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IMPAC5 Highlights: Sunday, 5 February 2023

Reminding the audience that Vancouver is on the traditional territory of the Squamish Nation *Sk̓w̓x̓wú7mesh Úxwumixw*, Musqueam *x̓w̓məθk̓w̓əy̓əm* and Tsleil-Waututh *səlilwətał* Nations, Darlene Upton, Parks Canada, re-welcomed participants.

Daniel Pauly, Sea Around Us, stated that if high seas Marine Protected Areas (MPAs) are not rolled out, the 30 by 30 target will be very difficult to achieve. He warned against the target being reached on paper only if governments claim to protect the Ocean but actually don't do it.

Q̓ánistis̓la Michael Vegh, Heiltsuk Nation called out discriminatory regulations against his ancestors that are still in place, and advocated for a journey of reconciliation between Indigenous Nations and governments, focusing on: infrastructure and housing; employment; education; health; environment; self-government; and fisheries.

Sylvia Earle, National Geographic Explorer, called on people to carefully consider the interconnectivity of the planet, sharing photos and stories of the Ocean, inviting the audience to reflect on the relationship with the planet's life support



Sylvia Earle, National Geographic Explorer

system, the Ocean, and rethink utilitarian and over-consumptive philosophies. She also called attention to the risks of deep-sea mining.

Other Effective Area-based Conservation Measures (OECMs)

Amber Himes-Cornell, Fishery Officer, Food and Agriculture Organization of the UN (FAO), spoke on the FAO's handbook for identifying, evaluating, and reporting OECMs in marine fisheries. She stated that some fisheries' area-based conservation measures may qualify as an OECM if they have long-term biodiversity outcomes, highlighting that, in the end, it will always depend on the unique area characteristics.

Bani Maini, CPAWS, presented some lessons learned from using the MPA guide to assess "Marine Refuges" in Canada, including the need for stronger protection standards and setting standards for the rest of the world as it sets up OECMs.

Jessica Mitchell, Fisheries and Oceans Canada, presented Canada's 2022 Guidance for recognizing marine OECMs. She explained that the Federal marine OECM elements include international definitions, ten guiding principles, and the assessment of criteria, highlighting they include spatially defined areas.



Daniel Pauly, Sea Around Us



Ūáñicístuł Michael Vegh, Hañicístut Heiltsuk Nation

Managing Human Impacts in MPAs

Jacinthe Beauchamp, Fisheries and Oceans Canada, talked about developing coherent, inclusive, and successful initiatives that have positive results in managing human impact in MPAs, such as adopting voluntary speed limits for ships, thus reducing noise pollution and the risk of collision with whales and other vessels. Darren Cameron, Great Barrier Reef Marine Park Authority, spoke about partially protected areas, which support greater biomass target species compared to less regulated habitat protection zones, and generally create positive conservation outcomes for targeted fishes. Alice Chamberlain, Zoological Society of London, presented on tackling plastic pollution in the Chagos Archipelago, mentioning the use of open access marine tracker applications that led them to find and collect thousands of items, 60% of which were plastics, including top beverage brands originating many miles away.



L-R: **Diego Vincenzi**, Ministry of Environment and Energy, Costa Rica, **Anne Nicolas**, French Biodiversity Agency, and **Maria Brown**, National Marine Sanctuary

Conservation of Biodiversity

The session was moderated by Anna Lee-Carswell, Parks Canada. Geneviève Faille, Fisheries and Oceans Canada, presented on her work assessing monitoring and sampling protocols in the Banc-des-Américains, Quebec.

Wayan Vega Santiago, WWF, introduced different methods for coral and mangrove restoration in sites across the Sulu Sulawesi seascape, located between Indonesia, Malaysia, and the Philippines. When speaking of site selection, he highlighted the importance of considering viability and threats facing ecosystems, as well as ensuring community support. Kirsten Carter, Royal Society for the Protection of Birds, presented on her work for assessing carbon storage and sequestration of the English North Sea, stressing the importance of protecting existing carbon stocks, as well as highlighting the potential for future investment in restoring important carbon-storing ecosystems. Louise Forsblom, Finnish Environment Institute, spoke about her work mapping marine biodiversity across Finland's coast, and how the increase in such spatial knowledge has been helpful for informing MPA expansion.

Discussions focused on the potential misalignment between protecting biodiversity-rich and carbon-rich ecosystems, as well as methodologies for monitoring them.

Mangroves and MPAs

Nadine Heck and Siddhartha Narayan, East Carolina University, chaired the event. Valerie Vakhitova, East Carolina University, presented on the importance of protecting mangrove ecosystems for ensuring greater flood risk reduction benefits, highlighting the growing number of people and property at risk of flooding. Siddhartha Narayan presented on his work exploring methodologies for quantifying the benefits of flood risk reduction from mangrove conservation. He noted that most benefits are

linked to smaller but more frequent weather events, illustrating day-to-day benefits.

Samiya Selim, University of Bangladesh, discussed the importance of the Sundarbans mangrove for providing ecosystem services as well as the local, cultural, and economic relevance of the area, including through shrimp fisheries. She stressed the importance of diversified livelihood options and support systems when fishing bans are implemented. Stefanie Simpson, TNC, highlighted mangroves as one of the “blue carbon” ecosystems that can be effectively managed.

Liza Goldberg, NASA, presented on her work seeking to tackle a lack of accountability within mangrove MPAs governance by mapping and quantifying anthropogenic stress factors, including the identification of trends for more or less successful MPA governing structures, such as data indicating that Indigenous Peoples protected areas are the most effective in limiting anthropogenic stressors.

Global Exchange for Global Action: MPAs as Key Tools in Stemming Biodiversity Loss and Tackling Climate Change

Moderated by Phenia Marras, the session started with a video of the international partnership on MPAs, Biodiversity, and Climate Change, underscoring the Ocean’s role in dealing with climate change.

Anne Nicolas, French Biodiversity Agency, explained that the international partnership was launched in 2019 to highlight the role of MPAs in tackling climate change.

Maria Brown, National Marine Sanctuary, spoke about MPAs as nature-based solutions (NbS) to climate change while conserving nature. She highlighted the benefits of mangroves, kelp forests, and other sources of blue carbon.

Hannah Cook, The Joint Nature Conservation Committee, shared some evidence on MPAs as NbS, detailing a recent literature review that demonstrated that — linked to high levels

of protection and the MPA age — they can significantly enhance the carbon sequestration, coastal protection, reproductive capacity of marine organisms, fisheries catch, and income.

The presentations were followed by a highly interactive discussion that addressed topics such as the potential quantification of carbon sequestration to get carbon credit to fund MPAs, the creation of governance and data management structures to make it available for decision-making, and ideas to develop metrics for management MPA evaluation that includes its contribution to tackling climate change.

Engaging Marine Protected Areas to Protect Whales for Biodiversity Conservation and Climate Change Solutions

Frances Gulland, Marine Mammal Commission, chaired the session. Rebecca Lent, International Whaling Commission, spoke about the importance of global whale conservation and showed the impact of whale sanctuaries, where no commercial whaling is allowed.

Heidi Pearson, University of Alaska Southeast, showed how whale recovery can help sequester and restore carbon. She demonstrated how whales store carbon when alive, and sequester carbon when they die, and spoke about the effects of industrial whaling in reducing carbon sequestration.

Pierre Beaufils, Whale Protection Policy, spoke about the North Atlantic right whale (NARW) protection policy through protection measures, whale observations, vessel management measures, and the creation of zones with speed restrictions. John Armor, Office of National Marine Sanctuaries, NOAA, US, spoke about the strategies used in the US in protecting whales and the links to climate change adaptation and mitigation, such as reducing the speed of ships to lower risks of collision with whales, as well as reducing greenhouse gas emissions, innovative methods to reduce noise, or changing the trajectory of ships to reduce collisions with whales and other vessels.



Elder Suplek Bob Baker, Squamish Nation



Siddharth Narayan, East Carolina University

Community-Based Governance and Conservation of Coral Reefs

Monique Ladds, New Zealand Department of Conservation, presented a monitoring and reporting framework for Aotearoa New Zealand marine reserve, developed in close cooperation with the local Indigenous People. Using as an example the monitoring results on beach litter, she explained that the purpose for creating this national framework is to collect and manage data on the status and trends of marine ecosystems.

Robert Sluka, A Rocha Internacional, explained a governance baseline approach for MPAs. He said the project was part of a south-south knowledge exchange experience involving Kenya, Ghana, and Madagascar to develop a shared vision of MPAs.

Enrique Higuera, Municipality of Las Guaitecas – Chile, shared the ongoing process to develop a community-based MPA in this southern Chilean archipelago. He stressed the need to “change the current extractivist paradigm to one based on conservation,” recognizing the values of biodiversity.

Indigenous Approaches to Marine and Coastal Conservation: Perspectives from Canada, Mexico, and the United States

Elder Saplek Bob Baker from the Skwxwú7mesh Úxwumixw Squamish Nation welcomed participants. Marina Best, Parks Canada, chaired the session, characterizing it as an ethical space underpinned by reciprocity and respect for diverse knowledge systems.

Nang Kaa Klaagang Ernie Glasdstone, Gwaii Haanas, Parks Canada, shared lessons learned from 30 years of collaboration and cooperative management of Gwaii Haanas, emphasizing that relationships are at the heart of success. Doug Neasloss, Kitsoo/Xai'xais Nation shared experiences of the process for their designation of Gitdisdzu Lugyek Kitsu Bay as a Marine Protected Area.

Rene Gustavo Chan Canul, Puerto Morelos Reef National Park, spoke of his experience as a part of the community brigade, providing an overview of conservation efforts, including activities taken to protecting and maintaining the health of important nesting sites, including studies and ceremonies for understanding and commemorating the turtles' life cycles.

Kalani Quiocho, NOAA, talked about his work as cultural resource coordinator within the Pacific Islands Region, including

the Papahānaumokuākea Marine National Monument, and what it means to bring ancestral connections, Hawaiian language and knowledge, into marine conservation.

Elder Saplek Bob Baker closed the event with a song, inviting participants to “sail on.”

Biodiversity Conservation – Diverse Strategies

Jérôme Couvat, Sanctuaire Agoa, presented the ongoing project of implementing a network of acoustic monitoring systems in the Caribbean Sea. Rebeca Melendez, Wildcoast-Costa Salvaje, presented a project that supports the management of MPAs through standardized protocols on the Mexican coast, as well as providing data on coral ecosystems. Hélène Labach, Miraceti, spoke about the harmonization and centralization of cetacean data collection within MPAs in the Mediterranean. Katy Walker, Flora and Fauna International (FFI), presented the results of a project using baited remote underwater videos in the archipelago of São Tomé and Príncipe, allowing for the creation of a heatmap showing important for commerce species as well as for conservation, while allowing engagement with communities and local fishers.

In the Corridors

“When is the two-hour nap session?” – chimed a participant, echoing the sentiment of many grabbing delicious chocolate chip cookies and cups of coffee while running between parallel sessions, group meet-ups, and catch-ups with colleagues and collaborators. IMPAC5's agenda and pace are intense, but so are the challenges and threats facing the Ocean, including, as Sylvia Earle pointed out, the space-like species that dwell in its depths. Dr. Earle said that “to actually know the Ocean” and to protect it, “you have to go deep”. She also called for the protection of the “snow leopards, lions and tigers of the sea,” hinting that marine species don't always get the same attention that some terrestrial species receive. Daniel Pauly warned of “paper parks” and setting up MPAs for the sake of achieving numerical targets – which is why many see OECMs as a welcomed tool for establishing conservation structures that empower Indigenous leadership and governance. That said, one participant, referring to them as “Other extremely complicated measures” signaled that this will not always be a straightforward process either.

