wini River ©A. Arjoon

Guyana, a haven for cultural enthusiast and archaeologist, nestled in the most culturally diverse continent in the world, is known for its biodiversity, its global contribution to the field of Low Carbon Development and, its elaborate cultural heritage. As this small nation welcomes large scale investment, the cascading effects of development have pushed our population to recognize the importance of culture as a tool influencing development, and also as a significant resource which can fuel regional and international communication and cross border development. The ratification of

the 2001 convention was a timely initiative taken by the government of Guyana to systematically include Underwater Cultural Heritage in its 2015 agenda. This inclusion will engage both local and international counterparts, working in tandem with local organizations to adequately utilize limited resources in Guyana's yet embryonic culture industry.

Currently the underwater heritage of the country is relatively unknown as a large portion of our Internal Waters, Territorial Sea, Exclusive Economic Zone and Continental Shelf are virtually unexplored;

this is attributed to both location and low visibility waters. On the other hand, terrestrial prehistoric archaeology has managed to capture the interest of local and international researchers and has contributed significantly towards the scientific community, aiding in the understanding of our country's prehistoric occupation, survival mechanisms and the development of human civilization. This form of cultural development has been supported by the Ministry of Culture and the University of Guyana over the years engaging young minds and fostering capacity building locally. Similarly the future of submerged heritage can provide long term opportunities for the cultural and scientific research, as well as opening avenues for tourism and urban development including future Investments in UCH museums and underwater archaeology once these sites are identified and managed effectively.

Following the 2012 Underwater Cultural Heritage capacity building workshop facilitated by UNESCO, the government of Guyana in 2014 ratified the 2001 convention on the protection of Underwater Cultural Heritage. This is in acknowledgement that the history and relics of our past are valued resources, which can foster cultural cohesion, while, instilling the importance of identity, and further influencing equality which will inevitably shape our society. This underwater archaeological heritage are threatened by the pace of social changes, exploitation, new technical systems and land use. In attempts to foster submerged heritage awareness, International Museum Day 2013 was used as a stepping stone to increase public awareness on the cultural significance of UCH. There is need however, for increased efforts to inspire educational programmes that can help curb illicit trade of artifacts and revitalize the cultural well-being of residents living in areas of known submerged sites.

The cultural sector has acknowledged that the management and documentation of Underwater Cultural Resources are integral aspects of development and plays a profound role in educating future generations. Today there are several parliamentary and draft legislations in Guyana that caters for the protection and management of UCH sites to some degree however, most for the existing legislations overlaps each other and may pose future management issues unless mechanisms are put in place for these organisations to work in tandem. Among these include the National Trust of Guyana (NTG) Act in which the term monuments refers to any building, structure, object or other work of man or of nature whether above or below the surface of the land or the floor of the sea within territorial waters of Guyana and any site, cave or excavation, clearly articulating the organisations place in the protection of cultural heritage including sites categorised UCH.

Similarly the Environmental Protection Agency of Guyana (EPA) Act articulates the agencies legal right for over site of all land including all water, surface water, ground water, sea seabed, marine and coastal areas and natural resources or any combination or part thereof. In

light of this the EPA plays an integral role in the possible identification of sites for protection since all activities involving the environment are assessed and monitored by the agency. Guyana's Maritime Zone Act, also makes special provisions for UCH within the territorial sea and contiguous zone in accordance with Article 7 and 8 of the UNESCO convention. The act goes further to outline regulations to ensure the rules concerning activities directed towards UCH set out in the Annex to the UNESCO convention are applied.

Although the applicability of these policies are yet unknown, the Director of Culture has expressed great interest, regarding possible amendment of policies to better address Guyana's emerging needs.

With reference to the UNESCO 2001 convention "underwater cultural heritage' encompasses all traces of human existence that lie or once lay under water for at least 100 years and have a cultural or historical character ". It is timely to address the need for necessary infrastructure required for the systematic management of underwater heritage in Guyana. As a result the Department of Culture will move towards the drafting of a UCH action plan in 2015, engaging the expertise of regional and international authorities on the subject matter.

This is aimed at creating a formative infrastructure for future monitoring, and development of Guyana's submerged heritage, an indication of the department's commitment towards protection of Guyana's cultural heritage. Several government stakeholders were engaged on the imperative nature of the subject matter and the urgency for local collaboration for the initiation of a UCH database. This is deemed urgent, as the majority of Guyana's known qualified UCH sites are those of Prehistoric origin including petroglyphs, grinding groves, habitation sites and shell middens while other sites such as wreck sites and structures linked to our devastating colonial past are, all submerged and threatened by growing economic development.

Economic development, particularly mining and illicit trade in artifacts has compromised the integrity of several UCH sites within Guyana's internal waters. This coupled with lack of public awareness has created a dichotomy resulting either in the destruction of both terrestrial and underwater cultural property or the illicit trade of these very cultural materials by locals as a means of satisfying their financial needs.

There is indisputably no doubt that underwater cultural heritage will benefit the development of the heritage and tourism industry in the future, contributing invaluable to Guyana's historic records and to the scientific community, while creating new avenues for underwater archaeology and cultural development. Submerged heritage can be considered in the promotion of cultural heritage tourism and possible dive tourism, and may even attract non-divers, if glass bottom boats are used to exhibit in situ marine archaeological sites.



Artifacts found in Wiruni Creek, tributary of Balice river, a reminder of our Dutch colonial past © L.B. Daggars

This will only be possible if all necessary conditions are met regarding the implementation of policies, including the engagement of stakeholders, and the development of a national action plan. The first critical steps towards conservation and documentation as a direct response to loss, since change is inevitable, conservation in the general sense is a result of continuous change which is not limited to economic development, but also includes looting, illicit trading and vandalism to a greater extent in the Guyana context.

There is a difficult road ahead, regarding the implementation of UCH guidelines and policies in Guyana, however, with centralized management responsibilities under the Ministry of Culture and continued collaboration of

government agencies in various areas of conservation and management, the opportunity exists for Guyana to become CRM-driven.

In recognizing the growing need for public awareness, building public support for UCH is an essential new focus for Guyana currently. The involvement of both the public and state in CRM for UCH will render a holistic approach to the nomination and conservation of significant places, while reducing possible misjudgment if viewed solely by the state. The coupling of these two entities will eventually address various aspects of value and meaning including use value, cultural attachment value, and phenomenological authenticity regarding UCH sites. [C&D](#)

PRESERVING THE PAST IN THE CARIBBEAN

■ **Martijn R. Manders**

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The Caribbean includes no less than fourteen countries that have ratified the UNESCO Convention for the Protection of the Underwater Cultural Heritage (Paris 2001). Bearing in mind humanity's relationship with water is very strong in this part of the world and the importance of water, biodiversity and shipwrecks play in the local economies combined with the fact that the same area is one of the birth places of the discipline of underwater archaeology, like the 1960s and 70s research executed in Port Royal in Jamaica, this is not so strange.

Perhaps more surprising is that only few of the Caribbean states have actively implemented underwater cultural heritage management. With enormously rich cultural heritage resources, it is important to have such management, in order to make the right decisions and to preserve this heritage for the future.

Luckily, most countries are aware of this backlog and for example a model for a National Act on the Protection of Underwater Cultural Heritage (<http://www.nevispages.com/unesco-meeting-produces-model-for-national-act-to-protect-underwater-cultural-heritage/>) was produced during a UNESCO workshop in 2013 to make the implementation of a legal framework for protection easier. Other countries started to implement the protection of the underwater cultural heritage within their own existing legal system. The creation of an effective law is an important element in the overall protection of the underwater cultural heritage in order to create the framework for the field work and interaction with the various stakeholders, and equally important are the ethical rules of behaviour for the activities directed at this non-renewable resource.

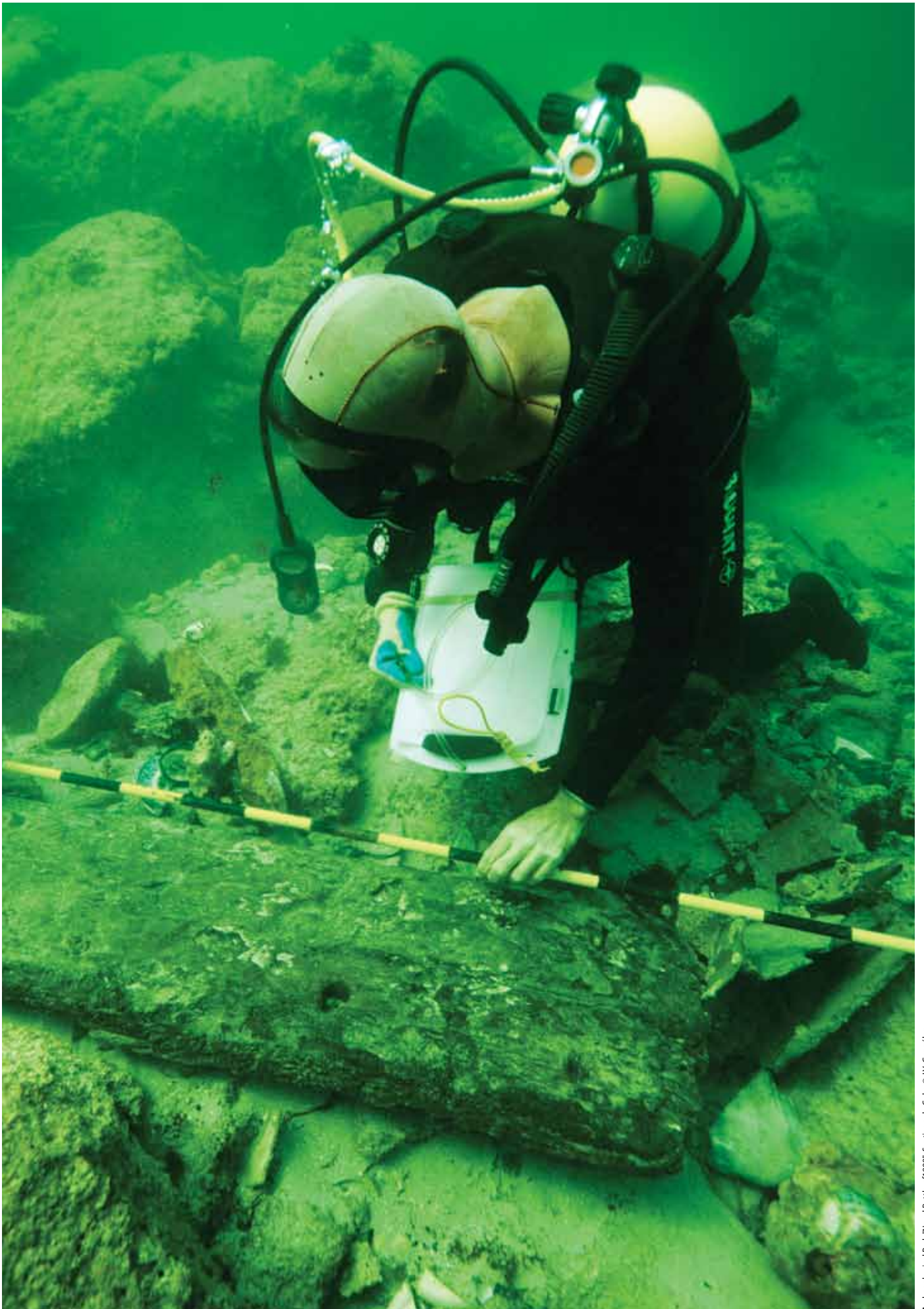
These rules already exist in the Annex of the UNESCO Convention of 2001 (<http://www.unesco.org/new/en/culture/themes/underwater-cultural-heritage/2001-convention/annex-of-the-convention/>).

Too often sites have been looted and commercially exploited with the loss of vital data for the understanding of cultures interacting with the sea. Laws, rules and guidelines are a help for those that want to preserve underwater cultural heritage for future research and enjoyment. Also, when sites have to be investigated right now, guidance may be of help. However, in the Caribbean region there is a lack of human resources to carry out the work. This often results in the neglect of everything that is below the sea surface, or – if being researched – the region depends on expertise from outside. This is not always the best sustainable option, with knowledge going in and out lacking long term commitment and attachment towards the region.

The most recent (and probably best known) example is the case of the supposed Santa Maria, Christopher Columbus's flagship from his first voyage to the Americas. It was believed to have been found near the North coast of Haiti, a country that has ratified the Convention in 2009. It was UNESCO that had to set up a team from international experts, but unfortunately without Haitian or even Caribbean underwater archaeologists. The wreck turned out to be, not that of the 1492 Santa Maria, but a wreck of much later date (<http://phys.org/news/2014-09-haiti-columbus-ship.html#inIRlv>).

Cultural heritage is what a society thinks is worth preserving, researching, presenting and informing the public about. Without starting a large debate on what is meant by society, it should be fairly obvious that states themselves should have the expertise to preserve and research the cultural heritage resources within their own boundaries, in order to be able to identify that which is important for their society and to make well-founded decisions on future actions.

It seems to be crucial to start thinking about capacity building in the Caribbean region to include: capacity



Archaeological Park "Naval Battle of 1898", Santiago de Cuba © J.V. González

for underwater archaeology and maritime (including underwater) cultural heritage management. Capacity building will not be solved by only on a single action, but calls for a long term strategy that cover different levels of education and follow up by the Caribbean States.

Initial training in a UNESCO context, accompanied by the training manual and curriculum of the UNESCO Foundation Courses in Asia (http://archeologieinederland.nl/sites/default/files/attachments/Training%20Manual_UNESCO%20Foundation%20course.pdf) as a blue print, were executed in Campeche, Mexico (2010) and Port Royal, Jamaica (2012). In these two courses, students from over 30 islands and states received training in the management, research and protection of the underwater cultural heritage. Often only a single person from each country was educated and therefore more people are needed to sustain and increase the capacity in the region. Not only that, also to act as a platform for the exchange of knowledge, experiences and cooperation between the different countries has to be developed. This has already been done through Facebook and a LinkedIn social networks where all the students can unite. The Campeche course even created the organisation OLAS (Organización Latinoamericana de Arqueología Subacuática), a new and efficient network of underwater archaeologists, conservators and managers of underwater cultural heritage in Latin America and the Caribbean, which has now led to a separate but related entity, the Fundación OLAS, with the primary aim of creating greater archaeological and heritage capacity in the region (<http://www.unesco.lacult.org/proyectos/showitem.php?lg=2&id=71&pagin asweb=31&idtitulo=1589>).

A new training course is being held in St Eustatius, an island of the Dutch Caribbean, between the 17th of November and the 14th of December 2014. Sixteen new students from different states will be present. Some will come from States that have already had people trained in the previous two courses, but again new countries are present.

The curriculum of this course included topics such as: the 2001 Convention and its Annex, introduction to underwater archaeology, underwater archaeological resource protection and management, site significance assessment, protective legislation, survey and registration techniques for inventory, in situ protection and preservation, 3D site survey, shipbuilding techniques and terminology, conservation and finds handling, geographical information systems (GIS) in underwater archaeology, data management, museology, significance assessment, underwater cultural heritage management and underwater resources, amongst others.

The practical dive sessions in the curriculum will be executed on the sunken warehouses from the 18th century along the coast of the island.

The second Caribbean Foundation Course was held on St. Eustatius in November and December 2014 ©RCE



The course is sponsored by the Maritime Programme of the Dutch government, the University of Leiden and the Nexus 1492 project. This involvement by the Netherlands is not so strange. Curacao, Aruba and St. Maarten, St. Eustatius, Bonaire and Saba are part of the Kingdom of the Netherlands. The last three are even special municipalities within the Kingdom. Also due to its activities in the past, there is an abundance of Dutch cultural heritage still present in the area. Through assisting in capacity building, it is the hope that underwater cultural heritage, including sites with a verifiable link to the Netherlands will be managed in a responsible way. This is preferable than to invite or contract foreign experts to do all the work. It is therefore the hope that by building local capacity and a strong network in the region, former students of the UNESCO field schools will start to cooperate and initiate new (trans-border) projects, with or without the help of experts from outside the region.

The UNESCO foundation courses are a first step to creating a specialisation in underwater cultural heritage management or are a refresher of education received during previous courses, or build on previous experiences in the field. In the situation where people want to specialize in a subject, a university degree will be a good follow up, UCH management is no different in this perspective.

UNESCO has listed several education centres in underwater archaeology on its website, however none of them are yet in the region.

On a high education level, the ERC Synergy NEXUS 1492 project (<http://www.nexus1492.eu/>) in which the University of Leiden, Vrije Universiteit Amsterdam and the University of Konstanz participate, is exclusively focussing on the Caribbean region. The ambition is to rewrite a crucial and neglected chapter in global history by focusing on transformations of indigenous, Amerindian cultures and societies across the historical divide of 1492. The project will investigate the impacts of colonial encounters in the Caribbean, the nexus of the first interactions between the New and the Old World. It is its aim (among others) to



Group photo ©UNESCO/M. Cáceres

reinforce involvement of Caribbean scholars and local communities in research, enhancing international cooperation in general and to create a sense of ownership.

To provide a new perspective on the first encounters between the New World and the Old World' and also 'to raise awareness of Caribbean histories and legacies, striving for practical outcomes in future heritage management efforts with implications for local communities, island nations, the pan-Caribbean region, and globally. The project will run until 2019 and has already set up a range of cooperation agreements with scholars and universities from the region. And this last part is important in order to place the responsibility for the research into the Caribbean history in the hands of the people who are part of that same history and the same society that has the obligation to preserve its own defined cultural heritage.

This foundation within the Caribbean may be essential, despite all the efforts taken from outside. The reasons for it may become quite obvious when taking the underwater archaeology as an example. Why is this important? Because how much do we know at the moment about the ways indigenous people have used rafts, canoes, logboats and boats to travel from one island to the other? Or from the inland to the coast? How much archaeological evidence has been found up until now? How much focus has been on it? And in comparison: how much time and effort has been allocated to find the ships of Columbus, and all the other Spanish, Dutch, French and English wrecks? Much, much more. And why? It may be as easy because people are still focussing on treasure, but probably it is also due to the fact that research is too much focussed on the former colonial powers and what they have left behind.

The Caribbean is one large maritime landscape. Wherever you stand, there is a connection to the sea. The currents were the highways of the place for thousands of years. Maritime archaeology is a source for knowledge to investigate the past. Underwater archaeology is a method to get to a rich and largely

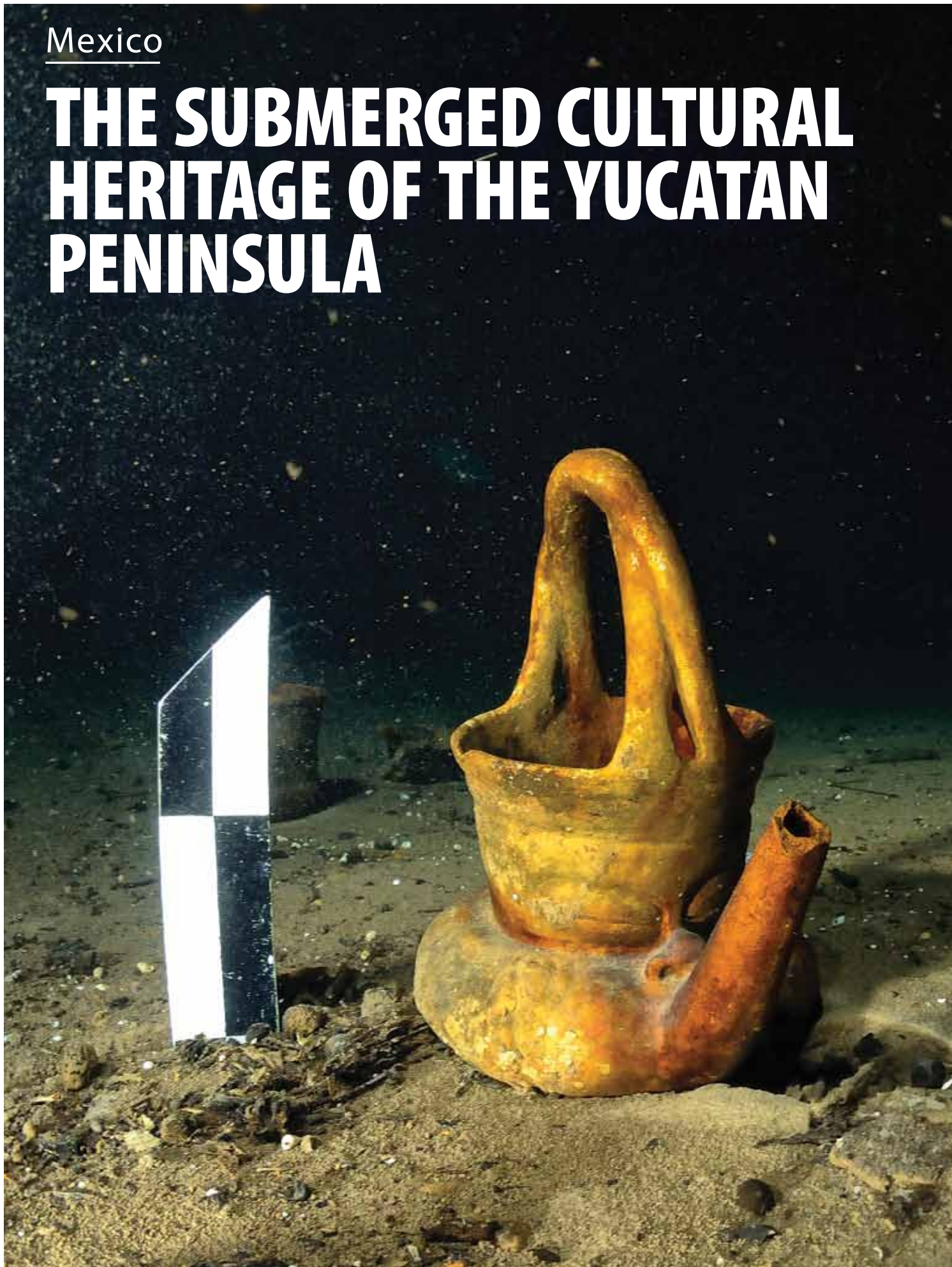


Cindy Alte one of the Haitian participants ©UNESCO/M. Cáceres

undisturbed resource that needs to be explored in order to develop a better view on what has happened in the past. People need to be trained to do the work, from scientific research to underwater cultural heritage management. The protection of the underwater cultural heritage may be led by the will to preserve for future generations, or by opening up for tourism as well. Specific knowledge is needed, but doesn't stop with initial training. Capacity building is a long process of follow ups. It is a series of educational opportunities giving the people the chance to develop themselves further. In the last couple of years the seeds have been sewed, but the Caribbean states themselves need to create the opportunities for further development.[C&D](#)

Mexico

THE SUBMERGED CULTURAL HERITAGE OF THE YUCATAN PENINSULA



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Protection of and Legislation on the Mexican Submerged Cultural Heritage

A vast submerged cultural heritage of different periods, from late Pleistocene to the 20th century, is located along 11,122 kilometres of coastline as well as in inland and continental waters and reclaimed land in Mexico. The first explorations in marine areas connected with the submerged cultural heritage were carried out by national and foreign sports groups prior to the 1980s.¹ The Underwater Archaeology Area (SAS) under the umbrella of the National Institute of Anthropology and History (INAH) of Mexico, led by Archaeologist Pilar Luna Erreguerena, has for 34 years developed programmes and projects throughout the Mexican coastline seeking to protect, conserve, conduct research into, and disseminate information about the Underwater Cultural Heritage of the country.

On a global scale, Mexico has been very active in helping preserve this heritage by participating in the elaboration of important legal instruments such as the ICOMOS International Charter for the Protection and Management of Underwater Cultural Heritage, ratified by the 11th General Assembly of ICOMOS in October 1996 in Sofia (Bulgaria)², and the UNESCO Convention on the Protection of Underwater Cultural Heritage.³ Luna was a member of the group of international experts in charge of its development. Mexico voted for this instrument at the 31st Session of the General Conference of the Organization, on 2 November 2001.

It has also signed and ratified international treaties such as the United Nations Convention on the Law of the Sea, expressly mentioning the Submerged Cultural Heritage in Article 303.⁴

Likewise, Mexico has issued a Federal Act on Archaeological, Artistic and Historical Monuments and Areas (1972) entrusting the National Institute of Anthropology and History with the task of looking after the Mexican cultural heritage. Article 28 therein has been amended in 2014, especially the section on Underwater Cultural Heritage. The amendment involves the submerged archaeological and historical heritage under the UNESCO Convention on the Protection of Underwater Cultural Heritage, which was ratified by Mexico on 5 June 2006 and entered into force on 2 January 2009 to harmonize this piece of legislation with the Convention.⁵

Also in force are the Act on Navigation and Maritime Commerce, 2006, Articles 172, 173 and 174,⁶ the General National Property Act,⁷ 2004, Article 6, and the Federal Act on the Sea, enacted in 1986, Articles 22, 24, 26 and 46.

As far as regulations are concerned, the Federal Act on Archaeological, Artistic and Historic Monuments and Areas contains the Regulatory Provisions for Archaeological Research in Mexico, which were enacted in 1977, were amended in 1982, and explicitly incorporate the underwater cultural heritage into Article 3.⁸

Another protection mechanism is provided for under the Regional Ecological and Marine Management Programme for the Gulf of Mexico and the Caribbean Sea, which includes the safeguarding of the submerged cultural heritage in the Yucatan Peninsula area.⁹

Despite these pieces of legislation, the submerged cultural heritage is being constantly threatened by various actors, especially divers and fishermen involved in ant sacking for clandestine sale or simply looking for a



"souvenir" that usually ends up in the trash due to the lack of implementation of appropriate processes of restoration and conservation, or in private collections inside and outside the country.¹⁰

Another threat comes from treasure hunters, who are constantly seeking to obtain permits from various government levels to operate wrecks for no scientific purpose. Their sole aim is profit-making out of the cultural heritage of nations. Unfortunately, some governments have granted these permits on the promise of sharing dividends, without taking into account the historical loss that these acts of vandalism represent.¹¹ Against this background, 50 countries have ratified the 2001 UNESCO Convention on the Protection of Underwater Cultural Heritage and try to obtain appropriate advisory services from archaeologists and other specialists to develop mechanisms to safeguard and share this heritage with the rest of the world at museums, travelling exhibitions and conferences, and in publications, documentary films and other electronic media.¹²

Finally, the strongest threat involves indolent government representatives, especially at the local and regional levels, who are often unaware of existing legislation and grant permits to explorers without the qualification required to perform such work. Their publications are not always made available in the country of origin and, when they are, local informants or participating institutions are not credited.

The submerged cultural heritage in the Yucatan Peninsula

The late 1990s and 2000s have seen quite a number of inventories intensively carried out in the Gulf of Mexico and the Caribbean Sea, as well as in inland and continental waters. They are based on the need to conduct studies for protection, analysis, interpretation and dissemination purposes.

In order to safeguard the Underwater Cultural Heritage, Mexico established through the Underwater Archaeology Branch at INAH an office in San Francisco de Campeche (a World Heritage city) in 2003 to address matters related to the protection, conservation, research and dissemination of this heritage along the coast and in the three states that make up the Yucatan Peninsula: Campeche, Yucatan, and Quintana Roo.

In this regard, concerted efforts have in the last 11 years been made toward the signing of cooperation agreements with the three levels of government, the public and specialized groups of explorers (divers, speleologist divers and speleologists), which have made it possible to effectively implement INAH tasks in the region.

The Underwater Archaeology Branch has since 1997 implemented the following projects: Identification and Inventory of Submerged Cultural Resources in the Gulf of Mexico, SAS Special Programmes, Identification and Inventory of Submerged Cultural Resources in Banco Chinchorro Biosphere Reserve, and the Integrated

Project for the Protection, Conservation, Research and Dissemination of the Underwater Cultural Heritage of the Yucatan Peninsula. It has thus identified a total of 370 submerged archaeological sites in marine and inland waters, ranging from pre-Columbian times to the 20th century. Another 43 paleontological, archaeological and historical sites in cenotes and flood and semi-flood caves have also been identified under the projects Underwater Archaeological Atlas of Cenotes, Flood and Semi-Flood Caves and Other Continental Water Bodies in Mexico and Hoyo Negro in Quintana Roo, totalling 413 submerged and semi-submerged archaeological sites in the region.¹³

Out of this total, 307 submerged archaeological sites were located in seawater; 165, in the Gulf of Mexico and 142, in the Caribbean Sea. They are distributed along the coast, as follows: 88 in Campeche; 39 in Yucatan; 8 in Veracruz; and 30 in Sonda de Campeche. In the case of the Gulf of Mexico and Mexican Caribbean islands, there are 118 sites identified in Cozumel, Isla Mujeres, Isla Contoy, Banco Chinchorro, and Alacranes Reefs, and another 24 are situated on the coastline of Quintana Roo.

It should be noted that most of these sites are located in protected natural areas classified as follows: Biosphere Reserves: Banco Chinchorro, Sian Ka'an, Ria Lagartos and Los Petenes; National Parks: Xcalak Reefs, Cozumel Reefs, Puerto Morelos Reefs, Isla Contoy, Alacranes Reefs, Isla Mujeres West Coast, Punta Cancun, Punta Nizuc, and Yum Balam Wildlife Protection Area. INAH has been continuously working in all these areas, in coordination with the National Commission of Protected Natural Areas¹⁴ and with support from the Secretariat of the Navy of Mexico.

The reports filed by shore fishermen, sport divers, tourism service providers, landowners, developers and government representatives, among other actors, have made it possible to identify most of the sites mentioned above. In this regard, over 100 inspections have been carried out and around 50 assessments have been made between 2003 and 2013. These actions have resulted in 4 archaeological rescues, including 3 on reclaimed land, to recover significant archaeological and historical pieces.

The individual pieces that have been identified off the coast of Campeche, Yucatan and Quintana Roo are also being studied using the Catalogue of Movable Cultural Property and/or Related Aquatic Environment of the Yucatan Peninsula. These pieces have been used to make comparisons and support in situ archaeological research.

All SAS projects have been marked by multidisciplinary teamwork, involving experts with different views and professional and technical backgrounds, gathering as much information as possible. The projects therefore incorporate specialists in archaeology, underwater archaeology, history, biology, archaeobiology, architecture, metallographic engineering, social anthropology, among other disciplines, as well as diving technicians, speleological divers, speleologists, photographers, videographers, and students.



Cenote San Manuel © Archivo INAH-SAS / C. Bowen

Finally, INAH is tasked to inform society of the results obtained under research projects seeking to raise awareness about the importance of its historic heritage. To this end, all members of the Underwater Archaeology Branch are continuously involved in various outreach activities. In this context, extension and scientific articles have been produced, academic events have been organized, lectures have been given, exhibitions have been held, and replicas have been developed for the establishment of marine parks that promote heritage protection through awareness-raising and media inserts, including press releases, and through daily publications related to Underwater Cultural Heritage in social networks. All these actions bring us closer to much larger target groups of various ages and foster equal, democratic access to information. This will certainly develop a sense of belonging vis-à-vis this important heritage and favour its preservation, understanding and enjoyment at present and in the future.^{C&D}

Notes

¹ CEDAM (Water Sports and Exploration Club), Mexico. <http://www.ascomunicacion.com/cedam.html>

² ICOMOS International Charter for the Protection and Management of Underwater Cultural Heritage. On webpage: http://www.international.icomos.org/charters/underwater_sp.pdf

³ UNESCO. 2001. Convention on the Protection of Underwater Cultural Heritage, UNESCO. 2001. On webpage: <http://www.unesco.org/new/es/culture/themes/underwater-cultural-heritage/2001-convention/>

⁴ UN. United Nations Convention on the Law of the Sea, 1982. Part XVI: General Provisions, Article 103, Paragraph 1. On webpage: http://www.un.org/depts/los/convention_agreements/texts/unclos/convemar_es.pdf

⁵ Federal Act on Archaeological, Artistic and Historical Monuments and Areas. New act published in the Official Journal of the Federation on 6 May 1972. Text in force. Latest amendments (DOF) published on 13 June 2014. Chamber of Deputies of the Congress of the Union. General Secretariat. Department of Parliamentary Services. On webpage: http://www.diputados.gob.mx/LeyesBiblio/pdf/131_130614.pdf

⁶ Act on Navigation and Maritime Commerce. 2006. New act published in the Official Journal of the Federation on 1 June 2006. Text in force. Last reform DOF published on 23 January 2014. Chamber of Deputies of the Congress of the Union. General Secretariat. Department of Parliamentary Services. On webpage: <http://www.diputados.gob.mx/LeyesBiblio/pdf/LNCM.pdf>

⁷ General National Property Act. Last reform DOF published on 7 June 2013. Chamber of Deputies of the Congress of the Union. General Secretariat. Department of Parliamentary Services. On webpage: <http://www.diputados.gob.mx/LeyesBiblio/pdf/267.pdf>

⁸ Regulatory Provisions for Archaeological Research

in Mexico. Mexico: Archaeological Council INAH-SEP. On webpage: http://consejoarqueologia-inah-gob-mx/?page_id=9

⁹ Official Journal of the Nation. 2012. Volume DCCX, No. 17, Section 3. Secretariat of Environment and Natural Resources. Saturday, 24 November 2012, Federal District, Mexico. On webpage: http://www.semarnat.gob.mx/archivosanteriores/temas/ordenamientoecologico/Documents/documentos%20decretados/actualizacion_2012/poemr_gmmc_dof_2012_11_24.pdf

¹⁰ Luna, Pilar. 2012. Underwater Cultural Heritage. National and International Law. Projection of Mexico to the World. "In: Maritime Archaeology in Mexico. Interdisciplinary Studies on the Underwater Cultural Heritage. Vera Moya Sordo (Ed.), page 249. Col. Archaeology Series Logos, INAH, Federal District, Mexico.

¹¹ *Ibidem*, p. 258-259

¹² UNESCO Convention on the Protection of the Underwater Cultural Heritage. 2014. Report and Evaluation. Mission of the Scientific and Technical Advisory Body to Haiti. Based on the Rapport préliminaire de la mission effectuée sur Cap-Haïtien par les experts de l'UNESCO, du Ministère de la Culture et du Bureau National d'Ethnologie. Designated Expert: Xavier Nieto Prieto (Spain). 5-15 September and 3 October 2014. Paris, France.

¹³ Barba, Helena. 2013. Ten years of Underwater Archaeology on the Yucatan Peninsula: Progress and Prospects. In: 1st Symposium on Research, Conservation and Management of Underwater Cultural Heritage in Mexico. 14-16 November 2013, pp. 4-9. INAH-SAS. San Francisco de Campeche, Campeche, Mexico.

¹⁴ CONANP. Regional Directory of Protected Natural Areas (PNA) under Federal Jurisdiction and of PNAs under Joint Management. On webpage: <http://www.conanp.gob.mx/anp/consulta/anps.pdf>

El Salvador

RESEARCH TO PROTECT

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Background

The archaeological cultural materials that have been partially or completely covered by water in the territory that now comprises El Salvador began to spark interest in the second half of the 19th century. As in the case of western terrestrial archaeology, underwater archaeology in the country has been divided into two stages: the exploratory stage, from the second half of the 19th century to 2001 (for further information on underwater archaeology in this period, please see Escamilla et al., 2006 and Gallardo, 2010) and the scientific stage, from 2001 to the present. This paper will focus only on the scientific stage. Research findings are as follows:

- **2001.** Architect José Roberto Suárez made a scale drawing of the wreck Douglas (Sakkarah) in Los Cóbanos, department of Sonsonate (Suárez, 2011). This work provides the first detailed record of an underwater site in El Salvador and marks the beginning of underwater archaeology work in the country.
- **2005.** In January and February, the National Council for Culture and the Arts (CONCULTURA), together with Argentinean specialists Mónica García Cano and Javier Valentini, developed the project Identification of and Research into the Underwater Cultural Heritage of El Salvador: Exploratory Stage (Escamilla et al., 2006). The results of this project included recording the Iqualtepeque archaeological sites in Lake Güija, department of Santa Ana and Cerro Quemado in Lake Ilopango in the departments of San Salvador, La Paz and Cuscatlán. The wrecks Douglas and Cheribon, both located in Los Cóbanos (Sonsonate) were included on the list of archaeological sites.
- **2009.** The project Underwater Archaeology Research and Regional Development in El Salvador (Valentini et al., 2011) was implemented. It covered visits to several places in different regions of the country, including inland water bodies such as Metapán Lagoon, Lake Güija, Cuzcachapa Lagoon and Lake Coatepeque, all in the department of Santa Ana; Chanmico Lagoon, department of La Libertad; El Cerrón Grande Reservoir, department of Chalatenango; Lake Ilopango, department of San Salvador; El Jocotal Lagoon; and Olomega and Aramuaca Lagoons, department of San Miguel. The places visited in the coastal area included Acajutla, department of Sonsonate; El Triunfo Port, department of Usulután; and Pueblo Viejo, department of La Unión. Two underwater surveys were conducted on Iqualtepeque Island (Lake Güija) and Lake Coatepeque, and no underwater archaeological sites were identified.
- **2010.** The archaeological site Douglas (Sakkarah) (Gallardo, 2010) was delimited. This was the first time that the boundaries of an underwater archaeological site were established in El Salvador with the aim of making a legal declaration and setting aside an area to ensure the protection of the site. Another long-term objective was the establishment of an underwater park because Douglas is one of the most frequently visited wrecks.
- **2011.** In November, Suárez and García visited and located (using GPS) the wrecks Cheribon and SS Columbus. They recorded the latter.
- **2011.** The wreck SS San Blas in San Blas Beach (department of La Libertad) was recorded (Gallardo, 2011).
- **2012.** The wreck SS Columbus, located on Acajutla Beach, department of Sonsonate (Gallardo, 2011) was recorded.
- **2012.** In November, there were recording and excavation actions implemented on the wreck PSJ-1, located in the Bay of Jiquilisco in Usulután (Gallardo, 2013). An excavation on the wreck, which lies landwards close to the beach and allegedly consists of the remains of a steamer under operation during the late 19th and early 20th centuries, when El Triunfo port was at its height.
- **2012.** The wreck Kirkdale, located in the Bay of Jiquilisco, department of Usulután, was documented and recorded under the project Production Chain-Link within the Framework of Underwater Archaeological Sites in El Salvador (Dagenais et al., 2012), which was sponsored by the Ministry of Tourism and implemented by El Salvador Divers (company).
- **2013.** In December, the Technical Branch of the Dr. David J. Guzmán National Museum of Anthropology launched the project In Search of the Brucklay Castle (Gallardo, 2013) to record and document this wreck. The project was carried out in January 2014 and made it possible to locate and record the wreck SS Honduras, a steamer built in 1871 and owned by the Pacific Mail Steamship Company. The Honduras sank on 25 April 1886 (Gallardo, 2014).
- **2014.** At present, the Dr. David J. Guzmán National Museum of Anthropology is further implementing the project Recording and Documenting Maritime Archaeological Sites in El Salvador, managed by the author.

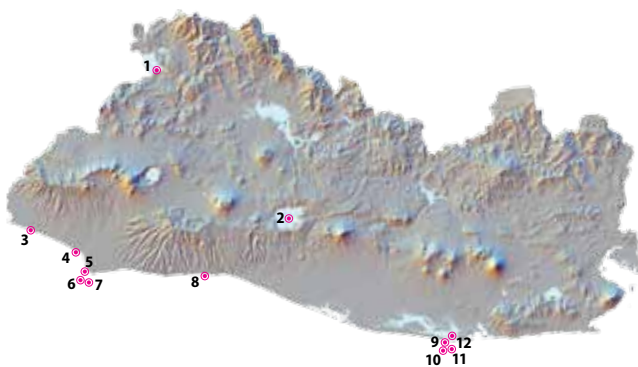
Results

Previous research has provided valuable historical and archaeological information on each of these sites and on the region in general. A total of 12 underwater archaeological sites have been recorded and documented in the country

Out of the 12 underwater archaeological sites recorded, 2 are located in inland water bodies and 10 are wrecks in territorial waters. The sites in inland water bodies include: Igualtepeque on Lake Güija, department of Santa Ana (1), and Cerro Quemado on Lake Ilopango, department of San Salvador (2).

The wrecks recorded in the territorial sea Anden in Barra de Santiago, department of Ahuachapán (3); SS Columbus, located on Acajutla Beach, department of Acajutla (4); SS Columbus (5); Cheribon (6); SS Douglas (Sakkarah), the last three are located in Los Cóbano, department of Sonsonate (7); SS San Blas, located in San Blas Beach, department of La Libertad (8); PSJ-1, located on the San Juan del Gozo Peninsula, department of Usulután (9); Kirkdale (10); Brucklay Castle (11); and S Honduras (12), the last four located in the Bay of Jiquilisco, department of Usulután. Figure 2 contains basic information on each of the 10 wrecks recorded.

The records of all these wrecks included at least one visit to each site (with dives whenever necessary), confirmation of site existence, GPS location, and historical research.



Policies on underwater cultural heritage under implementation in El Salvador

Underwater archaeology is a recent discipline in El Salvador, where this cultural resource has been underestimated and, in most cases, misunderstood. As a result, the conservation and enhancement of archaeological sites become a particularly difficult task. The increased number of diving companies under operation and the fact that there is now easy access to scuba technology have rendered these places extremely vulnerable. The factors that deteriorate underwater sites are both natural and man-made. In El Salvador, however, the human activities that cause most damage to UCH include object extraction for private collections and, especially, metal extraction for scrap sale. The latter involves local fishermen, oystercatchers and other people who have access to wrecks where there are metals available, including bronze, copper and iron. Iron extraction from underwater archaeological sites has become so serious that a case has had to be documented. Using scuba equipment, some scrap merchants had extracted fragments

of the wreck Cheribon from the seabed. They were all seized by the tourist police and are now on display at a local museum.

The Culture Secretariat of the Presidency, specifically the National Directorate of Archaeology and Cultural Heritage, is in charge of protecting UCH and authorizing related research work. The most effective legal tool for the protection of cultural heritage in the country is the Special Act on Cultural Heritage Protection, which has been in force since 1996. Its Article 10 (paragraph 8) defines archaeological sites as areas, spots or places where there exists movable or immovable property that can be studied using archaeological methods, whether extracted or not, and whether it is on the surface, underground, under the territorial waters of the Republic or contained in a natural reserve, or it is assumed to exist (Special Act on Cultural Heritage Protection, 1996: 47). This is the only instance where the Act makes specific reference to underwater heritage. Other articles of the Act, however, clearly set forth that underwater archaeological sites are part of the cultural heritage of the nation and that they are protected.

The National Museum of Anthropology is currently implementing the project Recording and Documenting Maritime Archaeological Sites in El Salvador. It covers the identification and documentation of wrecks in the territorial sea. Copies of reports are always handed over to local authorities, including the Naval Force, the Mayor's Office, and the National Civil Police. It also covers the implementation of public awareness-raising actions. Over 30 local conferences and talks for relevant authorities like the Tourist Police have been organized to date. The looting of wrecks has decreased, especially in places like the Natural Protected Area of Los Cóbano in the department of Sonsonate, where most community members have identified with and developed a favourable attitude towards the wrecks Douglas and Cheribon. Another case that is worth mentioning here has to do with the wreck SS San Blas in San Blas Beach, department of La Libertad. Since it was recorded, iron extraction from it has been significantly reduced. This has also come after information about the cultural importance and tourist potential of the site has been disseminated.

Despite these actions, the looting and destruction of underwater cultural heritage continue. With the progress made in underwater archaeology, we realize how necessary it is to protect the cultural richness that remains under water. One of the goals that has not been met to date is the ratification of the UNESCO Convention on the Protection of the Underwater Cultural Heritage (2001) by El Salvador.. [C&D](#)

Guatemala

SAMABAJ A SUBMERGED SITE IN LAKE ATITLÁN

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Around 1,700 years ago, Lake Atitlán was different from what it is today. The water level was 30 feet lower than at present and, on the south bank, there was a three-island archipelago. Two of them were just mounds of stones, but the largest one had enough space to accommodate visitors from the area since the Early Pre-Classic Period (1200-600 BC), who left vessel fragments as witnesses to their presence

It is hard to imagine Lake Atitlán with 30 meters less water, but the truth is that it has recently seen a water level change because it is a reservoir with no river working as level valve. The only way to drain water is through subsoil filtration. At present, level changes are caused by rains. They have occasionally been significant, as was the case during the rainy season of 2008, when a two-metre increase was recorded. In 2010, Storm Agatha raised the level over three metres. After the 1976 earthquake, however, the water level dropped almost five metres.

The geological and geo-morphological studies that have been conducted on the lake basin provide information that may relate to higher water levels and explain the significant increase that left Samabaj submerged. For example, massive landslides that may have increased water levels and bumps on the bottom that may point to some volcanic activity that changed the bed have been identified. As the period when these events occurred has not been determined, it has not been possible to associate them with the final cause that made Samabaj be covered by water, but they cannot be ruled out either (Babcock, Jeff; Neal Driscoll; and Graham Kent, 2007). However, a lava flow from Volcano Atitlán in the area currently occupied by San Lucas Tolimán was identified. It could well help drain the lake and form a reservoir, causing the level to rise (Newhall, 1987; J. M. Haapala et al., 2005).

The northern side of the lake is deep and receives sediments from two rivers that originate in the

mountains. It consists of nearly vertical cliffs that resulted from the explosion of Los Chocoyos Caldera (84,000 years ago). The southern side is made up of three volcanoes: San Pedro, Tolimán, and Atitlán, which formed in the caldera. Volcanic flows extend into the deepest part of the lake and rise above the bottom between 100 and 200 metres. The record of deposition of these flows has not been dated, and it could provide an explanation for the increase in water level in the lake.

The discovery of Samabaj shows that the caldera in Lake Atitlán is unstable and has throughout its history changed water levels and slopes on many occasions.

Samabaj, a submerged site

Samabaj is situated on an island on the southern shore of Lake Atitlán. Construction works have been built in the area, which covers 450 metres from north to south and 300 metres from east to west.

The public and ceremonial area is located on the highest point, to the north-eastern part of the island. The south-western part is lower and accommodates residential complexes. The constructions, though submerged for 1,700 years, are only slightly changed, so it follows that the water level rose rapidly.

The Closed Square is an enclosure having an open space of 1,500 m². The east and west sides adapted to the natural topography currently observed as outcrops of irregular natural rocks that have a height of up to two metres and a width of up to six metres. Construction works on other sites, as Takalik Abaj, Chocotá and Kaminaljuyu, feature buildings built with earth, so natural rock formations may have been covered with earth to form two parallel long platforms. In some sectors, the rocks were fractured, leaving corridors that gave access to the square. As they were submerged, the earth gradually dissolved and only natural rocks remained.

On the northern end, a bench was built with rectangular



Monument 1, basalt column and monument 2, smooth altar at the front © Standoff Studios

carved stones. On the centre, it has a square ridge into which a columnar basalt rock was deposited. On the front, there are four monuments that form pairs of altar-stele (figure 1). The southern end is bordered by a retaining wall that features a large rectangular stone alignment around a huge natural rock.

In the highest area, near the Closed Square, there are other square structures and two circular structures that were probably used as steam baths. The sector has a total of 18 monuments. All these elements make up an area for public and ceremonial activities that were undoubtedly important not only to Samabaj but also to the entire lake region.

On the south west side of the island, there are residential developments. The structures of these projects are rectangular and were built and bordered with rectangular carved stone. The inner area was filled with rocks of various sizes and sand that form a base that was probably used to support perishable material structures. Four developments (Cuadros, Jackpot, Max and Piedra) have been identified.

Cuadros has three bases arranged in an L shape, forming a patio limited by large natural rocks in the unstructured section. One of the structures has a bench attached on the side of the patio and also has a rectangular stone with two carved spherical cavities on a corner. Animal bones, a burned human tooth, obsidians with traces

of use, fragments of pottery, and an almost complete gross vessel were recovered from the patio area. These materials suggest that domestic chores were conducted there and that whatever was no longer in use was discarded.

Jackpot has six structures, three of them almost complete. One of the structures is significantly smaller. It was built with large carved rectangular blocks that seem to have had a different function. Nearby, to the east, Max is situated, featuring three structures. South of the patio, a big grinding stone was found.

To the south, several structures had been located, including one next to a big natural stone that gives the area its name (Piedra). Some structures are rectangular, and another two larger circular structures are considered to have been steam baths. It is not yet known whether the shape of these structures resulted from their function.

Almost in the centre of the island, north of Max and Jackpot, three 10-metre-long tiers were identified. They were built with rectangular stone blocks. To the north of the tiers, there is a square base and, to the south, a circular structure that might have been used as steam bath.

On the outskirts of the area, five piles of stones shaped as a volcano were found. They are thought to have provided

the bases for piers, as an informant recounted how these facilities are still being built today in San Pedro la Laguna, a village on the southern shore of Lake Atitlán. Stones are transported on a cayuco (small canoe) and a wooden post is carried on another. The post is placed on the desired location. It is secured by throwing stones from the surface. The stones are piled up underwater in the shape of a volcano. All piers were found at a depth of 30 metres, which supports their identification and serves as evidence to locate the old beach of Samabaj at that level.

The presence of plain stelae and altars is a feature shared by other Pre-Classic sites on the highlands and the Pacific coastal plain. They occur in the northern part of the Lake Atitlán basin, near San José Chacayá (Brutchez and Carlson, 1993). Plain stelae have also been reported at many other sites in Chimaltenango (García, 1993). In Quiché (La Lagunita site), three plain stelae were found, along with sculptured monuments.

The Valley of Guatemala exhibits the highest number of plain stelae that have been reported to date. The most important of them is Naranjo, which has a huge square where three rows of monuments, including basalt columns, natural rocks and plain stelae were located. Three have altars associated. The basalt columns in Naranjo are similar to Samabaj Monument No. 1 (Arroyo, 2006). Stelae and monuments of basalt columns have also been reported in Pelikan, Kaminaljuyu, Rosario-Naranjo, Virginia, and Piedra Parada (Bove, 2011; Miles, 1965; Shook, 1952).

On the Pacific coastal plain of Guatemala and Chiapas, plain stelae have been found at 31 sites. Lake Atitlán has natural passages to the south coast, in the sectors of Santiago Atitlán and San Lucas Tolimán. In the Late Post-Classic

period, the tzutuhiles had cocoa plantations in what is today Suchitepéquez. According to ethno-historical documents, they were allied with the Pipiles, who had settled in the current department of Escuintla. This association is likely to date from the Pre-Classic Period (Bove, 2011).

Samabaj is a small site. It shares ceramic traits with an extensive area that goes from Escuintla on the southern coast and La Lagunita in Quiché to Kaminaljuyu in the Valley of Guatemala. It has 18 monuments, including altars, plain stelae and basalt columns. Such a number is only exceeded by Takalik Abaj in Retalhuleu, Naranjo in the Valley of Guatemala, and Ujuxte in Santa Rosa. In addition, the location of Samabaj on an island, the setting and scenery of Lake Atitlán, and the extension of the Closed Square give the site a character that goes far beyond domestic life. This is a high area that contains elements related to public and ritual activities, and has a commanding view of the entire lake. The site is thought to have been important for rites and pilgrimages. [C&D](#)

Acknowledgments

The project was carried out at the initiative of Roberto Samayoa Asmus and with the funding and collaboration of the Maya Relief Foundation, Standoff Studios, and Dr. John Hale. The hospitality of the Biguria Molina family made it possible to comfortably conduct the field work. The technical assistance of Lucía Linares and Giovanni Valle was really important. Special thanks to Adriana Linares, Juan Miguel Medina, Mónica de León, Elisa Mencos, Juan Carlos Ramírez, Glenda Rodríguez, Luis Gabriel Cariñes, Susana Sánchez, and Orlando Moreno for their enthusiasm and hard work.



FLORENCE D

Third UNESCO World Forum on Culture and Cultural Industries



We, the participants gathered in Florence on the occasion of the Third UNESCO World Forum on Culture and Cultural Industries "Culture, Creativity and Sustainable Development" (2 - 4 October 2014) express our gratitude and acknowledge the generous

hospitality of the Italian authorities, the Tuscany region and the City of Florence in providing an international forum to reflect on effective strategies for transformative change that place culture at the heart of future policies for sustainable development.

We recognize our responsibility to pursue an agenda for inclusive social and economic development and environmental sustainability. We believe that this can be achieved through international cooperation demonstrating the value that culture and the cultural industries bring as sources of creativity and innovation for sustainable development and the opportunities they provide for future generations. We recognize the importance of measuring the impact of culture and creativity for sustainable development to maintain it high in the political agenda, and therefore we welcome the will expressed by the City of Florence to host an institution active internationally in this field.

At the time when the international community is crafting a new international development agenda, we trust that the United Nations and all governments will fully implement the third Resolution on Culture and Sustainable Development adopted by the UN General Assembly in December 2013 (A/RES/68/223) which acknowledged the role of culture as an enabler and driver of sustainable development and which requested that culture be given due consideration in the post-2015 development agenda.

We recognize the numerous voices of civil society, public and private sector stakeholders, that have been expressed in the framework of the Post-2015 Dialogues on Culture and Development, led in 2014 by UNESCO, UNFPA and UNDP, together with governments at the highest level in Bosnia and Herzegovina, Ecuador, Mali, Morocco and Serbia, and which re-emphasized the need

for explicit acknowledgement of the role of culture in the post-2015 development agenda.

We recall international standard setting instruments in the field of culture, including the UNESCO Convention on the Protection and Promotion of the Diversity of Cultural Expressions and the five Cultural Heritage Conventions as well as recent international highlevel meetings, declarations and statements, such as the Hangzhou Declaration "Placing Culture at the Heart of Sustainable Development Policies" adopted in May 2013, the 2013 Ministerial Declaration of the high-level segment of the ECOSOC, the two Thematic Debates on culture and development in the post-2015 agenda of the UN General Assembly in New York respectively in June 2013 and May 2014, and take good note of the global campaign "The Future We Want Includes Culture" led by governmental and non-governmental organizations from some 120 countries.

We also acknowledge the substantial evidence gathered in the special edition of the UN Creative Economy Report: Widening Local Development Pathways that identifies the key role of cities and regions as actors of change and where the culture in and for human development acknowledges the monetary and non monetary aspects of the economy through cultural expression, artistic practice, safeguarding of tangible and intangible heritage, promotion of cultural diversity, urban planning and architecture.

To meet the challenges of fully integrating culture as an overarching principle of all development policies, we call on governments to ensure the integration, in the post-2015 development agenda, of explicit targets and indicators dedicated to the contribution of culture, notably within the framework of the proposed goals identified by the UN Open Working Group on Sustainable Development Goals: poverty reduction, sustainable cities and urbanization, quality education, the environment and climate change, gender equality and women's empowerment, social inclusion, and reconciliation.

Accordingly, and based on our discussions during the Third UNESCO World Forum on culture and cultural

ECLARATION

“Culture, creativity and sustainable development. Research, innovation, opportunities”

industries, we participants recommit to the above mentioned resolutions and policy documents and put forth the following core principles and priorities to be included in the elaboration process of the Post-2015 development agenda. Post-2015.

1. Full integration of culture into sustainable development policies and strategies at the international, regional, national and local levels is to be based on international standard setting instruments that recognize fundamental principles of human rights and freedom of expression, cultural diversity, gender equality, environmental sustainability, and the openness and balance to other cultures and expressions of the world.
2. Inclusive economic and social development requires systems of governance for culture and creativity that meets people's demands and needs. Transparent, participatory and informed systems of governance for culture involve a diversity of voices, including civil society and the private sector, in policymaking processes that address the rights and interests of all members of society. It also involves cooperation among all relevant public authorities in all sectors – economic, social, environmental - and at all levels of government.
3. Urban and rural areas are living laboratories of sustainable development. Placing creativity and well-being at the heart of sustainable urban and rural planning and renewal, balanced with the respect for heritage protection principles, leads to more secure, smart and productive cities. In meeting the challenges of urban and rural development and sustainable tourism, this requires culture aware policies and respect for diversity. On the other hand, safeguarding the intangible cultural heritage (i.e. promoting traditional and environmental friendly farming techniques) leads to more sustainable and quality food production processes, which are essential to face the population growth with the least possible impact on the environment.
4. Creative potential is evenly distributed throughout the world, but not everybody can exert their full creative potential. In the same measure not everybody has access to cultural life, the capacity for creative expression and the possibility to enjoy diverse cultural goods and services, including their own. Creative voices from the global South are largely absent which is a major barrier to global development. This can be achieved through support for local production of cultural goods and services, their international / regional distribution and the unhindered mobility of artists and cultural professionals.
5. Achieving inclusive and equitable quality education and life-long learning opportunities requires a dual commitment to investing in culture and creativity for all. Local learning, innovation and development processes are strengthened when new talents and new forms of creativity are nurtured. This can lead to the empowerment of women and girls as creators and producers of cultural expressions and as citizens participating in cultural life.
6. The full potential of the cultural industries at the core of the creative economy is to be harnessed to stimulate innovation for economic growth, full and productive employment and decent work for all. When the cultural and creative industries become part of the overall growth and development strategy, they have proven to contribute to the revitalization of national economies, generate green employment, stimulate local development and foster creativity. Evidence shows that they provide new local development pathways that build on existing skills and knowledge.
7. Ensuring sustainable consumption and production patterns means fully taking culture into account when addressing the use of assets and scarce resources. Human creativity, embracing cultural expression and the transformative power of innovation, is a unique renewable resource that not only leads to new products but also to new ways of life, organising and perceiving our societies and environment. Tapping into creative assets, traditional know-how and skills, can effectively contribute to finding imaginative and better

development outcomes and address global challenges such as the adverse impacts of climate change and unsustainable tourism.

8. Creativity contributes to building open, socially inclusive and pluralistic societies when diverse sources of inspiration and innovation are released and nurtured. This leads to increased quality of life, individual and collective well-being. When based on fundamental human rights and principles of freedom of expression, it can also enlarge people's capacities to lead the lives they have reason to value through access to cultural assets and resources in all their diversity. It can free individuals from tensions and conflicts, exclusion and discrimination, ultimately contributing to stability, peace and security.

In accordance with the above-mentioned principles and priorities, we call upon governments, civil society and private sector actors to take action in global partnership to promote creative environments, processes and products through support for:

1. the enhancement of human and institutional capacities at national, regional and local levels, paying special attention to empowering young people, so as to enable a holistic vision of culture and sustainable development for both effective systems of governance of culture and the flourishing of vibrant creative sectors;
2. strengthened legal and policy environments to promote culture, support the emergence of dynamic cultural and creative industries and recognize cities as laboratories of creativity and innovation, heritage safeguarding and environmental sustainability;
3. new partnership models and innovative investment strategies to support research, innovation, local production of cultural goods and services, the development of domestic and regional markets and access to platforms for their distribution/exchange worldwide;
4. advocacy programmes, projects and activities designed by governments and/or civil society to promote economic, social and environmental dimensions of culture for development, including through the implementation of UNESCO's culture conventions;
5. the continued production and implementation of benchmarks and impact indicators to monitor and evaluate the contribution of culture to sustainable development, including through the collection, analysis and dissemination of information and statistics as well as best policy practices.



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It is a project implemented by the National Council of Cultural Heritage (Cuba) and the Government of Santiago de Cuba, with the support of the UNESCO Havana, the Technical Office of AECID in Cuba and the Defense Attaché of the Spanish Embassy in Cuba.



Oficina Regional de Cultura
para América Latina y el Caribe
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Nº13
2015