

Newsletter Winter 2021-22

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Exciting progress to recognise key elements of marine biodiversity



GOBI research awarded a two-year extension

To consolidate the success and achievements from GOBI's five-year programme of research funded through the International Climate Initiative (IKI), a further two years' work has been approved to build on these results and implement them in a regional setting. The extension recognises the value of GOBI's continuing input to the science base underpinning the EBSA process, as well as to the CBD Post-2020 Global Biodiversity Framework and to other international bodies, such as the Convention on Migratory Species of Wild Animals (CMS). The expanded work programme will also allow GOBI to continue to input to ongoing negotiations for the BBNJ Implementing Agreement. With this extension, GOBI's research will continue to November 2023.

The work undertaken by project partners over the two-year extension will enable the tools and methodologies developed so far to be tested, further improved and demonstrated to support and inform sustainable management of ocean biodiversity in the NW Indian Ocean region, an underrepresented region in oceanic research. Specifically, work will include the following:

An extension of the current bioregionalisation exercise into the NW Indian Ocean (Arabian Sea, Red Sea, The Gulf), thus completing coverage of the entire Indian Ocean. A dedicated workshop will consolidate the uses and benefits of bioregionalisation information in ecosystem management, including an MPA prioritisation processes for the entire Indian Ocean.

Expansion of the gap analysis of EBSA coverage, focusing on areas beyond national jurisdiction and potential threats to biodiversity in those areas, together with development of area-use models for migratory species, such as sea turtles, to support the agenda of the CMS. Data and functionality updates to the MiCO platform will continue, providing support for many tasks across the project.

Continued collation of seabird tracking data to highlight major marine flyways for all ocean basins, contributing information to the MiCO platform, and illustrating the importance of ecosystem connectivity, particularly in areas beyond national jurisdiction. Collaboration with marine mammal experts to identify multispecies (seabirds and marine mammals) hotspots in the NW Indian Ocean, to inform future discussions on marine spatial planning and conservation. Based on the now well-established IMMA process, **two further regional IMMA workshops** (one of which is pending since the outbreak of the COVID pandemic) will work towards completing IMMA coverage for the southern hemisphere. In close cooperation with work on seabirds and other migratory animals compiled in MiCO, this will further strengthen the scientific understanding of behaviours of marine mammal migratory species, with special attention given to migratory species behaviour in areas beyond national jurisdiction. Lessons learned from the IMMA process will be used to help support similar initiatives for other marine taxa such as sea turtles (p8) and sharks and rays (p10).

Results from activities in the NW Indian Ocean region will be brought together in a **regional demonstration workshop in 2023**, that will work with relevant regional organisations and coastal States to apply the tools and methodologies developed within the project in support of ecosystemoriented marine management and marine spatial planning. For the wider ocean science-focused community, the endof-project **GOBI science conference** – postponed from 2020 due to the COVID crisis – will convene researchers and policymakers to showcase the achievements and advances made over the full seven-year span of GOBI's IKI-funded research, as well as to explore how these tools can be further developed in collaboration with other ongoing research and applied in other regions of the world.

All these activities will be coordinated and supported by the GOBI Secretariat, who – alongside the whole GOBI partnership – will continue to promote the global biodiversity conservation agenda through various means, including publications, social media engagement, and presentations at scientific and regulatory fora.

Meanwhile, the achievements of GOBI partner MarViva Foundation on the **governance of the Costa Rica Thermal Dome** have formed the basis for the new <u>SARGADOM</u> <u>Project</u> funded through a grant from Fonds Français pour l'Environnement Mondial (FFEM), where they will continue to develop new hybrid governance approaches. Duke University's research on **hydrothermal vents on the Mid-Atlantic Ridge** continues to inform deliberations at the International Seabed Authority on Regional Environmental Management Plans for mid-ocean ridges across the world.



Spreading the GOBI message

The two-year extension awarded to GOBI will support the continuation of some of its research elements, with a focus on regional application in the NW Indian Ocean. However, with five years of dedicated research already under its belt, GOBI has much to share and contribute towards the global conversation on marine biodiversity conservation.

In September 2021, GOBI participated in the IUCN World Conservation Congress in Marseille, France. Pandemic restrictions put paid to the planned in-person multi-speaker 'show and tell' session, having to settle instead for a virtual session consisting of a digital poster and video presentation. GOBI Secretariat's Chris Barrio fronted the presentation, highlighting GOBI's role in facilitating the transformation of scientific findings into policy action for each strand of the GOBI research programme. Both the poster and presentation can be viewed on the <u>GOBI website</u>.

Part 1 of the two-part CBD COP15 was also held virtually in October 2021. While interactive participation was restricted to Party (State) representatives, the GOBI Secretariat and nominated partners were able to follow discussions amongst the Parties and the CBD Secretariat. GOBI's contribution to proceedings was in the form of supporting documents to evidence the need for updates to several EBSA descriptions based on newly available data. A decision on the rules and modalities for EBSA modifications is expected to come from the reconvened SBSTTA-24 deliberations (13-29 March 2022, Geneva, Switzerland) and Part 2 of CBD COP15, to be held face-to-face in April-May 2022 in Kunming, China.

GOBI was also present at the Virtual Ocean Pavilion in Glasgow, United Kingdom, during the UN Climate Conference COP26 in November 2021. A short video-loop presentation was on display at the venue, highlighting GOBI's key messages on the importance of science to inform ecosystem connectivity, resilience and regulation, as well as the interdependence between climate stability and biodiversity, and the importance of collaboration across environmental conventions and scientific disciplines. The video can be viewed on the <u>GOBI YouTube channel</u>.

Several other relevant conferences are in the pipeline over the coming months (e.g., CBD SBSTTA-24 Part 2, the One Ocean Summit, One Ocean Conference, BBNJ IGC4) to which GOBI and its partners will contribute their expertise and knowledge as necessary.

New study examines impact of the EBSA process

The Convention on Biological Diversity (CBD) recently published a new report to celebrate their decade-long efforts to describe and recognise Ecologically or Biologically Significant marine Areas (EBSAs) across the globe.

With an authorship team led by GOBI Secretariat, the report examines the impact of the EBSA process to date, celebrating its successes, appraising where there are knowledge and data gaps, and identifying lessons for the future. The EBSA process has established itself as a global catalyst for regional collaboration, strengthened the ocean science knowledge base, and demonstrated the value of an intensely collaborative approach to marine biodiversity evaluation that is rare in contemporary marine science and management. But there is work yet to be done, and with new global biodiversity targets on the horizon the EBSA process has much to offer as an example of how to achieve rapid uptake of scientific knowledge in pursuit of national and global goals for conservation and sustainable use of marine resources.

Secretariat of the Convention on Biological Diversity (2021) Special Places in the Ocean: A Decade of Describing Ecologically or Biologically Significant Marine Areas. <u>www.cbd.int/marine/ebsa/booklet-ebsa-impact-en.pdf</u>



Next steps for the first-ever high seas MPA based on seabird tracking data

by Tammy Davies, BirdLife International

The North Atlantic Current and Evlanov Sea-basin marine protected area (NACES MPA) was designated on 1 October 2021 by the OSPAR Commission. This was a huge win for seabirds and science: it protects one of the most important concentrations of migratory seabirds in the Atlantic Ocean, and was identified through a collaborative analysis of seabird tracking data, making it the first high-seas MPA to be identified from tracking data. The NACES MPA is a major seabird foraging hotspot and is estimated to be used by up to 5 million birds throughout the year, travelling from a minimum of 56 colonies across 16 countries in both the North and South Atlantic. The MPA covers almost 600,000 km² and aims to protect the 21 seabird species and the processes that support them at the site. However, the seafloor was not included in the final MPA designation. This overlooks an ecosystem-based approach to management and risks undermining the benefits the site can contribute to biodiversity conservation. Nevertheless, a twoyear Roadmap has been agreed that sets out an evidence review process to consider the further development of protection for the deep-sea ecosystem of the NACES MPA. OSPAR is set to host a workshop in February/March 2022 to discuss available evidence on additional OSPAR listed features. There is an intention to enhance protection by including additional OSPAR-listed features and the seabed in the scope of the MPA, as supported by the review process.

OSPAR has prioritised threatened habitats and species within its jurisdiction for conservation action. Suitable habitats and species to review from that list could include:

- seamounts, seamount-like features and associated communities, abyssal plain and deep-sea trenches, midocean canyons, the subpolar front and seasonal and persistent eddies;
- seabird species such as the black-legged kittiwake, thick-billed murre, Audubon's shearwater, and those representing different functional groups, including

Right: Location of the NACES MPA (shaded red) in the North Atlantic, alongside other OSPAR MPAs (shaded orange). The OSPAR area is outlined in grey. From Davies et al. (2021)

shearwaters, fulmar, petrels, storm- petrels, gulls, terns, skuas and alcids;

 large pelagic species, including the blue whale, leatherback turtle, bluefin tuna and basking sharks, as well as other mesopelagic cetaceans, sharks, bony fish and cephalopods.

In addition to the listed habitats and species, further information on ecosystem processes, including vertical connectivity would be useful. Vertical connectivity in areas beyond national jurisdiction is not yet well understood, and for many species for which there are tracking data, there is still limited knowledge on the processes that support them, including food webs and associated interactions with the seafloor. Any detailed information on upward coupling from the seafloor to the water column would be helpful to consider as part of this review process, and could also help facilitate future decisions on other high seas MPAs. Please get in touch if you have any relevant information you would like to share!

For further information, see Davies et al. (2021) Tracking data and the conservation of the high seas: Opportunities and challenges. <u>doi: 10.1111/1365-2664.14032</u>



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Above: The NACES MPA site is used by 21 seabird species from 56 colonies in the Atlantic. Lines indicate the number of species travelling to the site. For detail see <u>Davies et al. (2021)</u> Below: Seabird species such as (clockwise from top left) Norther fulmar, puffin, razorbill, Sabines gull and (main image, opposite page) Arctic tern are regular visitors to the NACES area in the North Atlantic. Images courtesy Paul F. Donald





Regional cooperation pays dividends for conservation in the Pacific Ocean

Marine biodiversity conservation and on-the-ground practitioners received a much-needed boost when it was announced at the Climate Change conference (COP26) in November 2021 by the Ecuadorian president that existing marine protected areas in the tropical eastern Pacific Ocean would be expanded and merged to create one of the largest MPAs in the world. The newly formed Eastern Tropical Pacific Marine Corridor (CMAR, in Spanish) MPA covers more than 500,000 km² – broadly the same area as Spain or France – in an effort to create a safe corridor (by restricting harmful fishing practices) for species travelling between the coasts of Ecuador, Colombia, Panama and Costa Rica.

The announcement is the culmination of 25 years of cooperation and negotiations between each country's respective environmental authorities, with the goal of improving management coordination between the Cocos, Galapagos, Malpelo, Gorgona and Coiba MPAs in light of their significant ecological connectivity. The initial concept of CMAR was formally established in 2004 by the San Jose Declaration, a non-binding agreement which set out its objectives and established a regional cooperation mechanism for its further development and management. The formalisation and announcement of the CMAR MPA in 2021 is a big step for the protection and conservation of biodiversity in the region.

The forward-looking Action Plan for CMAR outlines a vision to achieve effective governance and participation at a regional scale for the conservation and sustainable use of biodiversity in the eastern tropical Pacific. GOBI's efforts in partnership with MigraMar, the Marine Conservation Institute, and the MarViva Foundation in Costa Rica have played, and will continue to play, an important role in supporting this vision by assisting with the integration of scientific knowledge into the political, legal, economic and societal systems of participating countries, each with its own distinct culture and priorities.

A recent article describes the history, progress and challenges of the CMAR initiative, with an eye on how similar regional voluntary cooperation mechanisms could also work elsewhere:

Enright et al. (2021) The Eastern Tropical Pacific Marine Corridor (CMAR): The Emergence of a Voluntary Regional Cooperation Mechanism for the Conservation and Sustainable Use of Marine Biodiversity Within a Fragmented Regional Ocean Governance Landscape. doi: 10.3389/fmars.2021.674825





Hope rekindled for the plight of the Caspian seal

by Erich Hoyt, IUCN SSC-WCPA Marine Mammal Protected Areas Task Force

The IUCN Task Force on Marine Mammal Protected Areas recently announced the completion of peer review and award to Caspian seals of three Important Marine Mammal Areas, or IMMAs. These are part of a tranche of 14 new IMMAs for the marine mammals of the Black Sea, Turkish Straits and Caspian Sea based on the IMMA Workshop conducted in February 2021.

Caspian seals (*Pusa caspica*) live only in the Caspian Sea; located in Central Asia it is the largest landlocked water body in the world. Caspian seals have been listed as Endangered since 2008 by the IUCN, having declined by more 70% in the 20th century, primarily as a result of unsustainable hunting for their fur and blubber. The Caspian seal was also added to the national Red Books of Russia and Kazakhstan in the last two years, making it now Red Listed in all five Caspian countries. Following a proposal initiated by the Islamic Republic of Iran, the Caspian seal was added to Appendices I and II of the United Nations Convention on the Conservation of Migratory Species of Wild Animals in 2017.

"The main threats for Caspian seals stem from human activities" says Simon Goodman, ecologist at the University of Leeds, UK and a member of IUCN's pinniped specialist group. "This includes very high rates of seal mortality in fishing gear set for sturgeon poaching, and habitat degradation arising from coastal development. Also of concern are reductions in the winter sea ice the seals use for breeding, and a decline in the Caspian Sea level predicted for the coming decades due to climate heating."

The newly identified IMMAs are not protected areas as such, but they represent what experts say are essential habitat for the future of the Caspian seal and other marine mammals of the region. IMMA designation is intended to help stimulate the development of stronger protection for key marine mammal habitat, including the breeding areas, migration routes, foraging areas and sites used by animals to haul out on land for resting and moulting. Increasing levels of disturbance have caused Caspian seals to abandon most of their traditional haul-out sites, while offshore habitats are sensitive to industrial development.

Nataliya Shumeyko, from A. N. Severtsov Institute of Ecology and Evolution of the Russian Academy of Sciences, Moscow, and IMMA Regional Coordinator for the Caspian Sea commented: "While the legislative protections are welcome, investment is still needed to fund active conservation measures to reduce seal mortality and protect these habitats. We all have to do more for this endangered species."

Alongside recognition for the plight of the Caspian seal, other endangered marine mammals under the conservation spotlight are the endangered Black Sea harbour and bottlenose porpoises, and the vulnerable Black Sea common dolphin. All these species should hopefully benefit from higher awareness of their plight by activity and environmental managers in the region.

The report of the Black Sea, Turkish Straits System and Caspian Sea IMMA Workshop is available for download from the IMMA website, along with maps and IMMA background data. The IMMA e-Atlas, showing the global network of IMMAs and a searchable database, can be found at www.marinemammalhabitat.org /imma-eatlas/



Important Marine Turtle Areas: defining areas and developing criteria by the IUCN Marine Turtle Specialist Group

Why IMTAs?

Conservation priority-setting at any scale requires the identification of areas that are important for the persistence and recovery of biodiversity, especially protected taxa that have wide geographic ranges. However, one such taxon – marine turtles – is currently underrepresented in global and regional priority-setting processes because there is no global source for the information needed to identify areas that are important to them.

Working through the IUCN Marine Turtle Specialist Group (MTSG)'s Burning Issues 7 (BI7) framework (MTSG-BI7), we have developed the definition of Important Marine Turtle Areas, or IMTAs, and the criteria for designating IMTAs in the future. The IMTA process parallels similar initiatives for seabirds (i.e., IBAs) and marine mammals (i.e., IMMAs), thus ensuring that biodiversity assessment and prioritisation processes are comprehensive and comparable across multiple taxa of marine megafauna, drawing heavily from existing priority setting exercises, as well as the Indian Ocean and South-East Asia (IOSEA) Important Site Network which applies specifically to marine turtles in the IOSEA.

The goal of the IMTA process is to provide a robust, globally consistent framework to support conservation and management of areas important to marine turtles at multiple scales. Potential applications for IMTAs at regional or national levels include (but are not limited to):

- informing designation of marine protected areas or other instruments of conservation policy or legal framework to protect marine turtles or areas where human cultures and marine turtles overlap;
- evaluating the contribution of conservation and management efforts to marine turtle recovery, and
- prioritising additional efforts needed to protect and recover marine turtles in distinct countries and regions.

In recent years, the global MTSG membership of over 300 marine turtle specialists with expertise spanning biology, ecology, and socioeconomic and cultural values of marine turtles, has worked to develop criteria and a process for identifying IMTAs. Using surveys and online tools, as well as focused discussion via email and video conferencing, we worked with the MTSG membership to define IMTAs and develop criteria through a four-step consultation process lasting 18 months. This process had many points of entry for the entire MTSG, and resulted in the definitions and criteria shown opposite.

What is an IMTA?

We now define IMTAs as "discrete areas within existing marine turtle regional management units (RMUs) that are of particular biological significance for the persistence of marine turtles, and/or where the contributions of marine turtles to traditions and cultures of local people are particularly significant." While the biological and cultural significance of any area where a marine turtle is present might deem it important, IMTAs are intended to reflect the truly most important areas for each RMU.

What are the criteria, and how will they be applied?

Proposed IMTA criteria are designed to be flexible in order to be inclusive of the many differences that exist across marine turtle species' ranges, including differences in cultures, ecosystems, and data availability, thus allowing for the integration of different types of knowledge to complete the regional or local IMTA assessment. We aim for the determination of IMTAs to be a decentralised process whereby regions have the ability to define IMTAs according to their unique set of biological traits and cultural contexts. Thus, quantitative thresholds are not specified at a global level, though we provide some examples to guide discussions. If quantitative thresholds are to be used for any of the criteria, these will be defined for individual regions, as appropriate, given available information and cultural context. Similarly, maximum and minimum sizes of IMTAs will also be determined at the regional level.

How will IMTAs be determined?

IMTAs will be identified through a two-step process. First, a candidate area must fall into one of two categories: Biologically Significant or Culturally Significant. Second, the area is evaluated against five criteria to demonstrate its disproportionate importance to a given region. For example, a nesting area could fall into the Biologically Significant category and comply with the Relative Importance to the Population criterion, and/or the Distinctiveness criterion, due to the genetic diversity of the population that nests there. Similarly, a foraging area could be Culturally Significant and of particular importance because turtles are used as part of local traditional cultural practices, thus meeting the Distinctiveness criterion. The definitions of each category and criterion are given in the tables opposite.



Many types of data can be used to both document that an area meets IMTA criteria, or to define boundaries of an IMTA. These data include:

- population data
- global or regional management documents (e.g., MTSG regional reports; IUCN Red List; Red List of Ecosystems; LargeMarineEcosystemsassessments;Intergovernmental Science-Policy Platform on Biodiversity and Ecosystem Services, IPBES)
- genetic and other molecular (e.g., stable isotopes) data
- tracking or survey data
- local or indigenous knowledge, published or unpublished (e.g., historical, non-technical references).

The process by which IMTAs will be defined is still being refined, but we anticipate it to be highly participatory and with many points of entry for multiple stakeholders both locally and globally, similar to how the IMTA criteria were developed. In short, we anticipate that Areas of Interest will be nominated first by MTSG members and other regional experts, and these areas will be refined using regional workshops that host a variety of sea turtle experts including local community experts, resulting in Candidate IMTAs. Candidate IMTAs will be reviewed and finalised by both local and global members of MTSG. We hope to initiate a pilot testing of IMTAs in a single region within the next one-totwo years, pending availability of funding.

Categories and criteria for assessing potential Important Marine Turtle Areas

Step 1 - An area must fall into one of these two categories:

Categories	Definition
Biologically significant	Areas that are important for courtship, mating, nesting/hatching; areas and conditions that provide an important habitat on which a species or population depends for vital processes such as feeding, resting, and ontogenetic development; areas used as migration corridors or other movements, connecting distinct life-cycle areas or the different parts of the year-round range of a non-migratory population.
Culturally significant	Socio-economic and cultural activities occurring within an area are compatible with conservation or marine turtles and their habitats such that they do not degrade the integrity of marine turtle habitat and do not entail unsustainable use of marine turtles; specifically may include areas associated with marine turtles where these species have a salient role in shaping cultural heritage, as reflected in the fundamental roles in diet, materials, medicine, and/or social practices; areas that contain prehistoric, historic, and/or contemporary cultural resources related to marine turtles; or areas that embody traditional or contemporary beliefs/practices of cultural, religious and/or spiritual significance, in relation to marine turtles occurring at regional or local scales.

Step 2 - The area identified in Step 1 must meet at least one of the following criteria, as described by supporting information, research data, and/or other evidence:

Categories	Definition
Relative importance to the population	Areas that are of particular importance to marine turtle populations, because of age class of turtles, number of individuals included, or other defining characteristics (e.g., > 50% of total RMU [regional management unit] nesting abundance, high density of foraging turtles regularly observed or inferred from tracking data).
Species or populations of particular conservation concern	Areas containing habitat important for the survival and recovery of species or populations at particularly high risk of extinction and/or under most severe threats, ideally according to an established conservation status assessment framework (e.g., IUCN Red List Critically Endangered, Endangered, or Vulnerable; MTSG's conservation priorities portfolio; national scale endangered species lists; documented significant historical depletion).
Aggregations or congregations	Areas with underlying qualities that support important concentrations of a species or population, especially those composed of multiple species or populations, or are important to the persistence of turtle populations or human cultural practices related to marine turtles.
Distinctiveness	Areas which sustain populations with important genetic, behaviorally or ecologically distinctive characteristics, including refugia from environmental change, or areas of distinct or important cultural significance in relationship to marine turtles.
Diversity	Areas containing habitat that support an important diversity of species, populations, genetic lineages, or human cultural practices (e.g., area regularly supports three or more species, RMUs or genetic management units).



Introducing ISRAs: Important Shark and Ray Areas

by Rima Jabado, IUCN Species Survival Commission Shark Specialist Group, and Giuseppe Notarbartolo di Sciara, IUCN Task Force on Marine Mammal Protected Areas

Sharks, rays, and chimaeras – collectively referred to hereafter as 'sharks' – are facing a global extinction crisis. According to the IUCN Red List of Threatened Species, it is now estimated that over one-third of sharks are threatened with extinction. Over the last century, fisheries have had a significant cumulative impact on sharks and this threat has been compounded by habitat loss and climate change. Threat levels are highest in coastal areas where 75% of threatened species occur. This makes sharks one of the most threatened taxa in the ocean, second only to amphibians at the global scale.

To address the plight of sharks across the globe, the IUCN Species Survival Commission Shark Specialist Group, with support from the IUCN Global Marine and Polar Programme and the IUCN Task Force on Marine Mammal Protected Areas, is engaged in an effort to develop an expert-driven innovative approach to ensure that discrete portions of habitats, critical to shark species – Important Shark and Ray Areas (ISRA) – are delineated and used in various place-based conservation and management initiatives across the world's ocean.





Recent innovations and developments in animal tracking, data collection and reporting have enabled the recognition of discrete areas of the ocean that are significant for various groups of endemic or highly mobile animals such as Important Marine Mammal Areas (IMMAs), Important Bird Areas (IBAs) and most recently, Important Marine Turtle Areas (IMTAs). The same approach can now be applied to shark conservation. Like their taxon-specific counterparts, ISRAs are intended to support environmental impact assessments of activities specifically affecting shark conservation, marine spatial planning exercises, marine protected area positioning, in all international, regional, national and local conservation contexts. Given the rapid degradation of the conservation status of a high proportion of shark species, along with the limited place-based protection these species have benefited from until now, implementing an ISRA approach at the global level is considered a matter of urgency.

ISRAs are defined as "discrete, three-dimensional portions of habitat, important for one or more shark species, that have the potential to be delineated and managed for conservation." Importantly, ISRAs are not marine protected areas, as no associated management measures are integrated in their identification.

The identification of ISRAs is an evidence-driven, purely biocentric process based on the application of scientific criteria supported by the best available science. This makes the ISRA identification process completely independent from political pressure. Any subsequent management measure can be detached from the ISRA identification process.





Above: Seasonal mobula ray aggregation, Sea of Cortez. Image courtesy NickPolanszky/Ocean Image Bank

An ISRA's main purpose is to attract the attention of policyand decision-makers to the need of maintaining the favourable conservation status of sharks in that specific area through the implementation of the most appropriate management measures, which can include a protected area designation.

Scientific criteria are yet to be defined by the IUCN Species Survival Commission Shark Specialist Group. However, they will be designed through wide consultation to capture important aspects of shark biology (e.g., age, growth, and reproduction), ecology and population structure and to encompass multiple aspects of species vulnerability, distribution and movement patterns, abundance, specific habitat requirements, and key life cycle activities, as well as areas of high diversity and endemicity.

The first workshop to gather relevant shark experts and set down the foundations for defining criteria to identify ISRAs took place virtually in January 2022. Attracting over 100 participants, discussions centred around establishing the value of ISRAs as a purely scientific process independent from policy, advocacy and downstream management decisions. Potential ISRA criteria were also discussed, with participants highlighting the need to acknowledge data quality and provenance/bias (i.e., indirectly from fisheries catch and landings data), inclusion of Data Deficient species, and the plight of depleted shark hotspots. Despite substantial efforts to conserve species at the international, regional, and national levels through improved fisheries governance and trade regulations, most shark populations continue to decrease at an alarming rate. Overall, less than 5% of shark species are currently listed on international treaties (e.g., Convention on the International Trade in Endangered Species of Flora and Fauna (CITES) or Convention on the Conservation of Migratory Species of Wild Animals (CMS)) or receive any type of protection. Fisheries and trade management measures alone are not enough to reverse population declines. However, a place-based conservation approach based on the information compiled by the ISRA process can play a critical role in halting these declines.

To find out more about this new and exciting development, visit <u>sharkrayareas.org</u>, where the ISRA Implementation Strategy and ways to engage with the process can be found.

New reading on shark and ray populations:

Overfishing drives over one-third of all sharks and rays toward a global extinction crisis by NK Dulvy et al. (2021) <u>doi: 10.1016/j.cub.2021.08.062</u>



Can measures be taken to avoid ship strikes to cetaceans in the northwest Mediterranean?

by David Johnson, GOBI Coordinator

The International Maritime Organization (IMO) definition of a Particularly Sensitive Sea Area (PSSA) is "an area that needs special protection through action by IMO because of its significance for recognised ecological, socio-economic, or scientific reasons and because it may be vulnerable to damage by international shipping activities". Such areas can be anywhere at sea (i.e., territorial sea, exclusive economic zone or beyond national jurisdictions), though PSSAs must meet at least one of the ecological, socio-economic or scientific educational criteria, prove vulnerability to damage by international shipping, and must include at least one Associated Protective Measure (APM).

An APM is an international measure within the purview of IMO, which regulates international maritime activities for the protection of the area at risk. APMs include IMOrecommended or compulsory pilotage, mandatory reporting (e.g., for single hull tankers carrying heavy grades of fuel oil), traffic separation schemes or areas to be avoided, no anchoring areas, or discharge prohibitions (e.g., MARPOL Special Areas). Possible impact of any proposed measures on the safety and efficiency of navigation, taking into account the area of the ocean in which the proposed measures are to be implemented is also a key consideration.



Above: The area of the NW Mediterranean Sea under consideration as PSSA.

The process of designating a PSSA is well established. Since 1990, the Marine Environmental Protection Committee of the IMO has reviewed and designated 17 PSSAs. Preparatory steps leading up to a formal proposal to IMO include gathering information, stakeholder consultations, interdepartmental coordination, and regional consultations to generate international support. GOBI has sought to validate the utility of scientific information gathered to support the EBSA process as contributory to PSSA information gathering, identifying a scale and information gap issues between the extent of features to be safeguarded and evidence for vulnerability to shipping impacts. GOBI's work also highlighted the northwest Mediterranean as one of two areas where EBSA-derived information could complement the PSSA process.

The Mediterranean is one of the 34 hotspots for biodiversity worldwide (10% of worldwide biodiversity, 28% of endemic species identified) but high pressure from human activities, including collisions between animals and shipping, is impacting marine mammal populations. The first regional IMMA workshop was held for the Mediterranean in 2016. The North West Mediterranean Sea, Slope and Canyon System IMMA was duly recognised for its level of productivity (comprising the Pelagos Sanctuary area complemented by an extension to the west encompassing the offshore portion of the Gulf of Lion) supporting vulnerable Mediterranean fin whales, endangered sperm whales and Risso's dolphins (https://www.marinemammalghabitat.org/imma-eatlas/).

A joint IWC-IUCN-ACCOBAMS Workshop in April 2019 recommended to "Further develop the process for the designation of a PSSA by IMO at a scale that includes the North West Mediterranean Sea, Slope and Canyons IMMA, plus potentially the Spanish corridor, to take into account whale population movement and distribution". During the ACCOBAMS MOP7 in November 2019, Parties (including France, Italy, Monaco and Spain) agreed to take these recommendations into consideration regarding this area and the process for designation of a PSSA by IMO. Furthermore, France, Monaco and Spain jointly support the Coalition for an Exemplary Mediterranean in 2030.

On 18-19 October 2021 the Europe and International Directorate of the French Biodiversity Agency (OFB) convened a technical workshop to further explore cooperation and enhance technical exchanges for a transboundary PSSA in the northwest Mediterranean Sea. The intention was to deepen common understanding and options for designing possible APMs in order to prevent and reduce collisions between large whales and ships. The workshop was informed by a preparatory study that had drawn together relevant biodiversity and socio-economic assessments against the



PSSA criteria, vessel traffic characteristics and vulnerability of the area to impacts from international shipping, and preliminary APM considerations.

A <u>review of the current state of knowledge</u>¹ considered characterisation of maritime traffic (noting seasonal variability), and traffic transiting both existing IMMAs and ACCOBAMS Cetacean Critical Habitat (resulting in recorded ship strikes or near miss events). This was complemented by overviews of national efforts (Spain, Italy and France) to mitigate ship strikes through anti-collision strategies and technology. A selection of international case studies (US Stellwagon Bank National Marine Sanctuary, Bouches de Bonifacio PSSA, SPA/RAC partnerships and the MSP MED Project) highlighted practical enforcement successes and challenges. Consideration of opportunities to mitigate collisions concluded that vessel speed is the critical factor and detailed discussions debated possible APMs, complicated by the behavior patterns of different cetacean species.

Political momentum for this proposed transboundary PSSA is strong and evidence supporting the case for a PSSA will continue to build. It was also emphasised that PSSAs provide international recognition and can qualify as other effective conservation measures, and that controls on ship speed and emissions can have wider environmental benefits. PSSA designation may also change perceptions of an area that can result in changes in the behavior of users.

Acknowledgement: context for this article is drawn from the workshop agenda with permission from and thanks to Phenia Marras-Ait Razouk, OFB.



1 Also available in French and Spanish from phenia.marras@ofb.gouv.fr

Above: Predictive map of fin whale distribution in the Mediterranean Sea. Source: ACCOBAMS (2021) Estimates of abundance and distribution of cetaceans, marine megafauna and marine litter in the Mediterranean Sea from 2018-2019 surveys.



The blue wave at COP26: pledges and commitments toward ocean-related actions

by Marketa Zackova, Secretariat of the Convention on Biological Diversity

As we face the multifaceted and interlinked crises of climate change and biodiversity loss, the long-awaited UN Climate Change Conference (UNFCCC COP26) in November 2021 had nature at the heart of its negotiations. Considering the profound changes affecting the ocean and seas as a result of climate change and unsustainable human activities, the meeting hosted a large number of ocean-related events, covering issues such as protection and restoration of marine and coastal ecosystems, maritime shipping, or climate finance for ocean-based solutions to climate change. The Glasgow Climate Pact¹, the official outcome document of COP26, has recognised the importance of the ocean and the cryosphere, of protecting and restoring marine ecosystems as carbon sinks, and has established the annual Ocean and Climate Dialogue, organised by the Subsidiary Body for Scientific and Technological Advice (SBSTA). In addition to this notable achievement, governments, organisations, and the private sector announced a variety of ambitious pledges and commitments toward ocean-based climate action in the next years and decades to come².

Several countries, including Belize, Canada, Fiji, and the UK have pledged their support for the draft Target 3 of the Post-2020 Global Biodiversity Framework³, which is currently being negotiated under the Convention on Biological Diversity (CBD) and is set for adoption at the second part of the UN Biodiversity Conference (CBD COP15) in Kunming, China, in 2022. This target, also commonly known as 30x30, seeks to protect 30% of land and of sea areas globally by 2030.





In this context, Colombia and Costa Rica have ambitiously committed to protecting 30% of their marine (and terrestrial) territories by 2022, and Seychelles pledged to protect 50% of its mangroves and seagrasses by 2025, increasing to 100% by 2030. Indonesia, for example, committed to the restoration of 600,000 hectares of its mangroves until 2024. As these ecosystems can sequester a large amount of carbon as well as protect coastal areas from storms and sea-level rise, such actions contribute to climate change mitigation, human adaptation, and biodiversity conservation.

The governments of Colombia, Costa Rica, Ecuador, and Panama are further working to strengthen the protection of the Eastern Tropical Pacific Marine Corridor, a chain of marine protected areas that stretches from the Galapagos Islands to the Pacific coast of Central America, waters highly important for many species' hunting or mating. Ecuador will also expand its marine reserve around the Galapagos Islands by an additional 60,000 km².

Several declarations and initiatives have been announced, namely the Clydebank Declaration, Ocean for Climate Declaration, or the Great Blue Wall Initiative. The Clydebank Declaration commits to establishing at least six zero-emission maritime routes between two or more ports by 2025. Many non-State actors have signed the Ocean for Climate Declaration calling on governments to scale up ocean-based climate action to achieve healthy and productive oceans. Finally, the Great Blue Wall Initiative has been launched by the Western Indian Ocean states and other partners, to establish a network of marine and coastal conserved areas in

¹ Decision -/CP.26. Glasgow Climate Pact: https://unfccc.int/sites/default/files/resource/cop26_auv_2f_cover_decision.pdf

² Most pledges and commitments were announced at the events as part of the COP26 Ocean Action Day on 5 November.

³ CBD/WG2020/3/3. First draft of the Post-2020 Global Biodiversity Framework: www.cbd.int/doc/c/914a/eca3/24ad42235033f031badf61b1/wg2020-03-03-en.pdf



the region which is expected to help both biodiversity and coastal communities in reducing climate change impacts.

With respect to finance, Fiji is designing a blue bond in collaboration with the UK and UN agencies which will help fund adaptation to sea-level rise, conservation projects, or sustainable fisheries and aquaculture. Belize announced a blue bond with the Nature Conservancy, restructuring its debt into marine conservation initiatives. And Ecuador plans to create a debt swap of \$1.1 billion, largely benefiting the conservation of the Galapagos Islands.

Finally, some noteworthy announcements from the private sector include the launch of the Blue Carbon Buyers Alliance aiming to restore blue carbon ecosystems through voluntary carbon markets with improved local community engagement. Also, AXA XL (a global insurance company) has released a new and publicly available tool, the Coastal Risk Index, showcasing the importance of mangroves and coral reefs in reducing flood risk. Lastly, Deutsche Bank introduced its Ocean Resilience Philanthropy Fund dedicated to ocean conservation and coastal resilience.

Despite these and many other highly ambitious pledges, many have considered the conference falling short on adaptation finance, and on its support for small island developing states (SIDS) which have been largely at the frontlines of climate change impacts, despite contributing little to the global climate crisis. The negotiations on loss and damage, which is a thematic area of significant importance to SIDS, have failed to result in the establishment of an associated financial facility, and thus this issue has been postponed to UNFCCC COP27.

Yet, it is clear that the importance of the ocean in the climate crisis is beginning to get the attention that it deserves, including the need for synergistic approaches in the ocean, biodiversity and climate actions. After all, as of November 2021, 54 out of 62 coastal Nationally Determined Contributions (NDCs) contain at least one ocean-based action⁴. The spotlight now turns to Kunming and the negotiations on the CBD's Post-2020 Global Biodiversity Framework, with high hopes on the successful adoption of its goals and targets, not only for global biodiversity but also to achieve sustainable and resilient oceans, crucial for coastal communities.

4 Lopez, O. (2021) Ocean-Based Climate Solutions in Nationally Determined Contributions. Ocean Conservancy





Latest progress on the marine aspects of the Post-2020 Global Biodiversity Framework

by Maria Adelaide Ferreira, Marine and Environmental Sciences Centre, Lisbon University MARE-UL

The Post-2020 Global Biodiversity Framework (GBF) is the Convention on Biological Diversity's (CBD) ambitious successor to its 2011-2020 Strategic Plan for Biodiversity and associated Aichi Biodiversity Targets. Delayed by the COVID-19 pandemic, development of the GBF and its monitoring and reporting framework is still ongoing, involving a comprehensive preparatory process, leading up to its anticipated adoption at CBD's COP 15 (Part 2), which is currently scheduled to be held in Kunming, China, from 25 April to 8 May 2022¹.

At present, the GBF has four long-term goals for 2050, each with associated milestones and proposed indicators to assess progress towards the goals by 2030². The GBF's 2030 targets comprise 21 action-oriented appeals for urgent action along three main axes: (i) the status and trends of biodiversity, (ii) the benefits biodiversity provides to people, and (iii) the conditions necessary for implementing the GBF.

During the third and latest meeting of the open-ended working group (OEWG3) on the GBF, held online from 23 August to 3 September 2021, in-depth discussions on the wording of the goals and targets continued, with some proponents calling for additional targets and others urging for a reduction in the number of targets and for simplifying/clarifying their language³. The GBF recognises land-water-marine linkages and the importance of marine biodiversity elements, but there is an acknowledged need for a strengthened marine dimension to help States and competent regional organisations operationalise the proposed targets⁴.

While many aspects of the GBF are still open for debate, in marine and coastal zones it is already possible and beneficial to use the key aspects contained in the First Draft, to explore potential stronger collaborations and synergies between various regional marine data-coordination centres, such as Regional Seas Conventions and Action Plans in the framework of UNEP's Regional Seas Programme (a.k.a. Regional Seas Organisations) and Regional Fisheries Bodies established under FAO to achieve the GBF's proposed goals and targets⁵. This exploration was one of the main objectives of the recent virtual intersessional workshop of the Sustainable Ocean Initiative (SOI) Global Dialogue with Regional Seas Organisations and Regional Fisheries Bodies, held online from 29 September to 1 October 2021, in collaboration with FAO and UNEP, and with financial support from the Ministry of Oceans and Fisheries of the Republic of Korea⁶. The workshop showcased a growing collaboration between both types of reginal organisation, and further emphasised the need to enhance potential collaboration with other regional bodies focusing on socio-economic, energy or land-based waste and pollution issues. During the discussions it also became apparent how strengthening the regional marine dimension of the GBF can significantly contribute to boost transformative action and positive change also on land, for example, through a greater focus on sustainable seafood, allowing for/offering greater yields with smaller overall environmental and ecological impacts, and prevention of marine pollution at the source, promoting pollution abatement efforts at their land sources.

As GBF discussions and exploration of synergies continue to evolve until their anticipated adoption at CBD COP15, it is important that the growing recognition of the relevance of the 'sustainable fisheries and oceans transition' (one of eight key transitions to sustainable pathways identified by the CBD⁷) as a key catalyst for a global sustainable transition⁸ is effectively translated and incorporated in the GBF.

Further reading: Ferreira et al. (2022) A role for UNEP's Regional Seas Programme under the post-2020 global biodiversity framework. <u>doi: 10.1016/j.marpol.2021.104930</u>

¹ Due to the COVID-19 pandemic, COP 15 has been divided into two parts. Part 1 has already taken place virtually, on 11-15 October 2021

² First draft of the GBF (<u>https://www.cbd.int/doc/c/914a/eca3/24ad42235033f031badf61b1/wg2020-03-03-en.pdf</u>); Proposed headline indicators of the monitoring framework for the GBF (<u>https://www.cbd.int/doc/c/d716/da69/5e81c8e0faca1db1dd145a59/wg2020-03-03-add1-en.pdf</u>)

³ https://www.cbd.int/conferences/post2020/wg2020-03/documents

⁴ https://wedocs.unep.org/bitstream/handle/20.500.11822/36353/RSP2020GBF.pdf?sequence=3&isAllowed=y

⁵ See Ferreira et al. (2022) doi: 10.1016/j.marpol.2021.104930

⁶ https://www.cbd.int/meetings/SOI-WS-2021-01

⁷ SCBD, Global Biodiversity Outlook 5, Montreal, 2020

⁸ E.g., Stuchtey et al. (2020) Ocean solutions that benefit people, nature and the economy. World Resources Institute, Washington, D.C.



New UN Biodiversity Lab portal provides access to comprehensive nature, climate change and sustainable development datasets

Key UN environmental agencies and departments have come together under the newly endorsed UN Common Approach to Biodiversity to create the UN Biodiversity Lab, a repository for open data to provide a solution-driven, userfriendly platform. Through the Common Approach, the UN family commits to mainstream biodiversity and catalyse collective action to address the drivers of biodiversity loss, restore ecosystems and ultimately living in harmony with nature, while supporting the implementation of the post-2020 global biodiversity framework in alignment with the 2030 Agenda for Sustainable Development and the Paris Agreement on climate change.

To facilitate the use and exchange of a common biodiversity language/currency, the UN Biodiversity Lab provides access to global spatial data to generate insight and impact for conservation and sustainable development. Its mission is threefold: (i) to democratise access to spatial data and analytic tools as a global public good; (ii) to support decisionmakers to leverage spatial data for insight, priority-setting and implementation; and (iii) to empower stakeholders to use spatial data for monitoring and reporting. With over 400 of the world's most comprehensive datasets on nature, climate change and sustainable development, the platform provides the ability for users to:

- visualise core global public good datasets at the heart of decision-making on nature and sustainable development;
- access curated collections that integrate spatial data for insight and action;
- view and download dynamic indicators of change for any country in the world;
- create workspaces to securely upload national data for analysis alongside global data;
- develop communities of practice that nurture data transparency and cross-sectoral collaboration;
- draw on the expertise of project partners to develop national strategies and plans.

Users are invited to contribute their own global datasets that address biodiversity, climate change, or sustainable development, as well as success stories on the use and application of spatial data for insight and action in particular settings. The UN Biodiversity Lab can be accessed at unbiodiversitylab.org



www.gobi.org



New report represents largest analysis of coral reef health ever undertaken

by David Souter¹, Gabriel Grimsditch², Francis Staub³ and Thomas Dallison³ - the Global Coral Reef Monitoring Network

¹Australian Institute of Marine Science; ²United Nations Environment Programme; ³International Coral Reef Initiative

The 'Status of Coral Reefs of the World: 2020' report, released on 5 October 2021, documents the loss of approximately 14% of the world's coral since 2009. The report, the sixth edition produced by the Global Coral Reef Monitoring Network (GCRMN), provides the most detailed scientific picture to date of the toll elevated temperatures have taken on the world's reefs. The largest analysis of global coral reef health ever undertaken draws on data spanning 40 years in 73 countries across 12,000 sites, collected by more than 300 scientists through two million individual observations.

Corals reefs across the world are under relentless stress from warming caused by climate change and other local pressures such as overfishing, unsustainable coastal development and declining water quality. An irrevocable loss of coral reefs would be catastrophic. Although reefs cover only 0.2% of the ocean floor, they are home to at least a quarter of all marine species, providing critical habitat and a fundamental source of protein, as well as life-saving medicines. It is estimated that hundreds of millions of people around the world depend on them for food, jobs and protection from storms and erosion.

However, the report also describes that many of the world's coral reefs remain resilient and can recover if conditions allow, providing hope for the long-term health of coral reefs if immediate steps are taken to stabilise greenhouse gas emissions to curb future warming.

The analysis, which examined 10 coral reef-bearing regions around the world, showed that coral bleaching events caused by elevated sea surface temperatures were the main driver of coral loss, including an acute event in 1998 that is estimated to have killed 8% of the world's corals, which, to put this in context, is more than all the coral that is currently living on reefs in the Caribbean or Red Sea and Gulf of Aden regions. The longer-term decline seen during the last decade coincided with persistent elevated sea surface temperatures.

The analysis investigates changes in the cover of both live hard coral and algae. Live hard coral cover is a standard indicator of coral reef health, while increases in algal cover are a signal of stress to reefs. Since 1978, when the first data used in the report were collected, there has been a 9% decline in the amount of hard coral worldwide. Between 2010 and 2019, the amount of algal cover has increased by 20%, corresponding with declines in hard coral cover. This progressive transition from coral to algae-dominated reef communities reduces the complexity of habitat that is essential to support high levels of biodiversity.



The report also highlights that although during the last decade the interval between mass coral bleaching events has been insufficient to allow coral reefs to fully recover, some recovery has been observed, with coral reefs in 2019 regaining 2% of the coral cover. This indicates that coral reefs are still resilient, and if pressures on these critical ecosystems ease, then they have the capacity to recover, potentially within a decade, to the healthy, flourishing reefs that were prevalent pre-1998.

Key findings:

• Large-scale coral bleaching events are the greatest disturbance to the world's coral reefs. The 1998 event alone killed 8% of the world's coral, which is the equivalent of about 6,500 km² of coral. The greatest impacts of this mass bleaching event were seen in the Indian Ocean, Japan, and the Caribbean, with smaller impacts observed in the Red Sea, The Gulf, the northern Pacific in Hawaii and the Caroline Islands, and the southern Pacific in Samoa and New Caledonia.

- Between 2009 and 2018, the world lost about 14% of the coral on its coral reefs, which equates to around 11,700 km² of coral, more than all the living coral in Australia.
- Reef algae, which grows during periods of stress, has increased by 20% over the past decade. Prior to this, on average there was twice as much coral on the world's reefs as algae.
- Coral reefs in East Asia's Coral Triangle, which is the centre of coral reef biodiversity and accounts for more than 30% of the world's reefs, have been less impacted by rising sea surface temperatures. Despite some declines in hard coral during the last decade, on average, these reefs have more coral today than in 1983 when the first data from this region were collected.
- Almost invariably, sharp declines in coral cover corresponded with rapid increases in sea surface temperatures, indicating their vulnerability to spikes, which is a phenomenon that is likely to happen more frequently as the planet continues to warm.

The report can be downloaded at: gcrmn.net/2020-report/

Coral reef, Solomon Islands, South Pachic, Image courtesy Tracey Jennings/Ocean Image Bank



UNESCO World Marine Heritage commits to the UN Decade of Ocean Science with its Ocean Science roadmap

During the 41st session of UNESCO's General Conference in November 2021, the Ocean Science Roadmap for UNESCO Marine World Heritage was launched. The roadmap – the result of a UNESCO-led multidisciplinary science assessment survey on the current status of ocean science and knowledge at their 50 marine World Heritage sites – identifies critical science gaps that impede the sustainable protection of marine World Heritage sites in an uncertain future. It goes on to outline what information is needed to assess climate vulnerability across its holdings, and to propose targeted and collaborative scientific efforts to underpin conservation and management efforts for the benefit of all.

UNESCO's Ocean Science roadmap launches at the start of the United Nations Decade of Ocean Science for Sustainable Development (Ocean Decade 2021-2030), which offers the unique opportunity to harness the latest science to sustainably manage the ocean. As part of that decade-long mission, UNESCO has also launched an ambitious two-year project using cutting edge environmental DNA – known as eDNA – sampling to understand the richness of biodiversity at their marine World Heritage sites. Collecting and analysing eDNA extracted from samples of the environment (soil, water, air) rather than directly from individual organisms (organisms constantly leave traces of their DNA in the environment by sloughing off their skin, scales, mucus or faeces) will help understand global trends in genetic diversity across countless species and inform ongoing efforts to protect networks of marine ecosystems. Results from the project will also help measure the vulnerability of marine biodiversity to climate change and the impacts of that change on the distribution and migration patterns of marine life across the ocean.

The use of eDNA in ocean monitoring and data collection is still in its infancy, and standard protocols for sampling and data management will be streamlined by the project. Applying a consistent sampling and analytical methodology across multiple areas simultaneously for the first time aims to set the global standards in sampling and data monitoring and management practices, including making that data available to the public. The project intends to engage local citizens, guided by expert support in, for example, taking water samples, filtering them and fixing the contained eDNA, which will then be sequenced in specialised laboratories. All data will be processed and published by the Ocean Biodiversity Information System (OBIS). The project is implemented by UNESCO's Intergovernmental Oceanographic Commission and World Heritage Centre, with the support of the Government of Flanders.

In addition to it setting out its ambitious and timely plans for the future, UNESCO is also preparing to celebrate the 50th anniversary of the World Heritage Convention in 2022. The 1,154 natural and cultural heritage sites in over 160 countries - including its 50 sites in the marine realm - are the testament to the universal appreciation and achievement of this ground-breaking legal framework, which was ignited by a joint call between Egypt and Sudan to save monuments under threat by the then newly developed Aswan Dam. Throughout the anniversary year, UNESCO intends to launch various mechanisms conducive to generating and sharing new ideas, knowledge and research around its heritage sites and the wider environment. UNESCO, with its successful track record, its well-considered Ocean Science roadmap, and its undiminished ambition for the decade ahead, aims to spark interdisciplinary, cutting-edge, thought-provoking discussions from the global research community and citizens, ultimately compiling a common vision for the next 50 years of World Heritage and heritage at large. For more information on how to contribute towards UNESCO's World Heritage Convention 50th anniversary initiatives, visit their website. The Ocean Science roadmap is available to download here.





New impetus for Sargasso Sea conservation

by Fae Sapsford, Andrew Hudson and David Vousden, Sargasso Sea Commission

During 2019-2020 the Sargasso Sea Commission worked with partners at the United Nations Development Programme and the Intergovernmental Oceanographic Commission of UNESCO to prepare a proposal for \$3 million in financing from the Global Environment Facility (GEF), under the GEF7 Areas Beyond National Jurisdiction (ABNJ) programme. In June 2020, the project 'Strengthening the stewardship of an economically and biologically significant high seas area - the Sargasso Sea' was approved as a child project of the GEF's Common Oceans Programme 'Sustainable utilization and conservation of biodiversity in areas beyond national jurisdiction'. The GEF-financed project, working closely with a complementary grant from Fonds Français pour l'Environnement Mondial (FFEM), will conduct a major ecosystem assessment of the Sargasso Sea ecosystem that will inform the participatory development and adoption of a Strategic Action Programme towards strengthening the overall stewardship of the Sargasso Sea.

The project will achieve its objective through the following four components:

- **Component 1**: Improved knowledge base to support a collaborative, adaptive, ecosystem-based stewardship approach.
- **Component 2**: Development of a strategic action programme for addressing threats and strengthening stewardship through collaboration and conservation of the Sargasso Sea ecosystem.

- **Component 3**: Partnerships and cooperation for the sustainability of the natural resources of the Sargasso Sea ecosystem.
- **Component 4**: Knowledge management, monitoring and evaluation.

While the Sargasso Sea Commission has already made great strides in expanding the knowledge base on the Sargasso Sea ecosystem and its natural resources, the GEF and FFEM projects will allow this knowledge to be updated to reflect current research – and for this information to be enshrined formally in an Ecosystem Diagnostic Analysis, which will provide an ongoing basis for monitoring and subsequent stewardship and management responses, and could provide useful detail for replicating the Commission's ecosystem stewardship structure in other ABNJ ecosystems. The final outcome from the project will be a multi-stakeholder Strategic Action Programme for translating scientific knowledge and monitoring results into agreed management and governance responses by the appropriately mandated bodies.

The validation and inception workshops for the Sargasso Sea project have already taken place successfully. Following anticipated GEF CEO endorsement of the project in early 2022, project implementation will proceed over the next four years.

More information available at sargassoseacommission.org





Blue Solutions will continue to thrive through you

by Erick Ross Salazar, Blue Solutions

The Blue Solutions Initiative started in 2013 to support the sustainable development of our blue world, for people and for nature. It was funded until 2021 by the International Climate Initiative (IKI) of the German Federal Ministry for the Environment (BMU). Four leading environmental organisations, the Deutsche Gesellschaft für Internationale Zusammenarbeit (GIZ), the International Union for Conservation of Nature (IUCN), GRID-Arendal and the United Nations Environment Programme (UNEP) worked together on global knowledge exchange, capacity development and policy dialogue in order to deliver on the goals of the CBD, UNFCCC and the 2030 Agenda, especially SDG 14.

Taking a people-centered and conservation optimism approach, Blue Solutions supported outstanding practitioners, selected governments, and regional institutions on their pathway of implementing successful solutions for a healthy ocean.

The Initiative documented over 300 Blue Solutions from around the globe on the Marine and Coastal Portal of PANORAMA, thanks to the participation of solution providers from a vast array of backgrounds. Now that the Initiative has formally concluded, The Marine and Coastal Community, through a partnership with OCTO Group, has transformed into PANORAMA Blue, where these solutions will live on, and providers will be able to continue sharing their successful experiences and exchange their knowledge with peers. To further draw upon the rich knowledge base, Blue Solutions contributed to the development of a new functionality: the 'Uptake' feature. This new feature aims to put a spotlight on practitioners who were inspired by a solution or building block from the Blue Solutions platform and adopted it in their own context.

In 2021 the Blue Champions Award was awarded for the first time to promote knowledge exchange that led to uptake of solutions. Among a list of inspiring uptake projects, five Blue Champions were selected and awarded a prize to help them replicate successful solutions in new settings. Get to know more about the Uptake stories at PANORAMA here.

Blue Solutions developed six training kits related to marine spatial planning, integrating ecosystem services, climate change adaptation, conservation finance, sustainable ocean economy, and leadership. In addition, more than 50 trainers

BLUE SOLUTIONS

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from 18 countries were qualified to give these workshops. Over 800 participants were trained during the workshops, representing more than 1,200 hours of learning spread over 44 countries. The Blue Capacity Development Hub now houses all resources needed to develop the Blue Planning in Practice, Sustainable Blue Economy and Blue Leadership training, along with a database of available trainers in case anyone wants to develop a training in the future.

Blue Solutions worked with many partners like the Secretariat of the Convention on Biological Diversity (CBD), Coordinating Body on the Seas of East Asia, the Government of Costa Rica, Tun Mustapha Marine Park, the Government of Mozambique, among others, to promote sustainable use and equitable access of marine resources, help restore marine ecosystems, reduce exploitation and pollution of our oceans and transform our ocean-based economies.

The Blue Solutions Initiative ended in December 2021, but the solutions will live on and thrive - through the PANORAMA Blue community!



Highlights of the Blue Solutions Celebration Event held on 30 November 2021 can be viewed online, as well as the newly established Blue Capacity Development Hub and the Marine and Coastal Portal of PANORAMA: PANORAMA Blue - Accelerating solutions for a healthy ocean! The voyage of Blue Solutions does not end, it will continue through you.

New coral discoveries provide hope

The latest Global Coral Reef Monitoring Network report (see p18) is consistent with the alarm bells that have been sounded by scientists who have been working on the health of coral reefs for decades. The International Panel for Climate Change (IPCC) and Intergovernmental Science-Policy Platform on Biodiversity and Ecosystem Services (IPBES) projections place coral reefs – essential for ecosystem services but weakened by cumulative adverse impacts – on the front line of ecosystems at risk from climate change. However, recent media reports on new discoveries give some cause for hope. Two examples are highlighted here.

A new species of deep-sea soft coral has been discovered off Scotland, in an area of the Rockall Trough in the North Atlantic, at a depth of 2,000 m. Announced in January 2022 by Marine Scotland working in collaboration with a Spanish expert, the sea pen – named *Pseudumbellula scotiae* – is not only a new species, but comes from a previously unknown family of sea pens. The deep sea is not immune to climate change impacts but many areas remain unexplored and their resilience and role as a climate refugia are yet to be fully evaluated. Coldwater corals fit several of the CBD EBSA criteria and the Hatton and Rockall Banks, associated slopes and connecting basin were described as a candidate EBSA at the North East Atlantic Regional EBSA Workshop in 2019. The remoteness of this location buffers it from the impacts of many human activities.

In more tropical climes, the discovery of a giant reef of 'rose-shaped' corals near Tahiti in French Polynesia, by scientists from France's National Centre for Scientific Research in November 2021, is another clue that water depth might be a saviour for corals. This pristine 3 kilometre-long, 30-70 metre-wide reef was found at water depths down to 65 metres. Hitherto, tropical coral reefs have been found at water depths of around 25m. The discovery, part of UNESCO's Seabed 2030 ocean mapping initiative, is cause for fresh hope. As reported in the New Scientist (20 January 2022) the reef comprises mainly two species: Porites rus in the shallow sections, and Pachyseris speciosa in the deeper sections. The reef is located away from land-based inputs and its discovery strengthens the case to protect such special places, which might be considered as meeting EBSA criteria in the future.



False killer whale at Revillagigedo National Park, one of the 2021 Blue Park Awardees. Image courtesy Erick Higuera

Marine Conservation Institute takes stock as it celebrates its 25th anniversary

by Samuel Georgian, Marine Conservation Institute

Marine Conservation Institute recently celebrated its 25th anniversary! As a leader in the global movement to protect vast ocean areas, Marine Conservation Institute uses the latest science to identify important marine ecosystems, advocate for their protection, and measure progress toward effective, sustainable marine protection. One of the Institute's primary focuses has been to create an urgently-needed worldwide system of <u>Blue Parks</u>, or recognised highly protected areas, to ensure the future diversity and abundance of marine life. To encourage meaningful progress and accurately reflect the current state of marine protection, it also developed and actively maintains the world's most comprehensive online marine protected area database, the <u>Marine Protection Atlas</u>. In addition, the Institute continues to advance efforts to improve protection for high seas habitats around the globe.

Marine Conservation Institute's Blue Parks programme announced <u>four new award recipients in 2021</u>: Parque Nacional Revillagigedo (Mexico), Parque Nacional Jardines de la Reina (Cuba), Kisite-Mpunguti Marine Park & Reserve (Kenya), and Nacionalni Park Brijuni (Croatia). The Blue Parks initiative was created to celebrate effective marine protected areas (MPAs) and incentivise governments, managers, communities, and leaders to achieve effective conservation. Outstanding MPAs are awarded based on a scientific criterion that ensures a high standard for marine conservation effectiveness. There are currently 21 Blue Parks spread across 20 countries, with plans to assess and award additional areas in the years to come. The sciencebased Blue Park Award criteria also offer the blueprints for effective MPAs. Marine Conservation Institute partners with community leaders, NGOs, and governments to help them achieve MPAs worthy of the Blue Park Award. The Institute currently has nine of these Blue Spark collaborations, and it will be announcing more in 2022.

In support of Marine Conservation Institute's mission to improve the effectiveness of MPAs, it recently helped





spearhead an initiative known as the MPA Guide, a groundbreaking approach to facilitate better decisionmaking processes about ocean protections. This work was published as a peer-reviewed study in Science and provides a novel, comprehensive scientific framework to better understand, establish, and evaluate the effectiveness of MPAs. According to the Marine Protection Atlas, which was revamped in 2021 to better store, assess, and visualise MPA data, only 2.8% of the ocean is currently set aside in fully or highly protected areas. Scientists suggest that we need to protect 30% of the oceans by the year 2030 in order to revitalise marine biodiversity and prevent species extinctions. We also need to drastically accelerate our efforts to create and assess effective MPAs in order to meet this goal and ensure healthy oceans for us and future generations. The Marine Protection Atlas team just completed an assessment of the largest 50 MPAs in US waters for a peer-reviewed paper submitted to Frontiers in Marine Science. The Institute looks



forward to sharing the results when the paper is published! It will be the first release of assessed MPAs to the new platform.

Marine Conservation Institute is also dedicated to improving protections for the high seas, ocean areas beyond national jurisdictions. Achieving effective conservation on the high seas is difficult due to the lack of an international legal agreement to prevent overexploitation in these remote waters, resulting in a scant 1.2% of the high seas being currently protected. Thankfully, a new United Nations treaty, currently under negotiation, promises to provide a global framework for the creation of MPAs on the high seas. In collaboration with the High Seas Alliance, the Institute is working to create the first generation of high seas MPAs under the new treaty, with the first three potential sites announced in 2021: the Salas y Gómez and Nazca ridges, the Emperor Seamounts, and the Costa Rica thermal dome. We recently conducted a modeling study that predicted extensive coral and sponge habitats on unexplored parts of the Salas y Gómez and Nazca ridges as part of a collaborative scientific assessment of the region. In the coming year, the Institute will continue to build the scientific assessments, outreach, and advocacy required to generate support for protecting these priority sites under the new treaty.

Left: Graphic from The MPA Guide illustrating the relationship between the Levels of Protection and Outcomes of MPAs.



Hot off the press

	Northern Mid-Atlantic Ridge Hydrothermal Habitats: A Systematic Review of Knowledge Status for Environmental Management	
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Northern Mid-Atlantic Ridge Hydrothermal Habitats: A Systematic Review of Knowledge Status for Environmental Management by RE Boschen-Rose and A Colaço

This article reviews the available knowledge on hydrothermal vents of the Mid-Atlantic Ridge since their discovery over 36 years ago. Its purpose is to ascertain what biological differences there are between active and inactive hydrothermal vents, together with discerning any pattern in their biogeography. The results contribute to the knowledge necessary to understand and predict impacts from natural and human-induced disturbance in the region.

doi: 10.3389/fmars.2021.657358

The Role of Regional Cooperation in Strengthening High Seas Governance: Conceptual Framework and Key Recommendations, by MP Bueno for the STRONG High Seas Project.

This report attempts to answer the question of how the ocean can be managed and governed in an effective manner to benefit all. In doing so, it highlights key considerations for States and stakeholders seeking an introduction into ocean governance and makes initial suggestions for improving and enhancing the conservation and sustainable use of marine biodiversity across global policy processes. https://www.prog-ocean.org/wp-content/uploads/2021/09/Bueno-M.-P.-'The-Role-of-Regional-Cooperation-in-StrengtheningThe Back of Regional Constraints in the Receiver and the



High-Seas-Governance.pdf

The hidden landscape: Maritime cultural heritage of the Salas y Gómez and Nazca Ridges with implications for conservation on the high seas by JP Delgado and colleagues

This study provides a synthesis of the maritime heritage and cultural resources of the Salas y Gómez and Nazca ridges in order to guide future conservation, management, scientific, and public outreach efforts in this region. To address identified knowledge gaps, targeted activities should be incorporated in the design and management of the proposed protected area, including research, education and outreach aimed at better understanding and appreciating the cultural significance of the region.

doi: 10.1016/j.marpol.2021.104877

Contributions of marine area based management tools to the UN sustainable development goals by E Gissi and colleagues

This study evaluates the contribution of area-based management tools to sustainable development goals, and SDG 14 in particular. It reports that such tools contribute to the SDGs more directly than others, while context-specific factors are crucial for unlocking the full potential of ABMTs of attaining multiple SDGs. It proposes that monitoring and evaluation should address management effectiveness and not only area coverage.



doi: 10.1016/j.jclepro.2021.129910



Polycentricity and Regional Ocean Governance: Implications for the Emerging UN Agreement on Marine Biodiversity Beyond National Jurisdiction by KM Gjerde and SS Yadav

An analysis of polycentricity theory and associated enabling conditions in this article shows that the current polycentric approach to marine biodiversity in ABNJ is not yet fully functional and is missing key attributes. It goes on to suggests seven ways the emerging BBNJ Agreement could stimulate coordinated and integrated action at both global and regional levels.

doi: 10.3389/fmars.2021.704748



Application of scientific criteria for identifying hydrothermal ecosystems in need of protection by S Gollner and colleagues

This study assesses whether 11 hydrothermal vent fields on the Mid-Atlantic Ridge meet criteria developed by FAO for Vulnerable Marine Ecosystems, by CBD for Ecologically or Biologically Significant Areas, and by IMO for Particularly Sensitive Sea Areas. It concludes that all vent fields meet multiple criteria for vulnerability, sensitivity, and ecological or biological significance, and 10 of 11 vent fields meet all criteria for ecosystems in need of protection.

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doi: 10.1016/j.marpol.2021.104641

The MPA Guide: A framework to achieve global goals for the ocean by K Grorud-Colvert and colleagues

This review presents a clarifying science-driven framework – The MPA Guide – to aid design and evaluation. The guide categorises MPAs by stage of establishment and level of protection, specifies the resulting direct and indirect outcomes for biodiversity and human well-being, and describes the key conditions necessary for positive outcomes. It is intended to improve design, implementation, assessment and tracking of existing and future MPAs to achieve conservation goals by using scientifically grounded practices. <u>doi: 10.1126/science.abf0861</u>

Sampling biases shape our view of the natural world by AC Hughes and colleagues

Using 742 million records of 374,900 species, this study explores the global patterns and impacts of biases related to taxonomy, accessibility, ecotype and data type across terrestrial and marine systems. It shows how high elevations and deep seas are particularly undersampled, with over 50% of records in most biological groups accounting for less than 2% of species. It calls for the acquisition of additional data, and to value data publication to better represent species distributions from more distant and inaccessible areas.



doi: 10.1111/ecog.05926

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Indigenous Traditional Ecological Knowledge and Ocean Observing: A Review of Successful Partnerships by MJ Proulx and colleagues

This review examines the current understanding of how indigenous traditional ecological knowledge can be successfully coordinated or utilised alongside western scientific systems, specifically the potential coordination of such knowledge with ocean observing systems. It also identifies relevant methods and examples of collaborative projects, providing recommendations whilst acknowledging that this review is based on extant written knowledge.

doi: 10.3389/fmars.2021.703938

Area-based management of blue water fisheries: Current knowledge and research needs by R Hilborn and colleagues

This article offers a comprehensive review of the objectives, methods and successes of area-based management of blue water fisheries related to food production and environmental, social and economic impacts. It considers the methods used to evaluate the performance of area-based regulations and relative quality of evidence from alternative evaluation approaches. It ends by prioritising research and management actions that would make area-based management more effective. <u>doi: 10.1111/faf.12629</u>





Global Ocean Biodiversity Initiative

Providing the scientific basis for conserving biological diversity in the global ocean

The Global Ocean Biodiversity Initiative is an international partnership of organisations committed to advancing the scientific basis for conserving biological diversity in the marine environment. In particular, GOBI contributes expertise, knowledge and data to support the Convention on Biological Diversity's efforts to identify ecologically and biologically significant marine areas (EBSAs) by assisting a range of intergovernmental, regional and national organisations to use and develop data, tools and methodologies.

GOBI also undertakes research to generate new science that will enhance the value of EBSAs and their utility for promoting environmental protection and management for specific areas of the world's oceans. The intention is ultimately to reduce the rate of biodiversity loss through the application of ecosystem approaches to the management of human activities, and to support the establishment of networks of representative marine protected areas in national and international waters.

The GOBI partnership and activities are coordinated by a Secretariat team, provided by Seascape Consultants Ltd. GOBI is funded by the International Climate Initiative (IKI). The German Federal Ministry for the Environment, Nature Conservation and Nuclear Safety (BMU) supports this initiative on the basis of a decision adopted by the German Bundestag.



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