

WORLD HERITAGE

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BIODIVERSITY

French Austral Lands and Seas
Dja Faunal Reserve
Migratory Bird Sanctuaries
Interview with Jane Goodall



United Nations
Educational, Scientific and
Cultural Organization



World
Heritage
Convention

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Literally, 'ommegang' means 'a walk', and originally referred to a procession of the clergy that circled their parish to display their relics and other devotional items, before later becoming a social and political procession.

After a decline in the 18th and 19th centuries, the Ommegang regained full force on 15 June 1930, on the Albert Marinus initiative.

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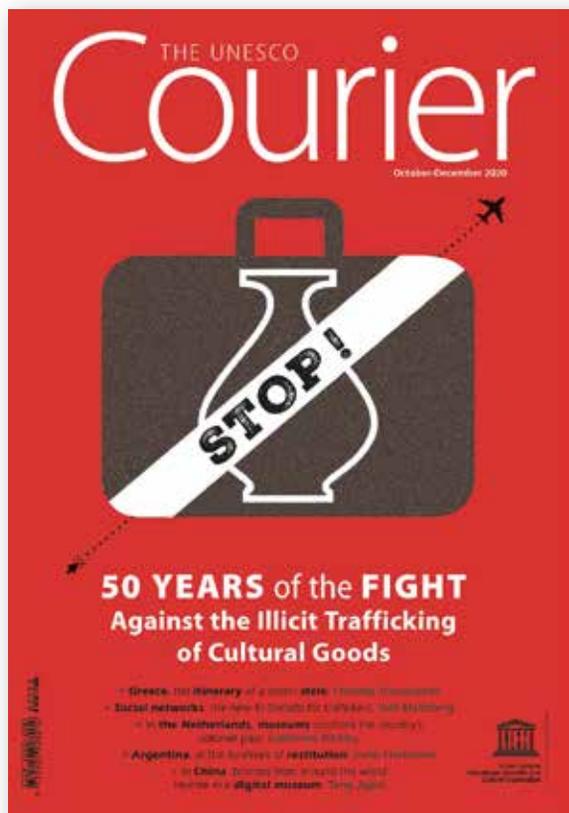
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The UNESCO Courier

50 Years of the Fight Against the Illicit Trafficking of Cultural Goods



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(October-December 2020)

- In spring 2020, the health crisis linked to the COVID-19 pandemic brought the whole world to a standstill. But the illicit trafficking of cultural property has not stopped. On the contrary. Traffickers of cultural goods have taken advantage of reduced security at archaeological sites and museums to engage in illegal excavations and thefts, with impunity.
- The figures prove it: the attraction for mosaics, funerary urns, sculptures, statuettes, or ancient manuscripts has never been greater. The pressure of this demand has helped fuel the illegal market in artworks and antiquities, which now operates largely online – via platforms that often pay scant attention to the original provenance of the objects.
- The *UNESCO Courier*, the flagship UNESCO magazine since 1948 is a platform for the dialogue between cultures and a forum for international debate. Bringing together well-known personalities, experts and artists, as well as journalists from different cultural and geographical horizons, it reflects the intellectual role of UNESCO, and its work around the world in all its domains of competence.



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Cover: Chiribiquete National Park – “The Maloca of the Jaguar” (Colombia).

We are pleased to bring you this issue on biodiversity and World Heritage sites, focusing on some of the properties most vital to the future of our planet.

These articles were prepared in anticipation of the UN Biodiversity Conference (COP 15) originally planned for October 2020 in Kunming, China, and the designation of a “biodiversity super year”. Many far-reaching decisions concerning the preservation of biodiversity were meant to be taken in 2020. But due to the COVID-19 pandemic, a number of international meetings including COP 15 could not take place and have been postponed.

Meanwhile, the COVID-19 pandemic is not an isolated phenomenon. Scientific evidence links the emergence of the COVID-19 virus to the breakdown of ecosystems and biodiversity loss. Humankind has been destroying the natural environment at an accelerating rate, putting human populations in contact with new pathogens we are not equipped to control.

The year 2020 has also continued to show the interconnection of climate change and biodiversity. Rampant fires, probably caused by climate change impacts, have threatened natural World Heritage sites in many parts of the world, such as Brazil’s Pantanal region and Australia’s Blue Mountains and Gondwana Rainforests.

Again we saw coral mass bleaching events, including at the Great Barrier Reef (Australia). As proven in studies published by the UNESCO World Heritage Centre, if the global temperature increase cannot be limited to 1.5°C above pre-industrial levels, we may lose most World Heritage coral reef sites.

It is plausible the mysterious deaths of 330 elephants in the Okavango Delta (Botswana) were caused by toxic blooms of cyanobacteria, a dangerous phenomenon that has been increasing worldwide because of climate change. Extreme weather events have also hit the Rwenzori Mountains in Uganda, Socotra in Yemen and the Sundarbans in India, in addition to causing flooding at many cultural properties.

In this issue, we focus on crucial biodiversity areas: the 67 million ha site of the French Austral Lands and Seas, for example, and Dja Faunal Reserve in Cameroon, which has the triple status of wildlife reserve, UNESCO Biosphere Reserve and World Heritage site. We discover the Migratory Bird Sanctuaries along the Coast of Yellow Sea-Bohai Gulf of China, and we have an in-depth interview with renowned primatologist Jane Goodall.

Tragically, instead of the biodiversity super year, 2020 has become the year that nature gives us a clear warning: if we do not reverse biodiversity loss and ecosystem degradation, and address the causes of climate change, the world could see unprecedented changes irreversibly affecting our planet and our way of life.

We can only hope what we have learned in 2020 will convince world leaders, and each one of us, to take the decisions needed for transformative change to save our planet.



United Nations
Educational, Scientific and
Cultural Organization



World
Heritage
Centre

M. Rössler

Mechtild Rössler
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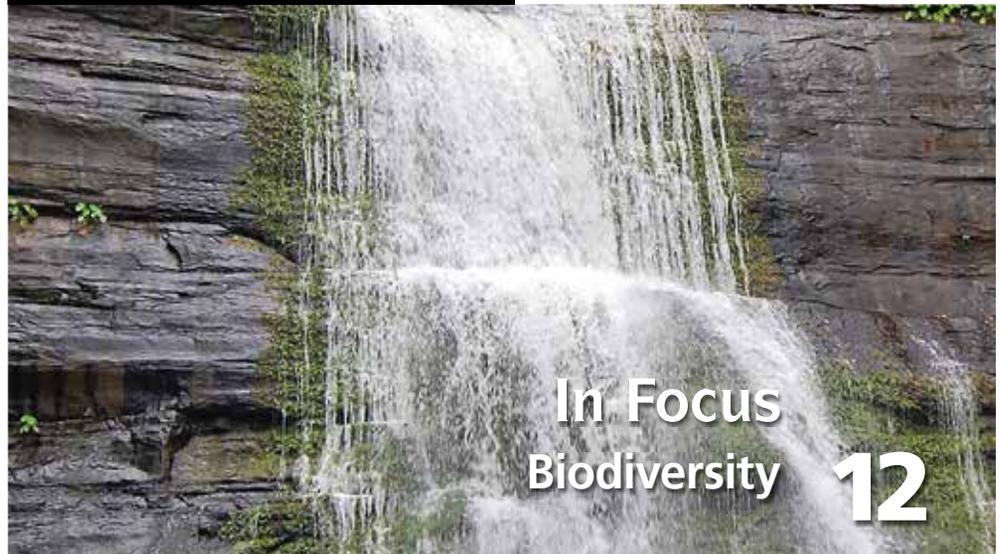
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The Migratory Bird Sanctuaries along the Coast of Yellow Sea-Bohai Gulf of China (Phase I) are of global importance for the gathering of many migratory bird species, including some of the world's most endangered species, that use the East Asian-Australasian flyway.

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To preserve this exceptional but endangered nature, the Terres australes et antarctiques françaises (TAAF) authority, which oversees the property, has been implementing rigorous environmental management methods for more than ten years to ensure the site's integrity.

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The Dja Faunal Reserve is the only protected area in Cameroon with triple status: wildlife reserve, Biosphere Reserve and World Heritage site. These three designations make Dja unique and subject it to the requirements of the Man and Biosphere Programme (MAB) and the World Heritage Convention.

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UNESCO and biodiversity: creating harmony

UNESCO's unique network of Biosphere Reserves, which builds on more than 50 years' experience from protection to integrated management of connected landscapes and seascapes, demonstrates that it is already possible to live in harmony with nature. Good practices can inspire to reconnect beyond the boundaries of protected areas to empower all sectors of societies, including youth.



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Preserving the world's natural treasures

Julia Miranda Londoño
Managing Director
National Parks of Colombia
WCPA-IUCN Deputy Chair

Chiribiquete National Park – 'The Maloca of the Jaguar' (Colombia).

© Jorge Mario Álvarez Arango



The year 2020 was intended to be a 'super year' of decisions for the planet's biodiversity.

Experts and scientists from around the world, as well as members of NGOs and many governments, make an important conceptual review and analysis every ten years of the results and conclusions established by the parties to the Convention on Biological Diversity for that period. This year, therefore, policies and strategies to be implemented until 2030 were meant to be determined. The long-term goal is that by 2050 humanity will be living in harmony with nature – that is the hope!

Because of COVID-19, we have had to postpone the decisions that would have been taken in June at the World Conservation Congress in Marseille, France, and in October at the meeting of the member countries of the Convention on Biological Diversity (CBD), culminating in the negotiation of the 15th Global Framework for Biodiversity. This process to define our future, now delayed, will require a lot of determination and great leadership, because in reality, very few of the goals set for the decade ending in 2020 were met.

Where we are now

The greatest challenges facing the planet today are to reduce the current rate of biodiversity loss, address climate change, reduce poverty and achieve sustainable development. The degradation of ecosystems, the massive extinction of species and the alterations of the climate are taking us to a point of no return. Moreover, according to experts and scientists from the International Union for Conservation of Nature (IUCN), the current global model of socio-economic development does not allow 'the maintenance of the planetary life support systems on which we depend'.

However, the Convention on Biodiversity made progress in recognizing that the protection and conservation of nature is a fundamental part of the solution. Indeed, protected areas contribute very significantly to the achievement of the Convention's objectives.

For its part, the United Nations established seventeen Sustainable Development Goals (SDGs) that will guide the work to be done in this decade. Protected areas contribute directly to the fulfillment of Goals 14 and 15 that refer to the protection of terrestrial and marine areas. But in addition, they also help to achieve several of the other SDGs,

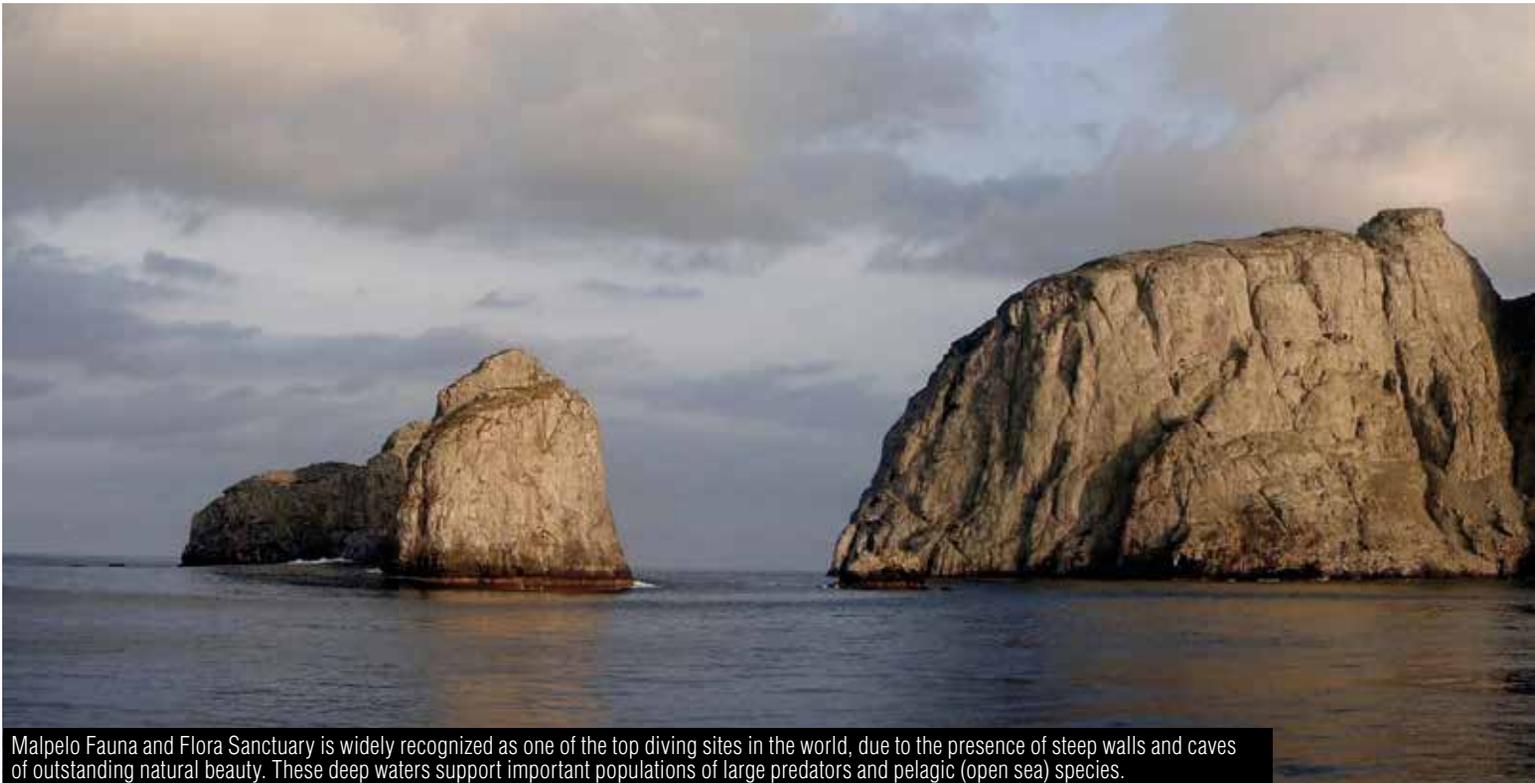
as well-conserved ecosystems provide water and food, improve people's health and quality of life, combat climate change, reduce the risk of natural disasters, reduce poverty and contribute to the development of sustainable cities.

In that context, Colombia plays a fundamental role at global level because the country's natural wealth is so great that the sole judicious conservation of its ecosystems can make a difference in meeting the planet's environmental goals. Therefore, I would like to go a little deeper into Colombia, its biodiversity and its protected areas.

Colombian policy

Colombia has a privileged location on earth, in the northwestern corner of South America, crossed by the Equator. It is a mosaic of five regions, each one extraordinarily rich, biodiverse, beautiful and unique: the Caribbean, the Pacific, the savannas of the Orinoco basin, the Andean mountain ranges and the Amazon.

Colombian policy reaffirms what the Biodiversity Convention states: the cardinal strategy to conserve nature is the protected areas and the conservation actions that are developed in them. For this reason,



Malpelo Fauna and Flora Sanctuary is widely recognized as one of the top diving sites in the world, due to the presence of steep walls and caves of outstanding natural beauty. These deep waters support important populations of large predators and pelagic (open sea) species.

© Bertrand LAPLACE

Colombia has been committed to the conservation of its natural wealth for 60 years.

For Colombians there is no doubt that biodiversity is today fundamental for the well-being of society and development. The benefits provided by nature contribute to poverty alleviation, the supply of genetic resources, food, water, wood and fibre. In addition to being the ultimate strategy for conserving nature, protected areas are recognized for offering visitors physical, spiritual and emotional well-being and health. They are also ideal settings for environmental education, recreation and tourism. They offer privileged opportunities for scientific research and today we know they are indispensable for mitigating the effects of climate change and preventing natural disasters. They also play a crucial role in the preservation of races and cultures that depend on these natural resources for their survival and that of their ancestral customs.

The idea was born in 1941, when the country joined the Washington Convention on Wildlife and Natural Resources. Since then, carefully following the strategies inspired by the Convention, and in strict compliance with the mandate of the

Convention on Biological Diversity (CBD), Colombia has undertaken the enormous effort of creating and preserving national parks, national reserves and wildlife areas.

We work with local communities to prevent and control the threats to the parks, which are multiple and diverse, such as the expansion of the agricultural frontier, cattle ranching, illegal mining, illegal fishing, illegal logging, and pollution from unsustainable industrial activities that affect lake, river and marine ecosystems.

In addition, in those parks that overlap with indigenous reserves, by mandate of the law, work is being done to build agreements between the environmental authority and the indigenous authority, in order to define 'special management regimes' – pioneers in the world – for the protected area in question. As the Colombian Constitutional Court has rightly pointed out, this regime is the mechanism for organization between indigenous authorities and National Natural Parks, seeking to strengthen awareness of 'interculturality', the recognition of our diversity and the defence of our nation's intangible heritage.

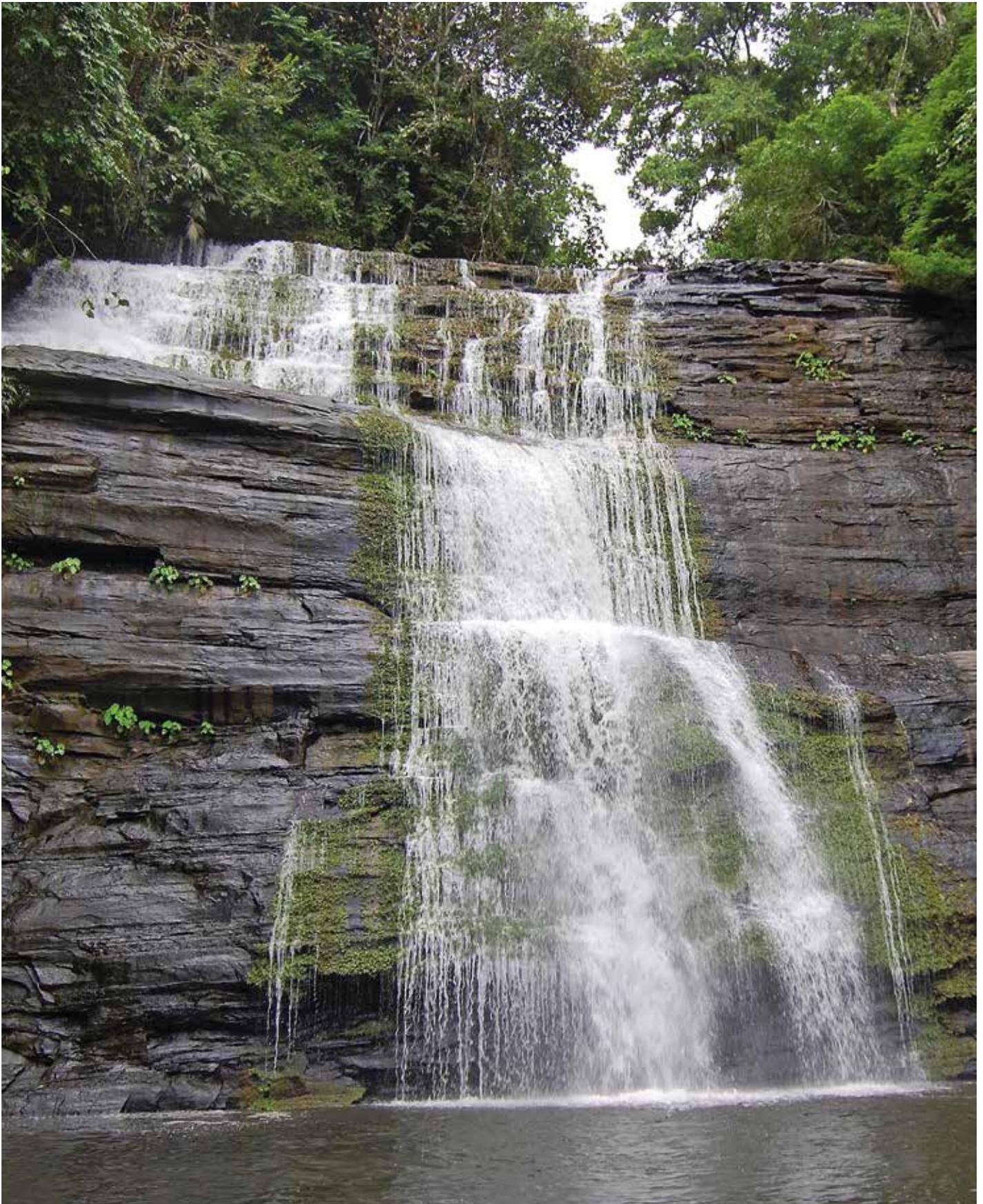
To protect its natural treasures, Colombia also made a careful analysis of the UNESCO World Heritage Convention

of 1972 and ratified it in 2008. We know the Convention has played a crucial role in protecting many of the world's natural icons for the benefit of humanity, and these spectacular landscapes, the wildlife and the cultural manifestations found in them are better protected thanks to the mandates and actions established by the Convention. Today it is clear that nature and culture are intimately linked and mutually beneficial and that there is a strong connection between the Biological Diversity and World Heritage Conventions.

The role of World Heritage

The Colombian State has valued the status of World Heritage, which is one of the highest international recognitions on the planet. Each site inscribed on the UNESCO World Heritage List is carefully chosen from the national Tentative List following a rigorous process, and to ensure the credibility of the World Heritage List, IUCN experts evaluate the global significance, management and integrity of the sites nominated for their natural values, including so-called mixed sites, which have both natural and cultural values and often display links between people and the environment.





Los Katíos National Park was placed on the List of World Heritage in Danger in 2009 at the request of the Colombian government to handle threats to its protection. Thanks to an exemplary management process, it was removed from the Danger List in 2015.

© Archivo Parques Nacionales Colombia / Melissa Valenzuela

I have personally witnessed and actively participated in the nomination of two of our World Heritage sites. I have accompanied IUCN evaluations that combine field missions, document review and input from volunteer experts with knowledge of the sites and the natural values they represent. All of the information collected is reviewed by the IUCN World Heritage Panel to structure IUCN's recommendations to the World Heritage Committee with complete objectivity and technical and scientific rigour.

Three sites in Colombia are now World Heritage: The Malpelo Flora and Fauna Sanctuary is a 2,677,907 ha protected area inscribed on UNESCO's World Heritage List in 2006, which includes the island of Malpelo and the surrounding maritime area. It is an untouched place where species maintain their natural behaviour, an area consolidating into the most extensive prohibited fishing area in the entire Eastern Pacific Tropical Zone. Its great source of nutrients and deep waters allow it to be home to a great marine biodiversity, including endemic species, globally endangered species and those of special importance such as pelagic species, marine predators, giant groupers, tuna and sharks (hammerhead shark, silky shark, whale shark), among others. Its island is characterized by a high degree of endemism. Its exceptional beauty makes it an extraordinary area for diving.

Los Katíos National Park is a protected area of 72,000 ha, inscribed on the UNESCO World Heritage List in 1994. Formed by low hills, forests and humid plains, Los Katíos plays a fundamental role for the biological connectivity of Central and South America. The area is characterized by exceptional biodiversity, with endemic flora species (20 per cent of plant species are endemic to the Chocó-Darién region). It is also home to endangered fauna, such as the American crocodile, the giant anteater and the Central American tapir.

The Serranía de Chiribiquete National Park was recognized in 2018 for its outstanding universal value as a mixed cultural and natural heritage site under criteria (iii), (viii), (ix) and (x). In the heart of the country, it constitutes the largest protected area in Colombia with a surface of 4,268.095 ha. Chiribiquete National Park is also unique



Eagle ray at the Malpelo Fauna and Flora Sanctuary.

© Bertrand LAPLACE

for being a testimony to the millenary Amazonian culture, since it has the oldest and largest archaeological pictographic complex in America. Fifty murals have been discovered with more than 70,000 drawings with human representations, plants and animals in interaction, rituals and customs typical of this region, which are located in the rocky shelters and constitute the oldest rock art discovered so far in this continent.

Los Katíos National Park deserves a special mention as an example of the importance Colombia gives to the World Heritage Convention as a means to achieve effective conservation of its natural treasures. In 2008, the Colombian government decided to request the World Heritage Committee to include this important national park on the List of World Heritage in Danger due to the illegal extraction of natural resources (logging and hunting) and fires that put the integrity of the site at risk. There was an additional medium- and long-term threat of colonization due to mega-projects in the port and road network in its buffer zone. Indeed, Los Katíos National Park was included in the List of World Heritage in Danger in 2009. The government of Colombia took on the task of implementing the strategies previously defined in a 'shock plan' to address the main pressures, improved management and achieved the desired state of conservation in six years. This resulted in an exemplary management process that led to the World Heritage Committee's decision to remove the site from the List of World Heritage in Danger in July 2015. This marks the

progress of the Colombian government in the management of these problems as an example to follow in terms of mobilizing international cooperation to safeguard a World Heritage site.

Colombia's initiative to request its inclusion on the Danger List sought to improve radically the National Park's situation within the framework of the World Heritage Convention, with the advice of experts in the design of the plan and the commitment of all Colombian State institutions. The result was very positive because thanks to the vital recommendations of IUCN's experts, the proposed goal was achieved with substantial effort from the National Park team, State institutions from top government to local administrations, communities, public forces – in short, Colombian society as a whole. In December 2016 the first follow-up report to the recommendations for the removal from the Danger List was presented and work continues to maintain and improve the conservation status of the National Park.

Colombia is a prime example of how the World Heritage Convention and the Convention on Biological Diversity work together to achieve effective protection and conservation of its natural treasures. This would not have been achieved, however, without the support of the people and organizations working for their implementation: the extraordinary team of the World Heritage Centre based in Paris, UNESCO's coordinator for everything related to the World Heritage Convention, and the IUCN World Heritage team working from Gland, Switzerland in collaboration with the network of scientific advisors on World Heritage, its focal points in each of the IUCN regional offices, the World Commission on Protected Areas (WCPA) and the Global Protected Areas Programme (GPAP). Their primary objective is to share the knowledge gathered by their unique global community of more than 10,000 scientists. The numerous tools these scientists contribute have already proven to be effective in helping hundreds of organizations, countries and local communities to support the proper implementation of both the World Heritage Convention and the Convention on Biological Diversity, and to achieve effective conservation of the world's natural treasures. 🌱

Cultural World Heritage sites and Key Biodiversity Areas: a remarkable overlap

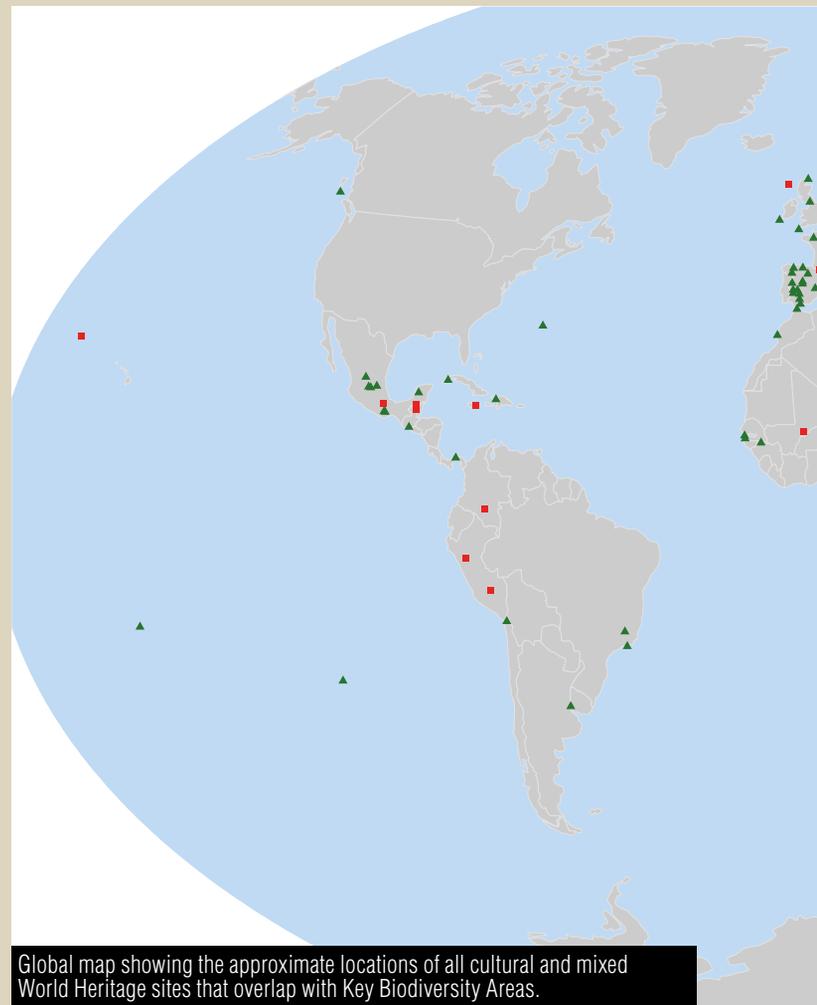
With the COVID-19 pandemic spreading around the world, many meetings and decisions originally planned for 2020 had to be postponed. So now it looks as if 2021 will be the big year for biodiversity, when the Parties to the Convention on Biological Diversity (CBD) are likely to adopt a new Post-2020 Global Biodiversity Framework, calling for transformative action to achieve eventually the vision of a world in which we live in harmony with nature. An ambitious proposition, considering that despite all efforts so far, most of the world's species and ecosystems are still in decline, and the threats and pressures they face are mounting. Protected and conserved areas have been greatly expanded around the world and can play a critical role in conserving species and their habitats. However, for various reasons, they have not always been as effective as envisaged.

It is a time to rethink and expand our conservation strategies and approaches. One of our most powerful allies in nature conservation efforts could be culture, which right now is underused. The Sharm El-Sheikh Declaration on Nature and Culture, adopted at the 2018 Nature and Culture Summit organized by the CBD Secretariat with many partners including UNESCO, rightly noted that "biological and cultural diversity are not only closely linked but also mutually reinforcing".

Research has indeed demonstrated again and again a remarkable coincidence between cultural diversity, including linguistic diversity, and biodiversity hotspots. We also know that natural World Heritage sites already protect many of the world's Key Biodiversity Areas (KBAs), sites important to the global persistence of biodiversity identified according to the global KBA standard (see <http://www.keybiodiversityareas.org>). But what do we know of the role played in biodiversity conservation by the more than 800 cultural World Heritage sites?

Ten years ago, we conducted a first analysis of the overlaps of KBAs with World Heritage sites, and identified 64 KBAs overlapping with cultural sites (see Foster et al., 2010, World Heritage Review 56). How has this picture changed with the many new KBAs and cultural sites added since? To find out, we overlaid the central coordinates of 1,092 cultural, mixed and natural sites recorded by UNESCO (as of September 2018) with the boundaries of over 15,000 KBAs worldwide (as of December 2019), and identified those sites that appear to coincide with KBAs. In the absence of detailed boundaries for cultural sites, our analysis can provide only an estimation of the real extent of overlap, but if anything, it is likely to underestimate this overlap considerably.

Our analysis finds that 166 (20%) out of the 845 cultural World Heritage sites assessed coincide with KBAs (see map). These 166 cultural sites represent 52 countries and in total, given the serial nature of many of these sites, over 670 component parts



Research has indeed demonstrated again and again a remarkable coincidence between cultural diversity, including linguistic diversity, and biodiversity hotspots.

of cultural sites intersect with KBAs. To put these numbers in context, this means that nearly as many cultural sites (166) as natural sites overlap with KBAs (180). These sites could therefore play an important role in biodiversity conservation. When the 30 mixed sites that coincide with KBAs are added in, it becomes clear that the World Heritage Convention protects nearly 200 cultural sites of outstanding significance that also protect globally important biological diversity.

Let us consider some notable examples from around the world. The entire global population of the critically endangered Poole's robber frog (*Eleutherodactylus poolei*) is confined to an area within Haiti's only World Heritage site: the National History Park – Citadel, Sans Souci, Ramiers. The Saloum Delta site in Senegal is a KBA for a great variety of waterbirds and seabirds, some occurring in large congregations, while Robben Island in South Africa is an important breeding area for the endangered African penguin (*Spheniscus demersus*). Le Morne Cultural Landscape in Mauritius



overlaps with a KBA for two threatened bird species confined to the island: the Mauritius kestrel (*Falco punctatus*) and Mauritius bulbul (*Hypsipetes olivaceus*). The Lenggong Valley archaeological sites in Malaysia touch the Bintang Range KBA that supports a number of threatened and endemic species. And in Canada, SGang Gwaay, a site commemorating the living culture of the Haida people and their relationship to the land and sea, overlaps with the Anthony Island KBA that supports significant breeding populations of several seabird species.

The cultural World Heritage sites coinciding with KBAs represent a diverse cross section of cultural heritage. A quick review of the types of sites (allowing for multiple types per site) suggests that about half of the overlaps involve archaeological sites; about 30% concern sites with religious or spiritual significance under World Heritage criterion (vi); about 20% involve urban areas; and 20% are within cultural landscapes as recognized on the World Heritage List. There are even several industrial and military heritage sites that support notable biodiversity values. While some of the cultural sites overlapping with KBAs are located within areas that are designated to protect and conserve nature (for example, SGang Gwaay is within the Gwaii Haanas National Park Reserve and Haida Heritage Site), others have limited or no protection beyond their cultural World Heritage status.

The World Heritage Convention is one of the seven international biodiversity-related conventions, and it is unique among international conventions because it deals with both natural and cultural heritage. There are many reasons to connect nature and culture in the framework of the Convention, as at local level these values are inseparable in every place. But the overlap with KBAs is a crucial new finding, demonstrating that cultural World Heritage sites connect directly to many of the world's most important areas for biodiversity. Our analysis underlines that the powerful connection between nature and culture could be used more effectively to achieve greater benefits for biodiversity and people.

First and foremost, all cultural sites overlapping with KBAs should consider important biodiversity values in their protection and management arrangements. Some of these cultural sites could even be re-evaluated for possible recognition of their ecosystem and species values under World Heritage criteria (ix) and (x) respectively. The World Heritage sites that intersect with KBAs are also priority areas where the nature and culture conservation communities can collaborate on monitoring and promoting biodiversity through a management framework that integrates social, cultural and natural values. As shown by our analysis, engaging more with the cultural World Heritage community could be a direct way to conserve many sites of international significance for biodiversity, and to learn from a more diverse set of experiences and approaches to conservation that have been developed in the cultural heritage community, and by indigenous peoples and local communities.

To facilitate this exchange, the World Heritage Leadership Programme has recently launched a Nature-Culture Thematic Community on the PANORAMA platform (<https://panorama.solutions>), coordinated jointly by the advisory bodies ICCROM, IUCN and ICOMOS. This community highlights the importance of integrated heritage protection and management for sustainable development, looking at inspiring approaches that include the use of local and indigenous knowledge and the engagement of local communities. This initiative will help to form a global community of practice in places valued for their cultural and natural significance.

The World Heritage Convention is a unique conservation instrument, as it is the only one linking nature and culture through the powerful concept of heritage. The remarkable overlap that exists between cultural World Heritage sites and KBAs is further proof of the interdependencies of nature and culture in heritage conservation. In a year of great impetus for determining biodiversity conservation action for the next decade, recognizing this connection is ever more important to foster effective conservation in the world's most iconic places.

Bastian Bertzky, IUCN Consultant; Matthew Foster, Global Wildlife Conservation; Penny Langhammer, Global Wildlife Conservation; Gwenaëlle Bourdin, ICOMOS; Sarah Farinelli, George Mason University; Nicole Franceschini, ICCROM Consultant; Rossana Merizalde, Rainforest Trust; Carlo Ossola, Swiss Federal Office for the Environment; Célia Zwahlen, IUCN; and Tim Badman, IUCN.

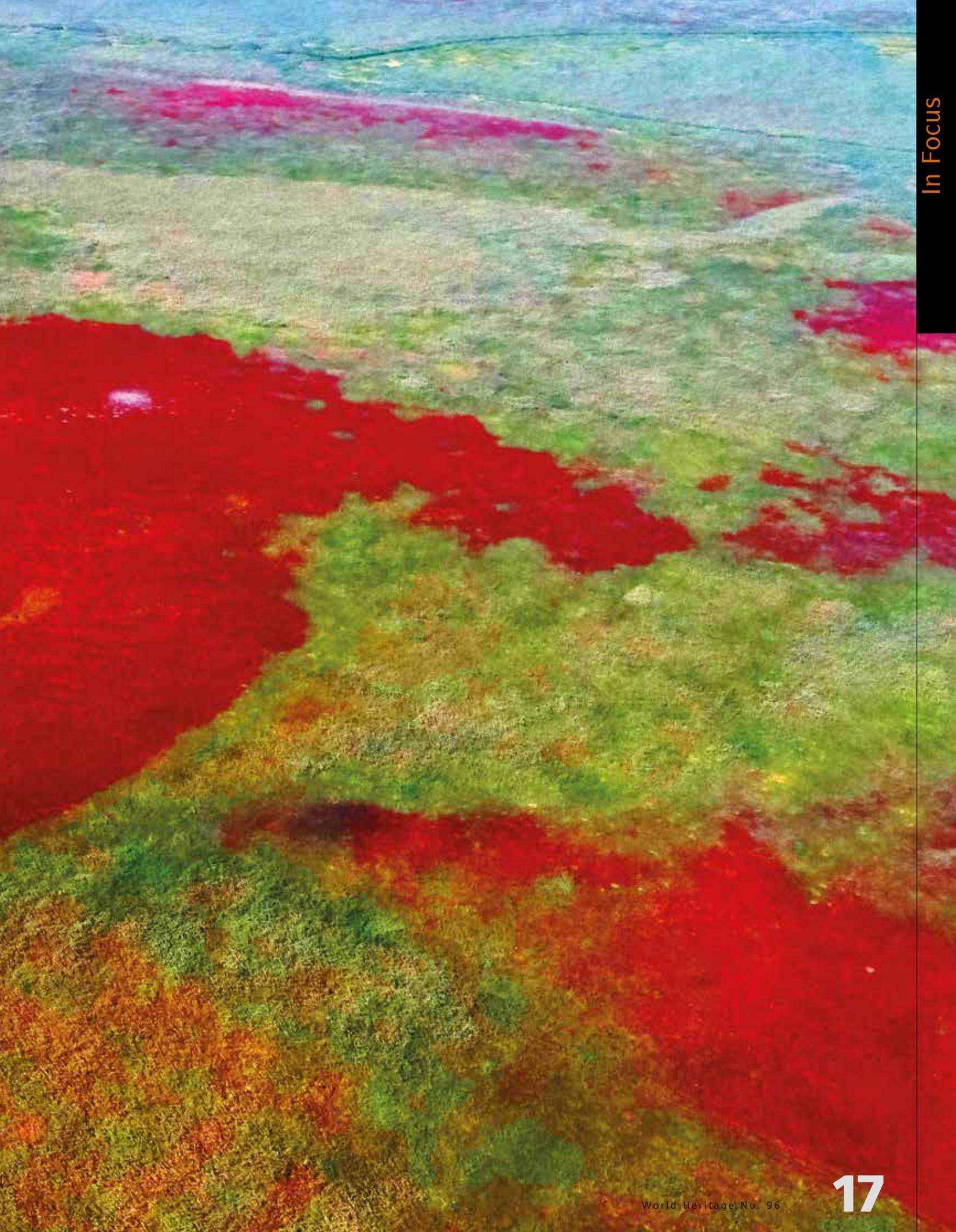
In Focus **Yancheng**

Yancheng: Sanctuary for the Spoonies

John MacKinnon

Migratory Bird Sanctuaries along the Coast of Yellow Sea-Bohai Gulf of China (Phase I) (China) was inscribed on the World Heritage List in 2019.

© Yancheng Broadcasting Television



The tide sweeps in fast. Tens of thousands of shorebirds jostle busily on the exposed mudflats, moving ever nearer till they are concentrated on the last few metres before the high tide covers the entire beach. Right at the forefront are the stars of the show – scurrying among the dunlins, plovers and other commoner waders are a few curious and precious Spoon-billed sandpipers or ‘Spoonies’, as they are affectionately known. They are recognized by their remarkable spoon-shaped bills and more hurried feeding behaviour, and there are only a few hundred left in the world. Suddenly the entire flock takes to the air, swings round in a dazzling cloud then heads inland to find high-tide roosts to wait till the tide recedes once again in a couple of hours.

Welcome to the intertidal mud and unique radial sand bars of the Yancheng coast of Jiangsu Province, China – newly added to the World Heritage List during the 43rd session of the World Heritage Committee in 2019.

There was a lot of celebration among the local officials, Chinese delegation and supporting national and international bird conservation groups.

Just seven years earlier, the International Union for Conservation of Nature (IUCN) had



Spoon-billed sandpiper or ‘Spoonie’.

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published a situation analysis of the status of intertidal habitats of East and South-East Asia. It showed that more than half of the vital intertidal habitats were already lost to large-scale land reclamations of estuaries in the Bohai and Yellow Sea sectors of the important East Asia Australasian Flyway (EAAF) of migratory birds. The causes of rapid loss of these coastal wetland habitats included conversion to fish and prawn farms, rice paddies, salt pans, new ports and a forest of wind farms.

Data from long-term monitoring of migratory bird populations, many of which migrate 7,000 km between their Arctic breeding areas and their southern wintering

zones, revealed unprecedented rates of decline of many species. The EAAF is vital for far more endangered shorebirds than any of the world’s other major flyways. The most severe declines were observed in the little Spoonie, which had lost 95 per cent of its global population in just twenty years.

Rapid reaction

The speed of positive response by the Chinese authorities at many levels has to be commended. Studies of priority areas along the Chinese coast, with assistance of the Paulson Institute, led to a series of new nature reserves being established. Growing awareness of the severity of the problem and its indirect threats to human welfare led to the State Council of China declaring a ban on further land reclamations, encouraging ecosystem restoration instead. Many major developments were halted and shelved; doomed sites were given a reprieve.

Meanwhile efforts were launched to nominate many of these key sites for conservation as a serial World Heritage property. The ultimate vision would be a three-country cooperation between China, North Korea and South Korea, to conserve sites on both sides of the Bohai



The intertidal areas of the Yellow Sea/Gulf of Bohai are of global importance for the gathering of many migratory bird species that use the East Asian-Australasian flyway.

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and Yellow Sea region, along the lines already demonstrated in Europe with the establishment of the coastal wetland three-country (Netherlands, Germany, Denmark) Wadden Sea World Heritage property.

Two additional new regulations were also crucial for success. Inspection teams from the Ministry of Environment ordered that all artificial fish ponds inside nature reserves must be abandoned and returned to natural wetlands. The National Forests and Grasslands Administration issued a ban on the erection of new wind farms along important bird flyways.

Many agencies swung into action. The East Asian Australasian Flyway Partnership (EAAFP) Yellow Sea Ecoregion Task Force and its specialist Spoonbill Sandpiper Task Force moved up a gear. The State Forestry Bureau of China established a Network for the Conservation of Coastal Wetlands. Wetlands International and relevant universities together with the protected areas in the Yellow Sea Ecoregion intensified simultaneous waterbird census efforts for the Yellow Sea and Bohai region. IUCN facilitated a Yellow Sea Working Group on behalf of the three governments.

In 2016 a nomination drafting team was set up involving Peking University, Beijing Forestry University and support from EAAFP, BirdLife International and other international conservation organizations. Parallel efforts were underway in the Republic of Korea to nominate several sites on the east side of the Yellow Sea.

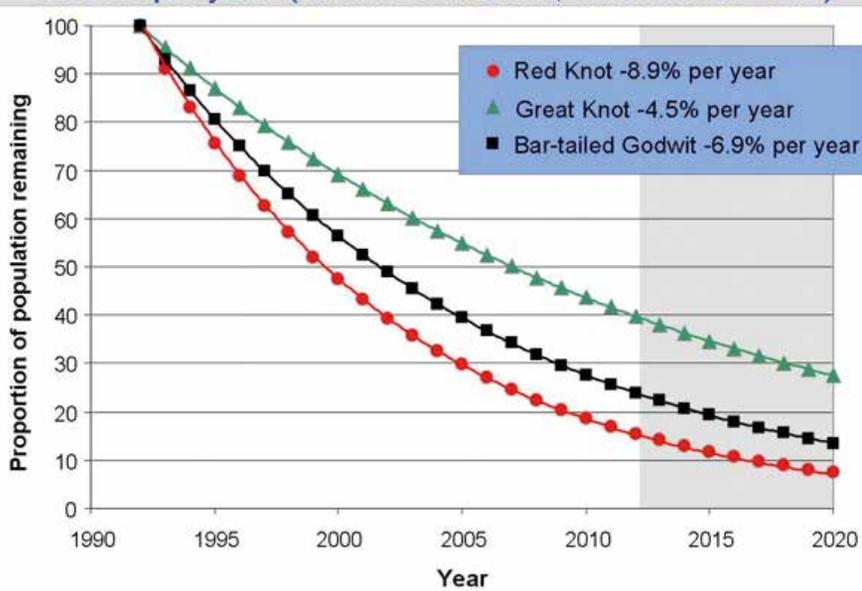
The Chinese team proposed a three-phase nomination as a serial site including some sixteen sites in China, with the largest and central sites of Yancheng forming the first phase of the nomination.

A complicated nomination process

Several million shorebirds migrate twice a year through the flyway. Different species have their own routes and side routes but almost all converge through the Bohai/ Yellow Sea sector where different sites are preferred by different species. The Yancheng section is used by the widest range of these species and is regarded as indispensable to some of the key endangered species such as Spoon-billed sandpiper, Far-eastern curlew, Nordmann's greenshank and Saunder's gull. It also offers the widest range of

Decline rates of some threatened species of the flyway

Projected population losses of given current rates of decline of 5-9% per year (Amano et al. 2011, Wilson et al. 2011)



Map1. Phase I Nomination areas and unique Dongsha radial sand ridges and mudflats



Migratory Bird Sanctuaries along the Coast of Yellow Sea-Bohai Gulf of China (Phase I) comprises two large parts of the Yancheng Marshes National Nature Reserve, but also includes the Dafeng National Nature Reserve, the Tiaozini Wetland Park, two smaller nature reserve sections and the flats in front of Tiaozini.



The mudflats, as well as marshes and shoals, are exceptionally productive and serve as growth areas for many species of fish and crustaceans.

© Yancheng Broadcasting Television

habitats and supports important wintering and summer breeding species in addition to the spring and autumn passage migrants.

Yancheng is the most important breeding area for the vulnerable Saunder's Gull and endemic Reed Parrotbill. It is also the most important wintering area for the much admired and endangered Red-crowned crane and important for wintering Oriental White Storks. Rare mammals include the Chinese water deer and reintroduced Pere David's Deer or 'Milu'. The Dafeng NNR contains two-thirds of the entire global population of the latter species.

The case for Outstanding Universal Value (OUV) is easily made for World Heritage criterion (x) (conservation and biodiversity importance) and the unique and continually evolving spiral sand bars merit recognition under criterion (ix) (on-going ecological and biological processes). But a successful nomination needs more than demonstration

of OUV; it must also demonstrate integrity and management capability. The first step was to list the forthcoming nomination on China's Tentative List. This was done within six months. Then there was a lot of necessary work to complete before the Phase I nomination dossier itself could be presented a year later.

Time was not an available luxury. The local government had approved large development plans for land conversion of the Tiaozini sectors, which would have destroyed the most important staging area in the world for the Spoonies. It is a testament to the adaptability of the Chinese authorities, and the commitment of the Yancheng City and Jiangsu Provincial governments, that once they had developed a new shared vision for the future of their coast, in discussion with central government and international agencies, not only did they make the huge financial sacrifice to cancel

the developments. They also achieved the amazing feat, having seen the new scientific evidence for its global ornithological importance, of adding it to their nomination – which they had completed in only a year – by January 2018. Such decisiveness and speed was potentially critical to the survival of this charismatic species.

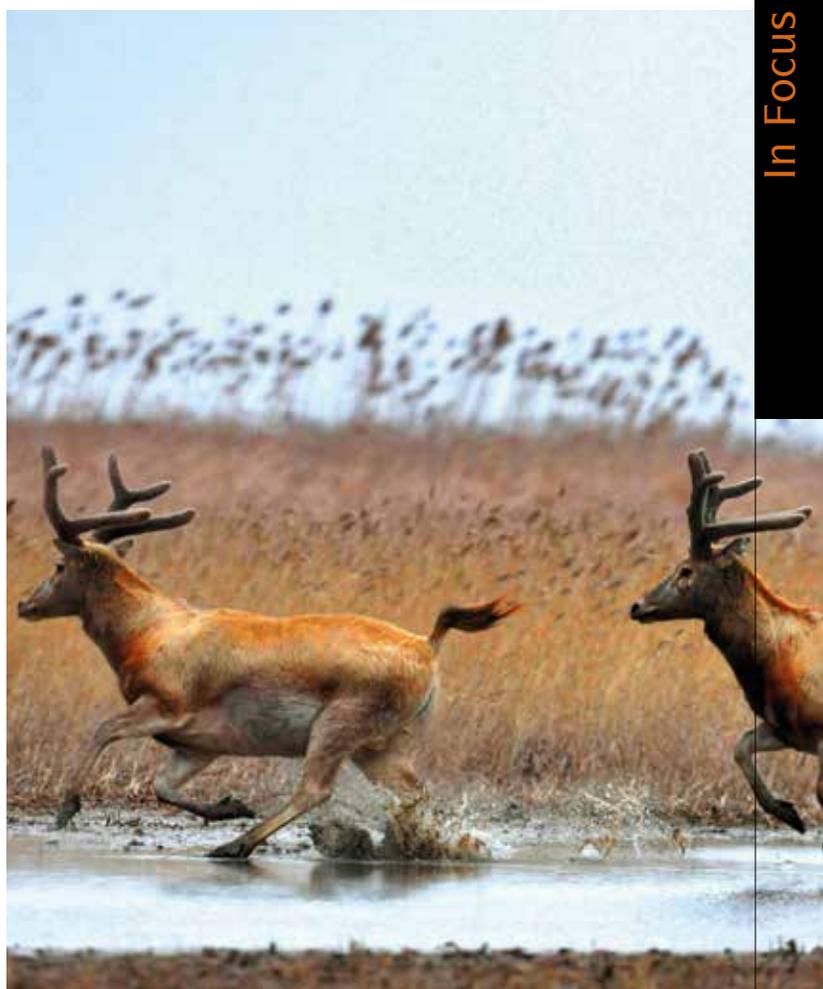
Following due process, IUCN scheduled a field review in 2018. The field review noted incompleteness in some areas of the nomination and demanded additional supplementary information. More scrambling to provide more details about the timing and site selection of the forthcoming two phases and justify the boundaries and management measures for the Phase I sites.

In early 2019 IUCN recommended to World Heritage that although they felt there was definite OUV demonstrated, they were still not satisfied with the plans for follow-up phases and some aspects



Grus japonensis and *Hydropotes inermis*.

© Yancheng Broadcasting Television



The Père David's deer (*Elaphurus davidianus*), also known as the milu.

© Yancheng Broadcasting Television

of boundaries. They recommended the Committee should defer the site to give more time for a more complete nomination of the entire serial property and they did not want to see a three-phase nomination.

Relieve for the Spoonies

Such deferral could have been detrimental to the conservation cause. The momentum of all parties pushing the nomination would be slowed down. There was a real risk that Tiaozini would be lost and with it the chances of Spoony survival, not least because China, with its long tentative list and fierce competition for nominating other sites, probably would not have had another nomination date available for several years. Alarm bells rang.

Only a monumental effort by the domestic team and international friends saved the day. The nomination team delivered additional data and justification for the site

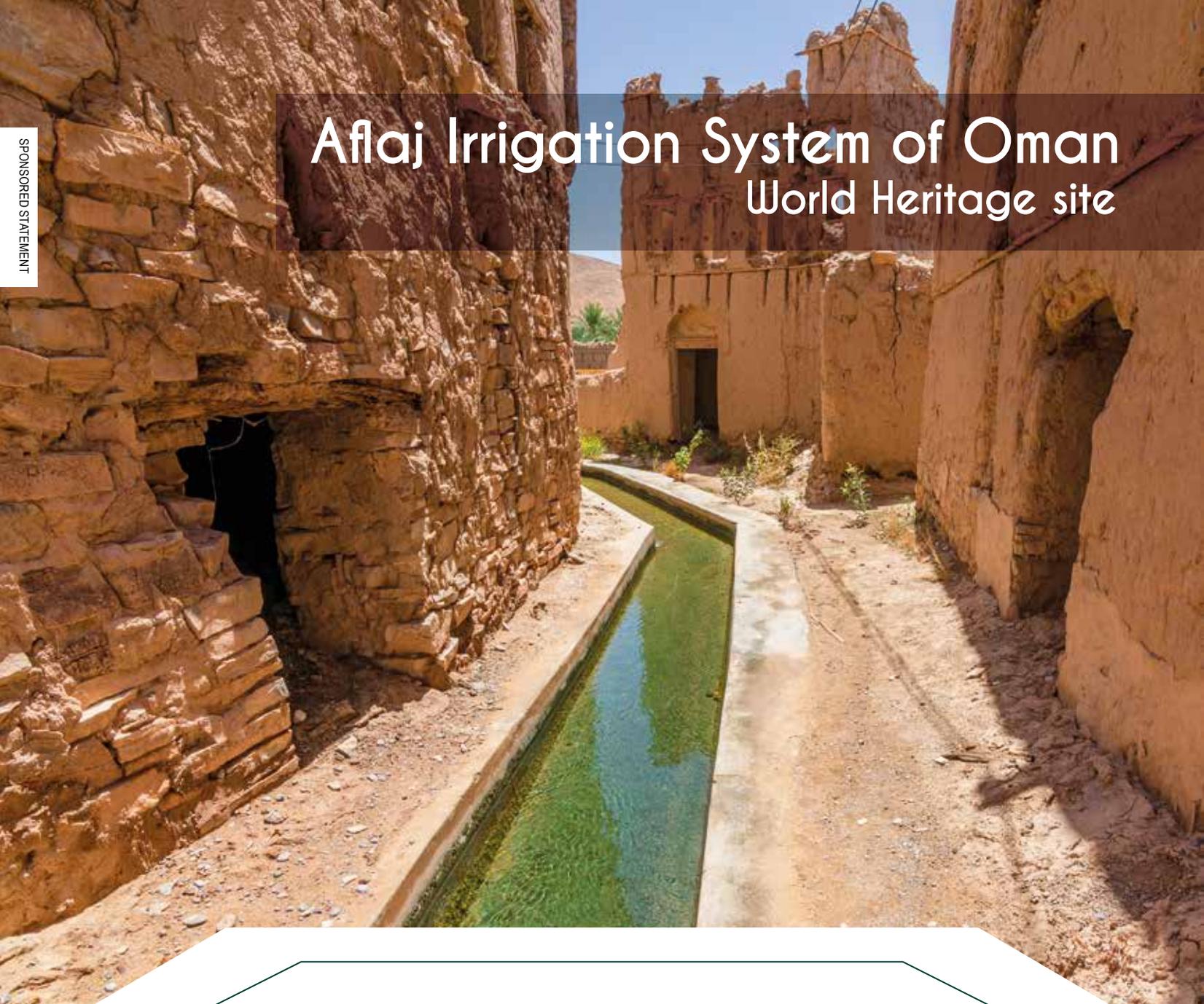
and more detail of the follow-up phases that could be combined into one final phase. Local government made stronger commitment to the site's protection. The Chinese State Party committed to deliver the second phase of the nomination by 2022 and letters of support for the nomination were signed by dozens of international experts and agencies. All would hinge on the verdict of the World Heritage Committee at their meeting in Baku, Azerbaijan in July 2019. A strong argument was presented by Australia and seconded by Indonesia that the endangered birds of the flyway were not just the heritage of China but a global heritage shared by many countries. Committee members presented a proposed amendment recommending the immediate inscription of Phase I. IUCN agreed, accepting the urgency, to the initial nomination under only criterion (x) and the Chinese State Party agreed to the conditions

of an accelerated and single second phase. Maybe the Spoonies were aware of their reprieve. They certainly looked chipper to the audience of photographers waiting for them at Taiozini in October 2019 when the Yancheng City Government hosted an international bird festival at the site.

A lot of work remains to complete the nomination's Phase II. Details, maps and management measures for at least fourteen additional sites must be prepared, some boundaries still adjusted and agreed upon. An alliance of the extra sites has been set up. Coordination mechanisms spanning six provinces need to be finalized. Yancheng will play a leading role and have set up a special wetlands research institute to help the work, which is to be co-located with the new Yancheng Wetland & World Heritage Management Office in a brand new fifteen-storey building. Several million birds are waiting hopefully. 🍷

Aflaj Irrigation System of Oman

World Heritage site



Oman's *Aflaj* irrigation system has been an integral part of the social life of Omani society since ancient times, as it is the source of water upon which life and civilization were based. The life of the Omani population is still linked to this system. Therefore, the history of the *Aflaj* in Oman in terms of its establishment and the events that it passed through is a vital part of Omani history. The establishment of most villages and cities throughout the country and its history began with the beginning of the *Falaj* (single term for one irrigation system). Theories suggest that these irrigation systems were also motivating major migrations of residents of the arid Arab desert, leading Oman to become the center of a civilization in this part of the world.

The *Aflaj* World Heritage site was inscribed on the World Heritage List in 2006. Inscription was on the basis of Criterion (v) of the *Operational Guidelines*. Criterion (v) indicates that a property is 'an outstanding example of a traditional human settlement, land use, or sea-use which is representative of a culture (or cultures), or human interaction with the environment especially when it has become vulnerable under the impact of irreversible change'. In its evaluation of the nomination document, ICOMOS supported inscription using this criterion on the grounds that the sites are an exceptionally well preserved form of land-use and are threatened from the lowering of the water-table. They also recommended that the *Aflaj* system be considered a collection of cultural landscapes.

The five *Aflaj* sites that comprise the World Heritage site are the best examples of the *Aflaj* system in Oman. The statement of Outstanding Universal Value (OUV) sets out the international significance of these five sites as a collective whole. Each *Falaj* site makes an important contribution to the OUV of the World Heritage site as a whole. The contribution varies from site to site, but it broadly covers one or more of the following:

- ▶ Provides a showcase for the individual components of the cultural landscape and their interrelationship;
- ▶ Contributes to the range of building types;
- ▶ Is a good model of sustainable land use;
- ▶ Is a good example of a cultural landscape that is still living and working;
- ▶ Demonstrates continuing traditional management practices;
- ▶ Contributes to the integrity and authenticity of the property.



The *Aflaj* World Heritage site is an outstanding example of a cultural landscape – a landscape made up of individual components (irrigation channels, agricultural land, settlement areas and traditional management practices) that are all inter-related and inter-dependent. Management of the water sources enabled the conversion of land to agricultural use (which was almost entirely dependent on irrigation), which in turn made permanent habitation possible. Settlement patterns were also largely driven by the demands and needs of agriculture, with watchtowers and forts located in defensive positions near or overlooking the *sharia* and *Falaj* channels, with houses, tools and handicrafts built from materials found on agricultural land. In addition, the variety in nature and size of the *Falaj* landscapes

contained within the World Heritage site means that a wide range of building types and settlement patterns evolved to meet the diverse needs of the inhabitants. These included forts, fortified palaces, watchtowers, large multiple occupation houses, enclosed walled settlements, small individual family houses near agricultural plots, and temporary dwellings for use during the date harvest. The serial property is also internationally significant because it showcases exceptionally inventive techniques of sustainable land use within a challenging natural environment. Without the benefit of modern tools and equipment, the individual *Falaj* system carries water over tens of kilometres powered by gravity alone.

The French Austral Lands and Seas

Biodiversity haven in the Southern Ocean

Anne-Gaëlle Verdier
Acting Environment and Nature Reserve Director
at Terres australes et antarctiques françaises



The world's largest colony of King Penguins in Crozet Archipelago, part of the French Austral Lands and Seas World Heritage site.

© The Official CTBTO Photostream





Northern giant petrel, Kerguelen Island.

© The Official CTBTO Photostream

Situated between the 37th and 50th southern parallels, the French Austral Lands and Seas encompass the largest of the few emerged landmasses in the southern Indian Ocean, including the Crozet Archipelago, the Kerguelen Islands and the islands of Saint-Paul and Amsterdam. These territories come under the *Terres australes et antarctiques françaises* (TAAF), a French overseas administration created in 1955, which exercises missions of sovereignty, preservation of the environment, support for research and supervision of sustainable fisheries. In 2019, these islands, together with their protected maritime zone that constitutes the national nature reserve of the French Austral Lands, became the 50th marine site inscribed on the World Heritage List.

At nearly 673,000 km², the French Austral Lands and Seas is the largest property inscribed on the World Heritage List. It corresponds to the perimeter of the national nature reserve of the French Austral Lands created in 2006, which includes all their land areas and, since 2016, about 40 per cent of their Exclusive Economic Zone (EEZ).

A biodiversity sanctuary, these sites are exceptional places for the conservation of the world's avifauna and one of the last expanses of 'naturalness' in the world.

The international recognition of the Outstanding Universal Value (OUV) of the French Austral Lands and Seas by the World Heritage Committee is based on three criteria: an exceptional biological heritage, rich and complex ecological functionalities and the esthetic importance of these territories (criteria (x), (ix) and (vii)). From the largest colonies of King Penguins on the Crozet Archipelago and the colonies of Yellow-nosed Albatross on the dizzying cliffs of Entrecasteaux on Amsterdam Island to the world's largest population of Elephant Seals at Kerguelen, this abundant nature in the midst of grandiose volcanic landscapes reinforces the property's exceptional character.

Kingdom of birds and marine mammals

The French Austral Lands and Seas are home to some of the most diverse and abundant populations of birds and marine mammals in the Indian part of the Southern Ocean.

With more than 50 million birds from 47 species, these islands shelter one of the world's largest populations of seabirds. For fifteen of these species, almost half of the entire global population breeds in these territories. On Amsterdam Island alone, two-thirds of the world's population of Yellow-nosed Albatross are found, as well as the Amsterdam Albatross, classified as critically endangered by the International Union for Conservation of Nature (IUCN). This endemic species is the subject of a national action plan for its safeguarding. Among other emblematic species of these extreme environments is the King Penguin, whose largest population in the world is found on the Crozet Archipelago. The penguins gather there in huge colonies that can number more than a million individuals.

The site also concentrates large populations of pinnipeds, commonly known as seals – the world's first population of Southern Elephant Seals and the third largest population of Amsterdam Fur Seals – and cetaceans, such as the Commerson's Dolphin, a Kerguelen endemic subspecies. These black and white dolphins, nicknamed panda dolphins, are frequently observed in the coastal waters of the Kerguelen



Saint-Paul Islands.

© Nelly Gravier

archipelago because of their curiosity about boats.

The birds and marine mammals of the French Austral Lands and Seas breed on land but feed at sea. For all of these species, the marine environment plays a primordial role since it represents the feeding and reproduction areas essential to their development.

An exceptional natural heritage between land and sea

The name chosen for the site, French Austral Lands and Seas, reflects the importance of the land/sea link. Indeed, the richness of the bird and marine mammal communities on the islands is explained by the extreme productivity of these areas.

The property is situated at the convergence of three ocean fronts and presents broad continental shelves. The waters are characterized by a high enrichment of iron and other minerals, allowing the development of a rich and diversified food web.

While the Kerguelen plateau is the widest continental shelf in the area, forming a veritable oasis of life in the middle of a relatively poor ocean, the Crozet plateau

and the high banks of Saint-Paul and Amsterdam are also very productive. They provide breeding, nursery and feeding grounds for many marine species, including some that are emblematic of these islands.

The preservation of the ecological functions of marine environments is therefore crucial to sustaining the rich biodiversity of the French Austral Lands and Seas. The conservation of these ecosystems requires, in particular, improved knowledge of their functioning and of the trends of species evolution in the context of climate change.

An observatory for global change

Ecologically preserved, the French Austral Lands and Seas constitute an open-air laboratory to study the effects of global change.

These southern islands have been the scene of significant glacial retreat for more than 30 years and an increase of 1.3°C in the average annual temperature. They are ideal observatories of climate change, on the scale of the Indian and Southern Oceans but more generally of the entire southern hemisphere, and of its effects on biodiversity.

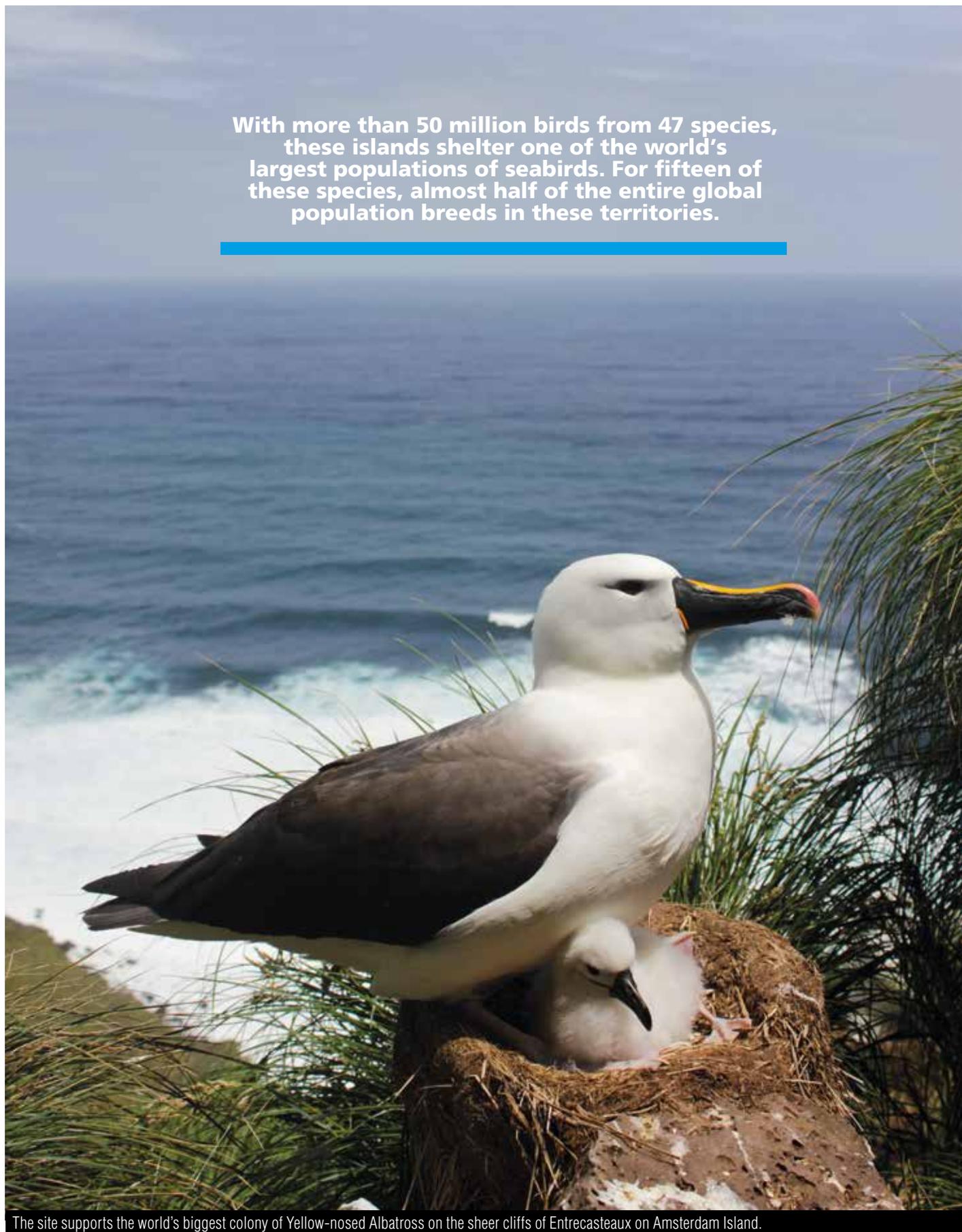
The demographic variables of most species of seabirds and pinnipeds have thus been recorded for several decades. The King Penguin, for example, is an effective bio-indicator of the health of sub-Antarctic ecosystems. The populations of the Crozet Archipelago are monitored on a regular and sustained basis. Scientists have thus shown that by 2100 the displacement of oceanic fronts could in certain places result in doubling the distance travelled by King Penguins to feed, which could then have a local impact on populations.

To preserve this exceptional but endangered nature, the Terres australes et antarctiques françaises (TAAF) authority, which oversees the property, has been implementing rigorous environmental management methods for more than ten years to ensure the site's integrity.

An apt protection and management tool: the French Austral Lands national nature reserve

The waters of the French Austral Lands and Seas form reservoirs of biodiversity that are home to endangered fauna. Among the main pressures on these areas are the

With more than 50 million birds from 47 species, these islands shelter one of the world's largest populations of seabirds. For fifteen of these species, almost half of the entire global population breeds in these territories.



The site supports the world's biggest colony of Yellow-nosed Albatross on the sheer cliffs of Entrecasteaux on Amsterdam Island.

© Jérémy Tornos



Kerguelen islands are home to the second largest population of Elephant Seals in the world.

© Raimund Andree from Pixabay

risk of biological invasions, by-catches and accidental catches associated with fishing activities, and various forms of pollution.

The French State's determination to protect these natural environments and preserve biodiversity in the long term led to the creation in 2006 of the French Austral Lands national nature reserve, which represents the highest level of environmental protection in French regulations. In 2016, the perimeter of the protected area was extended to its marine part and now covers an area of nearly 673,000 km², slightly larger than mainland France. Moreover, since March 2017, all environmental regulations and governance of the nature reserve are applicable to all exclusive economic zones, covering more than 1.66 million km² (perimeter of protection around the nature reserve).

The nature reserve implements a proven and recognized management system, based on a ten-year target document, or management plan. The implementation of strict biosecurity measures to limit the risk of biological invasions on the territory and the drastic reduction of bird mortality linked to long-line fishing for Patagonian toothfish

represent concrete actions that show the nature reserve's resolve to adopt a long-term approach to preserving biodiversity.

The quality of the nature reserve's management was recognized at the international level in 2018 with the award of the IUCN Green List label, which brings together the best-managed natural areas on the planet. The inscription of the French Austral Lands and Seas on the World Heritage List thus confirms the exemplary nature of this management model and reinforces the legitimacy and value of the conservation approach so far implemented. It means a recognition of the importance of strong protection to preserve ecosystems and their functions from all major human pressure.

International commitment

Since 2019, the French Austral Lands and Seas have joined the network of sites in the sub-Antarctic zone inscribed on the World Heritage List: Heard and MacDonal and later Macquarie Islands in Australia, the United Kingdom's Gough and Inaccessible Islands and New Zealand's Sub-Antarctic Islands.

As one of the largest marine protected areas in the world, the French Austral Lands and Seas contribute to the health of the world's oceans. Due to their oceanographic and biological characteristics, the waters of the French Austral Lands and Seas have a very high primary productivity, allowing the sequestration of large quantities of carbon while producing oxygen. The immense maritime domain of the property also contributes to the long-term ecological sustainability of these marine ecosystems. It allows the renewal of the pelagic (open sea) fish species, bird species and marine mammals that feed there.

Beyond the international recognition of the property's universal value, the inscription of the French Austral Lands and Seas on the World Heritage List illustrates France's commitment to the international community to preserve this remarkable biodiversity. By ensuring exemplary management of the site, France is positioning itself as a key player in the implementation of the upcoming Post-2020 Global Biodiversity Framework for protected areas. 

Dja Faunal Reserve

A natural treasure with diverse social representations

Aimé Epana Manfred, Country Director of the African Wildlife Foundation, Cameroon

Gilbert Oum Ndjock, Curator of the Dja Faunal Reserve, Cameroon

View of the Baka pygmy village, Dja Faunal Reserve (Cameroon).

© Homi Cosmicos





The Dja Reserve is one of Africa's most species-rich rainforests. It includes the habitat of numerous remarkable animal and plant species, many of which are globally threatened.

©UNESCO

The Dja Faunal Reserve is the only protected area in Cameroon with triple status: wildlife reserve, Biosphere Reserve and World Heritage site. These three designations make Dja unique and subject it to the requirements of the Man and Biosphere Programme (MAB) and the World Heritage Convention.

Identified as early as 1950 as the Dja Wildlife and Hunting Reserve by the Cameroonian government, it was recognized by UNESCO in 1981 as a Biosphere Reserve and in 1987 as a World Heritage site. Today, the Dja Faunal Reserve (526,004 ha) is the largest of Cameroon's protected areas and is also part of the Tri-national Dja-Odzala-Minkébé (TRIDOM) landscape between Cameroon, Congo and Gabon in the dense and humid forests of the Congo Basin.

The evolution in its status testifies to the interest the public authorities and international community have shown in this protected area, due to its exceptional riches and the multifaceted benefits expected from its sustainable management.

The Dja: Biosphere Reserve and World Heritage site

For the local and indigenous communities, the Dja Faunal Reserve is 'the forest that God gave them to take from it all they need to live'. Its rich ecosystem and biodiversity provide vital services for people, including food, clean air and water, temperature regulation and carbon storage. The WDN inventory lists 109 species of mammals in 10 orders and 34 families, 360 species of birds and 62 species of fish, as well as a species of bat (*epomops buettikoferi*) identified for the first time on the site. In addition, it has 270 species of trees in 52 families and 187 genera, and a high carbon sequestration and storage capacity of approximately 209.97 t/ha.

This great biodiversity has major potential for ecotourism. In addition to the natural wealth (rocky outcrops, clearings, salt marshes and the Dja River, which surrounds more than 80 per cent of the reserve), there are local Bantu and Baka communities that are the bearers of a millenary culture, with knowledge that benefits conservation.

The UNESCO biosphere reserves are models of good sustainable development practices. Aiming to reconcile humans and nature and to achieve integrated land management, they are divided into three interdependent zones, a classification making it possible, in principle, to satisfy the needs of all of the site's stakeholders. The core zone (in this case, the Reserve) is strictly protected, while the surrounding buffer zone is used for activities compatible with environmentally sustainable practices that can enhance research, training and education. Finally, in the transition zone, economic development activities that respect the human rights and needs of indigenous peoples are allowed.

The Dja Reserve was inscribed on the World Heritage List in 1987. At the time of the property's inscription, several thousand people lived on the periphery of the reserve, where they carried out various economic activities, mainly in agriculture and timber extraction. It is therefore essential to establish a link between the two designations, Biosphere Reserve



At the time of World Heritage listing in 1987, 90% of the area was considered intact and human pressure was low.

©UNESCO

and World Heritage site, to improve their integrated management.

Importance of dual designations to develop an integrated development plan

From the 2000s on, Cameroon, like most countries in the Congo Basin, embarked on economic emergence programmes characterized by the development of transport and energy production infrastructures, the establishment of agro-industries and the development of mines, in addition to the logging already under way. Long before this period, the fall in commodity prices (cocoa and coffee) had already affected the populations living in the Reserve by drastically reducing their main source of income. The threat was so great that at the 36th session of the World Heritage Committee in 2012, consideration was given to inscribing the Dja Faunal Reserve on the List of World Heritage in Danger, subject to action by the State Party.

From 2013 to 2019, between the Committee's 37th and 43rd sessions, the

State Party and its partners worked together to follow up on the committee's various recommendations and to prevent the site's inscription on the Danger List. Specifically, the State Party was asked to review the mining exploration permits; suspend the mining work of GEOVIC until the company carried out an environmental and social impact assessment to meet international standards, before any exploitation of the site began; define, in consultation with the company Sud Hévéa Cameroun, the measures to be taken to prevent, reduce and compensate for the negative effects of the rubber tree exploitation project on the Outstanding Universal Value (OUV) of the property; suspend the Mekin Dam construction work until appropriate measures to mitigate the direct and indirect impacts on the property's OUV were submitted to the World Heritage Centre for consideration by IUCN; and finally, create a buffer zone around the property, in which only activities compatible with the conservation of its OUV would be allowed.

In parallel, in order to meet the requirements for Biosphere Reserve

designation, and as part of the updating of the development plan, multiple discussions have taken place to define the zoning of the reserve and its peripheral zones, which is a priority in the implementation of the said plan.

Several contributions – the funds made available by the Central Africa World Heritage Forest Initiative (CAWHFI) for activities implemented since 2016 by the African Wildlife Foundation (AWF) and the Zoological Society of London (ZSL), with funding from the European Union through the Central African Forest Ecosystem Programme (ECOFAC VI) from 2017 onwards; the various field missions, in particular that of the reactive monitoring of the WHC in 2015; and the mission of the CAWHFI project in March 2018, as well as UNESCO's advisory missions and those of the consultants – have been important for supporting the State Party's search for solutions, and for creating platforms for exchange with the various local stakeholders, such as the Dja Forum of actors (see box on p.35).



The Reserve has a population of Baka pygmies who live in a relatively traditional manner and confer a recognized cultural value to the site.

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Dja actors' Forum for consultation between local actors and mobilization of partners

To take into account the contributions of all site stakeholders to meet the World Heritage Committee's requirements, a structured decision-making mechanism at the level of the Reserve has been set up by the different actors (public, private, civil society, local communities and donors) under the leadership of the AWF. The mechanism allows for the careful and organized analysis of natural resource management decisions. It provides decision-makers (government and the Committee) with an overview of how their objectives can be met through technical and practical measures. This has taken form in the field through the creation of a Dja actors' Forum. At the rate of two sessions per year since 2016, six sessions have already brought together the site's actors.

The mechanism facilitated joint elaboration of the Reserve's budgeted work plan by all actors, in order to pool resources, avoid duplication and promote

In addition to the natural wealth (rocky outcrops, clearings, salt marshes and the Dja River, which surrounds more than 80 per cent of the reserve), there are local Bantu and Baka communities that are the bearers of a millenary culture, with knowledge that benefits conservation.

complementarity. It enabled them to participate in elaborating the development plan and the strategic environmental and social impact assessment. The various stakeholders were also able to share information on the Mekin hydroelectric dam project and the Sud Hévéa Cameroun company's hevea plantation project. Finally, the mechanism facilitated the inclusion of human rights issues in the development plan, regarding the implementation of conservation activities.

Local communities bring added value to Reserve resources

Local communities need to see the Dja Faunal Reserve as an opportunity and not as a restriction. Creating a local economy

around the site through the development of value chains for non-timber forest products (NTFP) and agroforestry products is an option developed since 2013 by the AWF and the NGO Tropical Forest and Rural Development. It has brought about a positive transformation in community life.

The Dja Faunal Reserve offers a wide range of NTFPs that are known to local communities but remain under-exploited or even sometimes untapped. The valorization of NTFPs by women in the Reserve starts with good techniques for collection in the forest and drying at the village to ensure the quality of the final product. A second transformation produces virgin oils or butters, and a third one the beauty creams and massage balms used by women in the



Dja Faunal Reserve belongs to the forest block considered to be the largest in Africa for the maintenance of biological diversity.

© L. Pavan



Almost completely surrounded by the Dja River, which forms a natural boundary, the reserve is especially noted for its biodiversity and a wide variety of primates.

© L. Pavan

Reserve, Cameroon and around the world. After using these virgin creams and oils, the ECOFAC VI communications officer remarked that the Reserve is giving women the beauty of nature!

Experts agree that product quality and market demand are key elements to help develop a local economy on the periphery of the Dja Faunal Reserve.

The Dja Faunal Reserve in the face of modernity

Given the private sector's growing interest in the resources on its periphery, the site is clearly undergoing a period of change. The support of the WHC provides assurance that the criteria leading to the inscription of the property on the World Heritage List will be preserved. The State Party and its partners will need to keep the frameworks for exchange and dialogue operational and implement the development plan for the period 2020-2025. The connectivity of migration corridors for large mammals should be a priority, in order to ensure gene exchange. Scaling up the local development model (land-use plan, agroforestry, NTFP development, community mobilization, inclusive finance and community vigilance committee), as implemented in the Dja's northern loop, will help ensure that the large fauna migration corridors continue to function. 🌿

Better care for forest sites in Central Africa

The conservation, sustainable exploitation and management of forest sites in Central Africa, especially in Cameroon, Congo, Gabon and the Central African Republic, have since 2002 benefited from the activities of the Central Africa World Heritage Forest Initiative (CAWHFI). Implemented by the World Heritage Centre, CAWHFI aims to strengthen the management of protected areas while improving their integration within the region's various ecological landscapes. Using the World Heritage Convention as a tool to boost international cooperation in cultural and natural heritage conservation in Central Africa, it has achieved major success, for example the inscription of the Tri-national de la

Sangha (TNS) in July 2012 on the World Heritage List. The TNS property was the first transboundary tripartite nature site to receive this international recognition.

Between 2016 and 2020, funding from the European Union enabled CAWHFI to intensify monitoring in an area of more than 225,000 km² that encompasses three World Heritage sites (Dja Faunal Reserve in Cameroon, Ecosystem and Relict Cultural Landscape of Lopé-Okanda in Gabon and Tri-national de la Sangha in Cameroon, Central African Republic and Congo). The measures included increasing anti-poaching patrols (more than 3,500 patrols and 300,000 km travelled), introducing innovative technologies (SMART, trap cameras, drones

and remote sensing, for example) and training more than 350 eco-guards.

CAWHFI's support has also improved site management by rehabilitating infrastructure, promoting ecotourism, involving and training local communities (more than 3,000 people) and updating/producing wildlife inventories (including elephants, gorillas and chimpanzees). In addition, CAWHFI provided technical support to the Congolese and Gabonese authorities to prepare nomination dossiers for two more forest sites, Odzala-Kokoua and Ivindo National Parks.

Tales Carvalho Resende
UNESCO World Heritage Centre

UNESCO and biodiversity:

Creating harmony

Dr. Shamila Nair-Bedouelle
Assistant Director-General for Natural Sciences

Volcanoes of Kamchatka (Russian Federation) contain great species diversity, including the world's largest known variety of salmonoid fish and exceptional concentrations of sea otter, brown bear and Stellar's sea eagle.

© JDecokon from Pixabay





Toucan at Tikal National Park (Guatemala). The World Heritage site is one of the core areas of the larger Maya Biosphere Reserve.

© Anthony-X

Biodiversity is the living fabric of our planet. It underpins human well-being in the present and in the future, and its rapid decline threatens nature and people alike. According to the first intergovernmental global biodiversity report released in 2019 by the Intergovernmental Science-Policy Platform on Biodiversity and Ecosystem Services (IPBES), the main global drivers of biodiversity loss are climate change, invasive species, overexploitation of natural resources, pollution and urbanization. Both direct drivers and indirect ones such as social values and behaviours need to be addressed at the same time to halt biodiversity erosion.

Biodiversity loss implies the reduction and disappearance of species and genetic diversity and the degradation of ecosystems. It jeopardizes nature's vital contributions to humanity, endangering economies, livelihoods, food security, cultural diversity and quality of life, and constitutes a major threat to global peace and security. Biodiversity loss also disproportionately affects the most vulnerable, exacerbating inequality.

To halt or reverse this decline, it is vital to transform people's roles and actions and their relationships with biodiversity. This transformation has already begun with the commitment of the international community to the 17 Sustainable Development Goals (SDGs) of Agenda 2030. This global and holistic framework highlights the complex interconnections and interdependencies between society, biodiversity and sustainable development. It recognizes that human behaviour, values and choices shape people's interactions with biodiversity, all of which have a direct impact on our collective future on the planet.

Conserving and using biodiversity sustainably

UNESCO works on the conservation of biodiversity, restoration and the sustainable use of its components through UNESCO-designated sites, including Biosphere Reserves, World Heritage sites and UNESCO Global Geoparks. In 2019, UNESCO-designated sites protected over 10 million km², an area equivalent in size to China. These conservation instruments apply policies and strategies that aim to preserve and restore these sites, while supporting the broader objectives of sustainable development.

Biosphere Reserves – the key example of UNESCO's specific efforts to support biodiversity – are designated under UNESCO's Man and the Biosphere (MAB) Programme. They promote solutions reconciling the conservation and restoration of biodiversity with its sustainable use at local and regional scales. As of March 2020, the World Network of Biosphere Reserves (WNBR) consisted of 701 Biosphere Reserves in 124 countries, including 21 transboundary sites. This dynamic and interactive network of sites fosters the harmonious integration of people and nature for sustainable development through participatory dialogue, knowledge sharing, poverty reduction, human well-being improvements, respect for cultural values and efforts to improve society's ability to cope with climate change. Progress has been achieved in connecting landscapes and protected areas through biosphere reserves; however, further efforts are needed.

Designation and management of protected areas form the cornerstone of biodiversity conservation. Yet despite an increase in the total number of protected areas in the world, biodiversity continues to decline.



The Tassili n'Ajjer (Algeria) World Heritage site makes up most of the Biosphere Reserve core area.

© Raimund Andree

Connectivity

Many protected areas are not functioning as effectively as originally intended, due in part to limited resources to maintain these areas and/or enforce relevant legal frameworks. In addition, current protected area networks may need to be realigned to account for climate change. Efforts to preserve biodiversity must take into account not only the physical environment, but also social and economic systems that are well connected to biodiversity and ecosystem services. For protected areas to contribute effectively to a secure future for biodiversity, there is a need for measures to enhance the representativeness of networks, and to improve management effectiveness.

UNESCO's unique network of Biosphere Reserves, which builds on more than 50 years' experience from protection to integrated management of connected landscapes and seascapes, demonstrates that it is already possible to live in harmony with nature. Good practices – described below – can inspire to reconnect beyond the boundaries of protected areas to empower all sectors of societies, including youth.

Restore the relationships between people and nature

There is a crucial need to transform and rebuild positive relationships to link and connect humans with nature and biodiversity. This strategy includes restoring degraded ecosystems building on scientific, local and indigenous knowledge. It also implies building on principles respecting life, shared values of trust, solidarity, respect for diversity, and creating value for the long term.

Conserve the harmony of our ecosystems

The UNESCO-designated sites show how we can conserve and sustainably use key ecosystems in the planet by mobilizing the knowledge and know-how of committed and dedicated citizens and partners.

Amplify the power of youth

UNESCO, through its intergovernmental programmes, provides universal access to scientific and technological knowledge in order to create possibilities and share solutions to empower youth in the spirit of intergenerational equity. Through our networks of sites, experts, UNESCO Chairs and Centres, and associated schools, UNESCO is the custodian of knowledge and know-how, championing the respect for life and biodiversity.

UNESCO's role is to valorize and enhance the connections between humans and nature, to encourage harmonious interactions with biodiversity. In our programmes and in our sites, UNESCO supports human activities that are compatible with other living beings and that empower future generations to benefit from all the potential and possibilities of life. It is together that we will succeed in finding purpose in the planetary crises that we are going through; it is together that we can build and create a world based on respectful, sustainable connections with the living world and reconciled with its humanity; it is together we can protect Mother Earth, our living heritage. 🌍



The Azores, designated UNESCO world cultural heritage and Biosphere Reserves due to their extremely important contributions to humanity and example of sustainable development, boast five centuries of rich Atlantic culture, nurtured in a warm and hospitable human environment.



The city of Angra do Heroísmo, twice the capital of Portugal, took on an important role since it was the first European Atlantic city, developed in order to broaden the country's horizons during the Age of Discovery. In 1983, it was recognized as a UNESCO World Heritage site, taking into consideration the city's construction around its bay and especially its contribution to the discovery of the New World. It is directly and tangibly associated with a development of universal historic significance, the maritime exploration that allowed exchanges between the world's great civilizations.

The Landscape of the Pico Island Vineyard Culture was also recognized as a World Heritage site, in 2004, an outstanding example of the adaptation of farming practices to a remote and challenging environment.

Vines were, and continue to be, planted within the small and soilless plots (locally called currais), extensive system of small fields, as well as the buildings (manor houses, wine cellars, warehouses, conventional houses, and churches), pathways and wells, ports and ramps, managed under a regime designed to ensure economic viability and sustainability as well as to retain traditional farming techniques.

The heritage of the Azores sends us back in time, in memory and in history, and has always left its mark on the Azorean people.



Forum

World Heritage offers an exclusive interview with Jane Goodall, renowned primatologist, anthropologist. Dr Jane Goodall draws from her 60 years of experience in the biosphere reserve of Gombe Masito Ugalla to advocate for the protection of great apes and the conservation of their habitats, as well as for local solutions to tackle global challenges. She founded a network, 'Roots & Shoots', that links teachers and students all over the world to work together on positive change in communities, for animals and the environment. Around Gombe, Roots & Shoots undertake conservation education and awareness projects in 130 primary and 29 secondary schools in the area.

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Gombe Masito Ugalla Biosphere Reserve (United Republic of Tanzania).

© cjetta

Dr Jane Goodall, DBE, Founder of the Jane Goodall Institute, UN Messenger of Peace

World Heritage:

World Heritage sites are the most precious places on this planet. Through the Convention, their importance is recognized by almost all national governments. However, despite their commitments under the Convention, governments continue to prioritize short-term economic operations like mining, dam building or coal production – even if these operations have an impact on natural World Heritage sites. What is your message to state signatories to the Convention on this issue?

Jane Goodall (JG): The World Heritage Convention is one of the most important mechanisms through which outstanding sites – both cultural and natural – are identified with the intention of protecting them for future generations. World Heritage sites are intrinsically linked both to humankind, in all its expressions of cultural diversity, and to the millions of species which make up the tapestry of life on our planet. When we lose any of these exceptional sites, we lose a part of our planet's and our own history.

Science has clearly demonstrated that the present climate crisis has been caused by human activities. Our reckless use of fossil fuels has been a major contributor to the greenhouse gases that have had a devastating impact on life on earth, pushing many species to the brink of extinction. I am continually shocked that we humans, the most intelligent beings ever to live on Planet Earth, are destroying our only home. It is, of course, because governments, businesses and certain heedless individuals continually place more importance on economic development than on the protection of the environment. Shockingly, this means we are disregarding the needs of future generations. Our devastating actions are affecting life on Earth on an unprecedented scale and, if this continues unchecked, it will lead to the extinction of most species, including our own. Already we are witnessing the devastating effects of the climate crisis all over the world.

WH: Natural World Heritage sites, and Biosphere Reserves, are unique places created with the aim of respecting and protecting the natural world. As long as they themselves are respected, they provide valuable opportunities for governments to demonstrate international cooperation in protecting these areas for future generations. Thus, we note with increasing concern the state of conservation of some of them, particularly sites listed as 'in danger'. How can we achieve a sustainable and responsible balance between conservation and human needs?

JG: There will always be challenges to overcome when establishing and maintaining these sites because local communities may resent the fact that people seem to feel that nature is more important than their welfare. However, such challenges can and should be overcome.



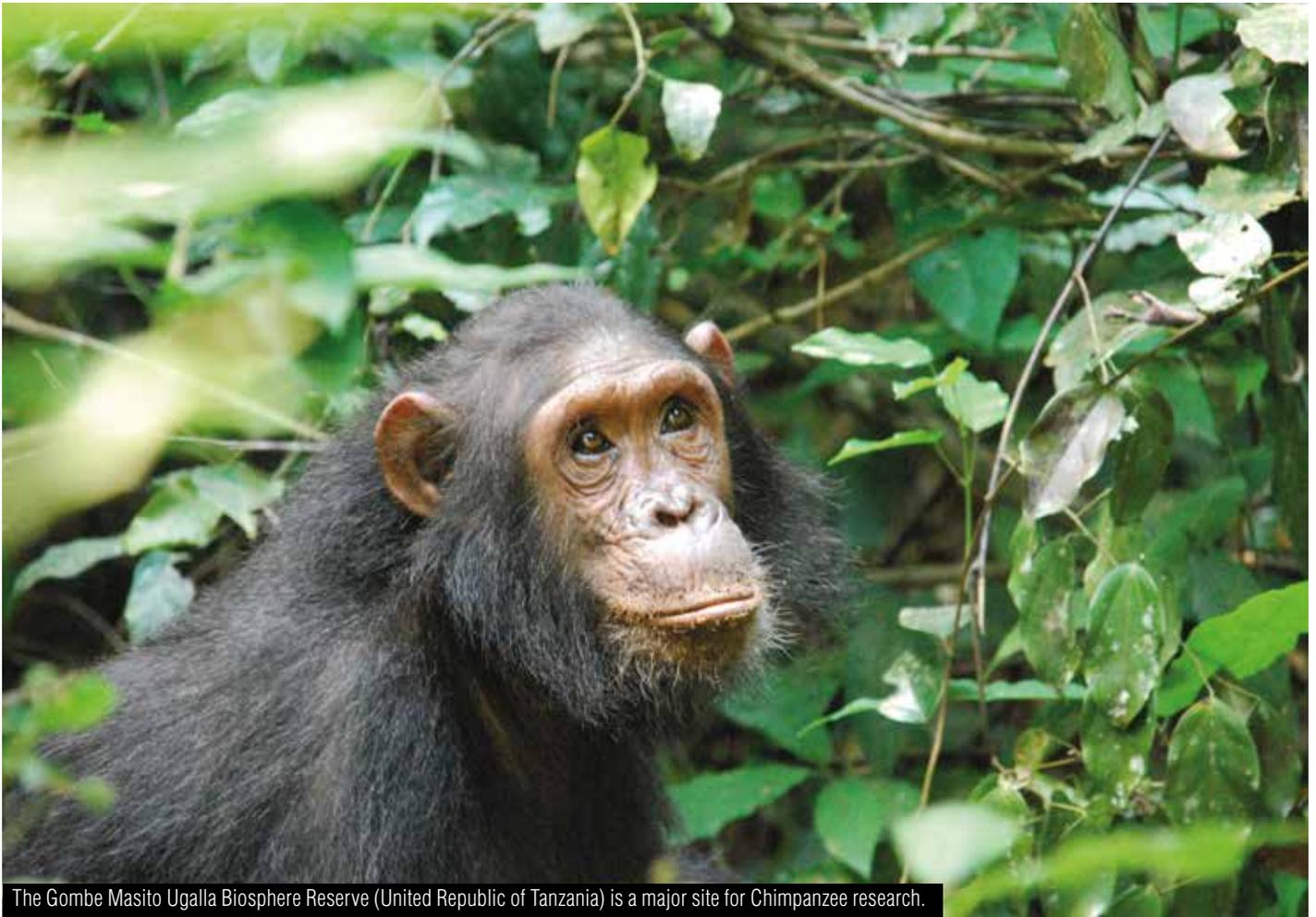
Jane Goodall.

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Let me share the experience of the Jane Goodall Institute (JGI) in this respect. When I began my research, Gombe (United Republic of Tanzania) was part of the forest belt stretching across equatorial Africa to the west African coast. In 1990, however, I was shocked to look down on a tiny island of forest surrounded by bare hills. There were clearly more people living there than the land could support. The farmland was overused and infertile. The only trees were in the really steep ravines, where even desperate people couldn't try to farm. The villagers were struggling to survive.

That's when it hit me: if we can't help these people find ways of making a living without destroying the environment, how can we hope to save the chimpanzees? And that led to the creation of the JGI programme we call TACARE (take care). This is our method of community-based conservation. It began with a small European Union grant to work with the twelve villages closest to Gombe. It was not a question of arrogant white people going to a poor African village and saying how we would help them. Instead, a small, handpicked team of local Tanzanians went into the villages and asked them what they felt we could do to improve their lives.

George Strunden, who headed up this programme, was wise. He did not talk about conserving chimpanzees. Why would the local people care about apes when their own lives were so hard? They were interested in growing more food, and in having better health care and education for their children. We introduced ways



The Gombe Masito Ugalla Biosphere Reserve (United Republic of Tanzania) is a major site for Chimpanzee research.

© Roland

to restore fertility to the overused farmland (without chemicals), and worked with local Tanzanian authorities to improve clinics and schools. We helped them establish woodlots of fast-growing species in the centre of the village, reducing the need to raid the forests for firewood, and introduced fuel-efficient stoves. As the local community came to trust us, we were also able to introduce water management programmes.

A key intervention was the introduction of microcredit opportunities, based on Muhammad Yunus's Grameen Bank, so that people could apply for very small sums of money for environmentally sustainable projects. This approach has become very successful, and the rate of return is around 90 per cent. We provide as many scholarships as we can, so that girls can stay in school during and past puberty. This often, in turn, involves the building of private, hygienic latrines and the providing of sanitary pads. In addition, we have workshops where local people can learn about family planning. All around the world, as women's education improves, family size tends to level off.

We have introduced our environmental and humanitarian programme for young people – Roots & Shoots – into the schools and helped to develop conservation curricula, as it is essential that young people become better stewards of the planet than we have been. And yet another component of TACARE was the introduction

of GIS and satellite imagery. This enabled villagers to make their land use management plans, as required by the government. They set land aside to form a buffer around Gombe, and also to form forest corridors linking scattered chimpanzee communities.

TACARE now operates in 104 villages throughout the Gombe Masito Ugalla Ecosystem which, in 2018, became a Biosphere Reserve. Voluntary village forest monitors attend workshops to learn how to use smart phones. They go into their forest reserves and record illegal activities, and also signs of chimpanzee presence, leopard pawprints, pangolin activity and so forth. This is very important as most of Tanzania's remaining 2,000 or so chimpanzees are living, unprotected, in these village forests. All information gathered is uploaded directly to the cloud.

Local village communities now understand that protecting the forest means protecting their own futures, as well as those of other species. They understand that they need the forests to provide clean water and air, to prevent soil erosion on the steep slopes, and to regulate the rainfall. They have become our partners in conservation, and we have provided them with the tools to make it work. Our TACARE approach is now being replicated in Uganda, Burundi, the Republic of the Congo, the Democratic Republic of the Congo, Senegal, Guinea and Mali.

WH: At present, huge numbers of young people are mobilizing to protect the future of our planet and address climate change. However, the planet is experiencing a double environmental crisis, not only climate change but also the biggest loss in biodiversity recorded since humans appeared on Earth. Through your Roots & Shoots programme, you have always focused on inspiring younger generations. How can we more effectively mobilize young people for World Heritage conservation?

JG: Planet Earth is indeed facing multiple threats, all of which are interconnected and linked to human activity. Over the past few years more and more people around the world have become aware of this – yet too few have been taking action. This is at least in part because they feel helpless. What can one person do?

Thus, as I travelled around the world, I found many young people – high school and university students in particular – who seemed to have lost hope. They were mostly apathetic, not seeming to care, but some were deeply depressed, some angry. They told me that we had compromised their future and there was nothing they could do about it. We have indeed compromised their future. Ralph Waldo Emerson once said that we do not inherit the Earth from our ancestors, but borrow it from our children. Alas, we have not been borrowing but stealing their future.

However, I told those young people that I believe there is a window of time during which, if we get together, we can start healing some of the harm we have done and at least slow down extinction of species and climate change. And so, in 1991, I began our Roots & Shoots programme.

It started with twelve high school students in Dar es Salaam, Tanzania who were worried about a variety of problems such as illegal dynamite fishing, street children, poaching in the national parks. I suggested they bring their friends who had similar concerns to a meeting. And there the movement was born. Its main message? Every individual matters and makes a difference every day.

We decided that each group would choose at least three projects to make the world a better place: one for people, one for animals, one for the environment. The theme throughout is the need to live in peace and harmony with nature and with each other: the importance of respecting people from other nations, other cultures and other religions, and understanding that whatever the colour of our skin, our language and our position in society, we are all human beings.

Roots & Shoots members choose projects they are passionate about, roll up their sleeves and take action. Today, Roots & Shoots is in more than 60 countries, with members from pre-school through to university. There are more than 7,000 groups – groups are usually whole classes, even whole schools, but sometimes made up of a number of passionate individuals. In addition, there are the Roots & Shoots alumni, many of whom are in responsible positions today and still committed to the values they acquired when they were members.

I am inspired by the energy, commitment and hard work of young people once they understand the problems and are empowered to work out solutions. Today as I travel around the globe, I am so very impressed by the differences all these young people are making.

Indeed, along with our amazing intellect and the resilience of nature, young people are my greatest reason for hope.

No one group can tackle all the planet's problems, and JGI seeks partnerships with other like-minded groups. How wonderful if we could forge a partnership between JGI, UNESCO and the World Heritage Convention throughout great ape range countries, with the goal of growing Roots & Shoots groups around World Heritage sites. This would foster understanding of the importance of protecting the environment for the future of communities as well as wildlife. Now would be a great time to do this, as during 2020 we celebrate the 60th anniversary of my arrival in Gombe.

WH: The World Heritage Convention protects several sites that are important for the conservation of great apes. Your research was the first to give insights into the behaviour of chimpanzees, and clearly showed how close they are to us, not only genetically but also in their emotions and their behaviour. However, today almost all great ape species are threatened. What can we do to protect them better, and how can the World Heritage Convention contribute to that?

JG: The World Heritage Convention, along with UNESCO, can enhance protection for great apes by helping governments to enforce existing laws and create more protected areas. There are more than 30 World Heritage sites and Biosphere Reserves in 23 countries in Africa and Asia and, where they are present, the great apes should be thriving in these locations. Sadly, this is not always the case.

The great apes – chimpanzees, bonobos, gorillas and orangutans – are the closest living relatives to humans, especially chimpanzees and bonobos with whom we share 98.6 per cent of the composition of our DNA. Even at Gombe where we have been observing chimpanzees since 1960, without interruption, we are still learning more about them, and we are also discovering more and more cultural differences between communities in different study sites across Africa. How tragic if we allow them to become extinct. Yet sadly, all are included in the IUCN Red List as Endangered or Critically Endangered Species.

The greatest threat to the great apes (and countless other species of plant and animal) is the destruction of their forest habitats. We are losing the equivalent of a football pitch of rainforest per minute globally as a result of the extractive industries – logging, mining and oil and gas operations. In Asia there is also the proliferation of oil palm plantations – a threat also faced by Africa and South America. Forests are also endangered by the billions of animals raised for meat in factory farms: vast areas of habitat are cleared to grow grain to feed them. Herds of cattle and goats are also destroying forests in Africa and South America.

Governments, conservation organizations, researchers, corporations and financial institutions need to find urgent solutions for the huge problems great apes face. The World Heritage Convention is uniquely placed to bring together all concerned stakeholders to discuss the best possible options to preserve our closest living relatives before it is too late. 🌱



The Tropical Rainforest Heritage of Sumatra (Indonesia) is home to the critically endangered Sumatran orangutan.

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Our promise to future generations: a world living in harmony with nature



Jane Smart
 Global Director, Biodiversity Conservation Group
 International Union for Conservation of Nature (IUCN), www.iucn.org

The new decade marks an unprecedented time for the conservation community, and indeed the whole world. New targets for safeguarding nature, our planet’s life-support system, will be determined through the development of the Post-2020 Global Biodiversity Framework. What we do in the next ten to twenty years will undoubtedly set the course of humanity and the planet for generations to come.

The time is now to take bold action all over the world to secure a safe future for humankind and all life on Earth – and for the World Heritage Convention to demonstrate its crucial role in achieving this ambition.

In the lead-up to the next UN Biodiversity Conference, the World Heritage Committee will take decisions on necessary action to protect sites facing threats and to add new globally exceptional sites to the World Heritage List. This will provide an opportunity to position World Heritage as a key instrument for biodiversity conservation, contributing to achieving the priorities in the Post-2020 framework being negotiated under the Convention on Biological Diversity (CBD).

We can no longer hide from the fact that nature is declining globally at rates unprecedented in human history. The recent IPBES Global Biodiversity Assessment stresses that the health of ecosystems ‘on which we and all other species depend is deteriorating more rapidly than ever. We are eroding the very foundations of our economies, livelihoods, food security, health and quality of life worldwide.’

In an increasingly complex global context, we must accept responsibility for this nature emergency and act decisively to ensure we pass on a rich natural heritage to future generations. The conservation of all components of biodiversity – genes, species and ecosystems – and across all



The Okavango Delta (Botswana) is home to some of the world’s most endangered species of large mammal, such as the cheetah, white rhinoceros, black rhinoceros, African wild dog and lion.

© Christo Ras

realms – land, freshwater and ocean – is imperative to secure the planet’s life-supporting ‘safety net’.

Leadership role of World Heritage sites

Protected areas and other conserved areas are a key tool for reaching global conservation objectives but natural World Heritage sites, in particular, have a leadership role to play in the conservation movement. These exceptional sites are internationally recognized as the very best of nature, and offer world-class examples of successful conservation practice and sustainable development.

The World Heritage Convention is in a unique position to help realize the ‘transformative change’ that is cited by

the IPBES Assessment as vital to secure a better future for our planet. It is one of the oldest and most successful multilateral environmental agreements, and the only one to connect nature and culture through the powerful concept of heritage. As such, it presents an approach to biodiversity conservation that embraces the indivisible connections between humans and their natural landscape.

Recognizing and nurturing this nature-culture interconnection is key to inspire action commensurate with the challenge we face. World Heritage sites instil a great sense of pride and belonging and can drive individual and societal behavioural change. Consider for instance Pimachiowin Aki in Canada, which was inscribed as a mixed site in 2018 thanks to the Anishinaabe



A sunset in the community of Poplar River, part of the World Heritage site of Pimachiowin Aki (Canada).

© ALX18673

First Nations, who showed tremendous leadership and commitment to protecting their ancestral lands. Remember the Okavango Delta in Botswana: its inscription as the 1,000th World Heritage site in 2014 was strongly endorsed by the San People, who see this natural heritage as inseparable from their culture, identities, and spiritual and economic well-being. Think also of the Manas Wildlife Sanctuary in India, where training programmes have helped former poachers become committed to conservation and who now support programmes to save the very species they once coveted. Such examples exist the world over.

Not only are these sites globally important for the iconic species and healthy ecosystems they host; they also have the great power to inspire people across generations to engage in the protection of this common heritage. The World Heritage Convention holds in its heart a commitment to transmitting to future generations the world's irreplaceable natural and cultural sites, ensuring they will never be lost. Our

ability to honour this commitment will be a litmus test of our capacity to achieve the global vision of sustainability: 'Living in Harmony with Nature'.

Natural World Heritage sites cover huge areas of land, freshwater and sea: about eight per cent of the global protected area estate. Large, intact ecosystems are proven to provide essential regulating services for the planet and benefits for people. They help to buffer natural hazards and are critical for combating climate change by storing and sequestering huge carbon stocks.

These exceptional sites also foster international cooperation through transnational and transboundary areas. As they strive to demonstrate the best level of management, they promote equity and social cohesion, even in regions of conflict and complex emergency situations.

The World Heritage Outlook

World Heritage has many facets and offers us many lessons. It reaches out to people from the site level to the community level, from the national level and the global

policy level, from one culture to another and from one generation to the next.

To support the unique role of World Heritage in demonstrating excellence, IUCN has developed the IUCN World Heritage Outlook – the first global assessment of natural World Heritage sites. Created in 2014 and updated in 2017, it assesses every natural site with World Heritage status and tracks changes in their conservation prospects over time. It thus recognizes good conservation practice and identifies the actions needed to improve the conservation outlook of sites facing threats.

IUCN has joined the call to 'bend the curve of biodiversity loss'. To achieve this we must secure the effective protection and management of all natural World Heritage sites; this will be a litmus test for society worldwide in the face of growing global challenges. The IUCN World Heritage Outlook helps determine the condition of natural World Heritage sites, and to anticipate what needs to be done to ensure their full protection and optimize their contribution to human well-being.

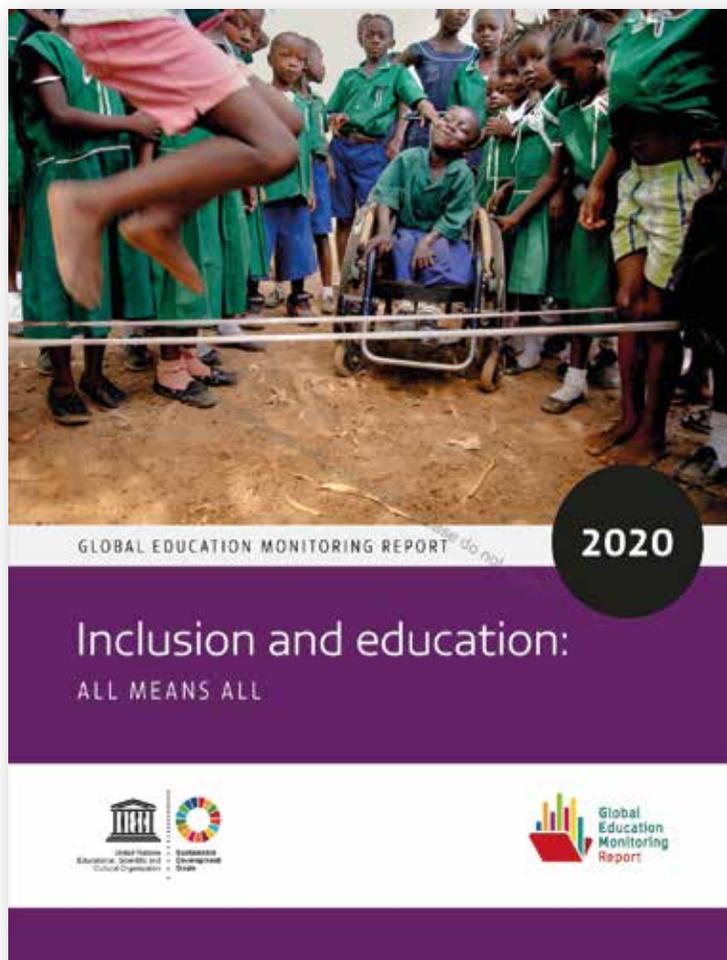


United Nations
Educational, Scientific and
Cultural Organization

UNESCO Publishing

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Global Education Monitoring Report 2020 Inclusion and education: All means all



- The 2020 Global Education Monitoring Report looks at social, economic and cultural mechanisms that discriminate against disadvantaged children, youth and adults, keeping them out of education or marginalized in it.
- Spurred by their commitment to fulfil the right to inclusive education, countries are expanding their vision of inclusion in education to put diversity at the core of their systems. Yet implementation of well-meaning laws and policies often falters.
- Released at the start of the decade of action to 2030, and in the middle of the Covid-19 crisis, which has exacerbated underlying inequalities, the Report argues that resistance to addressing every learner's needs is a real threat to achieving global education targets.

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News

Huge fires are blazing through the Pantanal, threatening the highly valuable ecosystem and numerous endangered species. The Rapid Response Facility, a joint initiative of UNESCO and Fauna and Flora International (FFI), is supporting firefighters' activity in the Pantanal Biosphere Reserve to prevent fires from spreading into the Pantanal Conservation Area World Heritage site.

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Located in western central Brazil at the south-west corner of the State of Mato Grosso, the Pantanal Conservation Area represents 1.3% of Brazil's Pantanal region, one of the world's largest freshwater wetland ecosystems.

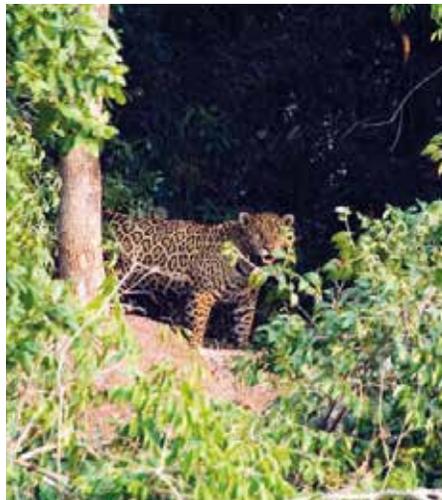
Boosting firefighting to limit destruction in Brazil's Pantanal

Huge fires are blazing through the Pantanal, threatening the highly valuable ecosystem and numerous endangered species. The Rapid Response Facility, a joint initiative of UNESCO and Fauna and Flora International (FFI), is supporting firefighters' activity in the Pantanal Biosphere Reserve to prevent fires from spreading into the Pantanal Conservation Area World Heritage site.

The Pantanal region is the largest tropical wetland in the world, located mostly within Brazil, but also extending into Bolivia and Paraguay. The Pantanal Conservation Area natural World Heritage site, part of the larger Pantanal Biosphere Reserve, covers a vast section of the Brazilian Pantanal having exceptional ecological importance. These areas protect numerous threatened species, such as a significant jaguar population, the giant armadillo, giant anteater, giant otter, marsh deer and hyacinth macaw, the largest species of parrot.

Fires of unprecedented magnitude are currently burning in the Pantanal Biosphere Reserve and are threatening to spread into the Pantanal Conservation Area World Heritage site. A poor rainy season in 2019 caused the Paraguay River to drop to its lowest level in 50 years. Lack of rain, accompanied by an ongoing state of low humidity and high temperatures, has resulted in devastating fires, with an estimated 1.6 million ha affected. Strong winds and the location of active fires mean the site is in acute danger. This presents an existential threat to forest biodiversity, with animals that cannot move quickly – caimans, snakes and tapirs, for example – at particular risk.

Several governmental and non-governmental institutions collaborate to manage fires in the Pantanal, but resources are insufficient for this level of disaster. RRF has therefore provided US\$37,745 to Instituto Homem Pantaneiro, one of the



Jaguar coming out of the forest, Pantanal (Brazil).

© M & G Therin-Weise

key organizations working to preserve the Pantanal biome. Funds will strengthen firefighting teams on the ground by providing innovative equipment, such as high-pressure floating pumps developed for irrigation and for fighting forest fires. These are highly efficient and particularly suitable in the local context as they can move around on the waterways, accessing hard to reach areas. The use of aircraft to fight fires from the sky will reinforce these efforts. The main partners providing funding to the project are the Brazilian Federal Government, the Mato Grosso (MT) State Government and the National System for the Prevention and Fighting of Forest Fires (PREVFOGO) of the Brazilian Institute of Environment and Renewable Natural Resources (IBAMA). Other relevant partners are UNESCO Brazil, Brazilian Network of Biosphere Reserves and the Pantanal Biosphere Reserve. Besides safeguarding this special ecosystem, quick action will help to protect the houses and boats of riverside dwellers, including members of the indigenous Guató ethnic group.

This RRF grant will not only support the vital work of Instituto Homem Pantaneiro to fight the inferno raging in the Pantanal, it will also build long-term local capacity to deal with future fires – an important legacy as the climate changes and extreme weather events are likely to become more common.

UNESCO thanks Fondation Franz Weber, Arcadia, Fondation Iris and the Government of Norway for their support of the RRF.

Experts call for inclusive and regenerative tourism to 'build back stronger' post-COVID-19

A global strategy is needed at this 'watershed' moment to steer away from unsustainable tourism, experts at a UNESCO debate stressed.

The online debate 'Culture, Tourism and COVID-19: Recovery, Resiliency and Rejuvenation' held on 28 September highlighted the devastating impact of COVID-19 on the tourism industry and its crippling effect on many World Heritage sites, intangible cultural heritage practices, cultural activities and institutions, as well as on their communities. Moderated by Mechtild Rössler, Director of the UNESCO World Heritage Centre, the panel called for a shift towards quality tourism that regenerates destinations and provides economic, social and environmental benefits, while not losing sight of global challenges such as climate change.

The debate was organized by UNESCO in collaboration with the International Union for Conservation of Nature (IUCN), the International Council on Monuments and Sites (ICOMOS) and the International Centre for the Study of the Preservation and Restoration of Cultural Property (ICCROM).

'It is key that tourism and culture professionals work in partnership along with other sectors through this crisis,' said Ernesto Ottone R., UNESCO's Assistant Director-General for Culture, in his opening remarks. 'We must ensure that cultural tourism is geared towards a path of resilience and sustainability and continues to make an important contribution to the Sustainable Development Goals.'

From overtourism to 'undertourism'

Before the COVID-19 crisis, tourism was a major economic sector, employing 1 in 10 people around the world. In 2019, 1.5 billion people crossed international borders, providing a key source of income for many developing countries. Panelists discussed how



Screen capture of online debate participants.

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a resilient and sustainable tourism recovery that supports communities, creates jobs, promotes culture and protects heritage and its transmission. To achieve this, the panelists agreed that an inclusive approach would be key. 'When people are excluded, they destroy. When they are included, they protect,' said Sisa Ntshona, CEO of South African Tourism.

The debate also discussed the importance of providing the travelling public with the tools to make informed, responsible travel choices. The panelists agreed on the private sector's responsibility to sensitize travellers to the social and environmental issues of the destinations they are visiting. 'It is the narratives and stories that draw people to a destination, and it is our job as tour operators and travel promoters to work with local communities to tell these stories,' said Katherine Cheng, head of Global Corporate Social Responsibility & Community Relations at Expedia Group. Ms Cheng also highlighted how the online travel agency is promoting its sustainable tourism pillars through its partnership with UNESCO on the Sustainable Tourism Pledge.

This was the first debate organized within the framework of the new Task Force on Culture and Resilient Tourism, established in response to the COVID-19 crisis by UNESCO and the Advisory Bodies to the 1972 World Heritage Convention (IUCN, ICOMOS and ICCROM).

The debate can be viewed on YouTube in French and English.

this exponential growth of tourism created challenges for a number of World Heritage properties and protected areas, where carrying capacities were not established and 'overtourism' was displacing communities and diminishing goods and services. 'Tourism was underperforming, highly vulnerable and heading towards a breakdown,' said Anna Pollock, founder of Conscious Travel.

In the first half of 2020, international tourist arrivals dropped by 65 per cent due to the COVID-19 crisis, representing a loss of about US\$460 billion in export revenues, according to UNWTO. The drop in tourism revenue has cut off important income streams for the conservation and maintenance of World Heritage properties.

In Petra, Jordan, the regional authority had been working on strategies to manage the one million visitors a year it was receiving. Since closing to visitors in March 2020, the property is now struggling to protect jobs and revive its local economy, according to Suleiman Farajat, the Chief Commissioner of the Petra Regional Authority. While reports have portrayed wildlife thriving due to the lack of tourism, poaching has increased in protected areas due to the absence of rangers and tourists, according to IUCN.

Defining a strategy for change

The debate further explored how the current downturn in global travel can be used to develop new models and approaches for



Visitors at the Palace and Park of Versailles (France).

© EPV / Christian Millet

UNESCO condemns the murder of two guards at Okapi Wildlife Reserve

The Director-General of UNESCO Audrey Azoulay strongly condemned the murder of two employees of the Congolese Institute for the Conservation of Nature (ICCN) on 17 September 2020. The attack occurred at the Adusa post of the entrance to the Okapi Wildlife Reserve, a property inscribed on the UNESCO World Heritage List in the Democratic Republic of Congo.

'In a global context already weakened by a health crisis linked to COVID-19, these facts recall the recent tragic events that claimed the lives of staff members of Virunga National Park,' said Ms Azoulay. 'I address our condolences to the families of the victims. I salute the dedication of the Congolese Institute for the Conservation of Nature (ICCN) guards, who ensure on a daily basis, and too often at great risk to their lives, the safeguarding of World Heritage sites. Thanks to the support of the Government of Norway, UNESCO is contributing up to US\$300,000 over the 2020-2021 period to the efforts of ICCN and its partners for the mitigation of conflicts in the Okapi Wildlife Reserve.'

The deterioration of the security situation in this region is alarming and in recent years has resulted in an increase of armed attacks

against ICCN staff working in the parks. The staff have nevertheless bravely continued to carry out their mission, protecting the local populations and securing these areas dedicated to the conservation of outstanding biodiversity.

The Okapi Wildlife Reserve has been inscribed on the World Heritage List since 1996 for its exceptional biodiversity and numerous endemic and threatened species, including one-sixth of the existing okapi population. The Reserve protects one-fifth of the Ituri Forest, a Pleistocene refuge dominated by dense evergreen Mbau and humid semi-evergreen forests, combined with swamp forests that grow alongside the waterways, clearings called locally edos, and inselbergs.



Okapi Wildlife Reserve (Democratic Republic of the Congo).

© Eric Loddé

Five Eastern African countries receive #SOSAfricanHeritage grants to promote COVID-19 resilience

Thanks to the German Commission's support of UNESCO's #SOSAfricanHeritage Fund, seven World Heritage sites from five Eastern African countries have received grants to help withstand the COVID-19 pandemic's disruptive impact on management and conservation.

The recipients are Simien National Park in Ethiopia; Sacred Mijikenda Kaya Forests and Mount Kenya National Park/Natural Forest in Kenya; Tsingy de Bemaraha Strict Nature Reserve and Bélo sur Mer Kirindy-Mite Biosphere Reserve in Madagascar; Vallée de Mai Nature Reserve in the Seychelles; and Kilimanjaro National Park in Tanzania.

The #SOSAfricanHeritage Fund invited UNESCO World Heritage sites and UNESCO Biosphere Reserves in Africa to submit proposals for funds to counteract the damage caused by the COVID-19 pandemic. The German Commission for UNESCO received 72 applications requesting 1.6 million euros in support by the deadline,



Mount Kenya National Park/Natural Forest (Kenya).

© IUCN/Roger Porter

and was able to grant funding to 22 projects for a total of more than 500,000 euros to promote resilience against the COVID-19 pandemic in the Africa region.

The short-term financial and technical support from #SOSAfricanHeritage will help maintain independent and sustainable organizational structures at these UNESCO-designated sites with the participation of civil society. The projects are also encouraged to ensure access to spaces dedicated to global citizenship education, sustainability and cultural diversity.

'I would like to express our sincere gratitude to the German Commission for UNESCO for this generous and timely support for the Africa region. With this targeted financial assistance, we are confident that beneficiaries will be empowered to strengthen the involvement of local stakeholders and enhance the resilience of World Heritage sites during the COVID-19 pandemic,' said Ann Therese Ndong-Jatta, Director and Representative of the UNESCO Regional Office for Eastern Africa.



Tsingy de Bemaraha Strict Nature Reserve (Madagascar).

© Michael Sale



Operational Guidelines for the implementation of the World Heritage Convention (in Arabic)

Published by UNESCO
Available in English, French and Arabic
Free pdf at

<https://whc.unesco.org/en/guidelines/>

The Operational Guidelines for the Implementation of the World Heritage Convention, which set forth the procedures for the protection and conservation of World Heritage properties, were revised in 2019 by the World Heritage Committee at its 43rd session (Baku, Azerbaijan) to reflect new concepts, knowledge and experience. This version has now been translated into Arabic thanks to the financial support of the Arab Regional Centre for World Heritage (ARC-WH) in Bahrain. It will allow site managers and a wide audience in the Arab region to be aware of the updated guidelines in the field of World Heritage.

Heritage Building Information Modelling for Implementing UNESCO Procedures Challenges, Potentialities, and Issues

Ahmad Hamed Baik
Published by Routledge
English only
<https://www.taylorfrancis.com/books/9781003036548>

The main aim of this book is to develop and explore the value of new innovative digital content to help satisfy UNESCO's World Heritage nomination file requirements. Through a detailed exploration of two Building Information Modeling (BIM) case studies from Jeddah, Saudi Arabia, the book uniquely connects the use of Heritage BIM to the documentation methods used by UNESCO and demonstrates how this provides a contribution to both countries with heritage sites and UNESCO as an organization. This book is useful for researchers and practitioners in the areas of heritage conservation, archaeology, World Heritage nomination, HBIM, digital technology and engineering, remote sensing, laser scanning and architectural technology.



Asia Conserved IV Lessons Learned from the UNESCO Asia-Pacific Awards for Cultural Heritage Conservation (2015-2019)

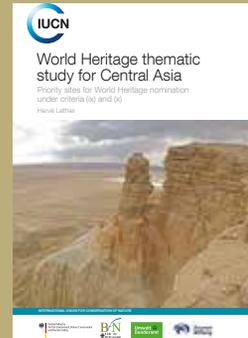
Published by UNESCO, UNESCO Bangkok and Nanjing Southeast University Press
English only
<https://bangkok.unesco.org/content/asia-conserved-series>

This fourth volume in the Asia Conserved series showcases projects that were recognized by UNESCO's Asia-Pacific Awards for Culture Heritage conservation between 2015 and 2019. This programme acknowledges achievements in heritage conservation by the private sector and by public-private initiatives. The featured projects consist of a wide variety of buildings and sites, ranging from fountains to schools, temples and villages. Commentaries by jury members and reflections from selected winners explain how the projects illustrate excellence in heritage practice, as outlined by UNESCO's competency framework for heritage management in the region.

Plant Biology for Cultural Heritage: Biodeterioration and Conservation

Giulia Caneva, Maria Pia Nugari and Ornella Salvadori
Published by Getty Conservation Institute
English only
http://www.getty.edu/conservation/publications_resources/books/plant_biology_cultural_heritage.html

This book brings together wide-ranging scientific contributions from the field of plant biology relating to the biodeterioration and conservation of art, architecture and archaeological sites around the world. *Plant Biology for Cultural Heritage* presents the work of dozens of scientists who have studied problems presented by the biological degradation of cultural heritage, tackling both general topics (mechanisms of biodeterioration; correlation between biodeterioration and environment; and destructive organisms) and specific ones (problems presented by different materials; various environmental and climatic conditions; and diverse geographic settings). The book also discusses solutions for the prevention and control of deterioration, including appropriate diagnostic techniques.



Chemins de Saint-Jacques-de-Compostelle en France (Routes of Santiago de Compostela in France)

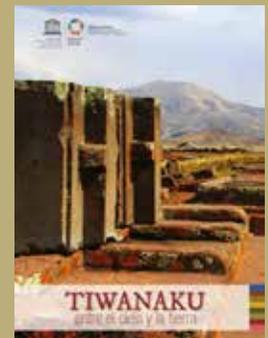
Co-published by l'Agence des chemins de Compostelle and photographer Jean-Jacques Gelbart
French only
To order: aline.azalbert@chemins-compostelle.com

On the occasion of the 20th anniversary of the inscription of the Routes of Santiago de Compostela in France on the World Heritage List, the Routes of Santiago Agency and the photographer Jean-Jacques Gelbart have created a book to highlight the beauty and uniqueness of this World Heritage property. Rich in stunning photographs, the book presents the history of the Routes of Santiago de Compostela and their cultural recognition by UNESCO, as well as each component of the property.

World Heritage thematic study for Central Asia

Published by International Union for Conservation of Nature (IUCN)
English only
Free pdf at: <https://portals.iucn.org/library/sites/library/files/documents/2020-003-En.pdf>

The World Heritage thematic study for Central Asia has been produced to help support the World Heritage Convention's implementation in Central Asia. It provides a response to a World Heritage Committee decision requesting IUCN to update the 2005 World Heritage thematic study for Central Asia. The aim is to identify outstanding areas with potential for future nomination to the World Heritage List with primary focus on two criteria, (ix) and (x), at the regional scale. Criterion (ix) refers to sites that are 'outstanding examples representing significant on-going ecological and biological processes in the evolution and development of terrestrial, fresh water, coastal and marine ecosystems and communities of plants and animals.' Criterion (x) covers sites containing 'the most important and significant natural habitats for in-situ conservation of biological diversity, including those containing threatened species of outstanding universal value from the point of view of science or conservation'. Nine sites and areas are identified as having high potential for nomination under these biodiversity criteria, in combination with other World Heritage natural criteria.



Potential Biophysical Climate Change Impacts at World Natural Heritage Sites in the Brazilian Atlantic Forest

Published by Springer, Cham
English only
https://link.springer.com/chapter/10.1007/978-3-030-37425-9_49

Of all the UNESCO natural World Heritage sites around the world, two in the Brazilian Atlantic Forest raise serious concern: Atlantic Forest South-East Reserves and Discovery Coast Atlantic Forest Reserves. Climate change poses a very grave threat to these reserves, as fragmented forests are believed to be particularly vulnerable to the expected impacts of climate change such as erosion and reduced water availability. This paper presents an analysis of the potential biophysical climate change impacts on these sites. An impact model was built using climate variables and climate extremes from two regional climate models available for Brazil, and simulations were made using two different greenhouse gases emission scenarios and two timeframe windows. The research analysed erosion, soil water availability and occurrence of phytophysionomies. Critical areas in the reserves were identified as priorities in the national climate adaptation strategy.

Tiwanaku: entre el cielo y la tierra (Tiwanaku: between heaven and earth)

Published by UNESCO
Written by José Ignacio Gallego Revilla and Maria Eugenia Ferez Gonzalez
Spanish only

Inscribed on the World Heritage List in 2000, the site Tiwanaku: Spiritual and Political Centre of the Tiwanaku Culture includes the city of Tiwanaku, capital of a powerful pre-Hispanic empire that dominated a large area of the southern Andes and beyond, reaching its apogee between 500 and 900 CE. Its monumental remains testify to the cultural and political significance of this civilization, distinct from any of the other pre-Hispanic empires of the Americas. This publication is a result of the Preservation and Conservation of Tiwanaku and the Akapana Pyramid project. It was financed by the Japanese Funds-in-Trust for the Safeguarding of the World Cultural Heritage and implemented by the UNESCO Office in Quito and Representation for Bolivia, Colombia, Ecuador and Venezuela, in coordination with the Latin America and the Caribbean Unit of the World Heritage Centre.

8 November 2020

Santagata Foundation Award
UNESCO Headquarters
Information: <https://whc.unesco.org>

10 to 11 December 2020

15th Meeting of the Committee for the Protection of Cultural Heritage in the Event of Armed Conflict
UNESCO Headquarters
Information: <http://www.unesco.org>

4 to 19 December 2020

15th session of the Intergovernmental Committee for the Safeguarding of the Intangible Cultural Heritage
UNESCO Headquarters
Information: <https://ich.unesco.org/en/15com>

14 to 16 December 2020

Online Training of Trainers (ToT) on the Underwater Cultural Heritage Management for Sustainable Development in the Arab States
Alexandria, Egypt
Information: <http://www.unesco.org>

23 to 25 March 2021

22nd Session of the Intergovernmental Committee for Promoting the Return of Cultural Property to its Countries of Origin or its Restitution in case of Illicit Appropriation
UNESCO Headquarters
Information: <http://www.unesco.org>

18 to 21 May 2021

2020 Annual Conference of the International Association for Impact Assessment (IAIA)
Seville, Spain
Information: <https://conferences.iaia.org/2020/index.php>

3 to 10 September 2021

IUCN World Conservation Congress
Marseille, France
Information: <https://www.iucncongress2020.org/>

Date to be determined

44th session of the World Heritage Committee
Information: <https://whc.unesco.org/en/sessions/44com>

Date to be determined

Convention on Biological Diversity (COP 15)
Information: <https://www.cbd.int/meetings/COP-15>

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Plitvice Lakes National Park

The oldest and largest national park in the Republic of Croatia was inscribed on the UNESCO World Heritage List in 1979. Almost 2 million visitors from all over the world visit it annually, mostly due to the extraordinary beauty of the area.

Plitvice Lakes National Park is the oldest protected area in the Republic of Croatia, designated since 8th of April 1949. In 1979, the Plitvice Lakes National Park was inscribed on the UNESCO World Heritage List. Its Outstanding Universal Value (OUV) has been recognized in the extraordinary beauty of the area and in significant geological, biological and ecological processes, of which the most important is the process of tufa formation. Interaction of water, air, geological foundations and organisms, coupled with specific physico-chemical and biological conditions, enables the formation of tufa barriers that have created a series of lakes and waterfalls thus dividing the river valley.

The entire area of the Park is a Natura 2000 site. Biological diversity in the Park is reflected in its abundant flora with over 1,400 vascular species of plants as well as a rich fauna of invertebrates and vertebrates, including three large European carnivores: brown bear (*Ursus arctos*), wolf (*Canis lupus*) and lynx (*Lynx lynx*). There are also various types of habitats in the forest, grassland and freshwater ecosystems.

The most prominent surface water phenomena in the Plitvice Lakes National Park are cascades of lakes of various sizes. The system consists of 16 larger named lakes and a number of smaller unnamed ones. By the latest calculations, using a digital elevation model and aerial shots, it has been determined that there are 90 lakes of different sizes in total! The lake system is divided into the Upper Lakes and the Lower Lakes. The Upper Lakes consist of 12 lakes dominant in space and volume, formed on dolomites, with wider, indented shores. The remaining four lakes form the Lower Lakes, situated in limestone canyon with steep shores.

This mosaic of lakes is connected by waterfalls into a unique water system. Nature has played here with water and created waterfalls of the most magnificent shapes, heights and forms. The highest waterfall in the Plitvice Lakes National Park, and in the Republic of Croatia, is the Veliki Slap, 87m high. In addition, there are 6 more waterfalls higher than 20m in the lake system and 20 waterfalls higher than 10m.

This living lake system is subject to constant change, in history and present time, largely thanks to the dynamics of growth and erosion of tufa barriers.





World Heritage Volunteers project in Bahrain.

© Jérémie Jung

In Focus: World Heritage and People

The World Heritage Convention is a unique legal instrument, protecting both cultural and natural sites. It has a broad reach, but it is only effective because of the people who implement it: site managers, local communities, young people, city authorities, heritage experts...the list goes on.

Part of UNESCO's role is bringing these people together and supporting the work they do. In this issue, we will meet people around the world who are taking action to protect and preserve World Heritage sites for all of us. 🌐



HEO Jinyee, public relations and KI Jin-seok, World Heritage researcher at Jeju Volcanic Island and Lava Tubes (Republic of Korea).



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