CLIMATE CHANGE
Financing nature-based solutions

PLASTIC OCEANS
Tackling a 21st Century scourge

PLUS news on IUCN’s other marine, coastal and polar activities from around the globe
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Humanity’s relationship and cultural heritage with the ocean is deeply anchored - from the air that we breathe to the food that we eat to the planet we live on - it is our life support system. It distributes heat from the equator to the poles, plays a crucial role in the carbon cycle and climate regulation, and carries 90% of the world’s traded goods. Our ocean economy is worth trillions; we urgently need to protect our assets sustainably for future generations. In return, healthy and resilient marine and coastal ecosystems will protect us.

But the pressure on marine biodiversity is on. The exploitation of living marine resources and threats to marine ecosystems have never been higher. We are faced with cumulative impacts, which are amplified by climate change. The double crisis of climate change impacts (ocean warming, ocean acidification and ocean deoxygenation - the deadly trio) and biodiversity loss have already caused long-term negative impacts on people and biodiversity.

The coronavirus pandemic is adding further complexity to the problem. At the same time, the Pandemic provides us with an opportunity to rethink, refocus and reconnect. The need to connect nature and people has never been greater. Let's just hope that this will be the great realisation so that the world we return to is better than the one we left behind.

In addition to long-standing traditional uses of the ocean, new opportunities are now being sought at sea. A new blue economy is emerging and world leaders are looking to marine industries as a saviour for further growth, while saving our planet.

Where are the gaps?

Weak legal and policy frameworks continue to fail good governance of marine resources, especially in the high seas and for novel (human-built) ecosystems. Despite a growing base of evidence and knowledge, we are still faced with insufficient scientific knowledge of ocean ecosystems. This is especially the case for deep-sea ecosystems, their links to climate change, as well as how this uncertainty will affect people and nature. The UN Decade of Ocean Science will seek to fill this gap.

Tools, frameworks, and other mechanisms exist, but new technologies and innovations will need to be deployed and financed if we are to safeguard and restore degraded marine and coastal ecosystems. Best practices are lacking for the development of economic sectors, signalling potentially significant negative impacts on marine and coastal environments.

What are the high-level interventions needed?

We must invest our minds, concrete efforts and investments into global transformational change. The ocean needs our care. The global community, from political leaders, scientists, businesses, philanthropists, and on to citizens, need to unite for a sustainable ocean.

The world is calling for a post-2020 agenda with ambitious targets adequately addressing marine biodiversity. Better governance of marine habitats and resources, especially in areas beyond national jurisdiction, through a future-proofed internationally legally binding agreement under UNCLOS, while ensuring that existing treaties and conventions are ratified and implemented.

A global network of marine protected areas (MPAs), coupled with effective and dynamic management mechanisms, is being called for. Best practice guidelines and standards for marine economic actors applying the precautionary principle are required to protect our common heritage.

In addition to Closing the Plastic Gap (reducing leakage and addressing the plastic legacy) - we also need to close the ocean finance gap through financing and insurance, account for marine assets and natural capital and ensure equitable benefit sharing.

We cannot simply rely on the work we have been conducting as part of the ocean conservation enterprise up to now to deliver the impacts we need in the future. We have fallen way behind in adequately protecting our ocean. The next decade will therefore be crucial for the future of marine biodiversity on the planet. In order for natural systems to persist, significant or transformational change in many of our approaches to nature is urgently needed.

During the difficulties endured during the Pandemic, the ocean has given immediate notice of its resilience: among other examples, sea turtles have been hatching in greater numbers and marine life visibly thriving in harbours and ports after long and marine-based noise pollution have diminished. In the time of COVID-19 and the challenges that will follow, we are all in the same storm but not necessarily in the same boat. The Coronavirus will take a heavy toll on economic sectors, but the conservation sector is resilient. It will continue to be resilient if, like the traditional fishers that I have encountered, when faced with bad weather, we don’t just sit and wait at the shore for the storm to pass.

I’d like to thank all ocean heroes, members, special advisers and donors. Together we are a powerful Union, well equipped to deliver maximum efforts to achieve transformational change in the relationship between people and nature in a post-2020 and post-COVID world.

I look forward to taking on these challenges together with you in my new role.

Happy reading!
Marine plastics, oceans & climate change, coastal resilience, mangrove restoration, blue natural capital, high seas governance and ocean risk: these are the main focal areas for the Kingdom of Sweden’s support to IUCN’s marine and coastal work to date and for ongoing projects into the future. This valuable source of support has moved forward understanding on a number of complex environmental issues in terms of both the science and the policy tools for addressing environmental threats, especially in a developing country context.

Marine plastics
Through the SIDA-supported MARPLASTICCS project, IUCN is equipping governments, industry and society with knowledge, capacity and policy options as part of a plan of action to control and reduce plastic pollution. The project, which kicked off in late 2017, is focusing its effort on 8 countries in Asia and East & Southern Africa: South Africa, Mozambique, Kenya, Thailand and Viet Nam. The project is engaging the private sector and has developed a plastic footprint calculator and plastic waste mismanagement index that allows business to evaluate the environmental benefits and costs of plastic use. See page 15 for more information.

Mozambique Coastal Resilience
Launched in June 2018, the Mozambique Coastal Resilience to Climate Change Initiative is a four-year initiative that aims to strengthen and restore the value of coastal and marine ecosystem goods and services to improve social, economic and ecological resilience to climate change. The Initiative is deploying nature-based and other innovative solutions to deliver practical solutions to improve livelihoods and provide upstream benefits. In the region, the project is implementing a range of activities from ecosystem restoration and management to enhancing coastal communities’ capacity to secure self-generating financial resources.

At IUCN Headquarters, the Global Marine and Polar Programme (GMPP) is focusing on innovative conservation finance mechanisms that aim to ensure longer-term investments in – and sustainability of – resilience and adaptation action. GMPP is bringing together technical expertise bridging coastal management and financial needs and opportunities. Jointly with the national and local stakeholders, we aim to target commercial opportunities and value creation in the coastal natural capital economy.

Supporting IUCN

Since its establishment in 1948, IUCN has become the global authority on the status of the natural world and the measures needed to safeguard it. IUCN’s new legacy gift options will help ensure IUCN keeps playing the essential role for years to come. If you are interested in learning more about planned giving to IUCN, please visit www.iucn.org/support for more information.

Oceans and Climate Change

The Swedish Ministry of Environment and Energy has supported IUCN’s work on oceans and climate change in six key areas:

Ocean Acidification - seeking regional solutions to this global ocean threat (see page 28)

Ocean Deoxygenation - building a knowledge base with leading scientists (see page 26)

Blue Natural Capital - financing nature-based solutions in tropical coastal regions, including a positive impacts framework, blue bonds and blue infrastructure finance (see page 8)

Ocean Risk - assessing likely scenarios resulting from cumulative impacts in the oceans and how best to address them (see page 28)

Blue Carbon - assessing and mapping the carbon sequestration potential of coastal ecosystems in Mozambique and Tanzania

Climate Change Species Adaptation (scientific study of the potential of coastal species, such as seagrass, to adapt to climate variations and lessons learned). May 2018 saw the launch of Ocean Connections, a report examining the impacts of rising ocean temperatures and other stressors, such as extreme weather events and harmful algal blooms, on the marine environment and human life, and their potential consequences for society. The report warns that a low carbon trajectory may not be feasible without action to extract CO2 from the atmosphere.

December 2019 saw the launch of the report Ocean Deoxygenation: Everyone’s problem; the most comprehensive study to date of ocean deoxygenation and the consequences for species and ecosystems, regionally and globally. The report launch was covered by the most prominent media outlets and generated over 540 media hits globally.

The introductory guides on Ocean Acidification produced under the project served as a useful support tool to the regional workshop on Ocean Acidification held in Colombia for the Latin America region. This event examined possible regional strategies to tackle the threat regionally, culminating in a regionally-endorsed Action Plan.

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Current thematic priorities

• Sustainable financing of blue natural capital, ecosystem protection and restoration
• Coastal ecosystem resilience
• Research & capacity building of local practitioners
• Foster a global network of marine protected areas
• Promote sustainable aquaculture and fish feed solutions

Main projects

• Luxembourg Blue Natural Capital Financing Facility: supporting the development of sound, investable blue natural capital projects with clear ecosystem service benefits, based on multiple income streams and appropriate risk-return profiles
• Mangrove restoration (BMZ/KfW): contributing to the existing global efforts to halt the decrease of mangrove habitats, up-scaling of successful protection and restoration measures and initiatives
• French government support for Marine Protected Areas and Sustainable Aquaculture solutions for developing countries

Current thematic priorities

Threats: Ocean warming, ocean acidification, marine plastics, deep sea mining, deoxygenation
Activities: Promote nature-based solutions to the challenges of climate change, disaster risk reduction & food security. “Science to governance” policy guidance, Review of ocean risks

Main projects

• Marine plastics (SIDA/SPL): Build knowledge, capacity, practical solutions and policy strategies for the problem of marine plastics in East Africa, Asia-Pacific, the Caribbean, Mediterranean, Atlantic and Baltic.
• Ocean Acidification (FPA2): Host a high-level scientific committee to deliver latest knowledge, to apply science to resource management issues globally and in regional contexts
• Blue carbon (Sweden MEES): Scope, facilitate & generate recognition of the role of blue carbon in countering climate change whilst delivering ecosystem services of critical importance

Current thematic priorities

• Support the design of a legally-binding Implementing Agreement for conservation & sustainable use of marine biodiversity and resources beyond national jurisdiction for international ratification
• Enhance the scientific knowledge of high seas, seamounts & ridge ecosystems to stimulate improved management

Main projects

• South West Indian Ocean project (FFEM): Conservation & sustainable exploitation of seamount & hydrothermal vent ecosystems of the South West Indian Ocean in areas beyond national jurisdiction. The project seeks to explore regional approaches to ocean governance
• Polar Conservation: Support designation of new protected areas in both polar regions using tools such as World Heritage
• Sargasso Sea Commission: Hosted & partnered by IUCN & pioneering an intergovernmental mechanism for the Sargasso Sea to keep its health, productivity & resilience under continual review

GMPP 2017-2020 programme highlights

Global Coasts

Global Threats

Global Commons
Joining Forces for Mangrove Conservation

Mangroves, an extraordinary and fascinating ecosystem, are crucial to tropical marine biodiversity and the wellbeing of millions of coastal dwellers. The remarkable traits of the mangrove ecosystem translate into a wide variety of goods and services that we benefit from.

Unfortunately, these important and fascinating ecosystems are under threat: 35% of their coverage has been lost between 1980 and 2000.

IUCN become a founding member of the Global Mangrove Alliance (GMA) and, with the RAMSAR secretariat, a focal point for the Community of Ocean Action (COA) on Mangroves under United Nations Sustainable Development Goal (SDG) 14.

Within the GMA, IUCN contributes to the Mangrove Knowledge Hub and global coordination of mangrove conservation with GMA members including The Nature Conservancy, Conservation International, WWF and Wetlands International. The Hub engages citizens and governments with general information on what we stand to lose without mangroves and information on projects from around the world. The individual initiatives of the founding and member organisations are fed into this Hub. Each contributes their specific approach and strengths to the overall goal. Improved communication and knowledge sharing will reduce overlap and improve synergies.

As a focal point for the COA on mangroves and maintaining oversight of the mangrove-related voluntary commitments, IUCN’s responsibilities are:

- To generate multiple stakeholder interest and engagement in the global mangrove community;
- To provide assessments and examples of progress made on voluntary commitments and encourage further commitments;
- To identify challenges and gaps to mangrove commitments and implementation;
- To collect expertise and channel Best Practice towards commitments;
- To contribute communication materials and experts to meetings and discussions.

IUCN is actively encouraging new voluntary commitments from the global community and for current partners with existing commitments to review and update their information. Part was done through a web-based platform to assess progress on these commitments and in September 2018, RAMSAR and IUCN convened the mangrove COA for the first time through a global webinar. During the webinar, an analysis of progress was shared and the gaps and challenges facing the COA, based on a members survey, communicated. Elsewhere, IUCN has also contributed to Mangrove conservation via our Mangroves For the Future initiative with UNDP and our partnership with WWF-Germany on the Save Our Mangroves Now Initiative.

Under SOMN! IUCN has already started addressing some of these gaps through two publications on mangrove investments and a legal review of global mangrove conservation respectively:

- Embedding a global goal for mangrove protection in political agendas. This is being realised through the Global Mangrove Alliance (GMA) and by raising awareness among political decision-makers on the importance of mangroves on a global scale.
- Apply and disseminate best practices in the Western Indian Ocean (WIO).

Identifying best practices, supporting regional networks and mainstreaming mangrove protection into national development plans in the WIO, for example by establishing mangrove partnerships between countries.

The first partnership on mangroves between Germany and Madagascar was announced at the UNFCCC-COP 23 in November 2018 in Bonn.

- Pool leading expertise and enhance knowledge sharing to support synergies and existing mangrove protection efforts.

Part of this includes addressing the current existing knowledge gaps through the elaboration of target-oriented studies.

This was the catalyst for a SOMN! coaching workshop in February 2020, (documentation forthcoming) in Tanzania. The Tanzanian Forest Service Agency (TFS) instructors from the Forestry Training Institute, near Arusha, and TFS’s field staff were invited to the in-depth mangrove restoration training, and in keeping with the holistic principle, local community associations and local NGOs were invited as well.

One of the cornerstone of SOMN!’s approach is to share knowledge to scale up proven approaches and a number of key partners helped prepare the workshop. The lead logistical partner, the Tanzanian Forestry Conservation Group (TFCG), coached trainees on community engagement and conflict management in mangrove conservation and habitat restoration. SOMN engaged Mangrove Action Project (MAP) to provide mangrove restoration training using its ‘Community-Based Ecological Mangrove Restoration’ CBEMR technique to the target groups.

Addressing the right people for the specialist work

In Kenya, 2018, local stakeholders (national agencies, NGOs and academia), during scoping workshops of mangrove best practice gaps in the Western Indian Ocean region, highlighted the important fact that many field-based forestry officials receive limited training on mangroves within their forestry college curriculums. Consequently, and unfortunately, general forestry management and silviculture approaches have been inappropriately applied to mangroves, mangrove restoration and the communities living around them.

Coastal Protection

- Erosion
- Flooding
- Storm damage

Water filtration

- Purifying water
- Flood control

Food sources

- Fishes
- Nuts
- Algae

Carbon sequestration

- Planting mangroves on 3.5 times higher than land-based trees

Tell us more

By raising awareness among political decision-makers on the importance of mangroves on a global scale.

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IUCN has pushed forward with its Blue Natural Capital Financing Facility to fund innovative and bankable projects supporting the conservation of biodiversity and ecosystem services. Backed by Luxembourg’s Ministry for Sustainable Development and Infrastructure and by the Total Foundation, BNCFF has been forging new partnerships and is screening projects to meet IUCN’s rigorous standards that combine environmental conservation with a viable business model. After receiving a large number of applications, the first three blue economy entrepreneurs have meanwhile secured support and implementation is under way.

IUCN’s Blue Natural Capital Financing Facility has been supporting sustainable blue economy activities

The need to attract private sector capital to protect our coasts has been gaining traction recently, underpinned by the G7 2018 summit in Charlevoix, Canada where leaders of the world’s largest economies committed to mobilize innovative finance to support coastal resilience.

Half of the world’s population lives within 100 km of the sea and rely in one form or another on the services provided by coastal ecosystems. Marine ecosystems provide protein rich food, shield against powerful waves caused by tropical storms and earthquakes, protect against soil erosion, store amounts of CO2 typically exceeding terrestrial ecosystems per area, and help to lower the effects of rising sea levels. To ensure that the benefits of this “Blue Natural Capital” are also available in the future, it is imperative that the financial sector participates in their protection.

The BNCFF was set up to facilitate blended finance arrangements, which involve the engagement of the financial sector in projects that are both financially viable and environmentally beneficial. This holistic approach helps to develop a strong local economy while maximising blue natural capital, thereby increasing the resiliency of both coastal ecosystems and communities.

In addition to supporting projects and businesses on the ground, the BNCFF is also pushing conceptual knowledge boundaries. Jointly with partners and funded by the Swedish Ministry of the Environment and Energy, it has published a number of papers. The “Blue Natural Capital Positive Impacts Framework” defines Key-Performance Indicators of sound coastal projects. The work “BNC Positive Impacts and Blue Bonds” sheds light on the emerging blue bonds market. The practicality of this framework was tested on real world projects and adapted in response to them.

The latest publication “Blue Infrastructure Finance” advocates for a more holistic approach to coastal infrastructure development that sees Nature-based Solutions as an integral part of smart engineering designs.

www.bluenaturalcapital.org/supported-projects/
Global Coasts

ensuring high stakeholder participation via direct or indirect peer-reviewed article on Pathways for implementation of Other work completed by IUCN and partners include a work.
not, and thereby outlines strategies for further blue carbon policy design and implementation cases from – can find hands-on, up-to-date information about blue carbon practitioners – whether engaged in policy development, policymaking, or policy application. The document offers critical access to finance to support blue carbon efforts.

Second, the research team of IUCN and SCA also assembled a Toolkit – September 2019 in and workshops and events were held at the UNFCCC COP 25. IUCN also advises the International Partnership on Blue Carbon, on issues including policy and governance, as well as sustainable finance. In September 2018, more than 60 participants from the International Partnership for Blue Carbon met in Suva, Fiji, discuss the value of coastal ecosystems to the Pacific region, improving the availability of data and accelerating access to finance to support blue carbon efforts. Financed by the European Life Programme (Life BlueNature), IUCN in partnership with regional governments, agencies, scientific institutions and non-governmental organisation, is developing an ambitious and innovative initiative in Spain (Andalusian region) to lay the foundations for blue carbon projects in the Mediterranean and European region. For more information, please contact donalthe.hern@iucn.org.

The Blue Carbon Initiative (BCI) is a global project funded by the German Environment Ministry (BMU), implemented by GIZ, IUCN, GRIG-Andal and UN Environment. It provides a global platform to catalyse, share and generate knowledge and builds capacity for sustainable management and equitable governance of our blue planet. The project marks its seven-year milestone in 2020.

A core activity of Blue Solutions has been the identification and promotion of specific individual success stories – or “blue solutions” – from all around the world and from a wide range of “solution providers”. Marine and coastal practitioners are connected for mutual learning from such proven successes, channeling further attention and support for successful solutions and ultimately supporting their broader application. The sophisticated “solution” case study format focuses specifically on lessons learned and replicable “building blocks”.

This approach has laid the foundation for what has meanwhile grown into a multi-thematic, multi-partner initiative: PANOARMA – “Marine and Coastal Thematic Community”, in which IUCN and GIZ have taken a leading role. Blue Solutions coordinates PANOARMA’s “Marine and coastal” thematic community, and the associated web platform PANOARMA web platform now features 192 solution cases. An in-depth analysis of these cases provided invaluable insights into common factors of successful projects. It showed that there is not one single recipe for success, but many different options that need to be custom tailored to each particular context, but that for example building blocks relating to “Communication, Outreach and Awareness” are part of most solutions, i.e., a key determinant of successful marine conservation projects and initiatives.

Over the past seven years, Blue Solutions organized three large-scale learning events, or “Regional Forums”, for Africa, the Caribbean and Latin America, as well as Asia and the Pacific. Each of these events brought together around 100 marine and coastal practitioners, conservation planners and policy makers to discuss the lessons learned from successful projects and examine how solutions might be applied more widely within countries and regions.

IUCN has been focusing in particular on identifying and promoting successful approaches in marine protected and conserved area management and governance, for example through "Blue Solutions" case study format focuses on lessons learned and replicable “building blocks”.

Replication of existing solutions has been actively facilitated, for example through an initiative at BMU – a smartphone application that caters for small-scale fisheries. The app was initially developed for marine fisheries in South Africa, but is now being introduced to the Nile perch fishery at Lake Victoria.

Blue Solutions has also provided capacity development through open-source training modules which have been developed on a variety of issues. The training materials are accessible to any interested institution and a pool of trainers has been gradually built up over time. The courses have already been implemented in over a dozen countries and regions, and the hope is that a network of institutions might be created with the knowledge and skills to continue the training courses long after the end of the initial initiative.

Fortunately, the project continues until at least 2021 with a renewed commitment and funding by BMU. This final phase of Blue Solutions will focus on supporting uptake processes in a targeted manner, working closely with selected partner countries and regions. The project partners will apply Blue Solutions tools, trainings and case studies in a customized manner to support ongoing sustainable ocean planning and management processes.
Marine protected areas (MPAs) are laboratories that help us to understand trends for future ocean health. Corsica’s MPAs, thanks to their unique characteristics, their nature reserves and the importance of their fishing grounds, can help us learn more about the likely impacts of rising sea levels, ocean warming, acidification, and extreme weather events.

Due to its many natural insular areas and to limited human impact, Corsica has the potential to be a region with a positive carbon footprint. However, its geographical position means it is on the frontline facing the challenges of climate change. It is, in fact, in one of the regions that is most vulnerable to rising air temperatures and evapotranspiration, as well as to declines in precipitation and soil moisture (Rhône, Mediterranean and Corsica Water Agency). Resultant declines in ecosystem diversity, together with climate-induced changes in food chain structure, will have an adverse effect on ecosystem services (e.g. fisheries resources and protection against erosion).

The effects of climate change are far-reaching for the island. Pressure on water resources will lead to higher prices, resulting in local economic consequences as well as impacting tourism. Also, Corsica’s main natural landmarks, the Posidonia platform reef, Lithophyllum pavement and coralligenous atolls are at risk of disappearing.

The “Alien Corse” network has observed that increases in seawater temperature encourage the colonisation of exotic invasive species, such as Bluespotted cornetfish and rabbitfish, whilst those species of fish already favoured by climate change will continue to extend their range. Species that already pose problems in other Mediterranean regions - puffer fish, lionfish and stonefish among them – are expected to arrive in greater numbers. All this adds to the pressure on native indigenous species that are already depleted by over-exploitation and environmental degradation.

The number of seabirds and aythya ducks that come to hibernate in Corsica is falling due to milder winters. Cumulative effects of climate change, rising sea levels and human activities will exacerbate the threats faced by seabirds. In the case of sea turtles, rising temperatures will have an impact on the availability of food and modify the sex ratio of newborn turtles.

Coastal vegetation plays a major role in attenuating climate change (carbon fixation and sequestration). The rising sea level will lead to the regression of deep seagrass meadows due to less light reaching the seabed. Posidonia, the most effective of these species in terms of mitigating climate change through carbon fixation and sequestration, covers over 60% of the sea at depths between 0 and 40 m in Corsica. Its additional deterioration through human activities such as anchoring and trawling will also worsen the effects of climate change by releasing part of the sequestered carbon. It is known that acidification of the water will lead to regression of bioconstruction formations, which are made up of organisms such as algae and corals, however there is a knowledge gap in this area in terms of its effect on organisms and habitats. To address this, natural landmarks and habitats that are most sensitive to climate change need to be better conserved by incorporating them into MPAs.

In the Mediterranean region, Corsica’s coastal and marine biodiversity conservation effort is a respected example of successful coastal management. Its progressive policies associate the protection of marine biodiversity with sustainable development of the shoreline and the sea. Moving forward, scientific activity should focus on understanding the range of phenomena linked to climate change. It must bring together coordinated scientific follow-up within MPAs and serve ambitious, global projects for the Mediterranean through the sharing of all scientific data and management experience.

In this context, any approach to land development projects must be based on a shared, dynamic and functional vision of natural and cultural heritage. Due consideration of upstream-downstream relationships and the complementary nature of different areas (mountain/shoreline/sea) ensures adoption of the right climate-adaptation approach.

For more information, please contact james.oliver@iucn.org

IMPANNA looks beyond 2020

IUCN and partners established the IMPANNA (International Marine Protected Area Network Agenda) initiative in 2015 to build and strengthen the global marine protected areas network moving towards 2020 and beyond. It aims to help governments and national agencies to achieve international objectives with regard to Marine Protected Areas. The IMPANNA framework focuses on engaging decision makers, stakeholders and all relevant actors in order to enhance existing efforts towards an effective and representative global network of Marine Protected Areas. It does so principally through communication and knowledge sharing on legal frameworks, scientific evaluative techniques, partner mobilisation and innovative funding and incentives for fishers and other stakeholders. More Info
Large Marine Ecosystems (LMEs) offer a regional perspective on coastal oceans and are the basis for a Global Environment Facility (GEF) portfolio of LME projects. Delineated according to biographical characteristics, such as ocean currents, upwellings and river basins, LMEs are the most productive areas of the ocean where about 90% of the world’s fish catch is taken.

IUCN has worked with the LME community for many years and was recently tasked with enhancing outreach for the work undertaken in LMEs with the creation of an outreach platform (www.lmehub.net). To mark World Oceans Day in 2018, IUCN worked with Google to create a Voyager story in the new web-based version of Google Earth to enhance understanding of LMEs and the important work carried out within them.

The Google Voyager story focused on humpback whales and their migration, feeding and breeding habits, as well as the threats they face on their long journey across the globe. Viewers can see the seasonal migration of humpback whales in relation to different LMEs on a global scale and learn about the purpose of each step in their journey. The story came about through a collaboration with a number of organisations that kindly provided stunning visuals, many of them IUCN members. Among other things, it highlights the important work of the Joint IUCN SSC/WCPA Marine Mammal Protected Areas Task Force and provides links to the IUCN Red List as well as the work of IUCN members.

This work was undertaken as part of the GEF LME-Learn project (www.iwlearn.net/marine) which aims to improve global ecosystem-based governance of Large Marine Ecosystems and their coasts by generating knowledge, building capacity, and working with the public and private sectors to improve education. By encouraging partnerships between developed and developing countries, the project hopes to encourage best practices internally, improving the extent and longevity of the project’s impacts.

IUCN and Google put Large Marine Ecosystems on the map

This reflects an imminent global plastic pollution crisis that will require a fundamental paradigm shift in the way we produce, use, and manage plastic. Plastic leakage into the environment demonstrates a systemic failure of the take-make-dispose consumption model and makes clear the need for a shift towards more circular material flows from source-to-sea is key.

Since 2014, IUCN through its “Close the Plastic Tap” initiative, has used a multipronged approach to reducing plastic leakage in the world’s oceans by enhancing knowledge, strengthening partnerships, building capacity, supporting policy action, engaging business and fostering innovation.

In 2017, with support of the Swedish International Development Cooperation Agency (Sida), IUCN launched the Marine Plastics and Coastal Communities initiative (MARPLASTICCs). This is a 3-year initiative is working in South Africa, Mozambique, Kenya, Thailand and Vietnam. The overall goal of MARPLASTICCs is to support governments and regional bodies within its target regions to promote, enact and enforce legislation and other effective measures to contain and reduce marine plastic pollution based on sound science. To achieve this goal, IUCN is investing efforts in equipping governments, industry and society with knowledge, capacity, policy options and plans of action to manage plastic pollution.

The MARPLASTICCs initiative is structured around four interconnected pillars: knowledge, capacity building, policy and business.
Global Threats

Building on the best available science, IUCN is developing various tools to better understand the state and impacts of plastic pollution, and support governments and industries in their shift from a linear to a circular model for plastics.

To date, methods to measure and assess plastic flow at a country or industry level have been varied and based on assumptions and assessments from a variety of sources, not necessarily reflecting national level conditions. Based on the principle that “you cannot manage what you cannot measure”, metrics to assess the benefits and drawbacks of plastics from an environmental and economic perspective are required.

In 2019, IUCN published the Review of plastic footprint methodologies laying the foundation for the development of a standardised plastic footprint measurement tool that identifies numerous gaps and opportunities for developing a standard methodology to measure the extent of the plastic pollution crisis. The review provides a comprehensive and systematic overview of 19 existing and emerging plastic footprint methodologies for the first time ever. The report also provides an overview of the state of knowledge for impact assessment and monetary valuation methodologies, and a glossary of key terms related to plastics and environmental footprints. The glossary promotes a standardised interpretation for terms and definitions used to describe plastic waste and leakage. This enables the diverse actors in the plastic sphere ranging from science, business and government to speak in a common language.

Building on the report, IUCN collaborated with UN Environment to develop a best-in-class plastic hotspot methodology that will provide key stakeholders with data and analysis needed to inform their decision-making on reducing plastic leakage. This methodological framework is designed to support countries identify key hotspots, prioritize key areas of intervention and identify the best tools to take action. The methodology has been piloted in all MARPLASTICCs countries and results are currently being used to inform and support national stakeholders on options to address plastic leakage.

IUCN is facilitating dialogues by sharing best practices and lessons learned on addressing plastic leakage through platforms that exchange ideas and solutions through cross-fertilisation and collaboration across the five countries and global partners. Inclusive and varied coalitions that promote innovative cooperation and concrete action on the ground are also encouraged through the implementation of replicable public-private partnerships.

In 2019, IUCN supported the implementation of five small-scale circular economy projects, that focused on promoting circular economy strategies that would avoid or reduce plastic leakage into the ocean. The projects have supported five local organisations through a 1-year grant of US $50,000 that builds and upscales their existing activities to have a greater impact.

**Knowledge**

**Capacity Building**

IUCN is bringing together local and regional stakeholders to encourage national action to address plastic pollution based on an integrated lifecycle approach.

**Kenya**

**From Wastes to Products: Maximising impacts of community-based plastic enterprise in Watamu, Kenya**

Lead organisation: Watamu Marine Association (WMA)

Through this project, WMA seeks to enhance reuse, refusal, recycling, and up-cycling of plastic waste materials; further develop community-based small business enterprises; and improve information sharing within these partnerships. WMA also aims to replicate the project model in other coastal resort towns.

**Mozambique**

**Establishing plastic value chains in Vilanculos, Mozambique**

Lead organisation: 3R-Reduzir, Reusar e Reciclar Limitada

This project seeks to return the Durban Port ecosystem to a healthy, natural state by minimising plastic waste leakage into and out of the port. Through the Adopt-A-River project, focused on the key rivers and canals that empty into the port, WildTrust has already collected 43,000 kg of waste (almost half of which was plastic) from January to May 2019.

The grant will help WildTrust enhance the Blue Port project, through which 16,000 kg of waste (7,400 kg of plastic) has already been removed from Durban Port. Planned implementation strategies include innovative waste-trapping at key locations; the development of an upcycled Ocean Brick that combines unrecyclable plastic waste with sand and glass; and the development of a mobile app that the Blue Port team can use to share waste collection data.

**South Africa**

**A Circular Economy Approach to Plastic Leakage in the Durban Port**

Lead organisation: Wildlands Conservation Trust (WildTrust)

**Figure 3: Women preparing ecobricks in Kilifi, Kenya © WMA**

**Figure 4: Mozambique will work on enhancing 3Rs to abate plastic pollution ©3R-Reduzir, Reusar e Reciclar Limitada**

**Figure 5: Minimising plastic leakage in the Durban Port ©WildTrust**

The objective of the project is to establish a financially sustainable and environmentally sound value chain for plastic waste in Vilanculos, Mozambique, to reduce plastic leakage in Bazaruto Archipelago National Park (BANP). The grant will help 3R establish four Ecopoints in Vilanculos where plastic waste materials will be collected at cost from waste pickers, micro-enterprises, and local residents and organisations. Funds will be used to hire Ecopoint staff, purchase equipment, and build local capacity and awareness on waste sorting.
Thailand

Moken Guardians of the Sea: Safeguarding the Oceans from Plastics

Lead organisation: Jan and Oscar Foundation

The Moken are a semi-nomadic ethnic minority whose fishing-based livelihoods are now threatened by marine litter. Through this project, the Jan and Oscar Foundation will build the capacity of Moken fishermen to recycle or upcycle plastic waste collected from rivers and canals flowing into the Andaman Sea; set up a community recycling enterprise in Ranong; and promote waste separation in public schools and Moken villages. IUCN support will be used to enhance these educational programmes, as well as to hire Moken staff, provide apprenticeship grants, and establish Ranong’s first upcycling/recycling facility that will focus primarily on collecting plastics for upcycling into new fashion items such as clothes, bags, and other fashion accessories or useful products.

Viet Nam

ReForm Cham Island Landfill Project

Lead organisation: Evergreen Labs Advisory Company Limited

The aim of the ReForm project is to transform low-value, generally unrecycled plastics into marketable products, and in doing so, to stop plastic leakage, create jobs for low-income workers, promote innovation, and provide alternatives (such as wood replacements) to existing products. Following the successful implementation of an urban ReForm centre in Da Nang, a pilot model for small and medium-sized landfills and value-added waste management system will be set up on Cham Island. The ReForm centre will be operated primarily by waste-pickers and managed through multisectoral collaboration.

POLICY

IUCN is supporting national and regional policy frameworks and legislative reform processes, and facilitating the development of national programmes, including action plans and green economy roadmaps.

In 2020, IUCN with the support of national legal experts completed national policy inventories in all five countries, providing an overview of existing national legal and regulatory frameworks related to plastics waste and leakage. The inventory identified specific national gaps and research required to address plastic leakage.

BUSINESS

IUCN is engaging and mobilising business actors in the fight against plastic pollution. To identify replicable effective solutions and drive cooperative circular economy innovations, IUCN is supporting the development of national private sector platforms.

There is an increased recognition across many sectors of the business community that plastic waste has economic value and can play a role in supporting inclusive green economic growth and creating jobs, while strengthening the informal waste sector. IUCN will continue to work with its business partners and build new partnerships to facilitate a shift from their current take-make-dispose model to a more circular plastic economy. IUCN is already engaging with companies to implement economically attractive solutions to reduce or even eliminate plastic waste and leakages from supply chains into the environment.

Through MARPLASTICS, IUCN completed a mapping on business commitments, initiatives and platforms in target regions and countries. To support these commitments, the need for science-based methodology to map, measure and forecast plastic leakage along value chains that companies can use to change their practices is a prerequisite. IUCN contributed to the Plastic Leak Project (PLP), a multi-stakeholder initiative launched in January 2019 to develop a business-level plastic footprint methodology, allowing companies to map, measure and forecast plastic leakage along their value chain. The methodological guidelines are available online.

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Small island developing states are uniquely vulnerable to a wide range of environmental issues, one of which is marine litter, due to tourism, economic growth, increased population, urbanisation, and increasingly plastic-based, waste-generating consumption patterns. Poor waste collection and treatment systems, as well as the islands’ remote location, mean that effective waste management is logistically difficult and prohibitively expensive. This leads to high levels of mismanaged waste: it is either landfilled, burned on the island, or it leaks directly into the ocean.

There are multiple impacts of marine litter on island states. Biodiversity can be affected when animals ingest or become entangled in the litter, consequently diminishing the pool of resources for livelihoods and affecting tourism. It affects the fishing industry through ghost fishing – when fishing nets that have been lost or discarded continue to trap animals - and by contaminating fish that would be eaten. Plastic waste drifting from other islands can also bring harmful invasive species that threaten local ecosystems.

The Plastic Waste Free Islands (PWFI) project addresses plastic waste leakage from small island developing states with the aim of demonstrating effective, quantifiable solutions. Including key stakeholders such as governments, the private sector, civil society and local communities in the process, the project looks at policy as well as business operations.

PWFI aims both to reduce waste generation on the islands and to utilise and re-purpose waste into products for sale, thereby generating job opportunities and income. Evidence and lessons will be packaged into a scalable ‘blueprint’ for use beyond the initial six targeted islands in the Pacific and the Caribbean with a long-term view to achieve plastic waste-free islands across the globe.

The main objective initially is for six small island developing states to make a significant, quantified reduction in plastic waste generation and leakage within three years, including:

- Improved knowledge of waste generation and a measurable increase in policy effectiveness to reduce plastic waste generation and enhance disposal
- Increased adoption of plastic leakage reduction measures by tourism, fisheries and waste management sectors and value chain development
- Development of a Plastic Waste Free Island blueprint and endorsement by regional small island developing state bodies

Outcomes will potentially include the closure of illegal dumpsites, litter patrols, the training of women to raise awareness in their communities, policy revisions for taxation of plastics and customs codes, implementation of hospitality standards to reduce plastic usage and harnessing tourists for reef clean-ups. They may also include introducing incentives to fishermen to fish for litter, a ban on synthetic dolly ropes, development of waste management employment, promotion of recycling and re-use, training on illegal waste disposal reporting and improvement of technical capacity for recycling or incineration.

The PWFI project comes at a crucial time. Our scientific understanding of the impacts of plastic pollution on ecosystems and human health is increasing and the major impacts on ocean ecosystems, food supplies and livelihoods are rising on the international agenda. It cuts across multiple sustainable development goals, particularly SDG 6 (Ensuring availability and sustainable management of water and sanitation for all), SDG 12 (Responsible Consumption and Production) and SDG14 (Life Below Water).

In March 2020, IUCN Med launched the project “Plastic Waste Free Islands Med” in Menorca, by convening a stakeholder engagement workshop and bringing together several actors among businesses, policy makers, local administration, academia and NGOs. This initiative will test a new Marine Plastic Hotspotting Methodology, co-developed with the consultancy Quantis/EA and UN Environment, in order to identify plastic leakage hotspots on two target Mediterranean islands, Cyprus and Menorca. A local consortium of implementing partners has already been selected and engaged on both islands.

The project will also feature a socio-economic analysis, a policy assessment and a detailed material flow analysis, which will provide information on plastic leakage across tourism, fisheries and waste management sectors.
Plastics, in all shapes and sizes, can severely damage marine ecosystems. Even microplastics, those pieces of plastic that are less than 5mm in size, can significantly impact the environments in which they are deposited. According to their source, microplastics can be classified as:

Primary microplastics, which are directly released into the environment as small plastic particles (< 5 mm in size). These can be voluntary additions to products such as scrubbing agents in personal care products or can originate from the abrasion of large plastic objects during manufacturing or maintenance such as the erosion of tyres when driving or the abrasion of synthetic textiles during washing.

Secondary microplastics that originate mostly from the degradation of large plastic waste into smaller plastic fragments once exposed to the marine environment.

A major problem with microplastics is that they are almost invisible and so their creation, especially through secondary means, and their movement into the world's oceans is also invisible. Even in countries where waste management is a priority the challenge of catching these microplastics is still significant.

IUCN is currently examining the effects of microplastics on Arctic ice and possibly that pieces of plastic trapped in the Arctic might contribute to the melting of glacial ice in the Arctic Circle. IUCN and academic partners are conducting research in the Arctic and Baltic regions to examine whether plastic particles might accelerate the rate of melting through the following process:

1. Global currents move microplastics to the Arctic region where they become trapped in ice.
2. Normally, ice and snow have a very high albedo ratio, meaning that the amount of radiation that the Arctic ice absorbs is smaller than water while the amount of radiation the ice and snow reflects is much higher.
3. Dark plastic trapped in the ice when it freezes lowers the albedo value of the ice meaning that radiation does not reflect off the ice anymore but instead is converted into heat by the trapped plastic. This heat then contributes to the melting of the ice.
4. The melted ice reveals water underneath, which also has a lower albedo value. Therefore, these dark patches of water within the ice also result in more heat absorbed and a greater quantity of ice melted.

IUCN partnered with the University of Manitoba in Canada to test the hypothesis of this effect of microplastics. The experiments involved creating isolated areas of water that are individually tested to examine the effect of the presence of plastics on the formation and melting of ice. The results of these experiments were published as an article entitled ‘Distribution and Impacts of Microplastic Incorporation within Sea Ice’ in a peer-reviewed journal in Marine Pollution Bulletin.

Beyond the effect of microplastics on the rate of ice formation and melting, IUCN is also contributing to research on the possible effect of microplastics entering the marine food chain. Concerns about the effects of zooplankton consuming plastics have been accentuated by findings that suggest many microplastic pieces are approximately the same size as the phytoplankton that zooplankton generally eat. The effect of consuming plastic is still not entirely known but the fragility of the Baltic and Arctic ecosystems mean that any harm caused by these plastics may have much greater consequences.

The research is sponsored by the Swedish Postcode Lottery as a part of their continuing support of IUCN’s attempts to tackle the problem of plastics in the Baltic region.

To find out more about IUCN’s research and the research being undertaken at the university of Manitoba, watch the video: ‘Microplastics in the Baltic’ available on the IUCN YouTube channel.
On one side, global estimates of the yearly input of plastic into the ocean based on modelling range from 9.5 million tons per year to 12.2 million tons per year. On the other, global estimates of the quantity of plastic floating in the oceans are between 250,000 and 300,000 tons. In order to assess the plastic leakage into our oceans, therefore, it is necessary to look beyond the plastics that are visibly floating, which make up less than 3% of plastics in the ocean.

Since November 2017, IUCN, in partnership with MAVA, has led the PlastiMed project aimed at understanding the issue of plastic pollution in the Mediterranean Sea. The nature of the Mediterranean, as a semi-closed basin, means that the collection of data in the area is easier and gives a more accurate overall picture of current pollution levels. The Mediterranean, therefore, represents a perfect model to advance our understanding of plastic pollution and help the design of local and achievable solutions.

The PlastiMed project’s objectives were both to gather data on the extent of plastic leakage and to raise awareness. IUCN aimed to estimate the quantity of plastic in the Mediterranean based upon recent literature. There are many difficulties involved in this research, not least the fact that visible plastics are not the only source of pollution since not all plastics float (most do not) and a lot of plastic has probably made its way into the food chain.

Preliminary estimations suggest that previous reports on the quantity of plastic in the Mediterranean were largely underestimated.

In an attempt to find the most effective way to reduce plastic emissions, top-down and bottom-up approaches to pollution analysis as mentioned above, were used. The PlastiMed project aimed to identify hotspots for action with the use of a plastic flux modelling approach. This technique calculates the yearly input of plastic waste into the Mediterranean by analysing sources per country and per sector. It also considers the movement of plastics in terms of pathways (e.g. rivers or road run-off) and activity (e.g. fishing or laundry-) in order to improve estimation accuracy.

It is hoped that this approach will allow the development of a methodology that can be used to evaluate and monitor the plastic footprint of industries, sectors and countries. This methodology can be used to inform decision-making and support donors in their effort to allocate funds to address the most critical sources of pollution. The flux modelling method provides an excellent opportunity to accurately estimate the quantity of plastic entering the Mediterranean as well as the most prominent causes of plastic pollution by separating confounding data and statistics from what is relevant.

In the framework of the PlastiMed/BeMed project, the upcoming IUCN publication will be the first study of its kind to combine an estimation of the plastic stock, the plastic leakage and the assessment of key actions contributing to close the plastic tap in the Mediterranean Sea.

In 2018, with support from the Prince Albert II Foundation, IUCN Med launched an initiative aiming to improve the existing methodology, model and data to assess plastic waste and leakages, pathways and sinks by combining modelling and field approaches in the Mediterranean Sea, with a special focus on North African countries. In the Baltic region, funding from the Swedish Postcode Foundation has allowed the initiative to go even further and devise a means to work with businesses in order to decrease the leakage of plastics into the Baltic Sea. Lessons learned from the success of this project in the Baltic region will also be applicable to the Mediterranean, meaning that future cooperation with business will likely be a part of the future IUCN initiatives.
Our main source of oxygen under threat

More than half of the oxygen we breathe originates in the ocean. However, this once ample supply is now under threat and human activities are to blame. About 2% of the global oceanic oxygen reserves were lost over a period of just 50 years (from 1960 to 2010). This rate of loss gives dissolved oxygen the unenviable title of being the fastest changing environmental variable in the ocean. Even more worrying are predictions that this rate of loss will continue, reaching 7% by 2100. As a major new IUCN report warns, our oceans are becoming breathless, and this is a problem for everyone.

What causes ocean deoxygenation?

The primary causes of deoxygenation are eutrophication (increased nutrient run-off from land and from sewage pollution), nitrogen deposition from the burning of fossil fuels, and the heating of ocean waters due to climate change. Ocean warming increases ocean deoxygenation both directly, by modifying the solubility of oxygen (O2 is less soluble in warmer waters) and indirectly, because warmer surface waters become less dense, leading to a more stratified water column, which reduces mixing with the deep sea.

What are the consequences?

At a global scale, loss of biomass and biodiversity represent the major biological consequences arising from ocean deoxygenation. Both result from the vertical compression of habitat caused by the enhanced stratification of the ocean as less space and/or resources in the oxygenated surface waters creates greater competition between species.

The magnitude of the consequences therefore depend on the current state of oxygen availability between regions, or among ecosystems. Oxygen-poor regions such as the Baltic Sea and the Black Sea are likely to be the most acutely affected areas, while eastern boundary upwelling systems (EBUS) appear to be the ecosystems at the highest risk. EBUS support one fifth of the global wild marine fish harvest. Yet, underlying these productive surface waters lie highly oxygen-depleted waters known as oxygen minimum zones (OMZs), which release large amounts of the greenhouse gas, nitrous oxide. OMZs are expanding both horizontally and vertically as the oceans warm. Mobile organisms avoid these areas by modifying their global distribution or migration patterns, which has knock-on effects for fisheries industries. Sessile organisms such as shellfish however are not so lucky and there have been mass mortality events and subsequent ripple effects on food web dynamics. At a species level, alterations in feeding behaviour often accompany reduced growth and difficulties in life-cycle completion. Also heavily impacted are species with high metabolic rates, such as tuna and billfish, as oxygen depletion leads to habitat compression, i.e. a reduction in the area of the ocean they are able to function normally, driving them more often to oxygenated surface waters and leaving them more vulnerable to capture (see infographic for more details).

What can we do about it?

Reducing the rate of deoxygenation requires urgent and dramatic mitigation efforts. Politicians must act now to limit carbon dioxide emissions and reduce ocean warming. Plans to reduce eutrophication and sewage pollution can (and should) be implemented at regional and local scales. Ocean deoxygenation is a topic that requires immediate attention and innovative solutions. The oceans are essentially the lungs of our planet and they are struggling for breath.
Following the significant interest in the report ‘Exploring Ocean Warming: Causes, scales, effects and consequences’ (Ed. D. Laffoley and J.M. Baxter) in 2016, IUCN published a second report entitled ‘Ocean connections – An introduction to rising risks from a warming, changing ocean’ (Ed. D. Laffoley and J.M. Baxter). Supported by XL Catlin and the government of Sweden, this report builds on an IUCN stakeholder workshop that focused on various elements related to ocean risk, including hazards, vulnerabilities, global priorities and regional resilience.

The report targets a broad audience, but with a key focus on the insurance industry through an exploration of what is meant by ocean risk and its relationship to hazards and vulnerability. Five examples of ocean warming’s existing impacts on our way of life are presented as case studies. The key risks of ocean warming result from four main types of hazard: weather-related hazards, ocean process-related hazards, human use and values-related hazards, and those that are species- and ecosystem-related.

The workshops identified gaps in the region’s ability to develop an ocean acidification action plan. This was followed by a meeting of the Ocean Acidification international Reference User Group (OARUG), hosted by Invemar in Santa Marta, Colombia. In October 2019, it was the turn of the Western Indian Ocean (WIO) to review ocean acidification priorities from a regional perspective.

Ocean acidification – the consequence of ever-increasing carbon dioxide emissions – is affecting the ocean’s ability to provide benefits that humans take for granted, such as plentiful seafood. Together with overfishing and pollution, and exacerbated by ocean warming and falling ocean oxygen levels, ocean acidification is a silent storm that is already impacting people’s lives. The workshops were created to make a step-change in how the regions can respond to this modern-day ocean-impact challenge.

The workshop also formed part of the activities associated with the Monaco Explorations – a three-year circumnavigation of the globe under the direction of H.S.H. Prince Albert II of Monaco – which renews a great tradition: sea exploration in order to learn, understand, raise awareness and take action. It also constituted a significant contribution by Invemar to help Colombia shape and inspire Action on Ocean Risk: Documenting economic, social and environmental impacts being felt by coastal communities will be launched in 2020. Its findings served as a basis for regional dialogues in East and Southern Africa where local ocean-related risks were assessed.

The Action Plans acknowledge the need to mobilise resources from different sources to broaden discussions and considerations under the Green Climate Fund to address ocean acidification, and the need to use the regional networks, such as LAOCA, to work across the region on the Action Plan topics.

When speaking at the Colombia workshop, His Serene Highness noted the urgency to act and that the Latin American and Caribbean countries are already feeling the first real effects of ocean acidification on their lives and livelihoods.

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Over the past year, IUCN and its partners’ focus in addressing ocean acidification has shifted from global action to regional support and facilitation. In Spring 2018, representatives of 19 countries from Latin America and the Caribbean attended the first regional meeting of the Ocean Acidification international Reference User Group (OARUG), hosted by Invemar in Santa Marta, Colombia. In October 2019, it was the turn of the Western Indian Ocean (WIO) to review ocean acidification priorities from a regional perspective.

Ocean acidification – the consequence of ever-increasing carbon dioxide emissions – is affecting the ocean’s ability to provide benefits that humans take for granted, such as plentiful seafood. Together with overfishing and pollution, and exacerbated by ocean warming and falling ocean oxygen levels, ocean acidification is a silent storm that is already impacting people’s lives. The workshops were created to make a step-change in how the regions can respond to this modern-day ocean-impact challenge.

The Prince Albert II Foundation funded the meetings as part of a long-term strategy of His Serene Highness, with support from the International Atomic Energy Agency. IUCN collaborated with regional partners including the Latin American Ocean Acidification Network (LAOCA), the Nairobi Convention secretariat and the Western Indian Ocean Marine Science Association (WIOFSA). The meetings brought together leading international and regional scientists, experts from affected maritime industries, leaders in environmental protection and management, and representatives from civil society. An ocean acidification action plan was subsequently developed for each region.

The workshops identified gaps in the region’s ability to cope with ocean changes that are currently happening, as well as those predicted. These were formulated into regional Action Plans, which explore three main categories and set out priorities needed to address ocean acidification: science gaps, communications & outreach gaps, and policy gaps.

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The "Regional Action Plan on Ocean Acidification for Latin America and the Caribbean: Encouraging Collaboration and Inspiring Action" was published by Invemar in partnership with IUCN and LAOCA in 2018. The Regional Action Plan for the WIO region will be further developed by parties to the Nairobi Convention.
Seamounts in the High Seas

Seamounts

A seamount (undersea mountain) is a rise in elevation of >1,000m from the seafloor. There are around 100,000 seamounts worldwide, covering 28 million square kilometres. They are one of the most remarkable ecosystems that lie in areas beyond national jurisdiction (ABNJ); they are hotbeds of marine life; many species are endemic to just one seamount; seamounts attract and are important to migratory species for critical life stages and feeding.

There is an urgent need to ensure seamount conservation through measures such as marine protected areas.

Damage to seamounts and their overexploitation can have widespread consequences on ocean health, food security, medicine and other benefits that oceans provide to humans.

Many aspects of seamounts are poorly understood: fewer than 300 out of 100,000 existing seamounts have been explored so far.

Aggregational effect of seamounts has been noted by the commercial fishing industry, and many seamounts support extensive fisheries, which can have a devastating effect on populations of slow-growing and late maturing species.

What are the High Seas?

The United Nations Convention on the Law of the Sea (UNCLOS) provides that the areas beyond the limits of national jurisdiction (ABNJ) include:
1. the water column beyond the Exclusive Economic Zone (EEZ), or beyond the Territorial Sea where no EEZ has been declared, called the High Seas (Article 86); and
2. the seabed which lies beyond the limits of the continental shelf, established in conformity with Article 76 of the Convention, designated as the Area (Article 1).

The UN Convention on the Law of the Sea (UNCLOS) was concluded in 1982. Biodiversity conservation was not included in the original treaty. To address this gap, a multi-year BENJ process took place under the umbrella of the United Nations General Assembly.

UNCLOS and the international negotiations for a new treaty for the High Seas


Towards effective protection in the High Seas

One way forward to conserve biodiversity in the High Seas would be to create large and connected Marine Protected Areas (MPAs). There have already been many studies on how MPAs can help restore and protect stocks that could benefit fisheries within adjacent EEZ (exclusive economic zones). Connectivity is a key consideration for biodiversity in areas beyond national jurisdiction.

Threats from deep-sea mining

- Increasing number of contracts for exploration approved by the International Seabed Authority since its creation in 1994 (Part XI of UNCLOS), including for ferromanganese crusts which are mostly found on seamounts
- Potentially severe impacts from exploitation in the future (destruction of habitats)
- Exploitation regulations are currently being developed at the International Seabed Authority

Threats from deep-sea bottom fishing

- Overexploitation and unsustainable fisheries
- Illegal, unreported & unregulated fishing (IUU fishing)
- Potential destruction of habitats

Other threats and conservation efforts

Others threats include: pollution, maritime transport, ocean warming, acidification and deoxygenation due to climate change. Many seamounts are recognized as Ecologically or Biologically Significant Areas under the Convention on Biological Diversity (CBD). The International Maritime Organisation (IMO) undertook conservation efforts (e.g. Particularly Sensitive Sea Areas) to address invasive marine species issues, pollution, and disturbance of marine biodiversity notably on seamounts.

Project FFEM-SWIO - Conserving seamount biodiversity in the High Seas

Between 2014 and 2018, IUCN Global Marine and Polar Programme and its partners (IRD, MNHN, IDDRI) conducted a project on the Conservation and sustainable exploitation of seamount and hydrothermal vent ecosystems of the South West Indian Ocean (SWIO) in areas beyond national jurisdiction (ABNJ), with the support of the French Global Environment Facility (Fonds Français pour l’Environnement Mondial [FFEM]).

Main achievements include:
- Increased scientific understanding of seamount ecosystems in general and one site in particular in the SWIO (the Walters Shoal)
- Multi-disciplinary scientific expedition in April-May 2017 conducted on the Walters shoal, a submarine mountain with a summit at 20m below sea surface, 700km off the coast of Madagascar.
  - Inputs to the Nairobi Convention, the Regional Sea Convention of the Western Indian Ocean region
  - June 2018, Southern Indian Ocean Fisheries Agreement (SOIFA), Meeting of Parties, Thailand: 5 new Protected Areas in ABNJ of the SWIO declared where bottom-trawling is banned and other fisheries need to have observers on board at all times. 25,000 km² in total are covered by these 5 new Benthic Protected Areas under SOIFA, the Regional Fisheries Management Organisation/ Agreement (RFMO/RFMA).


2 IRD: Institut de Recherche pour le Développement (France), MNHN: Muséum National d’Histoire Naturelle (France), IDDRI: Institut du Développement Durable et des Ressources Mondiales.

3 2018-2020: Expédition MD208-Walters Shoal IUCN/FFEM/Institut Polaire Français IPEV © Alain Barrère (MEN)© Sebastien Faninoz MNHN
Protecting the pristine ecosystem of our last intact sea

The Ross Sea is often described as the last intact sea as it is the only remaining sea that has not been substantially modified by the extraction of biomass. It remains a singular example of a pristine ecosystem and new protection measures, introduced at the end of 2017 under the Convention for the Conservation of Arctic Marine Living Resources (CCAMLR), represent one of the largest steps toward ensuring it remains unspoiled.

Carl Gustaf Lundin, Principal Scientist of IUCN’s Global Marine and Polar Programme, speaks about the proposed measures.

What are the protection measures?

GGL: The proposals established an area of protection covering 1.55 million km² of the Ross Sea. This follows on from the South Orkney Shelf MPA (marine protected area) that was established in 2009 but on a larger scale. It is also finally putting significant parts of the Antarctic marine environment under protection, although still far short of targets set by participating nations.

Are the proposals popular?

GGL: The issue of having no-take areas is controversial and there are strongly opposing views within CCAMLR on whether large areas should remain unchanged by human extraction. There is gathering support for these proposals however. The largest krill fishing company, Aker BioMarine, has pledged to stop fishing in areas where penguins and marine mammals forage. All 25 CCAMLR members have agreed on the Ross proposals presented under the convention and are hopeful that this will be a major step towards establishing a comprehensive network of MPAs throughout the Antarctic.

What about the time limit placed on the protections?

GGL: IUCN contributed to the debate on the creation of new MPAs and what can constitute an MPA. The time limit on the Ross Sea protection was one of the main points of negotiation. The conservation measures are extremely beneficial to preserving the Ross Sea in its current state but we feel that as future proposals are developed it will be essential to move away from time-limited conservation measures towards true MPAs.

What would you hope to see from future proposals?

GGL: I feel that more focus should be placed on providing opportunities for scientific discoveries and on furthering understanding of the rapidly changing polar environment. Areas of the Ross Sea will be perfectly suited to long-term experiments but their value comes from their undisturbed nature and these experiments will require that sizeable areas be set aside without ecosystem changes that stem from fishing. In order to know how to protect ecosystems from human impact, we must know how they were before our modifications. Future generations will thank us for having the foresight to protect these valuable areas.

Principal scientist of IUCN’s Global Marine and Polar Programme, Carl Gustaf Lundin, joined Mission Blue’s Hope Spot Expedition to the Norwegian Arctic in June 2018. Partnering with Polar Bears International and sponsored by Biotherm, the expedition focused on documenting and observing the extent of climate change in the remote region of the Spitsbergen Island Hope Spot. Hope Spots, a term introduced by renowned marine biologist Dr. Sylvia Earle, are places critical to the ocean’s health.

Traveling by ship aboard the S/V Linden, the expedition team never saw the sun set during the weeklong journey. The voyage focused on creating a network of marine protected areas throughout the Arctic. In order to achieve this goal, the expedition hoped to foster partnerships and raise awareness and support for establishing the network.

The need for action in these protected areas became increasingly apparent as the team journeyed into areas that had been recorded as glaciers only 50 years ago. After traveling over 110m inside the previously glacial area, the ice’s retreat was apparent.

“If you visit this place for the first time, I think you would think this is the way it should be, but I remember coming here 20 years ago and I see a massive change right now. The glacier has really retreated a long way. We currently have four small glaciers around us, but at one time they were probably all one big glacier. These types of changes are happening all over the Arctic right now, but particularly here in Spitsbergen, they’re happening very fast.”

– Carl Gustaf Lundin

The rapid change in ice densities at the poles is affecting the whole Arctic ecosystem as the seasonal behaviour of species is changing to match the changing patterns of ice. Walruses are struggling to forage during the winter as the shelf ice from which they hunt is retreating further offshore due to warming waters. Polar bears, spotted by the expedition, were skinny and frail due to a scarcity of food.

The Norwegian government is intent on taking care of this precious ecosystem and 65% of the total landmass of Svalbard is already under protection. Existing environmental law from 2002 has created 29 protected areas. However, more action is needed to create the internationally-enforced policy required to protect these Arctic areas. To learn more about what you can do to help combat climate change visit 350.org to find out how your actions can make a difference.
Building resilience to climate change on the high seas

Current research shows that the global ocean is growing warmer, more acidic, and less oxygenated. The need for international action to build the resilience of marine species and ecosystems is clear, yet there are few mechanisms in place for the nearly two-thirds of our ocean that lie beyond national jurisdictions.

To address this governance gap, States at the United Nations are negotiating a new legally-binding agreement for the conservation and sustainable use of marine biodiversity in areas beyond national jurisdiction - the BBNJ treaty. The treaty is one of the key actions States can take to provide the necessary international legal framework to adopt marine protected areas and to reduce the impact of maritime activities through environmental assessments and precautionary management of high seas and deep-sea activities. To do this, the text needs to clearly make the link between climate and ocean and between the ocean and coasts.

In December 2017, the UNGA adopted resolution 72/249, establishing a multi-year intergovernmental conference (IGC) to negotiate the specifics of an international, legally binding mechanism under the UN Convention on the Law of the Sea (UNCLOS). The IGC is addressing four specific areas of conservation and sustainable use of BBNJ: environmental impact assessment; area-based management tools (including marine protected areas); marine genetic resources in areas beyond national jurisdiction (including access and benefit sharing); and technology transfer that embraces capacity building. The negotiations are also addressing "cross-cutting issues", comprising everything from clauses on liability and institutional arrangements to entry into force.

Enabling conditions:
1. Recognize that the Global Ocean is a “commons” whose health is a common interest of all humanity.
2. Accelerate progress in the BBNJ negotiations through greater engagement of politicians from capitals empowered to negotiate an ambitious and pragmatic agenda.
3. Enable nimble measures to respond to a changing ocean.
4. Ensure access to data, monitoring and information, and other products of enhanced ocean sciences.
5. Provide necessary institutional elements that include a conference of the parties (COP), an independent scientific and technical advisory committee (STAC), and an implementation committee.
6. Include dedicated measures to conserve marine biodiversity.
7. Recognize interconnectivities through ecosystem-based management.
8. Establish clear requirements for implementing the precautionary principle.
9. Incorporate existing definitions, standards and criteria to ensure their consistent application across jurisdictions and institutions.
10. Strengthen existing bodies using the BBNJ agreement

Recommendations:
1. Establish a process that delivers effectively-protected MPAs in ABNJ.
2. Recognize that States Parties possess inherent powers.
3. Enable the Conference of Parties to adopt a management plan and specific conservation measures for MPAs.
4. Specifically spell out how States can implement their duty to cooperate.
5. Replace the term “relevant instruments and bodies” with “competent international organizations” in most places.
6. Invite competent international organizations to adopt measures within a time-bound period.
7. Create a separate provision for the COP to establish other types of ABMTs in addition to MPAs.
8. Encourage existing organizations to define explicitly their mandates, including their taxonomic mandates.

The fourth and hopefully final IGC will take place in 2020 or 2021 depending on the Coronavirus situation. While there are differing views as to how ambitious the treaty ought to be, there is broad awareness and agreement regarding the continuing degradation of the ocean and the critical importance of marine resources to our lives.

There is a closing window of opportunity to turn the tide of the rapid and far-reaching ocean damage by means of targeted and decisive action to improve ocean governance. This is the time for the global community to act together to safeguard the Earth’s largest ecosystem for the sake of the lives of current and future generations.

Looking at building ambition for the new BBNJ treaty under UNCLOS, IUCN Global Marine and Polar Programme partners held an expert workshop in IUCN Headquarters on Area-based Management Tools in areas beyond national jurisdiction (ABMTs in ABNJ), from 8-10 October 2019. This work was conducted with the support of the French Biodiversity Agency (Office Français de la Biodiversité [OFB]) and the Ministry of Environment and Energy of Sweden.

IUCN experts identified ten enabling conditions to future proof the BBNJ treaty and eight recommendations for the next round of negotiations (fourth session of the IGC). They are detailed in two IUCN reports entitled “ABMTs in ABNJ: Building ambition, broadening participation and planning ahead” - Summary report and full report.

For more information visit iucn.org/bbnj
Protecting the last unexplored frontier

The deep sea is often referred to as the last unexplored frontier on Earth. In fact we know more about outer space. From the little exploration that has been done, scientists have discovered an abundance and variety of species, habitats and ecosystems.

However, this unique biome is now targeted for industrial-scale deep seabed mining. A recent IUCN report, Deep seabed mining: a rising environmental challenge, provides a comprehensive overview of the latest research on deep sea ecosystems and the potential environmental impacts of mining.

Recent technical advancements have allowed access to previously inaccessible deep seabed minerals associated with hydrothermal vents, seamounts and the 4000m deep abyssal plain containing metals such as copper, aluminium and cobalt. Polymetallic nodules associated with abyssal plains, and cobalt-rich ferromanganese crusts on seamounts form slowly over millions of years and provide vital habitats and resources for deep-sea species. Hydrothermal vents producing massive sulphide deposits have slightly shorter lifespans but still may be hundreds of thousands of years old.

Although the past 15 years of deep-sea mineral exploration have revealed much about the biological habitats associated with these minerals, scientists remain concerned that there is a high risk of environmental loss. Potential consequences include habitat loss, water quality degradation from suspended particles and undersea noise, leading to uncertainty regarding ecosystem and species recovery.

The deep seabed beyond national jurisdiction spans nearly 50% of the planet. The seafloor, technically called the “Area”, and its resources are designated as the common heritage of mankind under the 1982 United Nations Convention on the Law of the Sea (UNCLOS). UNCLOS charges the International Seabed Authority (ISA) with the responsibility to protect this heritage and manage the resource for the benefit of humankind.

The ISA is also operating under a dual and potentially conflicting mandate: to develop the resources of the Area for the benefit of humankind as well as to make sure that mining does not harm the environment, including the many ecosystem services that already benefit humankind. The IUCN report calls on the ISA to address this conflict of interest and consider divesting some key responsibilities to autonomous review, inspection or enforcement entities.

The IUCN report further suggests that effective environmental management will need to be based on a far better understanding of the deep sea, including comprehensive baseline studies that cover ecosystem functioning, recovery rates, the life history of vulnerable species, and connectivity between communities. Only a firm understanding of deep-sea ecosystems can lead to their effective protection through science-based governance and management.

The ISA is currently developing a set of rules, regulations and procedures to regulate exploitation of minerals in the Area. This is therefore a critical time to ensure that strong precautionary measures are integrated into the fabric of the mining regulations and that effective measures to ensure protection and preservation of deep sea life are in place before any commercial scale mining is permitted.
Western gray whales at great risk from salmon nets

A IUCN-backed scientific article found that threatened western gray whales are at “very high risk” of entanglement in coastal salmon nets near Russia’s Sakhalin island, which often leads to their injury or death. This adds to risks associated with the ongoing intensive oil and gas development in the area and other pressures throughout their range.

Since 2004, the IUCN-led Western Gray Whale Advisory Panel (WGWAP) has been examining the impacts of oil and gas development, fisheries and other threats on endangered whales found off the coast of Russia’s Sakhalin Island. In 2020-2021, the Panel will continue providing independent advice to interested parties on: exploring ways of assessing and managing the cumulative impacts from industrial activities on western gray whales; evaluating new approaches and technologies for monitoring this endangered whale population; and, studying underwater noise-related issues, such as the effects of seismic surveys and vessel traffic in the region. The Panel will also collaborate with the International Whaling Commission (IWC) to update the IUCN/IWC Western Gray Whale Conservation Management Plan and contribute to developing an implementation plan.

The paper maps and analyses the overlap between fishing activity and the distribution and migration of western gray whales, as well as fishing gear likely to be harmful to the whales. It finds that the coastal salmon net fishery off Sakhalin island, north of Japan, represents the highest risk, compared to other types of commercial fisheries operating in the Russian Far East. The authors recommend that the Sakhalin Government stop issuing permits for salmon nets to be used near the whales’ coastal feeding grounds and migratory routes, where this gear is concentrated.

The information on fisheries provided by this paper not only makes it possible to better evaluate the risks to western gray whales, but also opens the possibility of investigating the bycatch risks to other marine mammals in the region more rigorously,” says co-author Randall Reeves, Chair of IUCN SSC Cetacean Specialist Group and WGWAP Co-chair.

While instances of entanglement and entrapment of whales in fishing gear, known as bycatch, are not monitored systematically in the Russian Far East, the paper presents evidence of such cases involving gray whales in many parts of their range in the North Pacific, including off Sakhalin Island, Kamchatka, Kuril Islands, Japan, China and USA. For example, photographs have shown that around one out of five gray whales off Sakhalin bears signs of at least one injury from fishing gear.

Entanglement in fishing gear causes hundreds of thousands of whales, dolphins and porpoises to die annually,” says Greg Donovan, Head of Science at the International Fund for Animal Welfare (IFAW). The scientific paper, Entanglement risk to western gray whales from commercial fisheries in the Russian Far East, was produced within the framework of the WGWAP process. The Panel’s overall goal is providing objective independent advice on the conservation of western gray whales with a focus on those that feed off Sakhalin.

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The Sargasso Sea Commission celebrated the fifth anniversary of the signing of the Hamilton Declaration on Collaboration for Conservation of the Sargasso Sea in 2019. The Hamilton Declaration was signed by the first five governments on 14 March 2014. Since that day, the number has doubled to now include the governments of the Azores, the Bahamas, Bermuda, the British Virgin Islands, Canada, the Cayman Islands, the Dominican Republic, Monaco, the United Kingdom and the United States. The Commission exercises a stewardship role for the Sargasso Sea and carries out the mandate of keeping “its health, productivity and resilience under continual review.”

In March 2019, the Sargasso Sea Commission hosted a workshop marking the five-year anniversary at the Bermuda Institute for Ocean Sciences with the support of the Government of Bermuda and Fisheries & Oceans Canada. The event reflected on the project’s successes and considered key lessons learned for the next phase of work and the ongoing negotiations for a treaty on biodiversity beyond national jurisdiction at the United Nations. The Commission has regularly sent representatives to meetings of the International Commission for the Conservation of Atlantic Tunas, which, in 2019, agreed to use the Sargasso Sea as a case study to develop indicators for ecosystem-based fisheries management. With the help of the US and the EU, a legal protective measure was secured for the Sargasso Sea in September 2015 with the agreement for the closure of the seamounts in the northern area to bottom fishing until the end of 2020 and gear type restrictions by the North Atlantic Fisheries Organization.

Despite these achievements, the Commission’s work over the past half-decade has highlighted the limitations of the Hamilton Declaration. A non-binding agreement limits the degree of influence on international bodies. The Sargasso Sea Commission cannot seek to establish protection measures independently (even if they are nonbinding on third parties) without a mandate to make intergovernmental decisions itself, as organisations like the OSPAR Commission have done.

At the workshop in Bermuda, participants discussed how a next-generation Hamilton Declaration might be structured to address high seas governance gaps and increased threats from activity in the Sargasso Sea. The Commission and its Signatory governments will continue to investigate new mechanisms for regional ocean governance to complement the 1982 Law of the Sea convention and the new United Nations International Legally Binding Instrument on Conservation and Sustainable use of biodiversity in areas beyond national jurisdiction.

For more information about marine protected area targets and coverage, visit: https://www.protectedplanet.net/marine

For more information about the Young Professionals, visit: https://www.iucn.org/theme/protected-areas/wcpa/what-we-do/young-professionals

Watch the IMPAC4 "Making Waves" film here: https://youtu.be/GJg981m1AQY
How the Species Survival Commission addresses marine issues

An interview with Amanda Vincent, Chair of the Marine Conservation Committee (MCC)

What is it like to be Chair of the Committee?

One of the joys of becoming Chair of the Marine Conservation Committee is the chance to consult with talented Species Survival Commission leaders who work on marine issues. The SSC is becoming ever more active with marine species and concerns, to great effect. That said, we still have room to grow in meeting our responsibilities to our oceans, some of it best done through collaboration with other parts of the Union.

What does the SSC work?

The SSC’s mantra is Assess-Plan-Act in an adaptive loop that seeks always to improve our effectiveness, embraced by the very limited internet presence of most marine groups. The SSC’s current strength with marine species derives from its remarkable network of expert volunteers consisting of thousands of people with knowledge and skills in specific taxa and/or in cross-cutting issues. A total of 26 taxon Specialist Groups (SGs) comprise the core of that expertise. Additional strength comes from the Marine Biodiversity Unit, its commitment to conservation assessments and its task forces as well as the excellence of BirdLife’s broad engagement with avian species.

The SGs already cover fish, mammals, reptiles, invertebrates, plants, and birds but many more are needed. The gap in fish coverage is obvious with only a small percentage receiving attention. The problem is yet more acute for invertebrates, especially when we consider that the Mollusc SG is charged with something approaching 100,000 species across all habitats. Things are rather better for coverage of mammals, reptiles, plants and birds, with some SGs able to focus on a handful of species. Some marine species’ needs are also being addressed through disciplinary SGs such as Climate Change, Conservation Planning, Invasive Species, Species Monitoring and Sustainable Use and Livelihoods.

What is it like to work with marine Specialist Groups?

Conversations with (co)Chairs of the marine-related SGs have been truly heartening. I am struck by the enormous passion, intelligence and dedication of these colleagues. They are intimately familiar with the species in their charge and very determined to do what they can for their future. They have also managed to marshal wonderful SG members who are eager to be active and influential on the matter of species conservation. Members’ ambitions are encouraging (co)Chairs to reach beyond the SGs’ conventional work on IUCN Red List assessments into whole new areas of frontline conservation. The big push now is on Planning and Action, while Networking.

What activities are these Specialist Groups engaged in?

Marine SGs and related groups are engaged in a huge diversity of issues. There are broad scale concerns, familiar to all in conservation, including things like perverse incentives (bad subsidies), enforcement/compliance issues and gaps in governance, which are all areas where broad alliances need to emerge and grow across IUCN. There are also a litany of fishery issues, including overexploitation and mismanagement (e.g. snappers, groupers and wrasses, pinnipeds), bycatch and incidental capture (e.g. sea snakes, seahorses, marine turtles, sharks), entanglement with gear (e.g. cetaceans) and targeting spawning aggregations (e.g. snappers, groupers and wrasses). Yes, plastics are important in the ocean but fisheries remain, by far, the dominant issue for marine species conservation. Beyond fisheries, marine groups in the SSC are actively involved in issues around coastal encroachment and development, climate change, aquaculture, seaweed culture and so much more. Interests also extend beyond the marine into freshwater (especially for cetaceans, sirenians, anguillid eels and sturgeons) and terrestrial realms.

What have the Specialist Groups done to actively combat these conservation issues?

SSC marine groups are keen to contribute ever more to frontline conservation. Pretty much all of the SSC marine SGs with a taxonomic focus are active in targeted research ventures and IUCN Red List assessments, some of them now at population level (e.g. pinnipeds and marine turtles). Beyond this Assess role, the SSC is also determined to translate knowledge into change. To that end, a number of SGs are engaged in broad new species planning processes, some with the Conservation Planning SG. As well, many SGs take Action that has led directly or indirectly to outcomes that have effected real change. For example, the Seahorse, Pipfish and Seadragon SG, Shark SG, Grouper and Wrasse SG and Anguillid Eel SG are among those leading the charge to make CITES as effective as possible for marine fishes, now that it is regulating exports of ever more species. As another example, a letter from the Horseshoe Crab SG (highlighting threats to native species) helped guide the US to ban imports of Asian horseshoe crabs destined for bait.

What is the next step for the SSC and these groups?

SSC leaders for marine issues seek, indeed need, more links with expert groups in the SSC and across the entire IUCN. They are deeply aware of the interconnectedness of concerns and possibilities in the ocean with freshwater and terrestrial conservation. To that end, the MCC will be trying to help connect our SSC work across the Union. As ever, communication is one of the biggest challenges, particularly for overstretched volunteers. This is made particularly clear by the very limited internet presence of most marine groups in the SSC – something we need to address as soon as possible. News of our SSC work on marine issues needs to be shared as a catalyst for yet more conservation success.

For more info: https://www.iucn-sscmarine.org/
Phase 2 of FishMPABlue rolled out for more sustainable Mediterranean blue economy

Following the success of FishMPABlue 1, which saw the development of a toolkit for small-scale fisheries governance in protected areas, the second phase has worked to further increase the capacities of Mediterranean MPAs to sustainably govern small-scale fisheries. IUCN worked with the Italian Federation of Parks and Nature Reserves to test the toolkit using a bottom-up approach across 11 Mediterranean marine protected areas (MPAs).

The project aimed to provide capacity building, policy recommendations and specific guidance on the practical management of artisanal fisheries in MPAs in order to preserve marine ecosystems and species while also allowing sustainable access to marine resources.

The project has built on good working relationships between MPA managers and fishers in MPAs in order to preserve marine ecosystems and species while also allowing sustainable access to marine resources.

The project has built on good working relationships between MPA managers and fishers in MPAs, and developed new ways of improving governance through small-scale fisheries co-management within and around MPAs. It has addressed existing and potential conflicts and proposed solutions.

Almost all of the Pilot MPAs in FishMPABlue2 opted for an increase in surveillance to reduce illegal fishing and poaching. Strategies included the use of surveillance cameras, patrolling at night by MPA rangers, and engagement of fishers in voluntary surveillance activities. These actions could have a significant deterrence power and therefore lower the impact of illegal fishing.

Collaboration with MPAs has been seen to be beneficial to fishers, as both want to see healthy fish stocks and the preservation of habitats used by fish at different life stages. Many MPAs already support such objectives in their management plans: national strategies should take these experiences into account and build on the successes. In effect, MPAs can serve as laboratories for developing best practice strategies that can later be widely implemented.

Working alongside governmental organisations, such as the ministry of Environment and Nature Protection in Croatia, the French MPA Agency, the Institute of the Republic of Slovenia for Nature Conservation and the Spanish Ministry of Agriculture and Fishery, Food and Environment, means that the policy recommendations are even more salient. Close partnerships with European governments, under whose jurisdictions these MPAs fall, is likely to lead to more practical recommendations and a greater degree of implementation of the recommended policy options.

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A closer look at the world’s most romantic island

In 1890, Suwarrow was described as the world’s “most romantic island” by Scottish novelist Robert Louis Stevenson’s wife Fanny. Today, from a distance, you still get a feeling of why she thought so. An aerial view of Suwarrow shows what appears to be a pristine, untouched atoll. The island was made famous by bushcraft and survival enthusiast Tom Neale with a book based on his journal entries, An Island To Oneself. There have also been many rumours of hidden treasure on the island over the decades.

Zooming in closer on Suwarrow now however, it is not treasure you will find, but trash. The plastic age and the increase in industrial tuna fishing has left its mark.

During a trip to Suwarrow in May-June 2018, the team from Te Ipukaea Society discovered the ugly truth about what is happening to their very first national park, which celebrates its 40th anniversary this year. As they travelled around each island in the lagoon, they discovered an enormous amount of waste, a large amount clearly originating from purse seine and longline fishing vessels in the Pacific Ocean.

Of particular concern was the number of Fish Aggregation Devices (FADs), with over 50 found washed up on beaches. These may be considered valuable by the boats that set them adrift when they get a fruitful catch of tuna, but when they wash up on Suwarrow they are nothing but trash. Worse still, FADs can be fatal to marine life - turtles become tangled in their netting and eventually die of starvation.

According to reports, 10,000 new FADs are deployed every year. Sonar equipment serves to indicate the number of fish aggregating at the FAD. If there are no fish gathering under them however, fishing boats often don’t bother picking them up as they would lose more on fuel and time than the FADs are worth. There are 100,000 FADs drifting in the oceans at any one time, putting a significant number of turtles and other marine life at risk.

It is time that the West and Central Pacific Fisheries Commission (WCPFC) addresses this problem. The current 4-month FAD fishing ban is ineffective as the devices continue to drift throughout the year until they wash up ashore. The Te Ipukaea Society is currently working to raise awareness about the scale of the issue, and encourages the Cook Islands government to raise the subject at international meetings on fisheries and Marine Protected Areas.
Lebanese expedition significant step towards deep-sea conservation

The Lebanese marine ecosystem is under threat. Marine sand and gravel extraction, sewage discharge and oil dumping, unsustainable and illegal fisheries, habitat degradation, recreational uses, coastal urbanisation, invasive species, and larger-scale impacts such as the effects of climate change are all contributing to its decline.

Marine Protected Areas (MPAs) are an effective tool to protect marine biodiversity from the worst impacts of fisheries, marine litter, invasive species and oil exploratory activities that directly or indirectly damage them, and support human wellbeing and sustainable development. However, Lebanon suffers from a lack of information about marine habitats and species. This obstructs the designation and management of MPAs.

Closing this knowledge gap was the primary aim of the Deep-Sea Lebanon project, which performed the first biological survey of deep-sea Lebanese waters. The Lebanese deep-sea canyons have been identified as an Ecologically and Biologically Significant Area (EBSA) because of their important role in ecosystem functioning, their uniqueness and rarity, and their special importance for life-history stages of the species that they host, among other characteristics.

The biological survey of deep-sea Lebanese waters was carried out in five areas: Tarabulus/Batroun, Jounieh, St. George, Beirut escarpment and Saydet. It identified six main habitats over a broad depth range (36-1050m): coralligenous habitats and rhodolith/marl beds; rocky bottom areas; muddy and sandy-muddy bottoms; sandy bottoms; canyon heads; and bathyal muds. 622 taxa were documented, among which three species that are likely to be new to science: a sponge belonging to the genus Axinella, a starfish belonging to the genus Luidia, and a stony coral, which is pending identification, but likely belonging to the genus Anomocora.

Dozens of species that were previously not recorded in Lebanon were observed. The glass sponge (Farea bowenbanki), the rabbitfish (Chimaera monstrosa), the velvet-belly lanternshark (Etmopterus spinax), holothurians such as Mesothuria intestinalis and Peniopodia ludwigii, crinolarians such as the gorgonian Swiftia pallida, sea pens such as the Pennatula rubra, Virgularia mirabilis and Funiculina quadrangularis, and species of the subclass Hexacorallia such as Sideractis glacialis and the tree coral Denophyllia ramea. Three species of starfish were spotted that were previously not recorded in the Mediterranean Sea: Hacelia superba on bathyal rocky bottoms, Leptasterias sp. on ancient fossil reefs, and a species of the genus Luidia, abundant on sandy bottoms in the circalittoral zone.

Recommendations

Given the connectivity and closeness of marine canyons to the Lebanese coast, actions towards conservation of coastal habitats needs further efforts, moreover with the increase pressures of coastal development. As a party to the Barcelona Convention, Lebanon should ensure that fossil reefs are managed under the same framework as other ‘dark habitats’ to ensure that threats to these systems are minimised or avoided altogether. Sea pen species can play a role as habitat support in the muddy bare seabeds. The red sea pen (P. rubra) is particularly diffuse and considered as one of the key deep-sea community types in Lebanon. The tall sea pen (F. quadrangularis) should also be protected across Lebanese and other Mediterranean waters. Legal steps should be taken to ensure the protection of these habitats and limit the challenges they face.

Mangroves for the Future (MFF) has built resilient coastal communities through its work in 11 member countries. It implemented grant-funded projects, supported activities that generate and share knowledge, strengthened the capacity of stakeholders, empowered communities both socially and economically, and promoted integrated and inclusive coastal governance.

Since 2008, a total of 345 projects have been commissioned in the 11 member countries with investment by MFF of almost USD 9 million, together with co-financing and leveraged funds of more than USD 6.7 million. In the last four years alone, the programme has benefitted more than 330,000 people in target areas. Over 70% of MFF funded projects have contributed to improving livelihoods and food security.

Gender equality has always been an important rights-based issue for MFF. Almost 80% of projects directly responded to women’s needs and interests, and have resulted in increased women’s leadership and participation in decision-making, training and skills-development opportunities. Alongside this, MFF has overseen improved health and individual security of women, and increased women’s discretionary time to reinvest in other activities.

MFF also initiated a regional Gender Study with other regional partners (SEAFDEC and SEI) to examine gender dimensions in coastal resource management in order to improve understanding about the opportunities available to men and women in environmental decision-making. MFF also looked at the structural challenges preventing gender equality in relation to coastal and marine resources in South and Southeast Asia.

In 2017, MFF continued to promote inclusive and collaborative approaches to sustainable management and the protection of coastal resources. One focus area was supporting the design and implementation of government policy arrangements for Marine Protected Areas. With support from MFF, Pakistan established the Astola Island Marine Protected Area, whilst in Cambodia the Koh Rong National Marine Park was declared in February 2018. These are the first marine protected areas established in each country. In Myanmar, MFF support was instrumental in the establishment of the National Coastal Resources Management Committee, a national-level decision-making body to guide and monitor coastal management policy and practice. It also served to strengthen collaboration between stakeholders both within Myanmar and with neighbouring countries.

One of the key elements to the success of MFF has been the long-standing multi-stakeholder mechanisms established to oversee the programme in each of the partner countries. Encouragingly, many partner countries have now identified means for these structures to be maintained, for example as an advisory group to government agencies or as a formal national committee to support coastal resource and marine management decision-making.

MFF also responded to the increasing global recognition of the importance of mangroves and coastal ecosystems in climate change mitigation. Despite their potential to capture and store up to five times more carbon than other tropical forests, mangroves are not consistently included in global community responses such as REDD+. MFF supported the Global Mangrove Alliance in resolving policy inefficiencies, filling knowledge gaps, and demonstrating practical measures for the inclusion of mangroves in REDD+ across Asia. A renewed focus on mangroves in climate change responses will also contribute to securing the many goods and services that mangroves provide to support dependent coastal communities.

MFF put continued emphasis on collating, sharing and applying best practices and lessons learned to efficiently support those countries in their response to emerging issues in coastal resource management.

More info: https://www.mangrovesforthefuture.org
Toward a blue future in the Western Indian Ocean region

by Thomas Sberna

Not The Rolling Stones

As I look back at the world we lived in before the COVID-19 crisis, my days playing music come to mind. I first started as a kid, playing trumpet in an orchestra. I remember thinking: what’s the point of having five trumpets, seven violins or even two drummers in the same group? As I grew up and became a young man in search of his identity I started a small band of my own, playing guitar and singing. After countless rehearsals we had our first performance in a bar. The show went well and after that we had many more opportunities to play. It was a thrill and a dream come true.

Until one day,

I was sick and slowly losing my voice and energy but had to perform that night. From the first notes that came from both my guitar and my voice I knew this was going to be one of the worst nights of my life. After the show finally ended, I remembered the time when I used to play in an orchestra and thought: I wish we had five guitars and seven singers!

Too big to fail?

That was my first experience of what we now commonly refer to as resilience, or in my case, a lack thereof. Obviously, an orchestra is much more resilient than a small band. If one musician is sick, the concert still goes on and people will probably barely notice. So what makes an orchestra resilient? Redundancy. Diversity. Adaptability. Redundancy because there are several people playing the same instrument. Diversity because there is a wide range of instruments and sheet music. Adaptability because it can adapt to pretty much any type of music, size and shape required.

Paradoxically, diversity, redundancy and adaptability are often considered as counter to efficiency and profitability - two principles that our modern society has prioritised for so long. Why would we cultivate 100 varieties of corn when just a few can achieve so much economy of scale? Why would we produce something that is produced somewhere else much cheaper? Why would we have 20 hospital beds in a town where we only need 10 on average?

And then came Covid-19. It’s not as if we didn’t know it would happen either. For most epidemiologists the occurrence of such a pandemic was only a question of when. But we thought we were so efficient and our economies were producing so much that this type of event would not touch us. This has been a costly lesson in humility.

Humility is primarily the attitude of being conscious that no one is perfect and that nothing is too big to fail. And it is fundamentally about listening. When there are signs that something is wrong or about to happen, we need to listen. And that means listening to science. The only way to deal with this reality is to build a system where even if one part fails, the rest of it still works. In other words, a resilient system. One that can cope with crisis, rebound from failure, and adapt to changing circumstances. Because not only has it happened, it will happen again.

Gearing up for the challenge

While we are dealing with Covid-19, the climate and biodiversity crisis must not be forgotten – indeed we can see some elements reflected between the two.

Because of its particular exposure and vulnerability, the Western Indian Ocean (WIO) region is one example of an area that faces the full scale of the climate and biodiversity crisis. 2019’s Idai and Kenneth Cyclones and the current floods that have already claimed hundreds of lives in Eastern Africa underline the need to take urgent action to protect local communities.

As unprecedented challenges require unprecedented solutions, IUCN is launching an ambitious coastal and ocean resilience programme for the WIO region.

It aims to respond to the needs of the region, both in terms of conservation and development, helping to unlock the potential of blue natural capital. Promoting the development of a sustainable and resilient blue economy represent a unique opportunity. To guide its development, implementation and to achieve its goals, this new programme is based on the premises of IUCN Eastern and Southern Africa’s Blue Resilience Framework: Blue Planet, Blue People and Blue Partnerships. It aims to structure IUCN’s interventions in the WIO and build resilience at seascape level.

The Blue Resilience Framework

Supported by the resilience principles of redundancy, diversity and adaptability, the framework can be described as follows:

Blue Planet: like any living organism, a seascape has its own critical features (or organs) that need to be protected if the rest of the seascape is to stay healthy. This pillar is at the core of the framework and therefore focuses on securing the health of critical ecosystems by supporting the establishment and increasing the effectiveness of area-based conservation measures.

Blue People: for sustained ocean health, stakeholders of the area must become ocean stewards themselves and directly benefit from ocean conservation. This pillar therefore focuses on increasing ocean and coastal benefits to the people by unlocking the incredible potential of the WIO’s natural capital.

Blue Partnerships: overcoming today’s challenges will require all parties to join forces, and for conservation efforts to be sustainable and impactful at scale. We believe that innovative and ambitious partnerships will be a critical piece of the solution.

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To address these challenges, the Coastal and Marine Programme in Central and West Africa got involved with various projects fighting coastal erosion in 2019. The first is a large World Bank project mostly focused on six beneficiary countries: Senegal, Mauritania, Sao Tomé et Príncipe, Benin, Togo and Côte d’Ivoire, with IUCN providing technical support. A contract was also signed between IUCN and our partner the Centre de Suivi Ecologique (CSE) in Dakar to establish an observatory of the coastal area in West Africa. Another contract was drafted with the Convention d’Abidjan to develop and strengthen the regulatory framework for coastal management.

A project funded by Fonds Français pour l’Environnement Mondial, and implemented by CSE, is working to promote green solutions. One component aims to produce data for a better understanding of coastal risks and to build the capacity of the CSE and partners. Another component intervenes in different pilot sites to implement green solutions to coastal erosion.

And finally, the programme covers a large EU-funded mangrove protection project in nine West African countries. This project will look into strengthening the MPAs where mangroves are present through measures such as better surveillance and improved management plans. A sizeable small-grants programme to be implemented by local actors, NGOs and CSOs will be used to fund alternative livelihoods, training, capacity-building and research grants.

The challenge of the Marine and Coastal Programme is now to establish synergies and collaborations not only between those projects but also with the many partners involved in coastal management in West Africa. It will be developing new projects to improve its impact in the fight against coastal erosion while promoting green solutions and the conservation of natural resources.

Coastal erosion and flooding in West Africa is seriously endangering livelihoods, security and coastal infrastructure. Strong storms and the rise of sea levels are increasingly destroying homes, roads and buildings that have been part of the landscape for generations. In addition, sand mining is weakening beaches and mangrove forests are disappearing. Some locals have no choice but to leave - a migration that is disintegrating communities and making lasting changes to the social fabric.

The coast between the mouth of the Amazon and the Orinoco rivers, also known as the North Brazil Shelf (NBS), is one of the world’s most extensive muddy shorelines. Over thousands of years, the accumulating coastal plain has formed expansive coastal swamps and mangrove systems. Today, these coastal ecosystems are highly threatened by human activities and climate change. Unless space is maintained or provided, mangroves will be “squeezed” between rising seas and hard flood protection levees. Factoring in conservation and restoration of mangroves as part of development and climate change planning will be critical to maintaining these ecosystems and the services they provide.

The NBS Mangrove Project (Setting the Foundations for Zero Net Loss of the Mangroves that Underpin Human Well-being in the North Brazil Shelf Large Marine Ecosystem), was an 18-month project, funded by the GEF and implemented between Conservation International and IUCN to help establish a shared and multi-national process for an integrated management of coastal ecosystems in the NBS. The project highlighted both the social and ecological importance of mangroves in the preservation and generation of key ecosystem services (e.g. nurseries for fisheries, coastal protection, water quality, blue carbon) from which local communities in the NBS countries are beneficiaries. The countries of Suriname and Guyana were prioritised to consolidate and improve the technical knowledge base necessary to support national and regional coastal management strategies as well as potential opportunities to deploy nature-based solutions.

As a result, IUCN together with project partners, developed a valuable baseline of knowledge and technical assessments as inputs towards a collaborative vision and a coordinated well-informed management of NBS mangrove systems, with emphasis on the information needs of Guyana and Suriname. At the same time, it has explored the creation of a transboundary coordination mechanism between the countries of Guyana, Suriname, French Guiana and Brazil aimed at improving integrated coastal management of the extensive, ecologically-connected yet vulnerable coastal habitats of the NBS region.

To learn more about mangroves in this region, visit https://nbslmegef.wordpress.com/ or contact emilio.cobo@iucn.org (IUCN South America).
The world has changed in the 18 years I have been with IUCN’s Global Marine and Polar Programme and conservation has changed with it. The Programme has grown and evolved to cover a multitude of conservation needs and now operates in most of the world’s oceans. There have been reasons to celebrate, but also reasons for further concern as conditions change and knowledge improves.

IUCN and its members have been involved in many expansions of conservation. We have seen a remarkable growth in the size and quality of Marine Protected Areas, from less than 1% of the ocean area protected to more than 7% - an area equivalent to North America. Recently, the Ross Sea received better protection and the Cook Islands created the largest MPA on the planet - the size of continental France, Germany, Sweden and Spain put together. With these expansions come challenges; these include sustaining livelihoods, reducing or eliminating extractive practices, managing tourism and regulating climate change as well as new threats like seabed mining.

Population growth, particularly in coastal regions, is one of the reasons little progress has been made on reducing the human impact on the oceans. We have seen the severe effects of warming waters all over the world and particularly on coral reefs, which have dramatically declined. Our report on the status of the Caribbean coral reefs provided a great deal of new information on the impacts of reef deterioration, leading to a mere 14% coral cover on average throughout the region. IUCN has consistently tried to be at the forefront of conservation science, including on emerging issues like ocean acidification and deoxygenation, and has emphasised the relevance of science to decision-makers, be they governments, local communities or private industry.

One of the surprising aspects in the field of marine conservation is how frequently new threats necessitate reprioritising our work. A recent example of this is marine plastic pollution. Although we have known about this challenge for some time, it is only in the last five or so years that we have seen the extent of the damage. Impacts on human health, particularly from microplastics, remains poorly understood and we face the great challenge of cleaning up the results of our careless consumption. Encouragingly, microorganisms, which can help break down various forms of plastics, may provide some assistance.

Progress has been made in tackling the challenges of our high seas and deep seas. Several exciting expeditions have resulted in the discovery of new species and a better understanding of new environmental challenges like damage from destructive fishing practices. Seabed mining has received a lot of attention in recent years and IUCN’s recent report highlights the associated threats to unique marine biodiversity that are still not fully understood.

Through a number of different means, we have also delivered leading analytical pieces and extensive field programmes including Mangroves for the Future, Ocean Risk, a programme to tackle plastic pollution across multiple oceans, as well as coastal resilience initiatives in countries like Mozambique.

There have been reasons to celebrate, but also reasons for reprioritising our work. A recent example of this is marine plastic pollution. Although we have known about this challenge for some time, it is only in the last five or so years that we have seen the extent of the damage. Impacts on human health, particularly from microplastics, remains poorly understood and we face the great challenge of cleaning up the results of our careless consumption. Encouragingly, microorganisms, which can help break down various forms of plastics, may provide some assistance.

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The Marine Plastic Footprint

An estimated 12 million tonnes of plastic are leaking into the ocean every year, causing an unprecedented environmental crisis. This leakage starts during production, moves through transport to consumer usage, waste, and finally, the leakage of plastic into the world’s oceans. This plastic leakage is known as the “Marine Plastic Footprint”. This report offers, for the first time, a comprehensive framework to measure that footprint, step-by-step, using a life-cycle perspective. By providing means for the assessment of the marine plastic footprint, this report hopes to support companies that are working towards setting sound priorities for action on the circularity and value of plastic.

Ocean deoxygenation: everyone’s problem

The heating of seawater and its progressive acidification are not the only major global consequences of greenhouse gases emissions in the marine realm. It has been known for some decades that nutrient run-off from agriculture causes oxygen-depleted zones to form in the sea, as life-giving oxygen is used up in the water column and on the sea floor. This phenomenon is called ‘ocean deoxygenation’. Featuring the work of 67 scientific experts from 51 institutes, Ocean deoxygenation: everyone’s problem tells the scale and nature of the changes being driven by ocean deoxygenation.

Review of plastic footprint methodologies: laying the foundation for the development of a standardised plastic footprint measurement tool

This report identifies numerous gaps and opportunities for developing a standard methodology to measure the extent of the plastic pollution crisis. The urgently needed methodology will provide decision makers with improved data collection and analysis on plastic waste management at the global, regional and national levels. The 19 existing and emerging plastic footprint methodologies reviewed in the report identify the abundance and distribution, types and sources, as well as pathways and sinks of plastic pollution at different scales.

Oases for marine life: state of knowledge on seamounts and hydrothermal vents

Seamount ecosystems have a high biological productivity supplying fish, seabirds and marine mammals. They are also connecting zones for the distribution of tropical and temperate species, and the associated features feed into highly productive ecosystems, unique species and essential ecological services. The purpose of this bibliographic study on seamount and hydrothermal vent ecosystems is to review the state of knowledge on the subject matter in order to better guide decision-making processes to develop and implement conservation and sustainable management measures.
Deep seabed mining: a rising environmental challenge

The sea below 200 meters depth is the largest habitat for life on Earth. Though it is perpetually cold, generally dark, and subject to extreme pressures, the deep sea contains a wealth of unique and unusual species, habitats and ecosystems. It also contains a wealth of mineral resources, some of them in unique or highly enriched concentrations. Past attempts to recover these resources were impaired by legal uncertainties and technical constraints, along with metal prices that did not justify the enormous investments required. Today, the legal uncertainties have been largely resolved, marine mining and environmental monitoring technology has advanced rapidly. This report aims to stimulate interest in the deep ocean and the discussions surrounding its potential development, with a specific focus on deep-sea mining of hard-metal-bearing minerals.

Ocean connections: an introduction to rising risks from a warming, changing ocean

The ocean on which Earth depends for relatively predictable weather, temperature and provisioning of goods and services is now changing more rapidly than it has for millions of years. This is due to human interactions with the atmosphere and land, and increasing expansion of the footprint of human impacts across the ocean. It is increasingly evident that patterns and trends in ocean and atmospheric responses are falling outside documented historical norms. The report explores the hazards and risks associated with ocean warming from a variety of angles, and by using graphics looks at how these “simple” temperature-related changes to the ocean can ripple out into many aspects of society. It aims to stimulate further discussion by exploring and exposing the issues that arise.

Selected grey literature and Joint releases

- Blue Natural Capital Positive Impacts Framework
- RNC Positive Impacts Management System
- Blue Bonds: Financing Resilience of Coastal Ecosystems
- Towards Sustainable Blue Infrastructure, Finance
- Plastics mare balteum
- ABMTs in ABNJ: building ambition, broadening participation and planning ahead
- Tangled roots and changing tides: mangrove governance for conservation and sustainable use
- Increasing success and effectiveness of mangrove conservation investments

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IUCN Marine projects around the world

OFFICES & COLLABORATORS
- IUCN Headquarters (Gland, Switzerland)
- Outposted locations with marine staff and collaborators
- EEZ (marine regions)

MAJOR PROJECTS
- BEST Initiative – Ecosystem Profiles and Grant Mechanism Program for Projects in the European Overseas

Polar regions
- Arctic Marine World Heritage project
- Microplastics in the Arctic
- Network of Antarctic MPAs
- Research on plastics, ice and climate change

Atlantic Ocean & Caribbean
- Plastic Waste-Free Islands – Antigua
- North Brazil Shelf LME mangrove project
- Law of the Sea Implementing Agreements, NY
- Large Marine Ecosystem platform (lmeshub.net)
- Coastal Ocean Erosion in West Africa
- Ocean deoxygenation awareness
- Global Mangrove Alliance
- Plastic Waste-Free Islands – St Lucia
- Sargasso Sea Commission
- Plastic Waste-Free Islands – Grenada

Europe, Mediterranean & Red Sea
- Baltic Marine Plastics project
- Life Blue Natura – blue carbon Andalucia
- Blue Natural Capital Finance – Luxembourg
- Blue Solutions
- Climate change report cards – Corsica
- Deep sea Lebanon (Oceana/IUCN/FAO-SFA)
- Fishing governance in MPAs

Indian Ocean
- Scoping blue carbon opportunities – MIZTKE
- Marine plastics & Coastal communities
- Ocean Risk in the Western Indian Ocean
- Save Our Mangroves Now 2
- MAPPLASTICOs – Marine plastics & Coastal communities
- Ocean Acidification regional dialogues
- Resilient Coasts Initiative

Invasive species in MPAs: MedMits network
- PlasticMed-BiMed North Africa
- Marine Protected Areas & Aquaculture
- MPA Networks & Integrated Zones Management
- MPA strategies, Network development and Fisheries
- MED bycatch
- Monk Seal Conservation in the Eastern Mediterranean
- Plastic Waste Free Islands – Menorca
- Plastic Waste Free Islands – Cyprus
- Sustainable Aquaculture Fish Feed
- POSTEMED2 – Management of Posidonia beaches

Pacific Ocean
- Blue Action Fund
- Plastic Waste Free Islands – Fiji
- Deep Seabed Mining awareness
- GEF Blue Forests Project
- Fish Aggregation Device management
- MACRO
- MAPPLASTICOs – Marine plastics & Coastal communities
- Plastic Waste Free Islands – Samoa
- Plastic Waste Free Islands – Vanuatu
- Western Gray Whale Range-wide Conservation Initiative
- BNCCF Blue Finance: Oriental Minstero
- BNCCF Net-works: Northern Rutto
- BNCCF BlueRyu
- IMPAC 5

Note:
most projects have a wide geographical scope. In these cases the marker shows either the location of the office in charge of a specific study/project site or of the approximate centre of the corresponding region.