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SPECIAL ISSUE ON MARINE PROTECTED AREAS
Summaries & Recommendations

Oceanographic Museum of Monaco



Participants of the Monaco Blue Initiative 2019 - Monaco

MBI2019 - © Michel Dagnino, Oceanographic Institute

Launched in 2010 upon the initiative of HSH Prince Albert II of Monaco, the Monaco Blue Initiative is a platform for discussion co-organized by the Oceanographic Institute, Prince Albert I of Monaco Foundation and the Prince Albert II of Monaco Foundation. Its members meet annually to discuss the current and anticipate the future global challenges of ocean management and conservation. This event provides a valuable framework for fostering discussions between business, scientific representatives and policy makers, and for analysing and highlighting the possible synergies between the protection of the marine environment and socio-economic development.

FOREWORD

H.E. Mr Bernard Fautrier,

Vice President and Chief Executive Officer, Prince Albert II of Monaco Foundation

Mr Robert Calcagno,

Chief Executive Officer, Oceanographic Institute, Prince Albert I of Monaco Foundation

Marine Protected Areas (MPAs) have been central to the discussions of the Monaco Blue Initiative since the first edition in 2009, at a time when they were only rarely seen on the international agenda. Since then and thanks to the mobilization of stakeholders - governments, scientists, economic actors, civil society - Marine Protected Areas have become what we would call “common language” for the conservation and management of the ocean.

Though MPAs have proven to be excellent tools to respond to the Sustainable Development Goals and to face the global marine biome crisis, especially by mitigating the effects of climate change, protecting biodiversity and creating economic value, they are neither in adequate numbers nor sufficiently effective and we are still far from achieving the Aichi Biodiversity Target of 10% of coastal and marine areas conserved by 2020.

Developing MPAs both in size and efficiency are priority solutions highlighted again recently by the experts of The Intergovernmental Science-Policy Platform

on Biodiversity and Ecosystem Services (IPBES) gathering in May 2019 in Paris.

140 participants from 25 countries and various backgrounds (governmental, conservation, science, philanthropy, private sector) attended the 10th Monaco Blue Initiative and addressed the future of MPAs, the importance of their networks to protect migratory species and the integration of ecosystem services and natural capital into blue economic development.

Participants reviewed the progress made on these issues, focusing on dynamics, effects, failures and successes, but most importantly on the ambitions and solutions which need to be adopted in upcoming international events where leaders will decide on the future of the Ocean such specially at the World Nature Congress of IUCN and the Convention on Biological Diversity in China in 2020.

One of the main conclusions from the experts is that 30% of our ocean as highly or fully protected areas is a minimum and that there is a need for sustainable management of the entire ocean.

We trust that the executive summary of this booklet, followed by specific recommendations which were raised from the discussions, will contribute to reassessing what will be needed in the post 2020 period, shaping the solutions to the challenges of protecting the ocean and developing a truly sustainable blue economy.

Our thanks go out to all the participants of this 10th edition of the MBI for their strong commitment and contribution to the event. We hope they will spread the key conclusions of the discussions widely.





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EXECUTIVE SUMMARY

The 10th edition of the Monaco Blue Initiative was held at the Oceanographic Museum of Monaco from March 24th to 25th, 2019 under the patronage of HSH Prince Albert II of Monaco. The Sovereign Prince created MBI in 2009 out of a sense of urgency with regard to ocean protection following the Copenhagen COP 15 Climate Summit, which produced no binding commitments.

Within months of that failed 2009 summit, the Prince Albert II of Monaco Foundation and the Oceanographic Institute, Prince Albert I of Monaco Foundation, convened the first edition of MBI, a unique think tank bringing together diverse ocean actors to reflect concretely on ocean protection and blue economy issues.

This year's MBI gathered 140 participants around a single, essential theme: Marine Protected Areas, the most effective tool for conserving and restoring marine species and ecosystems, and increasingly, for climate change mitigation. High-level figures from government and policy circles, international organisations, NGOs, science and the private sector shared views, experiences and recommendations to guide future management of the oceans.

HSH Prince Albert II of Monaco gave the opening address and the day's topical sessions were interspersed with keynote speeches by government representatives of France, the European Union, China and Portugal.

Session 1 on developing effective Marine Protected Areas assessed the past decade of ocean conservation and identified priorities for ensuring MPAs fulfilled their role into the future. Panellists also addressed risks and opportunities with regard to the High Seas (beyond national jurisdiction) and climate change.

One highlight was the presentation of an upcoming guide to clarify confusion as to how many MPAs actually existed and to clearly define their stages of establishment and levels of protection. This guide will

help to address an issue several panellists raised, that of the detrimental effect of "paper parks" – MPAs that are not effectively managed and enforced.

The panel stressed the importance of sustainable funding without which MPAs fail in their conservation objectives and lose public and political support. The MedFund, an environmental trust fund launched by France, Tunisia and Monaco and since joined by others, was one response to this need.

Speakers stressed the need for more and better data to guide the design and defence of MPAs and coherent networks. They called for a more holistic, interdisciplinary approach including the social sciences; a review of fishing subsidies; and for more equitable governance to ensure MPAs would bring social, economic and environmental benefits to local communities.

The ensuing discussion included a bold proposal to declare all of the High Seas and the seas surrounding Antarctica no-take marine protected areas under the precautionary principle, in the context of current negotiations at the UN on protecting Biodiversity in Areas Beyond National Jurisdiction (BBNJ).

Session 2 explored the elements of successful MPA networks while recommending pathways to scaling up their development. MPA networks facilitate the natural connectivity of species and habitats across the sea and foster the spread of effective management tools and skills. The panel provided examples and analysis of functioning MPA networks from seas around the world, and put forth recommendations for their development.

Panellists had a great deal of personal experience working in MPAs and networks. They underscored the value of traditional local ecological knowledge, which not only provided solid scientific underpinnings to MPAs but fostered pride and engagement. The most successful MPAs were locally driven and managed, but required funding to be enforced and sustainable.

Networks of MPAs built local capacity while providing a weightier platform from which to influence national and international policy. The panel agreed MPA networks were primarily about networking people to exchange practical knowledge and skills from the field. The case of humpback whales demonstrated how knowledge transfer among managers with specific experience could improve the situation of a species over a much larger area.

MPA networks can also help realise MPAs' potential in mitigating impacts of climate change, which play out across the entire seascape. Finally, UN negotiations on a BBNJ treaty were seen as an opportunity to achieve greater coherence among existing international, regional and sectoral policy instruments while giving the new treaty ultimate authority over the global commons of the High Seas.

Session 3 addressed integrating the valuation of ecosystem services into blue economic development.

The panel agreed that without broad support, Marine Protected Areas could not fulfil their conservation role. Valuation of their ecosystem services, from climate change resilience to tourism and fishing, could boost acceptance and assist marine spatial planning generally.

Several panellists deplored the lack of quality data that made valuation difficult, although some evidence showed benefits to tourism, recreation and fisheries. The distribution of such benefits and their scale compared to costs was also poorly understood.

The panel highlighted new tools to allow incorporation of these values into the MPA process. Healthy ecosystems such as reefs and mangroves reduced the impact from extreme weather and climate change; insurance and hotel groups in coastal areas were beginning to finance their restoration as a risk-reduction strategy.

Others expressed deep concern over emerging extractive activities in the High Seas and called for a balance between

protection and exploitation of the ocean. Key habitats that provided more ecosystem services than others yet were more sensitive to human pressures should be given priority in MPA designation.

The lack of reliable funding is an important barrier to MPAs' effectiveness. The panel heard about the Seychelles' ambitious Marine Spatial Plan, financed through an unusual debt-for-nature swap and a Blue Bond. The example of a community-led MPA in Senegal demonstrated how participatory management and benefit-sharing could reconcile conservation and socioeconomic benefits.

During discussion, it was suggested that putting a price on ecosystem services helped alternative solutions to emerge, such as more sustainable sources of feed for aquaculture, by making them competitive. Another participant noted that Integrated Multi-Trophic Aquaculture (IMTA) provided ecosystem services in coastal MPAs while providing livelihoods and food security to local communities, and should be more widely developed.

OCEAN UPDATES:

The High Seas

This update briefed participants on negotiations on a legally binding international agreement on conservation and sustainable use of Biodiversity in Areas Beyond National Jurisdiction (BBNJ) under the UN Convention on the Law of the Seas. The second round was taking place from 25th March to 5th April 2019 in New York to discuss area-based management tools, marine genetic resources, capacity building, benefit-sharing and technology transfer.

The ocean community – and increasingly, governments – regard this treaty as crucial to enable protection of High-Seas areas critical to the global ecosystem, indigenous cultures, and climate.

The High Seas Alliance was pushing for an ecologically representative network of

MPAs in the High Seas and for the treaty to enforce the obligation to conduct environmental impact assessments prior to any potentially harmful activity, among other recommendations.

The WWF's key recommendations were to give marine protected areas a specific role in the treaty; to harmonise current regulations and to clarify the treaty's future governance, which would require a new institutional framework including a Conference of the Parties.

It supported a target of 30% protection of the High Seas and more inclusive and equitable management, and recommended that the BBNJ treaty process tie in with Convention on Biological Diversity talks (COP 15) in China in 2020 to set new ocean targets.

The third round of negotiations would take place in August 2019, with a probable final round in the Spring of 2020, a very short time frame for reaching global consensus on these issues.

MPAs in Antarctica

Conservation lobby Antarctic2020 backed protecting over 7 million km² of the Southern Ocean by 2020 in recognition of the Southern Ocean's influence on biological and meteorological processes around the globe and alarming evidence of accelerating decline of its unique ecosystem.

Action was bogged down in geopolitics and national interests despite pledges by the 25-member Commission for the Conservation of Antarctic Marine Living Resources (CCAMLR) to protect the Southern Ocean, with just two MPAs having been designated. One was the Ross Sea Marine Protected Area. The world's largest, it was supported by the US, China and Russia, which was in itself an achievement. Other areas proposed by the EU, Chile and Argentina had yet to be formally designated; Antarctic2020 called for CCAMLR to act urgently to implement effective conservation measures before it was too late.

From IMPAC4 to IMPAC5

The fourth International Marine Protected Areas Congress (IMPAC4) in Chile in 2017 gathered 1,100 participants from over 60 countries. IMPAC brings together MPA managers, conservationists, scientists and other stakeholders from around the world to share experiences, knowledge and best practices.

IMPAC4 highlights included Chile's declaration of three very large MPAs and the launch of the [World Database on Protected areas](#). It emphasised science, international MPA networks and the importance of engagement with young professionals and local communities.

The event culminated in a one-day high-level meeting attended by Chilean President Michele Bachelet and other world leaders who endorsed a 'Call to Action for the Ocean', which underlined the importance of people in ocean conservation and sustainable use.

IMPAC5 (Sept. 26 to Oct. 1, 2021) in Vancouver, Canada takes place one year after COP 15 in China and will provide the chance to discuss implementation of new targets likely to have been adopted there.

With Arctic, Atlantic and Pacific coasts, Canada is strongly engaged in ocean conservation and has reached 8% protection of its marine space, with more MPAs and MPA networks in the pipeline. It supports targets of 30% global ocean protection by 2030, and perhaps 50% by 2050.

IMPAC5's Canadian organisers are busy with outreach to indigenous organizations, budgetary issues, developing conference themes and coordinating with the international steering committee. They expect to host over 3,000 delegates from around the world with strong involvement from youth and MPA stakeholders and a focus on indigenous leadership on MPAs in Canada.

The human pressures on the ocean have been and will continue increasing in coming decades. In 2050, the world population will reach 10 billion people, requiring 50% more food, energy and resources, which makes it urgent to find a balance between economic use of the ocean and protection of its ecosystems. The total global ocean surface declared as protected now reaches 7.59%. Though MPAs have proven to be excellent tools to respond to the Sustainable Development Goals and to face the planetary marine biome crisis, they are neither in adequate numbers nor sufficiently effective and we are still far from achieving the Aichi Biodiversity Target of 10% of coastal and marine areas conserved. In view of upcoming international events that will decide upon the future of the marine environment, are listed below the principal recommendations which came out of the discussions on the 10th MBI (for a full view of the debates, please refer to the Executive summary and the Summary of discussions):

AMBITIONS

- Identifying MPAs according to where they are in the establishment process and their level of protection would allow for more accurate and consensual accounting of MPAs. Tools such as the IUCN's MPA standards (link) and the MPA Guide (link) would enable the marine community to track and report on MPA progress in preparation for the all-important post-2020 discussions of the Convention on Biodiversity (CBD).
- We should aim for a target of 30% of oceans under full and high protection by 2030 and advocate that 100% of the ocean be sustainably managed.
- MPAs are necessary but not sufficient. It is necessary to think holistically as MPAs are powerful tool but must be coupled with other actions in a global strategy to return the ocean to a healthy, productive and resilient state.
- We should advocate for higher levels of protection in key habitats such as fish nurseries, seagrass meadows, mangroves and kelp forests which provided significantly more ecosystem services than others yet were more sensitive to human pressures.
- MPAs' potential with regard to climate change should be clearly science-based and more widely addressed during the international discussions.
- MPAs should protect ecosystems as a whole and be integrated into the wider land and seascape through Marine Spatial Planning. MPAs should be implemented in support of the blue economy but not at its service.
- Generally, more data on marine habitats and human activities is needed to fully assess the economic value of marine ecosystem services and natural capital, especially of economic benefits of MPAs. This is necessary to convince civil society and decision makers to scale up protection.
- Science should support public policy by providing science and data on fisheries and habitats whenever an MPA is created. It should also develop appropriate methodologies for these highly - three-dimensional - complex systems, indicators and environmental tools for monitoring over the long term, without which a protected area could not be properly implemented.
- There is a need for an interdisciplinary approach to establishing and managing MPAs. This would be particularly important with regard to the High Seas (Areas Beyond National Jurisdiction), where legal issues are even more complex.
- Joining scientific studies with local and traditional knowledge should be integrated in the international approach to biodiversity extinction.
- Discussions should make sure the future BBNJ treaty enshrine the idea of the ocean as a common public good. Greater clarity as to future treaty governance, regular monitoring and assessments are needed. This would require strong institutions, including a "Conference of the Parties", lest we squander a decades-long opportunity to build a coherent and holistic management framework.
- High Seas conservation and management need to be more inclusive to involve stakeholders from less developed coastal areas.

GOVERNANCE AND MANAGEMENT

- MPAs need better monitoring, management, transparency and enforcement as well as internationally binding legislation to achieve the international targets. Without enforcement, a culture of disregard for the rules would become established and the existence of "pseudo" MPAs could undermine future efforts.
- There is a need to harmonise current regulations, particularly with regard to environmental impact assessments in the High Seas, which must be internationalised.
- In order to deliver effective MPA networks, it is important to conciliate national ambition with local needs
- By handing responsibility for MPA networks to the people living closest to the sea and most dependent upon it, MPAs stand a much better chance of being resilient and robust, out of self-interest but also pride. The best way to ensure local support and compliance is to enable a bottom-up strategy.
- Citizen science could be a way to engage with different groups such as fishermen, volunteer divers, students and children.

BLUE ECONOMY

- Participatory management is key to securing the genuine support of the population that lives and works with the ecosystem.
- There is a strong need for multi-stakeholder participation to reconcile MPA objectives with the competing interests of fishers, tourist operators, divers, port and maritime authorities.
- Sustainable economic activities (aquaculture for instance) could be implemented in mixed-use MPAs but this needs to be established ahead of time as part of the legal designation process.

FUNDING

- Equitable and effective management requires more cooperation on knowledge, co-management, clarity of objectives, and funding. Without funding, MPAs would fail to deliver results, with very negative effects on public perception of their credibility as a tool.
- MPAs belong to all and ought to be held by our governments as a public trust.
- Studies demonstrate that no MPA could ever be fully self-financing, particularly given the expense related to effective surveillance. The ocean conservation community needs to find financial solutions, and this requires a broad coalition among scientists, governments, international bodies and NGOs, philanthropy but also, and especially, business and private sector.
- MPAs should be recognized as being of greater value and more deserving of subsidies. A change of subsidy policy could be one solution, for example from long-distance fishing fleets to MPAs. This investment could offer a better return while improving food security.
- Payments for Ecosystem Services (PES), an instrument increasingly adopted in terrestrial areas, could be used to support marine conservation, for example through tourism' contribution.

NETWORKS

- Mobile species move around regardless of protected areas and geographical regions. There is a greater need to share information, understand the issues and agreeing on objectives to ensure their survival.
- A lack of knowledge about species' mobility and ecological connectivity hinders development of ecologically representative MPA networks, and of MPAs designed to foster and protect this connectivity. Collaboration between networks and individual MPAs is crucial to address this issue.
- MPA managers' networks are now recognised as a cornerstone of MPA performance. Through a bottom-up approach, those networks are teaming up to keep the global, regional and national MPA agendas moving forward. In addition to sharing the best available science, the joined forces of this partnership better enable conservationists to influence international policy.
- Exchanges and capacity building among MPA managers in regional networks should be fostered.



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WELCOME ADDRESS

HSH Prince Albert II of Monaco

On this 10th anniversary of the Monaco Blue Initiative, Prince Albert recalled its beginnings.

He had been moved to act following the disappointing 2009 Copenhagen COP 15 Climate Summit, which had demonstrated the difficulty of achieving binding global commitments despite the urgent need for action on oceans protection.

A few months later the Prince Albert II of Monaco Foundation and the Oceanographic Institute convened the first edition of this unique think tank bringing together diverse ocean actors to reflect in concrete, operational terms on ocean protection and blue economy issues, he recalled.

He thanked historical and new participants, noting that their presence testified to their countries' interest in these issues, which were garnering more and more attention, particularly within civil society.

The Prince evoked progress towards a legally binding instrument on the conservation and sustainable use of the High Seas (BBNJ). Marine Protected Areas were a key component for reaching its dual goals, hence the theme of today's conference.

Before the first Monaco Blue Initiative, MPAs rarely appeared on the international agenda, despite scientific agreement on their importance and the existence of several around the world. Monaco had created one of the first marine protected areas in the Mediterranean over forty years ago, Prince Albert II of Monaco noted.

Ten years on, the situation had progressed, although we were still far from the 10% target agreed in Aichi. The virtues of MPAs

- from positive effects on biodiversity, fish stocks, and ecosystems to those on coastal economies - were much more widely recognized. Today we also now knew MPAs could greatly help in mitigating impacts of climate change, ocean acidification and natural disasters.

MPAs also had a high rate of economic return from ecosystem services, the Prince asserted. Adopting the more ambitious target of 30% MPA coverage of the world's oceans could thus generate substantial financial flows and create new jobs.

With better understanding of MPAs and their effects came greater support. Now was the time to accelerate to expand protection and reinforce it both politically and legally. One challenge today's MBI would address was that of defining MPAs, as the term covered very different realities, which led to confusion. The second challenge was expansion of these areas. It was no longer a question of preserving a few ecosystems, but of inventing a global solution, at ocean scale, which was the aim of the UN BBNJ negotiations.

MPAs must be developed in the High Seas, where the future of our planet was at stake, Prince Albert said. This raised financial issues that must be addressed. Solutions existed, such as the Mediterranean Trust Fund Monaco had developed with France and Tunisia to generate public and private funding for MPAs and their networks.

A more sustainable world could be invented through the sea, with the sea and for the sea, by acting together, the Prince said, quoting French historian Jules Michelet: "All geography should begin with the sea."

SESSION 1

How can we - collectively continue developing MPAs whilst ensuring their efficiency?

Moderator

Prof. Jane Lubchenco,
Distinguished University Professor
& Adviser in Marine Studies,
Oregon State University

Panellists

Mr. Romain Renoux,
Coordinator, The MedFund

Dr. François Houllier,
President & Chief Executive Officer,
IFREMER

Dr. Mark Spalding,
President, The Ocean Foundation

Dr. Ricardo Serrão Santos,
Parliament Member, European
Parliament (Participating in absentia)



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THE CONTEXT

Marine protected areas are considered one of the most effective tools for protecting and restoring marine species and ecosystems, and increasingly, for climate change mitigation. Great progress has been made towards protecting 10% of the global oceans by 2020, agreed in 2010 by the Convention on Biological Diversity and UN member states. Yet questions remain regarding the degree to which MPAs are properly funded, managed and enforced and thus whether they are fulfilling their role. New tools are emerging to clarify discussion of MPAs and to integrate them into a broader framework of ocean stewardship. The panel explored these and addressed challenges and opportunities in the context of ongoing international discussions on ocean governance.

Moderator **Jane Lubchenco** highlighted the importance of clarity and consensus as to Marine Protected Areas' numbers, definition and relative protection status. Today, estimates of the percentage of the ocean that was protected varied from 5 to 8% depending on the source, up from less than 1% in 2010.

This discrepancy reflected the absence of consensus regarding what constituted an MPA, she suggested, recommending the IUCN's baseline definition of MPAs as areas whose primary objective is the conservation of nature. It also demonstrated disagreement as to when an MPA should be counted as protected - whether upon announcement, or when an MPA was legally designated, implemented in the field or actively managed with measurable results.

Indeed, Lubchenco noted, the level of protection mattered hugely to biodiversity outcomes - while fully protected MPAs provided a wealth of conservation benefits, most of these benefits were not achieved in partially and minimally protected areas.

To address the diversity of perspectives and terminology, which was hindering progress, a group of governmental and non-governmental

organisations was about to release an MPA Guide proposing a common language to describe MPA stages of establishment and levels of protection, and the outcomes to be expected from each.

Identifying MPAs according to where they were in the establishment process and their level of protection would allow for more accurate and consensual counting of MPAs. The MPA Guide recognized 4 stages of establishment and 4 levels of protection. These two categories (stages and levels) would complement existing IUCN Protected Area categories focusing on management objectives and governance, she suggested.

Together, the IUCN's MPA standards and this guide would help clear the current confusion and enable the marine community to track and report on MPA progress in preparation for the all-important post-2020 discussions of the Convention on Biodiversity (CBD), Lubchenco concluded.

Participating *in absentia*, EU Parliament deputy **Ricardo Serrão Santos** noted that while ocean knowledge had greatly increased, solutions lagged far behind. Coastal habitats such as sea grass beds, mangroves, and salt marshes accounted for around half of the total carbon sequestered in the ocean, yet their protection, though critical, had been largely overlooked.

International cooperation and scientists' engagement with society and political decision-makers on ocean protection was crucial to rebuilding both ecosystem resilience and healthy economies, he said.

Coherent networks of protected areas, from coastal to deep-seas, must be established but also funded to ensure enforcement and long-term monitoring. Without enforcement, a culture of disregard for the rules would become established and undermine future efforts. The existence of pseudo-MPAs discredited, disgraced and vilified the mission of such networks, he declared.

Serrão Santos deplored the many examples - such as in the Mediterranean and Black Seas - where the Aichi Targets of 10% protection had been reached but where a lack of enforcement prevented fish stocks from recovering. **MPAs that existed only on paper were equivalent to fake news**, he said.

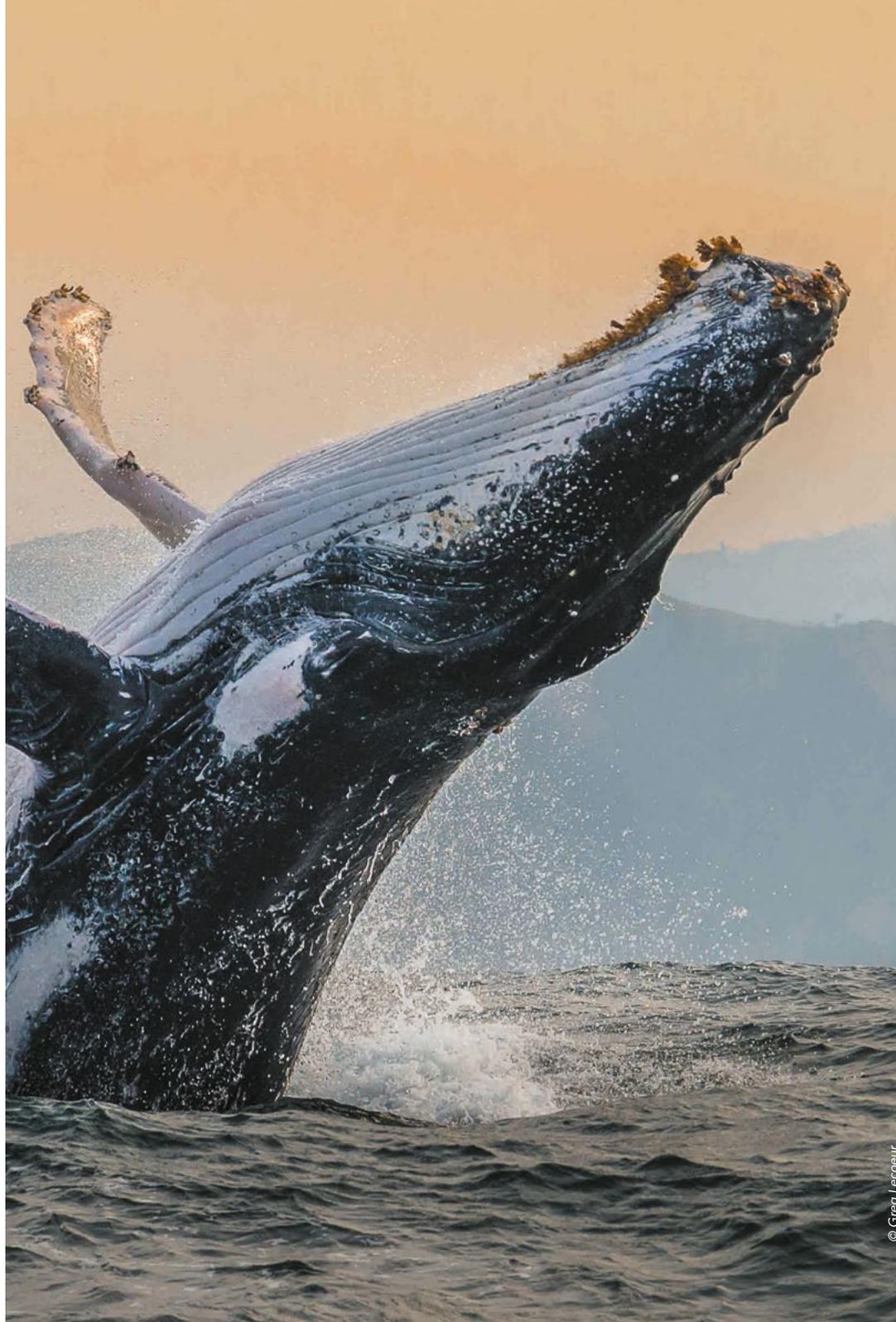
Former MPA manager **Romain Renoux** is now acting coordinator of an environmental trust fund, The MedFund. He, too, noted the serious gap between designation and effective protection. An exhaustive 2016 study by SPA-RAC and MedPAN showed that in the Mediterranean, while 7.14% of the sea technically was protected, just 0.04% was a no-go or no-fishing zone, far from stated objectives.

Even more worrying, the study revealed that only 12% of the financial needs for effective MPA implementation, management and enforcement were covered by any regular funding. The fake-news, paper-parks notion was a reality in the Mediterranean, he said.

Renoux then highlighted the French/Tunisian/Monegasque initiative launched in 2013 to develop a sustainable funding mechanism for Mediterranean MPAs, since joined by three other countries and 10 regional organizations. So far The MedFund had raised €9 million towards its goal of €30 million with which to endow the trust fund in perpetuity, he explained.

The fund would finance key habitat restoration, improved surveillance, local capacity and partnership-building, information campaigns, and monitoring. **Without funding, MPAs would fail to deliver results, with very negative effects on public perception of their credibility as a tool**, he said.

As a former MPA manager, Renoux stressed the necessity of building durable alliances and co-management among scientists, NGOs, the private sector, and local governments and communities. Without such a holistic approach, results would be difficult to achieve.



François Houllier, CEO of French research organisation IFREMER, noted that less data was available on marine conservation than for land, giving research organizations and universities an important role.

Connectivity was also a much greater issue in the sea, which was a three-dimensional world. With the world's second-largest maritime domain, France had a particular responsibility with regard to MPAs and had already surpassed global targets in its waters, with over 20% protected.

MPAs were generating more and more attention, with five times more publications annually on the subject than 20 years ago, he noted.

IFREMER supported **public policy by providing science and data on fisheries and habitats whenever an MPA was created**. It also developed methods, indicators and environmental tools for monitoring over the long term, without which a protected area could not be properly implemented, Houllier said.

IFREMER also worked to demonstrate the interest of MPAs and of benefits they could produce outside of the protected area - the "export effect" - which was a slower, more variable effect requiring further study.

Regarding MPAs as tools to mitigate climate change, Houllier cited an important [2017 paper](#) examining the ecological basis for determining the appropriate level of protection. This was one example of the role science should play in providing a substantiated rationale for MPAs, he suggested.

François Houllier also stressed the **need for an interdisciplinary approach**. This had started: one quarter of the over 1,000 papers published on MPAs last year came from the social sciences, economics and the law. This would be particularly important with regard to the High Seas (Areas Beyond National Jurisdiction), where legal issues were even more complex.

By way of illustration, moderator Jane Lubchenco called for a hand count among those present according to their field. This revealed a preponderance of scientific, governmental and NGO figures and a scarcity of people from legal, industrial, business and social science or humanities backgrounds - graphic proof of the need for a greater diversity of perspectives.

Mark Spalding, President of the Ocean Foundation and of the Sargasso Sea Commission, was one of few lawyers present. He suggested that **MPAs should not be about a single species or activity, but rather about the functioning of the ecosystem as a whole**. Beyond defining desired levels of protection, this meant **reducing multiple and cumulating human pressures, particularly in light of anticipated but also unpredictable changes due to climate disruption**.

Despite great progress in designating and gaining acceptance for MPAs, more momentum was needed to meet targets and ensure their effective management and enforcement. A further objective should be implementing networks of new MPAs with integrated corridors to support species migration due to changes in ocean temperature, salinity, or chemistry.

Political will was key to creating and funding MPAs, and politicians needed support. Sensitisation as to the potential economic benefits of well-chosen and managed MPAs would help garner this support, Spalding said.

True effectiveness required managers to respond to changing conditions or threats and be willing to **ban exploitation in the short term to support economic well-being in the long term**. Spalding supported the precautionary principle, especially as knowledge of oceans grew; adoption of a treaty on BBNJ was one piece of this.

Sustainable financing for MPAs was a major issue, Spalding agreed. Studies had demonstrated that no MPA would ever be fully self-financing, particularly given the expense related to effective surveillance.

A change in subsidy policy could be one solution. While some governments subsidized long-distance fishing fleets, MPAs should be recognized as being of greater value and more deserving of subsidies. This investment could offer a better return while improving food security.

MPAs merited state funding as a common public resource, Spalding said. The pitiful lack of government investment in protecting and managing MPAs primarily harmed the people most dependent on the biodiversity MPAs were designed to restore and protect. It was nice that NGOs and philanthropy provided donations and support, **but MPAs belonged to all, and ought to be held by our governments as a public trust**. This was part of what was at stake in the BBNJ treaty negotiations, he concluded.

During the discussion period, **Joachim Claudet** from France's CNRS pointed out a vicious circle: in the face of opposition to well-protected MPAs from many stakeholders, we turned to minimal protection, which then failed to confer any benefits, causing people to oppose them even more. **Benefits only came from fully or highly protected MPAs**, he affirmed.

François Houllier highlighted the role of **citizen science**, which was more prevalent in land-based conservation than that of oceans. It could be a way to engage with different groups such as fishermen, volunteer divers, students and children. **Showing people the situation in the field was one way to fight fake news**, he added.

Max Bello of the Pew Charitable Trust made an important point about fairness. Chile, with the 10th largest Exclusive Economic Zone in the world, had achieved 43% coverage with highly protected MPAs. This was a huge challenge for his country, Bello noted. While protecting such a vast ocean area was to the entire world's benefit, the burden was borne by local people, as the MPAs deprived them of the ability to exploit resources.

Dan Laffoley called for more ambition to face the planetary marine biome crisis. Humanity was changing ocean chemistry, functionality, wave regime, temperature and oxygen levels. Effects were accelerating and becoming locked in: even if CO2 emissions stopped now, the Arctic would still warm by 3 or 4 degrees, with impacts on ocean chemistry and oxygen.

Marine protected areas were a recovery space. Transparency about the situation and greater ambition and urgency towards remedying it were essential, because the ocean was sending a message, of which the great increase in extreme storm events was one facet, he said.

Jane Lubchenco noted that the IUCN had passed an ambitious resolution at its 2016 meeting to protect 30% of the ocean by 2030 in highly protected MPAs. She summed up previous remarks by stating that MPAs were necessary but not sufficient: a holistic approach addressing emission reductions and other forms of pollution and making extractive uses sustainable was also needed.

Didier Poidyalwane, New Caledonia government member in charge of customary affairs, ecology and sustainable development, noted the scientifically proven effectiveness of protecting distant, pristine coral reefs – the further from human settlement, the more effective.

Total protection of these reefs was challenging but permitted protection of species such as large predators not protected by "classic" reserves. This showed the importance of diversifying strategies and creating MPAs across the gradient of human pressures, he said.

Effective MPAs had particular importance in the Pacific, composed largely of small island states. They required better governance based on mutuality and plurality. While reducing the impact of human activities, it must bring social, economic and environmental benefits to local communities.



New Caledonia planned to enlarge its Coral Sea MPA to Vanuatu, Papua New Guinea, Fiji and the Solomon Islands, who would be invited to join the Pacific Ocean conservation process developed with Australia since 2010. Surveillance and enforcement in such large MPAs were a real issue, as combating illegal fishing was key to effectiveness. Poidyalwane appealed to all those present to support New Caledonia in this regard.

Laura Giuliano, Science Director of Monaco's Mediterranean Science Commission, suggested that ensuring MPAs' long-term effectiveness required modular plans with detailed objectives. These should be based on a consensus among stakeholders while integrating successive milestones based on updated scientific knowledge, she said.

To applause, **José Maria Figueres** of Ocean Unite and Costa Rica suggested declaring the entire High Seas area an MPA, which scientific evidence justified. This had particular significance given this week's 2nd round of UN negotiations on protecting Biodiversity in Areas Beyond National Jurisdiction (BBNJ). It would have the added bonus of bringing global MPA coverage to the 30% level increasingly seen as necessary. Only about a dozen countries were fishing in the High Seas, and that was thanks to subsidies, Figueres noted.

He also advocated declaring the seas surrounding Antarctica an MPA. **Protecting the entire area under the precautionary principle would be far more effective than protecting little bits**; the scientific committee at the Commission on the Conservation of Antarctic Marine Living Resources (CCAMLR) could later decide which part should not be an MPA.

Flipping the burden of proof for the Antarctic was a bold vision, Jane Lubchenco said, reminding participants that most of the ocean used to be a de facto MPA due to its remoteness. Now we had the technology to mine, fish and drill everywhere.

She remarked that the session had not touched enough on the connections between MPAs and economic development. Concluding the

session, Jane Lubchenco suggested that **it was necessary to think holistically as MPAs were a powerful tool but must be coupled with other actions in an "all of the above" strategy to return the ocean to a healthy, productive and resilient state.**



SESSION 2

How do coherent MPA networks contribute to protecting species?

Moderator

Prof. Alexander Tudhope,
Professor of Climate Studies,
University of Edinburgh

Panellists

Dr. Rachel Graham,
Founder & Executive Director,
MarAlliance

H.E. Mrs. Haydée Rodríguez-Romero,
Vice-minister of Waters and Seas,
Government of Costa Rica

Dr. Serge Planes,
Research Director, Centre National
de la Recherche Scientifique

Mr. Olivier Laroussinie,
Deputy Delegate for sea and coast,
French Ministry for an Ecological
and Solidary Transition

Mrs. Purificacio Canals,
President, Mediterranean
Protected Areas Network



THE CONTEXT

Marine environments are experiencing growing pressure from the combined impacts of overexploitation, pollution and climate change, which play out across the entire ocean.

Marine Protected Areas (MPAs) have a critical role to play in protecting species and ecosystems, but to be successful they must be incorporate broadly based knowledge of natural histories and interactions, from mass spawning and breeding aggregations to migration across multiple jurisdictions and ecosystems.

MPA networks facilitate the natural connectivity of species and habitats across the sea and foster the spread of effective management tools and skills. The panel provided examples and analysis of functioning MPA networks from seas around the world, and put forth recommendations for their development.

Moderator **Sandy Tudhope** reiterated the importance of respecting organisms' life cycles in protection plans for ever larger areas, which required a distribution and connectivity that would be resilient to species' inevitable shifts in range due to climate change. Noting panellists' enormous personal experience, he invited them to bring forward suggestions as to how to promote networks of MPAs.

Rachel Graham of MarAlliance had worked for over twenty years with large, highly migratory species and processes like spawning aggregations of reef fish. This had taught her the **inestimable value of local traditional knowledge, gleaned over centuries**. Marine actors were tapping into that knowledge not only to enrich science and fill data gaps but also to inform creation of protected areas, she said.

Rachel Graham cited an example from Belize where thanks to traditional ecological knowledge scientists discovered a large aggregation of whale sharks attracted by a reef fish spawning aggregation. This led

to declaration of an MPA there and later a network of 47 protected areas within the Meso-American Reef, which straddles the waters of Belize, Guatemala, Mexico and Honduras. Today 15 of these MPAs were species-oriented and had come out of that original science, Rachel Graham noted.

To enable the protection and connection of processes like spawning aggregations and migration required local engagement from the start. Encouraging citizen science by involving local fishers and students in research and monitoring was helpful, and also a way to reduce costs, as governments in many of these countries were very challenged financially.

Rachel Graham called for a bolder vision to carry local communities forward as well. In her work across a network that included government-run protected areas, community areas co-managed with NGOs, and Locally Managed Marine Areas (LMMAs) she had seen that the most successful MPAs were locally driven ones. These had higher compliance and goodwill and less need for enforcement.

Rachel Graham emphasized that **MPA networks really meant networking people. Donors seeking a “good bang for the buck” should finance such exchanges among MPA practitioners, which would move conservation forward.**

Ending on a sober note, Rachel Graham spoke of desperation at the local level. “I work hand in hand with a lot of fishers across many countries and they are desperate,” she said. “They want to give up their nets, they want to fish more sustainably, they want to see their coral reefs protected - but they don’t know what their options are. Please integrate them, engage them, give them hope.”

Haydée Rodríguez-Romero, Costa Rica’s Vice Minister for Waters and Seas, shared insight regarding MPA networks in the Eastern Tropical Pacific. Her country was working to improve its legal framework to better protect mangroves and reefs for their role in mitigating climate change. This complemented the national decarbonisation plan under which

the country was converting to an economy independent of fossil fuels.

Costa Rica had been a historical leader in land-based conservation but only 2.5% of the country’s marine territory was protected, with the current government committed to achieving at least 10%. New or expanded MPAs must be science-based and adopt a participatory process, which required identifying the concrete benefits of protection to people and communities through economic valuations, Haydée Rodríguez-Romero said.

Interconnection was a priority. The tropical Eastern Pacific Marine Corridor (CMAR), which spans islands belonging to Costa Rica, Panama, Colombia and Ecuador, exemplified this. In 2004 the four countries created CMAR as a regional conservation initiative after scientists demonstrated that pelagic migratory patterns extended from her country’s Cocos Island to the Galapagos.

The Tropical Eastern Pacific was ecologically important as home to 92% of tropical Pacific reefs, as well as showcasing development in extreme conditions. CMAR was the only site in the world with two populations of humpback whales, and many other pelagic species migrated along this swimway. Data from satellite and acoustic tagging showed strong connectivity among the MPAs of Cocos, Colombia’s Malpelo and Ecuador’s Galapagos for hammerhead sharks and several turtle species, Haydée Rodríguez-Romero said.

CMAR benefited roughly 3.5 million coastal people, primarily through tourism and fishing, with some 48,000 artisanal fishermen and around 50,000 industrial fishing vessels dependent on the health of this ecosystem, she added.

Costa Rica would take its turn leading CMAR in April 2019, and sought to strengthen partnerships and to address marine spatial planning and blue economy issues regionally. The goal was to develop and highlight connectivity for species and the associated benefits for communities.



Serge Planes of France's CNRS then addressed **how to marry national ambition with local needs to deliver effective MPA networks**. As a specialist in reef fish genetics, Planes had seen how science could be used to show local communities that MPAs and MPA networks were in their interest.

The best way to ensure local support and compliance was to enable a bottom-up strategy in which local communities themselves built MPA networks - a top-down approach would fail, he said.

Planes shared his experience working in Papua New Guinea, which had no national MPA framework - community chiefs governed local use of marine resources. In an area of seven island communities in the north, three communities' waters had major grouper spawning aggregations.

Planes' team was able to demonstrate through genetic analysis that larvae from one protected spawning aggregation contributed to fisheries replenishment throughout the surrounding area. Sharing this science helped convince local communities of the value of declaring these aggregations off-limits.

Science was getting better at predicting wildlife behaviour, connectivity and biology, Planes noted. Bringing this into the local equation would build support for locally organized networks, and a national strategy could then be built from that.

He then mentioned French Polynesia, where marine resources were often managed under the rahui customary system where a king restricted an area in dedication to the ancestors. The closed area was periodically opened to fishing, with the catch being shared out across the community.

While the notion of shared outcomes was useful, the on-and-off closure was not effective for protection. This was where well-explained, solid science helped to garner local support for modifying marine management strategy: Tahiti's recent Presqu'île MPA had been organized by the local community

incorporating both rahui and scientific input, Planes explained.

French Deputy Delegate for the Sea and Coastline **Olivier Laroussinie** then explored the many legal and policy instruments available for protecting migratory marine species that roamed across multiple jurisdictions.

Tools came under three categories. One was species-based international conventions such as CITES, the Convention on International Trade in Endangered Species. Another consisted of instruments with a broader ecosystem or geographic approach such as the Convention on Biological Diversity (CDB) and UNESCO's World Heritage Programme, which identified marine sites of exceptional value, including areas Beyond National Jurisdiction (BBNJ).

The third regulatory category concerned human activity, with general conventions on fishing under the FAO; regional fisheries management organizations; the International Seabed Authority and the International Maritime Organization, all of which had an obligation to consider impacts on marine ecosystems and species and to take measures to avoid them.

Mobile species moved around amid all these instruments and geographical regions, and for them to survive we needed a minimum of coherence, whether in sharing information, understanding the issues or agreeing on objectives, Olivier Laroussinie stated.

Today's UN negotiations BBNJ were an opportunity to address how to achieve greater coherence among existing instruments through this new one. The future BBNJ treaty should be given ultimate authority over what was a global issue no existing instrument could address on its own, he suggested.

BBNJ talks also raised the question of relations with coastal states. In that regard Laroussinie recommended an article by Ekaterina Popova in [Marine Policy Vol. 104](#) exploring the links between BBNJ and coastal communities.



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Olivier Laroussinie feared negotiators would contend that "we mustn't make a decision on BBNJ which would imply a constraint for coastal states." He suggested inverting this to argue that the absence of a decision could harm coastal states. Negotiations so far were failing to highlight High Seas protection's positive aspects for coastal states.

The UN would soon launch the Decade of Ocean Science, an opportunity to undertake a much-needed inventory and to share new knowledge among all stakeholders about species biology and human interactions. This would allow more effective identification of priority areas and requisite protection levels, he concluded.

Purificacio Canals of the Mediterranean Protected Areas Network (MedPAN) shared her group's extensive experience in **fostering exchanges and capacity building among MPA managers** not just in the Med but across the Atlantic. These human relationships on the practical level were what ultimately determined whether biodiversity was conserved, she affirmed.

MedPAN works in both European and non-European countries around the Mediterranean with around 100 members from 19 countries, who meet regularly. Purificacio Canals offered two examples of MPA manager networks focusing on specific species.

Marine turtles in the Mediterranean were expanding westward beyond their traditional area. Eastern Mediterranean MPA managers such as those of Greece's Zakynthos National Park, home to the Med's largest nesting population, had a great deal of knowledge that could be applied elsewhere. But people had to be connected, she said, citing a mishap in her hometown of Tarragona where turtle eggs were unintentionally harmed by well-meaning conservation authorities.

They didn't lack scientific knowledge, but it was the first time they had encountered a real nest, Purificacio Canals explained. Spending time with experienced managers in Zakynthos or other Eastern Med MPAs would teach them small details with major results on outcomes.

While exchanges were relatively simple in the Mediterranean, a small, closed sea with a common culture, the Atlantic was another story, Purificacio Canals said. MedPAN is involved in the implementation of a Transatlantic MPA partnership launched by the EU three years ago, covering a huge expanse of water and more than 60 countries and 30 overseas territories.

Bilateral cooperation had existed, but not much between north and south. MedPAN built three partnerships: one dealing with marine mammals (humpbacks), one on MPAs' role with regard to coastal resilience, and one linking managers to regional networks from other seas.

The case of humpbacks demonstrated how knowledge transfer from managers with specific experience could improve the situation of a much larger area. The partnership brought together managers from humpback sites ranging from the Caribbean to the Azores and Cabo Verde, which hosted populations from both the north and south Atlantic, all the way to Iceland, with "amazing" results, Purificacio Canals said.

In addition to sharing the best available science, the joined forces of this partnership would better enable conservationists to influence international policy. Future management plans for this species would be coordinated worldwide, beginning with the International Congress on Marine Mammal Protected Areas in Greece this Spring.

These examples illustrated **what was missing in the international approach to biodiversity extinction: joining hard science with traditional knowledge**, Purificacio Canals asserted.

Practical skills were key to protecting species and habitats, including social skills for dealing with the community and harmful activities, and networks of managers helped a great deal with that. Science on paper would not necessarily deliver the same results in the field, she said.

This practical level on the ground connected with the international political agenda through the joint mobilization of regional networks of MPA managers (MedPAN in the Mediterranean, CaMPAM in the Caribbean, NAMPAN in North America and RAMPAN in West Africa).

MPA managers' networks were now recognised as a cornerstone of MPA performance. Through a bottom-up approach, those networks were teaming up to keep the global, regional and national MPA agendas moving forward, Canals concluded.

During the discussion period following the session, **Genevieve Pons** of the Institut Jacques Delors noted that of the 25 members of the commission for the protection of Antarctica, only two states were resisting protection, and one was China.

She asked the Chinese Deputy Director General of the Department of Marine Ecology and Environment **Chuanlin Huo**, who in his speech had underlined China's commitment to biodiversity and MPAs, whether China would take the opportunity of CBD COP15 in October 2020 to finally support creating MPAs in Antarctica.

Chuanlin Huo said this did not relate only to his ministry. There had been institutional reform in China since last year, he affirmed, and regarding environmental protection in Antarctica, the simple answer was that China was working on that.

China had been conducting Antarctic research for many years; Mr. Chuanlin Huo himself used to work for the state oceanic administration. He concluded by saying it was a very good suggestion that before the CBD meeting next year China should do something, and that he would convey this back to his minister and other departments.

UN Special Oceans Envoy **Peter Thomson** also expressed disappointment regarding Antarctic conservation, calling the outcome of last year's meeting of the Commission on the Conservation of Antarctic Marine Living Resources (CCAMLR) "dismal".

He suggested that today's gathering of MPA experts from around the world formally back José Maria Figueres' proposal to make all of Antarctica a Marine Protected Area. This would strengthen CCAMLR's hand in negotiations and let them know the ocean community was watching and expected them to do the right thing, Thomson said.

Mission Blue founder **Sylvia Earle** noted the **contrast between the increase in knowledge and the lack of action**. She called for protection of a much larger portion of the oceans than the 30% target, as the seas were our life support system.

Despite growing knowledge of the oceans' functioning and importance, policies were not keeping up with the degradation of its oxygen delivery systems. Food from the sea was not the main issue. Sylvia Earle called for a greater sense of urgency, scaled-up objectives and acceleration of the actions known to be necessary to sustain the network of life in the ocean that kept us alive.

Sandra Bessudo of Colombia's Malpelo Foundation shared the example of MigraMar, a migratory species research and conservation network that began with four regional countries but now extended from the US to Chile.

MigraMar had observed that hammerhead sharks had a vast range, with connectivity not just among MPAs but with coasts and beyond, as far as French Polynesia and Hawaii. This demonstrated the need for broader and more solid cooperation, and not just politically, Bessudo declared, illustrating her words with a bleak story.

Five tagged pregnant hammerheads were traced to an area of the Colombian coast known to be a shark nursery. Three were killed by fishermen. **MPAs were only a partial solution when species migrated to give birth elsewhere**, Bessudo declared. Stronger action was necessary, particularly to combat illegal fishing. She pointed to the need to change attitudes toward these species: "In our country if a jaguar is killed, everyone screams. When sharks are killed, no one says a word."



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Laura Giuliano of Monaco's CIESM agreed that conservation management was complicated by human activities that occurred far from the MPA, but that still had a significant impact. Networks could help to address lacks in long-term baseline monitoring, knowledge about trophic relationships over different spatial and temporal scales, and scientific evidence to support claims concerning sustainable exploitation levels and cause-effect relationships.

Sandy Tudhope concluded by noting the session's emphasis on the importance of networking people, sharing not just science but also practical and social skills. **By handing responsibility for MPA networks to the people living closest to the sea and most dependent upon it, MPAs stood a much better chance of being resilient and robust, out of self-interest but also pride,** he concluded.



SESSION 3

How can the evaluation of ecosystem services be integrated into blue economic development?

Moderator

Mrs. Maria Damanaki,
Global Managing Director for
Oceans, The Nature Conservancy

Panellists

Prof. Dr. Peter Herzig,
Director GEOMAR - Helmholtz
Centre for Ocean Research, Kiel

Dr. Olivia Langmead,
Senior Research Fellow, Marine
Conservation Science, University of
Plymouth Marine Institute

Mrs. Mia Pantzar,
Senior Policy Analyst, Institute for
European Environmental Policy

H.E. Mr. Vincent Meriton,
Vice-President of the Republic of
Seychelles

Mr. Abdou Karim Sall,
President, Joal Fadiouth Marine
Protected Area, Senegal

THE CONTEXT

Without the support of a broad range of socioeconomic and political stakeholders, Marine Protected Areas are unable to fulfil their role in restoration and conservation of species and ecosystems. Valuation of the range of ecosystem services they may provide, from climate change resilience to tourism and fishing, could boost acceptance of MPAs and assist marine spatial planning generally.

However, establishing accurate valuations is a complex and still elusive task, mainly due to a lack of quality data. The panel addressed the current challenges but also progress in developing new tools and methodologies to allow incorporation of these values into the MPA process while sharing examples of innovative approaches to valuing and financing “natural capital.”

Maria Damanaki of the Nature Conservancy put it bluntly: these big dreams cost money. **The ocean conservation community needed to find financial solutions, and this required a broad coalition among scientists, governments, international bodies and NGOs,** but also, and especially, business.

MPAs needed private sector investment; philanthropy was not enough, she said, noting the very small number of businesspeople present at today's MBI. A recent survey on private investment estimated that \$1 of every \$3 invested today was connected to environmental or social change; **engaging with investors was the only realistic way to implement solutions,** Maria Damanaki affirmed.

One example came from tourist areas of Mexico, with big hotels on a coastal frontline of corals and mangroves. Restoring those ecosystems could reduce the impact from extreme weather events by 70 to 90%. Insurance companies and others were now financing restoration in exchange for this ecosystem service of risk reduction, Maria Damanaki noted.



Coral reefs were another example, as they provided many ecosystem services for fisheries, tourism, coastal protection and risk reduction, worth \$9.9 trillion, and supported 500 million people, she said. The Nature Conservancy had conducted valuations and produced a map of coral reefs with an estimated value of over \$1 million each as a way to engage businesses in restoration. Interest was growing across the board around the idea of “natural capital”; healthy marine ecosystems could benefit people and economies but also increase the flow of funds into ocean conservation, Maria Damanaki said.

Peter Herzig of Germany's GEOMAR Helmholtz Centre for Ocean Research expressed deep concern over emerging extractive activities in the High Seas and called for more and stricter MPAs with clear management objectives.

As a former economic geologist specialising in marine mining, he became a strong supporter

of MPAs out of fear that “a certain nation” would start mining manganese nodules in the Central Pacific. This would produce a major ecological disaster, he said.

The ocean was the planet's life support system, providing half of its oxygen. Yet humans put huge pressure on the sea, making it acid, increasing its temperature, depleting its oxygen, polluting it and damaging its biodiversity through overfishing and the introduction of invasive species.

That pressure would only increase in coming decades. In 2050, the world would have 10 billion people, requiring 50% more food, energy and resources, which made it urgent to find a balance between economic use of the ocean and protection of its ecosystem.

Peter Herzig called for greater ambition with regard to MPAs and backed the 30% target many now deemed necessary. He also

supported declaring the Antarctic and areas beyond national jurisdiction as MPAs as suggested in Session 1.

Future MPAs should be larger and better connected, crossing geographical regions from the High Seas to coastal areas. This required more solutions-oriented research on MPAs, as well as better research coordination and more target-based funding, he said.

Peter Herzig advocated **fully protected MPAs: no touch, no take, no change and no impact. MPAs needed better monitoring and management as well as internationally binding legislation to achieve this. He called for creation of a European Oceans Agency and regretted the lack of an international oceans authority.**

Olivia Langmead is a marine ecologist and conservation scientist. She gave participants a reality check by stating that **we were a long way from being able to fully assess the economic value of marine ecosystem services and natural capital, as we sorely lacked quality data.**

Ocean data was expensive to collect so often we didn't know the location and extent of seabed habitats, and were mostly working with model data. There was even less information on habitats' actual condition, which sometimes could only be estimated by proxy from patterns of human pressures such as fishing, Olivia Langmead noted.

To understand and assess MPA benefits required understanding the quantity and quality of environmental assets and how species and habitats supplied ecosystem services. A recent review of marine valuation studies Langmead undertook for the UK government revealed huge gaps in research. **Valuation work was clustered around a few ecosystem service types, especially those related to tourism and recreation, and focused mostly on coastal areas, with very few examining offshore areas and seabed habitats,** she noted.



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Olivia Langmead said the **three-dimensional nature of marine ecosystems, with high species mobility, made terrestrial natural capital approaches inapplicable.** Appropriate methodologies for these highly complex systems were only now being devised. Langmead had led a project funded by the Prince Albert II of Monaco Foundation to address this gap.

The challenge to date had been how to apply the very theoretical ecosystem approach in practical management of resources or protected areas. The model she developed helped to show where protection would yield the most benefit from ecosystem services, which were not evenly distributed across the seabed nor in terms of human pressures.

Olivia Langmead strongly advocated **higher levels of protection in key habitats such as fish nurseries, seagrass meadows and kelp forests which provided significantly more ecosystem services than others yet were more sensitive to human pressures.** The lack of quality, high-resolution data both on marine habitats but also on human activities was the greatest obstacle to scaling up protection, she concluded.

Mia Pantzar of the Institute for European Environmental Policy agreed, noting that very few studies had collected and analysed primary empirical economic data. As a result, the distribution of any benefits and their relative scale compared to costs remained poorly understood.

Mia Pantzar had worked on a **2018 IEEP review of evidence of economic benefits** from European MPAs. While the study concluded MPAs could provide benefits to the fisheries and tourism sectors, there were significant data gaps, and very few studies compared the situation before and after designation or analysed net impacts on economic sectors.

Indeed, **little robust evidence of economic benefits of MPAs existed thus far,** with most figures coming from modelling exercises or extrapolation of

values from global estimates. Ecological studies of ecosystem services rarely looked at economic effects, and vice versa - for instance, studies on spillover effects from a protected area did not indicate whether that value was actually captured by local fishermen, while studies on increased tourism did not examine whether this increase was sustainable.

The IEEP review found almost no evidence of economic benefits to sectors other than tourism and fishing, perhaps because many - such as marine biotechnology - were relatively new and other sectors weren't as easily linked to ecosystem services per se, Mia Pantzar noted. Evidence was growing, though, and through its work the IEEP hoped to contribute to a more balanced view of the role of MPAs for coastal communities.

The lack of reliable sources of funding was an important barrier to MPAs' effectiveness and ability to achieve benefits from ecosystem services. Payments for Ecosystem Services (PES), an instrument increasingly adopted in terrestrial areas, could be used to support marine conservation, Pantzar suggested. One example would be imposing PES on tourism operators to support beach maintenance.

MPAs could boost specialised high-value nature tourism and extend the season; better overall sector performance would then spill over into the wider economy, Pantzar suggested. The IEEP review showed that an MPA's attractions must be marketed actively to achieve their full potential as a draw for tourism; certification and labelling schemes were one tool for this.

Lastly, there were challenges MPAs may not be able to address, like pollution and acidification. All stakeholders needed to **think of MPAs as part of a matrix of instruments aimed at using the entire ocean sustainably without risking the resilience of species or ecosystems,** she concluded.

Seychelles Vice President **Vincent Meriton** shared insights from his country's Marine Spatial Plan (MSP), the first such comprehensive large-scale plan in the Western Indian Ocean. The Seychelles had a small landmass of 455 km² spread over 115 islands, but a large ocean domain, with 1.37 million km² of sea.

The government-led, public, multi-stakeholder process began in 2014. The MSP came out of an unusual debt-for-nature swap in which the Nature Conservancy and private foundations purchased \$21.6 million of debt from creditors, allowing the Seychelles to repay over a longer period and to invest in marine protection and climate change adaptation.

The Seychelles raised a further \$15 million in late 2018 through a pioneering Blue Bond – a world first – assisted by the World Bank. The country had been forced to seek innovative financial solutions when in 2015 it graduated from middle-income to high-income country status, which immediately deprived it of all donor and grant assistance under internationally applied standards.

Under the MSP, the government aimed to expand its marine protected area coverage from 0.4% in 2014 to 30% by 2020, with 15% to be fully protected, 15% sustainable use and 70% multiple use.

As of Feb. 2017, 15% of the Seychelles EEZ was protected; a further 11% had been announced but not yet designated. Uniting stakeholders behind the final 4% would be the most difficult, as the areas concerned were closer to the main islands, Vincent Meriton said.

Indeed, of the lessons learned from the Seychelles' Marine Spatial Plan process, the most important was the **need for multi-stakeholder participation**



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to reconcile MPA objectives with the competing interests of fishers, tourist operators, divers, port and maritime authorities. This could get very heated: at one stage some participants stormed out before eventually coming back and agreeing on protection for a particular ocean area, Vincent Meriton recalled.

Other key elements were the right regulatory and legal framework to be able to apply the spatial plan, and institutions to carry out effective management. Raising public awareness, and especially that of youth, was also essential, Meriton said. He called for further support to enable the Seychelles to continue to pursue its objectives.

Abdou Karim Sall of Senegal's Joal Fadiouth Marine Protected Area shared his community's bottom-up initiative to restore a severely degraded and fragile coastal ecosystem. Senegal was seeing massive overfishing, with at least 116 industrial ships and 20,500 traditional fishers' canoes plying the 718 km of coastline. Joal-Fadiouth had suffered hugely from industrial and foreign fishing fleets in particular, which had destroyed the habitat and greatly depleted certain species.

Joal Fadiouth's response to this catastrophic resource destruction was to create an MPA of 514 km² stretching out to the limits of the 20.7 km-long coastal community. His community had begun by setting objectives, which were biodiversity conservation and improving the economic situation for local people.

The President of Senegal turned those objectives into law by decree, and the MPA was implemented in 2004 through a shared governance process. It gathered direct or indirect beneficiaries as well as those who would bear the greatest cost, and created a representative management



committee that agreed on strategy and procedures. Action was then implemented on the ground under a five-year plan allowing for ongoing improvements subject to monitoring, evaluation and lessons learned.

Citing a proverb that said “whatever is done without me is done against me” Sall stressed that **this participatory management had been key to securing the genuine support of the population that lived and worked with the ecosystem.** The fishing community agreed on levels of protection by zone and according to pre-established objectives.

Another key objective of the MPA was to restore the mangrove, which once housed flourishing oyster beds and protected the fragile peninsula from storms but had been severely damaged due to unsustainable oyster harvesting (by cutting roots). By replanting and protecting the mangrove, local women had contributed to its sustainability and protective function while increasing their income from oysters.

The community created artificial reefs in areas where industrial fishing had destroyed natural ones, again through volunteer labour, improving fishing yields and coastal protection, Sall said. Villagers met regularly to try to find appropriate solutions given Joal Fadiouth’s lack of funding.

The community was also updating maps of the marine ecosystem with the help of fishermen and divers, as proper MPA management required accurate knowledge. They tracked the evolution of the ecosystem and species every three months. Manatees and turtles had increased, but shrimp had disappeared.

Joal Fadiouth worked within West African MPA network RAMPAN, which included 13 of Senegal’s 18 MPAs. There was a lack of harmonisation with other states, with species being protected in his area but not in others, which was problematic, he noted.

Finally, for these MPAs to be sustainable they really needed support to be able to continue

their work. A major threat loomed, as oil had been discovered directly offshore from Sall’s community, and would be exploited as of 2021 with potentially very negative impacts, he said, concluding with a call for assistance from anyone with experience of this type of situation.

During the discussion period following the session, **Maye Walraven** of Innovafeed noted that **putting a value on ecosystem services had an added benefit of allowing alternative solutions to emerge, just as a carbon tax levelled the field for renewable energies.** Today 40% of fish caught went to fishmeal and oils for aquaculture, although more sustainable alternatives such as microalgae or insect meal existed. As fishing quotas and MPAs became stricter, fish prices would increase and make alternative ingredients more competitive. It was important that people see these positive sides of restrictions as well, Walraven suggested.

Thierry Chopin of the University of New Brunswick emphasized that integrated multi-trophic aquaculture (IMTA) could provide ecosystem services in coastal MPAs and benefit local people, but had not been adequately developed, partly due to popular misconceptions equating aquaculture with unsustainable salmon farming.

Fish only represented about 10% of global aquaculture, which was primarily seaweed. Seaweeds provided oxygen, didn’t require irrigation or fertiliser in IMTA and could also mitigate global warming and coastal acidification.

A main obstacle to effective MPAs was the lack of buy-in by local populations. They should be allowed to develop activities compatible with MPA goals, which was the case of IMTA and certain types of fisheries, Thierry Chopin suggested.

IMTA was needed not only as a sustainable source of food and health benefits to an ever-increasing human population but for management of pending climate change and coastal acidification impacts. **It should**

be part of the bio-economic development tools and benefits enabling progress beyond theory towards sustainable and actively managed MPAs, he said.

Seychelles Vice President Vincent Meriton, who also chairs his country's Aquaculture Committee, agreed aquaculture was a necessity. The Seychelles consumed 61 kg of fish per person annually, for a population of 94,000 and 361,000 visitors. **Aquaculture could be done in mixed-use MPAs but this had to be established ahead of time as part of the legal designation process**, he said.

Aquaculture was very much part of the Seychelles blue economy agenda, but required taking best practices from other countries and ensuring the proper legal framework, human resources, land, infrastructure, financing, and agreement on species. **It was critical that local communities be engaged from day one lest they felt like bystanders and initiatives failed to achieve the desired result**, Vincent Meriton said.

François-Michel Lambert, French Parliament Deputy and President of the French Circular Economy Institute (FCEI) had input regarding valuation of MPAs' services. The FCEI together with French environment and energy agency ADEME was testing the CARE accounting model in the Provence-Alpes-Côte d'Azur region. It attributed a value to social and environmental impacts and provided projections to help structure management. This extra-financial accounting should be rapidly applied to support MPAs and show the public the value they created for the greater good, he asserted.

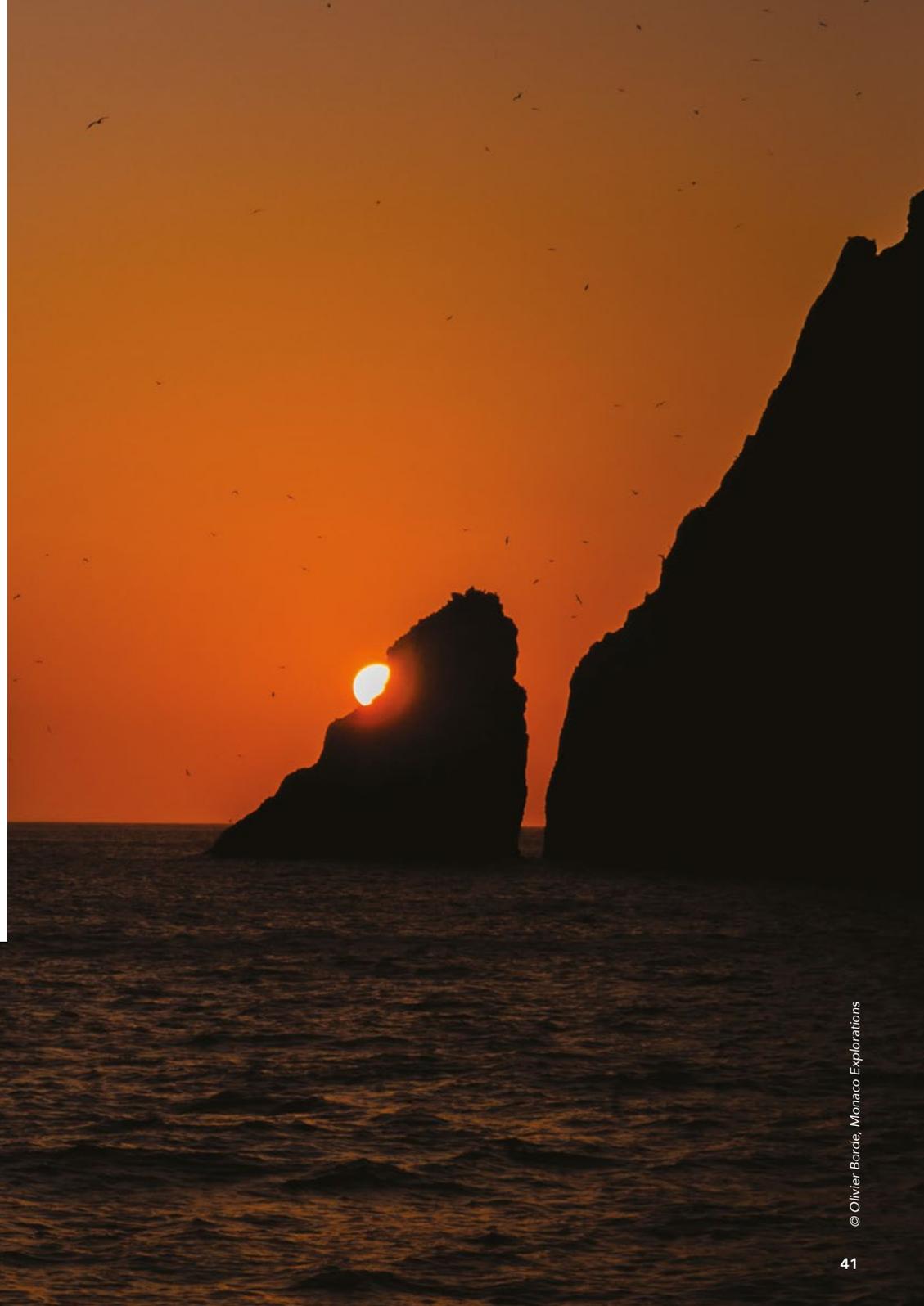
Patricia Ricard, President of the Paul Ricard Oceanographic Institute and spokeswoman for the Ocean and Climate Platform, agreed that multitrophic aquaculture was a necessary solution to demographic pressures, dwindling wild fish stocks and socio-economic requirements. She then expressed surprise today's MBI had spoken so little about climate change attenuation. **If we had the courage to look at the carbon impact of certain fishing practices**

dependent on refrigeration, particularly in the High Seas, it might offer an opportunity to be more strict with regard to subsidies granted this type of fishing, which was neither conducive to biodiversity conservation nor to climate change mitigation, she said.

Didier Poidyalwane of New Caledonia said **the difficulty of assigning a monetary value to ecosystem services was a real hurdle to his territory's efforts to diversify its economy**, currently largely dependent on nickel.

With 80% endemism, New Caledonia's biodiversity was very rich and the government sought to make its conservation an engine of growth in the Pacific, he explained. The short-term goal was to develop ecosystem-related activities such as a global data platform offering economies of scale and the creation of new products such as virtual tourism, maritime surveillance and biotechnologies.

Preserving ecosystems came at a cost, which needed to be covered by bringing their services into the value chain, analogous to how fees were charged for the provision of clean water, he suggested. This goal was part of New Caledonia's "Innovation Territory" plan which aimed at **developing a profitable model within ten to fifteen years, which included a public awareness component to highlight the value of ecosystem services and the need to charge for them**.



OCEAN UPDATES

“The High Seas - Biodiversity Beyond National Jurisdiction”

Mrs. Peggy Kalas,
Coordinator, High Sea Alliance,

Peggy Kalas briefed participants on progress towards a legally binding international agreement on conservation and sustainable use of Biodiversity in Areas Beyond National Jurisdiction (BBNJ) under the UN Convention on the Law of the Seas.

The High Seas were the planet's largest biosphere - almost half the surface of the Earth and 61% of the ocean. To date, just 1.2% was fully protected, while scientists agreed that 30% protection of all seas was needed to repair and build resilience in an increasingly busy ocean space, Peggy Kalas noted.

The second round of negotiations was taking place this week at the UN in New York [25 March-5 April 2019]. Governments would review options on area-based management tools such as marine protected areas, marine genetic resources, capacity building, benefit-sharing and marine technology transfer.

Key issues included establishment of a strong institutional mechanism and defining its decision-making power. **The President's Aid to Negotiations** outlined different possibilities; the model adopted would depend on states' political will and ambition.

The treaty should also implement an existing but unenforced obligation under UNCLOS to conduct environmental impact assessments prior to any potentially harmful activity, considering cumulative impacts including climate change and ocean acidification, Peggy Kalas said.

The High Seas Alliance - a partnership of 40 organizations and groups cooperating to strengthen governance in the High Seas - was pushing for a global process to establish and effectively manage an ecologically representative network of MPAs in the High Seas. Monaco and Costa Rica had championed this view at the UN and the Alliance urged other governments to join them.

The Alliance backed moving swiftly towards a first draft of a treaty to progress beyond discussion of options and to set the stage for concluding negotiations by 2020. With the third round of talks taking place in August and the final round likely in Spring 2020, this was urgent, Peggy Kalas said.

Mr. Marco Lambertini,
Director General, WWF

Marco Lambertini suggested that while UN negotiations on a BBNJ treaty represented an historic chance to create a New Deal for the ocean, this required shifting the collective view of the High Seas as something belonging to no one towards something that belonged to everyone.

A new institutional framework should unite all uses and users and knit together the current patchwork of existing agreements, but states did not yet agree on how to go about it.

Of the WWF's many recommendations, exposed on their website and circulated to states involved in negotiations, he highlighted three. WWF called for marine protected areas to have a specific part in the treaty, as reference to "area-based management tools" was too vague, with no clarity as to how MPAs would be set up. Secondly, talks underemphasised the need to harmonise current regulations, particularly with regard to environmental impact assessments in the High Seas, which must be internationalised. This was a chronic issue on land as well, Marco Lambertini noted.

Lastly, WWF called for greater clarity as to future treaty governance, regular monitoring and assessment.





This required strong institutions, including a Conference of the Parties, lest we squander a decades-long opportunity to build a coherent and holistic management framework.

WWF supported 30% protection of the High Seas and a move from quantity to quality, implementing MPAs in key ecosystems. Finally, **High Seas conservation and management needed to be more inclusive to involve stakeholders from less developed coastal areas**, while BBNJ talks must link up with 2020 talks in Beijing of the Convention on Biological Diversity to set new ocean targets under SDG 14, Marco Lambertini concluded.

MPAs in Antarctica

Mrs. Geneviève Pons,
Director, Jacques Delors Institute
Brussels Office

Geneviève Pons spoke on behalf of Antarctica2020, a group of influencers pushing for the protection of over 7 million km² of the Southern Ocean by 2020 through establishment of a network of large-scale MPAs. Its members included Lewis Pugh, Sylvia Earle, Robert Hill, Amaro Gomez, Pascal Lamy and Slava Fetisov.

Protecting the Southern Ocean should be a priority due to its key role in marine biodiversity and climate globally. Antarctica contained close to 90% of the world's ice and around 70% of its fresh water; both were vulnerable to global warming, with the rate of sea-ice melt having tripled in the past five years.

This was gravely affecting the marine ecosystem, with a dramatic decline in krill that supported the entire Antarctic food web. Unsustainable industrial fishing was putting further pressure on species. The powerful circumpolar current that swirled around Antarctica pumped nutrient-rich waters throughout the world's oceans, Pons noted.

Action to protect the Southern Ocean was bogged down in geopolitics and national interests: while the 25 members of the Commission for the Conservation of Antarctic Marine Living Resources (CCAMLR) had committed to protecting the Southern Ocean, to date they had only designated two MPAs. One of these did represent a major achievement: the Ross Sea Marine Protected Area – the world's largest – designated in 2016 with the support of the US, China and Russia.

The EU had proposed two other large-scale protected areas in the East Antarctic and the Weddell Sea, while Chile and Argentina had proposed a protected area in the Antarctic Peninsula, but designation was a long time coming, Pons said. She noted that one week previously, more than 1.5 million young people took to the streets all over the world calling for action on climate change. It was world leaders' duty to act on climate, and to act urgently to protect the Southern Ocean in 2019.

From IMPAC4 to IMPAC5

Prof. Dan Laffoley,
Marine Vice Chair, IUCN's World
Commission on Protected Areas,
permanent IMPAC Steering
Committee Member

The International MPA Congress (IMPAC) was created in 2005 to convene MPA practitioners from around the world to share experience, consider new issues, and look to the future, **Dan Laffoley** recalled. The first three congresses had been successively hosted by Australia, the US and France.

IMPAC4 in Chile in 2017 gathered 1,100 participants from over 60 countries and featured 531 presentations. Alongside exchanges was a series of MPA announcements, with Chile declaring three very large MPAs around Rapa Nui (also known as Easter Island), Juan Fernandez Archipelago, and Cabo de Hornos.

The event also celebrated strong MPA management, with the Global Ocean Refuge System (GLORES) granting awards to the first three platinum-level sites: Papahānaumokuākea Marine National Monument, Malpelo Fauna and Flora Sanctuary and Tubbatāha Reefs Natural Park.

IMPAC4 highlighted partnerships such as the Transatlantic MPA network as well as the crucial role of young professionals and of engagement with local communities. It also saw the launch of the [World Database on Protected Areas](#), along with many new websites, publications and videos, and IUCN guidance on the design and management of Large-Scale Marine Protected Areas.

The event culminated in a one-day high-level meeting attended by Chilean President Michelle Bachelet and other leaders who endorsed a 'Call to Action for the Ocean'.

Science was a key pillar of the Congress, Dan Laffoley said, noting that scientific publisher Wiley had published 16 peer-reviewed papers from IMPAC. He called for investment in a new, younger generation of practitioners, as MPAs were one of our last hopes to return to a live ocean.

He recalled that a briefing document entitled "[A snapshot of the State of Marine Protected Areas](#) worldwide - Background, progress, challenges and opportunities" as of 12th March 2019 had been prepared on purpose for the 10th edition of the Monaco Blue Initiative.

Mrs. Sabine Jessen, National Director, Ocean Program, Canadian Parks and Wilderness Society and member of the IMPAC5 Steering Committee.

Sabine Jessen presented [IMPAC5](#) that would be held from Sept. 26 to Oct. 1, 2021 in Vancouver, Canada followed by a high-level meeting of world leaders. Coming the year after COP15 in China, it offered the chance to discuss implementation of new targets likely to have been adopted there.

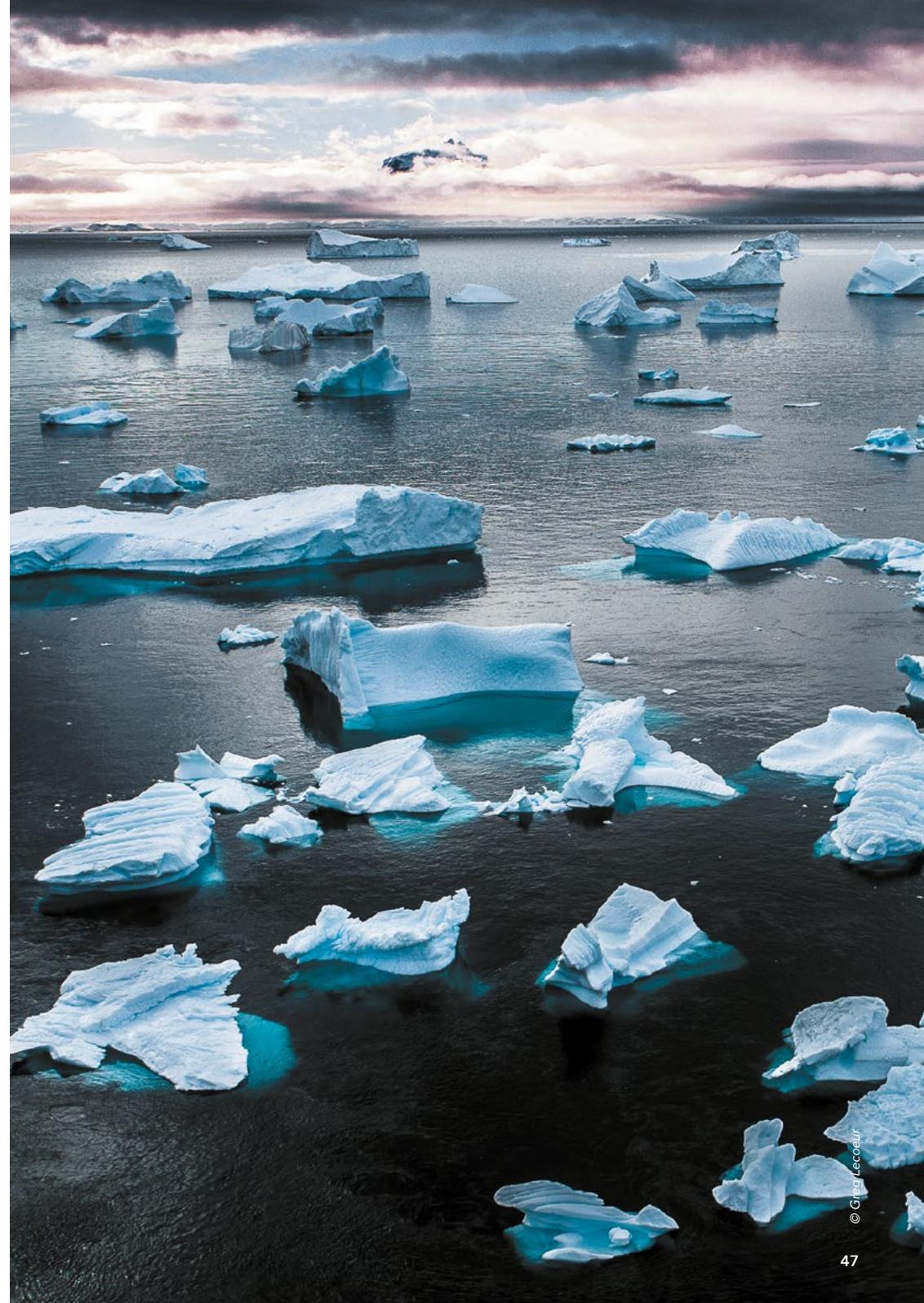
With the longest coastline in the world bordering the Arctic, Atlantic and Pacific Oceans, Canada had made ocean conservation a top political priority, progressing from 1% to 8% protection since 2015. Additional MPAs and a series of MPA networks were currently under development.

Canada's goal was not more, but more effective MPAs, and to play a global leadership role in support of 30% targets by 2030, possibly leading to 50% by 2050. Canadian federal elections in October 2019 represented an opportunity to embed the issue into election platforms, Jessen suggested.

CPAWS was working with the government and Canadian agencies of different levels on organizing IMPAC5 after an initial meeting in Sept. 2018 with IUCN representatives to discuss previous editions and develop a programme.

Next steps included securing a budget; outreach to national and regional indigenous organizations; establishing an organizing body in Canada including indigenous, federal, provincial and other government levels; developing themes and beginning regular calls with the international steering committee.

IMPAC5 was expected to gather over 3,000 delegates from around the world. In addition to a focus on indigenous governments' leadership on MPAs in Canada, organisers also expected strong involvement from youth and MPA stakeholders, Jessen concluded.



KEYNOTE SPEECHES

Mrs. Brune Poirson,
Secretary of State to the Minister
for the Ecological and Inclusive
Transition, The Republic of
France, Vice-President of the UN
Environment Assembly

Brune Poirson began by noting that France possessed the world's second largest maritime domain (11 million km²), a unique natural and economic asset that also gave her country a huge responsibility.

Life largely depended on the ocean's good health, therefore ocean and climate issues must have equal international visibility. France was committed to enforcing the protection of coastal and marine environments worldwide. COP21 in Paris in 2015 emphasized the importance of healthy marine ecosystems to meet the challenges of climate change, and vice versa.

To achieve global ocean preservation, the Blue Economy must be sustainable, including in the High Seas, and MPAs must be seen as an opportunity to foster the ocean's full potential, rather than a constraint. France therefore stood alongside the EU and other countries in the negotiations on a treaty to protect Biodiversity Beyond National Jurisdictions (BBNJ). Proper governance of this common good with clear rules for its conservation and sustainable use was a prerequisite for its sustainable development, and for the future of humankind.

France's marine efforts were part of a wider commitment to protect biodiversity, whose loss was intrinsically linked to climate change. Last July French government adopted a major plan to protect biodiversity in all sectors, which included provisions for international actions.

The forthcoming COP15 of the Convention on Biological Diversity, to be held in China late 2020, would bear a huge responsibility to renew the global biodiversity framework, both in terms of ambition and means of implementation.

France would make the most of international events leading up to COP15 to raise the political profile of biodiversity and MPAs, in part through this year's G7 presidency. It had created the One Planet Lab of committed NGOs and CEOs to build concrete solutions for marine ecosystem resilience, extend and better protect MPAs, fight against overfishing, and reduce plastic pollution. The IUCN's World Conservation Congress in Marseille in June 2020 would offer another opportunity.

France strongly believed that voluntary commitments by Parties and stakeholders would be key elements for COP15's success, and wished to create momentum and awareness in favour of biodiversity on the same scale as those on the climate issue. France pledged to give marine biodiversity and protected areas the focus they deserved, and called for the support of every stakeholder in this race, she concluded.

Mr. Karmenu Vella,
European Commissioner for the
Environment, Maritime Affairs and
Fisheries

Karmenu Vella had last spoken at MBI two years ago, he noted. In ocean terms, two years was nothing more than the blink of an eye – or a drop in the ocean.

Much of what the Monaco Blue Initiative had discussed then still held true today: climate change effects were still intensifying, as was ocean pollution from plastic and nutrients, while the ocean's potential remained underdeveloped. Yet much had been achieved: nations had agreed an international moratorium on fishing in the Arctic, and were now working to draft a treaty to protect biodiversity in the High Seas, after years of preparatory work.

Meanwhile, the European Union pursued its international ocean governance agenda for strong and united action. The Our Ocean conference in Malta almost 2 years ago had raised €7 billion in ocean pledges, and campaigns on marine litter had created public pressure for better ocean health resulting in the European Union's new Plastics Strategy, he noted.

Regarding MPAs, the EU had already surpassed the CBD goal of 10% ocean protection by 2020. Its Natura 2000 network represented the world's largest coordinated network of conservation areas with over 3,000 marine sites. However, not all EU seas and coastlines were protected to the same extent: while 27% of the Greater North Sea was protected, the same was true for only 3% of the Ionian and Central Mediterranean Seas.

In addition, more efforts were needed to manage these spaces properly; a recent study indicated that only one third of Adriatic MPAs had management plans in place. MPAs needed to be well designed and well run to contribute to better ocean health and yield economic benefits.

The Brijuni National Park was a great example. Its islands were one of Croatia's most popular tourist sites, featuring extraordinary biodiversity and historical heritage. Thanks to good regulation, cross-sector coordination, adequate resources and effective monitoring, biodiversity and economic activities were both thriving, Vella reported.

MPAs in southern Europe generated an average of €640,000 each in annual income, mainly in tourism; of the 180,000 Italian companies dependent on the sea, almost one third were related to MPAs. Fishermen too, despite scepticism, could benefit from marine parks and time-limited no-take areas - in certain MPAs in Italy and Spain they had more than doubled their catches.

The EU was promoting new effectively managed MPAs beyond Europe under the CBD and other relevant conventions while cooperating closely with bilateral and regional partners. It had provided €20 million to countries in Africa, the Pacific and the



Caribbean, and €3 million to promote a network of Mediterranean marine protected areas. It continued to push for MPAs in the East Antarctica and the Weddell Sea under the Commission for the Conservation of Antarctic Marine Living Resources (CCAMLR).

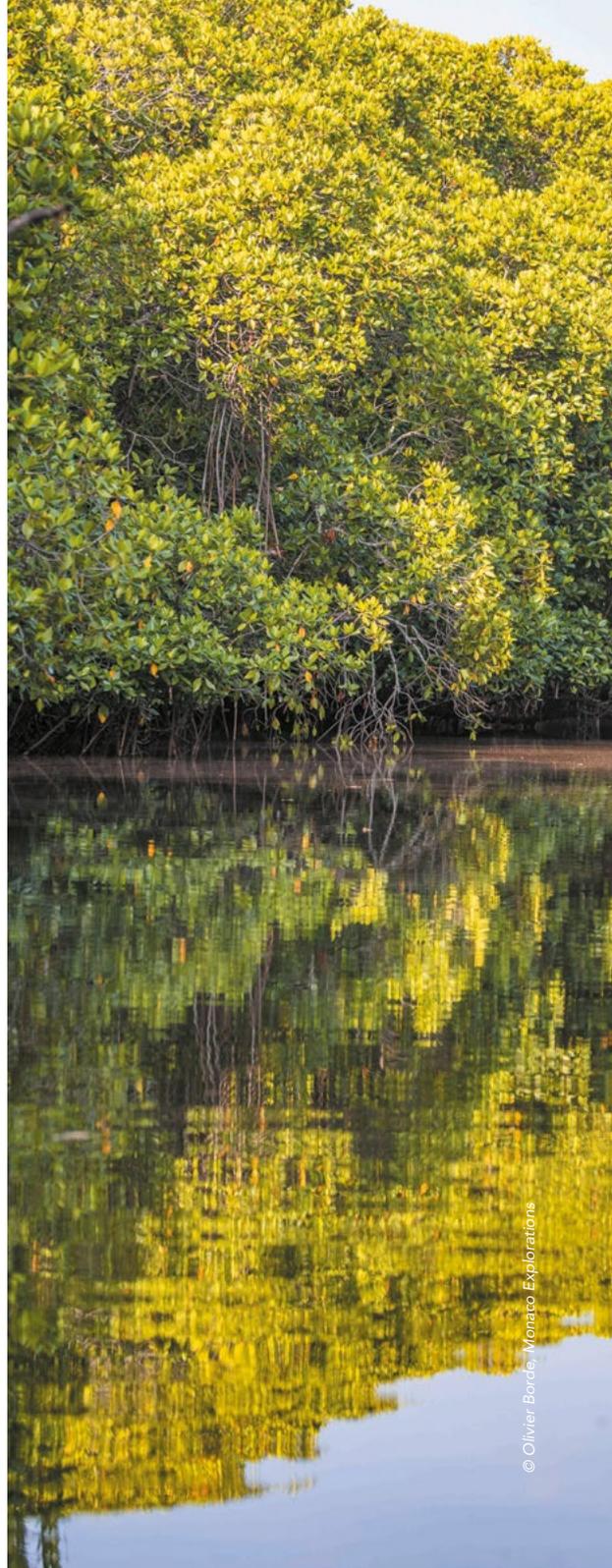
It also supported creating strong networks of MPA managers on both sides of the Atlantic to give managers the chance to share relevant knowledge and improve marine protection.

Marine protected areas were not a silver bullet – if they were not managed effectively or did not receive proper human and financial resources, they failed. Where well run, they made all the difference. Therefore the European Union would continue to push for well managed MPAs at home and abroad, and counted on the help and support of all those present, Karmenu Vella concluded.

Mr. Chuanlin Huo,
Deputy Director General
of Department of Marine
Ecology and Environment,
Ministry of Ecology and
Environment, People's
Republic of China

Marking the Monaco Blue Initiative's 10th anniversary, **Chuanlin Huo** quoted a Chinese saying: "It takes ten years to sharpen a sword." China had always attached great importance to ecological and environmental protection, most recently through innovation, green development, openness and sharing, Huo asserted.

Under institutional reforms, China had established a Ministry of Ecology and Environment and passed a 2018 constitutional amendment incorporating the construction of an ecological civilization and the Beautiful



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China Initiative into national aims. It had also improved its network of MPAs, with 270 marine reserves and parks covering 120,000 km² and strict control over human activities over an area of 95,000 km².

China's legal system for MPA management was moving from a focus on quantity and scale to one of quality and benefit, and China would soon launch a set of guidelines for a management system for all national parks and reserves. It had improved MPA management, notably thanks to a nationwide monitoring network of over 1,000 state-controlled stations. The data was released to the public annually. Long-term monitoring in typical MPAs provided the scientific basis for their management and for social and economic development.

Long-term research on rare and endangered marine species and important ecosystems such as mangroves and reefs was assisting their scientific management and conservation while reducing the impact of social and economic development and climate change.

China was also strengthening supervision and inspection of MPAs through designated law-enforcement and local authorities, and tightening control over development and construction activity in protected areas.

China regarded MPAs as an important platform for engaging in global marine governance. It promoted cooperation through the China-Europe Blue Partnership, the Belt and Road initiative and inter-governmental mechanisms such as the Northwest Pacific Action Plan (NOWPAP) and the UN Environment Programme's Global Partnership on Marine Litter (GPML).

China's hosting next year's COP15 demonstrated the country's progress in biodiversity conservation. COP15 would aim to identify the marine conservation framework beyond 2020; China advocated "establishing a more reasonable and effective system for the construction and management of marine protected areas," Chuanlin Huo said.

This meant in-depth discussion on the sustainable use and development of marine

resources, strengthening the relevance of MPA management and related policies and encouraging more fundamental scientific research. Clear and quantitative MPA goals with detailed targets were needed, as was extensive public and private sector participation in ocean environmental management.

In conclusion, **Chuanlin Huo** stressed China's willingness to work with all sides on MPAs and to promote capacity-building in ocean monitoring, as well as closer ocean data, information and knowledge sharing.

H.E. Mr. José Apolinário,
Secretary of State for Fisheries,
Government of Portugal, Portugal

Oceans were at the top of Portugal's political agenda, accompanied by a new Ministry of the Sea. Their conservation and sustainable use was one of Portugal's key priorities for implementation of the United Nations Development Agenda 2030, on which it cooperated actively with the EU, **José Apolinário** said.

By 2020 Portugal aimed for 14% Marine Protected Area coverage of its seas and 30% by 2030. To achieve these ambitious goals it had created a Working Group bringing together the Portuguese Administration, the regional governments of Azores and Madeira, the scientific community, and NGOs. This formed the scientific and technical basis for establishing a coherent national network of MPAs taking an ecosystem perspective.

Portugal's Minister of the Sea had recently launched the "Blue Azores" program proposing a new 150,000 km² MPA in the archipelago. It was increasing public investment in marine biodiversity conservation projects by at least €8 million by 2020 and seeking knowledge about the value of marine natural capital and ecosystem services to support decision-making.

Another objective was to implement the Atlantic Observatory, a digital marine information and monitoring platform that

would promote networking among Portuguese ocean research and development units and attract capacity and interest from other countries. New research vessel Mar Portugal was also supported by European Economic Area (EEA) grants, with modern marine laboratories and equipment to increase national research capacity.

Alongside support from the European Maritime and Fisheries Fund, Portugal's Ministry of the Sea had created a national Blue Fund to support projects that contribute to monitoring, protection and awareness of the marine environment.

Portugal had long developed marine science and technology with universities, research centres and state laboratories, and the scientific community had embraced the sea as a national focus. The main challenge in the next 10 years was to identify knowledge gaps limiting development of productive technologies, José Apolinário said.

The challenges facing the ocean were global in nature and only through cooperation and knowledge-sharing among all would it be possible to overcome them. Portugal in co-organization with Kenya would host the 2020 UN Ocean Conference in Lisbon, focusing on science and innovation as tools for restoring an abundant and healthy ocean.

These were at the heart of Portugal and Monaco's long relationship, from the early twentieth century to the 2017 expedition between Portuguese and Monegasque scientists in the Madeira archipelago. Portugal and Monaco would organize a side event at the UN Ocean Conference focusing on this cooperation.

In May 2019 Portugal was hosting the International Ministerial Oceans Meeting, dedicated this year to Smart Ocean Governance; the same week Lisbon would host the European Maritime Day. The active participation of all those present at MBI today would be most welcome.



Closing address

Mr. François Simard,

Director a.i, Global Marine and Polar Programme,
International Union for Conservation of Nature,
on behalf of Mrs. Inger Andersen, Director General



According to recent figures the ocean area under protection now reached 7.59%, which offered hope the 10% global goal would be met by 2020. However, achieving effectively and equitably managed MPAs; well-connected, ecologically representative networks integrated into wider seascapes, and High Seas protection remained elusive. This would be the focus in the next 18 months.

Equitable and effective management required more cooperation on knowledge, co-management, clarity of objectives, and funding. MPAs' potential with regard to climate change, little mentioned today, should receive greater attention, **François Simard** said.

A lack of knowledge about species' mobility and ecological connectivity also hindered development of ecologically representative MPA networks, and of MPAs designed to foster and protect this connectivity. Collaboration by professional networks such as MedPAN, RAMPAO and others was the right way forward.

MPAs should be integrated into the wider land and seascape through Marine Spatial Planning. While the Seychelles was a good example, it was important to put MPAs at the centre of the Marine Spatial Plan, in support of the blue economy but not at its service, Simard suggested. The question was how to ensure sustainable ocean use, and that it should benefit populations.

Regarding the High Seas, discussion in France at the moment centred on making sure the future BBNJ treaty enshrined the idea of the ocean as a common public good. This was very important - the treaty must not be a tool for dividing up resources among states. Civil society must be well empowered in these negotiations; the IUCN was sending a strong delegation there.

There was a lot of discussion currently about the International Seabed Authority, with countries wanting to exploit seabed resources such as manganese nodules. This was a key opportunity to establish appropriate MPAs in areas of sea floor biodiversity at the same time.

Simard advocated sending a strong message supporting the target of 30% of oceans under high protection, but also advocating that 100% of the ocean be sustainably managed. This was the key message for the COP15 of the Convention on Biological Diversity, to be held in China late 2020, and for the future. It was the meaning of the holistic approach we had heard many times today.

The Marseille World Conservation Congress in June, 2020 would discuss recommendations and resolution on all those topics just 6 months before the COP15, making it a great chance to ensure these messages would go straight to Beijing for adoption by the Parties, he concluded.

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In 2017, the Prince Albert II of Monaco Foundation launched the first edition of Monaco Ocean Week. This week of events, which includes the MBI, brings together local and international actors from all sectors to share their experiences and find solutions to develop a "blue economy".

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**The 11th Edition
Monaco Blue Initiative
will be held in Monaco on
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For any question, please contact
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