MARINE MAMMAL PROTECTED AREAS TASK FORCE











Food and Agriculture Organization of the United Nations







# Important Marine Mammal Area Regional Workshop for the North West Atlantic Ocean and Wider Caribbean

**Playa del Carmen, México, 13-17 May 2024**
**(Hybrid meeting)**

**FINAL REPORT**
**of the 11th IMMA WORKSHOP**

**IMMA Secretariat, IUCN SSC-WCPA**
**Marine Mammal Protected Areas Task Force**

# Contents



Citation: IUCN Marine Mammal Protected Areas Task Force. 2025. Final Report of the 11th IMMA Workshop: Important Marine Mammal Area Regional Workshop for the North West Atlantic Ocean and Wider Caribbean, 13-17 May 2024. 75 p.

# Dedication

This report and the collected work of the scientists and the supporting organisations who came together to identify the most important habitats of marine mammals in this region is dedicated to two remarkable scientists, colleagues and friends who shared our days at the workshop and passed away in the subsequent months.

Eric Angel Ramos
Fundación Internacional para la Naturaleza y la Sustentabilidad
Chetumal, Quintana Roo, México

Oswaldo Vasquez
Atemar
Santo Domingo, Dominican Republic

## Executive summary

From 13-17 May 2024, the 11th IMMA Regional Workshop, covering the North West Atlantic Ocean and Wider Caribbean, was held in person in Playa del Carmen, México, with online access and participation also enabled. The goal of the workshop was to identify and delineate discrete portions of habitat as Important Marine Mammal Areas — IMMAs — throughout this region. The IMMA Secretariat of the IUCN Marine Mammal Protected Areas Task Force (the "Task Force") collected 57 preliminary Areas of Interest (pAoI) from experts prior to, and during the first day of the workshop. The total of 284 pAoI included spatial and protected area designations in the region, including marine protected areas (MPAs), Convention on Biological Diversity (CBD) ecologically or biologically significant areas (EBSAs), critical habitats for North Atlantic right whales and biologically important areas (BIAs) which are in US waters only. In the first days of the workshop, as expected, many of the 284 pAoI were considered redundant or requiring merging. At the close of the workshop, through the expert-based process utilising dedicated selection criteria, 46 candidate IMMAs (cIMMAs) were proposed and sent for review. Seven additional areas were advanced as AoI. Following independent review, 43 IMMAs were approved, many of them following considerable revision, while 11 areas were confirmed as AoI (Fig. 1). These new areas are now visible on the IMMA e-Atlas at https://marinemammalhabitat.org/imma-eatlas/, and are available for download as part of the latest global IMMA spatial layer. Worldwide, including the newly completed North West Atlantic Ocean and Wider Caribbean region, there are now 323 IMMAs and 196 AoI (Fig. 2). (See Fig. 3 for maps showing the initial proposals for pAoI from experts and from all sources and the areas submitted for review).

The North West Atlantic Ocean and Wider Caribbean (NWATLO) Region covers roughly a quarter of the Atlantic Ocean and extends from the tip of southern Labrador to Venezuela, with a high latitudinal spread from sub-polar to tropical waters. Its rich biodiversity includes, among others, breeding, feeding and migrating humpback *(Megaptera novaeangliae*) whales; blue *(Balaenoptera musculus)* and fin *(Balaenoptera physalus*) whales; killer whales *(Orcinus orca)* and Cuvier's *(Ziphius cavirostris)* and other beaked *(Mesoplodon)* whales. Besides the common minke whales *(Balaenoptera acutorostrata),* harbour porpoises *(Phocoena phocoena),* Atlantic white-sided (*Lagenorhynchus acutus*) and common bottlenose dolphins *(Tursiops truncatus)*, there are Vulnerable sperm whales *(Physeter macrocephalus*) and various tropical dolphins in the wider Caribbean. This region has a rare "hot spot" for dwarf sperm whales *(Kogia*

*sima)* living in the Eastern Caribbean. Species endemic to the region include Rice's whale (*Balaenoptera ricei*) and the newly described Tamanend's bottlenose dolphin (*Tursiops erebennus*). Recently identified, Rice's whale is found almost exclusively in the Gulf of Mexico and now has its first IMMA. The Critically Endangered North Atlantic right whale *(Eubalaena glacialis*), once widely distributed across the North Atlantic Ocean, today survives only within the boundaries of the North West Atlantic Ocean and Wider Caribbean region. The IMMA Secretariat has also accepted the first IMMA proposal for the polar bear *(Ursus maritimus)*, harp *(Pagophilus groenlandicus)* and hooded *(Cystophora cristata)* seals. This is the Southern Labrador Pack Ice Whelping Area IMMA.

The workshop was attended by 57 marine mammal experts and observers from 14 countries (Fig. 4; Annex I). Of the total, 38 participated in person throughout the week while 19 participated remotely. There were seven participating members of the IMMA Secretariat in attendance and two remote. The workshop was organised by the IMMA Secretariat of the Task Force with support from a grant from the Water Revolution Foundation and with substantial help from the Sargasso Sea Commission. OceanCare and Animal Welfare Institute also provided supplementary funds. The global IMMA effort of the IUCN / World Commission on Protected Areas Marine Mammal Protected Areas Task Force, underway since 2016, relies on the substantial administrative support provided by Tethys Research Institute and Whale and Dolphin Conservation.

The North West Atlantic Ocean and Wider Caribbean (NWATLO) workshop follows the sequence of IMMA regional workshops starting in the Mediterranean (Chania, Greece, 24-28 October 2016), and continuing with the Pacific Islands (Apia, Samoa, 27-31 March 2017), North East Indian Ocean and the South East Asian Seas (Kota Kinabalu, Malaysia, 12-16 March 2018), Extended Southern Ocean (Brest, France, 15-19 October 2018), Western Indian Ocean and Arabian Seas (Salalah, Sultanate of Oman, 4-8 March 2019), Australia-New Zealand and South East Indian Ocean (Perth, Australia, 10-14 February 2020), Black Sea, Turkish Straits System and Caspian Sea (Virtual, 22-26 February 2021), South East Tropical and Temperate Pacific Ocean (San José, Costa Rica, 6-10 June 2022), South West Atlantic Ocean (Praia do Forte, Brazil, 5-9 December 2022) and North East Atlantic Ocean and Baltic Sea (Hamburg, Germany, 21-26 May 2023). This 11$^{th}$ IMMA Regional Workshop will, it is hoped, go some way in providing conservation priorities to, and strategic direction for, place-based marine mammal conservation within the NWATLO region.

Alongside the plenary discussions throughout the workshop, the focus was on the three main breakout groups that covered the three subregions identified in the workshop area, one of which was further subdivided into three smaller regions (Table 1, Fig. 5). Their task was sorting through the pAoI list, deleting, splitting or merging certain areas and developing others as candidate IMMAs. As is typical for these regional workshops, participants had expertise in multiple geographic areas and many had worked together before; thus, many cIMMA submissions were jointly prepared, some of them with scientists not present at the workshop. Frequent updates of progress in developing the cIMMAs were presented in plenary sessions, usually at the beginning and end of every day. The final list of cIMMAs was a joint result of the workshop.

On the last day, a regional Task Force group was set up to monitor and help implement marine mammal conservation work in the NWATLO IMMA region. The volunteer coordinators of the group are Dalia Barragán Barrera, Jeffrey Bernus, Danielle Cholewiak, Jeremy Kiszka and Hilary Moors-Murphy; each becomes a member of the Marine Mammal Protected Areas Task Force and the IUCN World Commission on Protected Areas and Species Survival Commission.

Following the workshop, the next step was to assess and then send the compiled 46 cIMMAs to the independent review panel to determine whether the criteria were applied correctly and to verify that the evidence provided was sufficient to support the case for each cIMMA. This work was managed by IMMA Secretariat members Gill Braulik, Gianna Minton and Caterina Lanfredi. Considerable effort was then needed from the points of contact to go over the review comments and to address them one by one, preparing a final submission which was then again edited by Minton, with the work for the new spatial layer spearheaded by Caterina Lanfredi, Elena Politi and Viola Panigada. The brochures for each IMMA, prepared by Juariah Muhamad, will be uploaded over the next couple months.

For the IMMAs approved following peer review, the boundaries and a summary of the supporting evidence have been made available on the IMMA e-Atlas, and included in the online IMMA database. Interested users are then able to request IMMA layers as shapefiles for implementation initiatives. For the 11 AoI, it is recognised that these areas have strong potential, but at present do not have enough information to satisfy the selection criteria. The 11 AoI now appear on the IMMA e-Atlas, and thus highlight areas

for further marine mammal research and monitoring to help build an evidence base on which future cIMMAs may be proposed.

The 43 new IMMAs and 11 areas gaining AoI status are listed below:

## Important Marine Mammal Areas (IMMAs)

1. Somers Isles and Adjacent Seamounts IMMA
2. Southern Newfoundland Shelf IMMA
3. Bay of Fundy IMMA
4. Cape Breton Trough IMMA
5. Western and Central Scotian Shelf Basins IMMA
6. Mécatina Trough and Strait of Belle Isle IMMA
7. St. Lawrence Estuary IMMA
8. Sable Island Grey Seal Breeding Area IMMA
9. Eastern Scotian Slope Canyons IMMA
10. Sackville Spur and Orphan Basin IMMA
11. Northern Sargasso Sea IMMA
12. Southeast Shoal of Grand Banks IMMA
13. St.Vincent-Bequia Channel IMMA
14. Eastern Caribbean Islands IMMA
15. Maracaibo Lake System IMMA
16. Punta Mona to Bocas del Toro Archipelago IMMA
17. Gulf of Mexico Outer Continental Shelf and Continental Slope IMMA
18. Borikén IMMA
19. Mesoamerican Barrier Reef IMMA
20. Cayo Miskito IMMA
21. Lucayan Archipelago IMMA
22. Southern Caribbean Upwelling System IMMA
23. West Indies Humpback Whale Breeding Ground IMMA
24. Campeche and Tabasco Lagoon System IMMA
25. Lake Gatun and Panama Canal IMMA
26. Southern Labrador Pack Ice Whelping Area IMMA
27. North Atlantic Humpback Whale Migratory Corridor IMMA
28. Cabot Strait IMMA
29. Gulf of Maine and Georges Bank IMMA
30. Cape Hatteras Shelf Break Point IMMA
31. Northwestern and Southern Gulf of St. Lawrence IMMA
32. Northwest Atlantic Canyon and Slope System IMMA
33. Georges Bank Canyons and Bear Seamount IMMA
34. Coabana IMMA

35. Florida Keys IMMA
36. Texas Coastal Bend IMMA
37. West Florida Seagrass Beds IMMA
38. South Atlantic Bight IMMA
39. Mid-Atlantic Bight IMMA
40. Northern Gulf of Mexico Bays, Sounds and Estuaries IMMA
41. East Florida Warm Water Refuges IMMA
42. Alvarado Inland and Coastal Waters and Veracruz Reef System IMMA
43. Urabá to Morrosquillo IMMA

## Areas of Interest (AoI)

1. Southern Gulf of Mexico Inner Shelf AoI
2. Cordillera Beata AoI
3. Panama-Costa Rica Manatee Corridor AoI
4. Gyres of Mosquitos and Darien Gulfs AoI
5. Southern Slopes and Northern Banks of the Dominican Republic Sea AoI
6. Golfe de la Gonâve AoI
7. Grenada Basin AoI
8. Cayman Trench AoI
9. Eastern Caribbean Windward Offshore Waters AoI
10. Gulf of Paria AoI
11. Pamlico Sound AoI

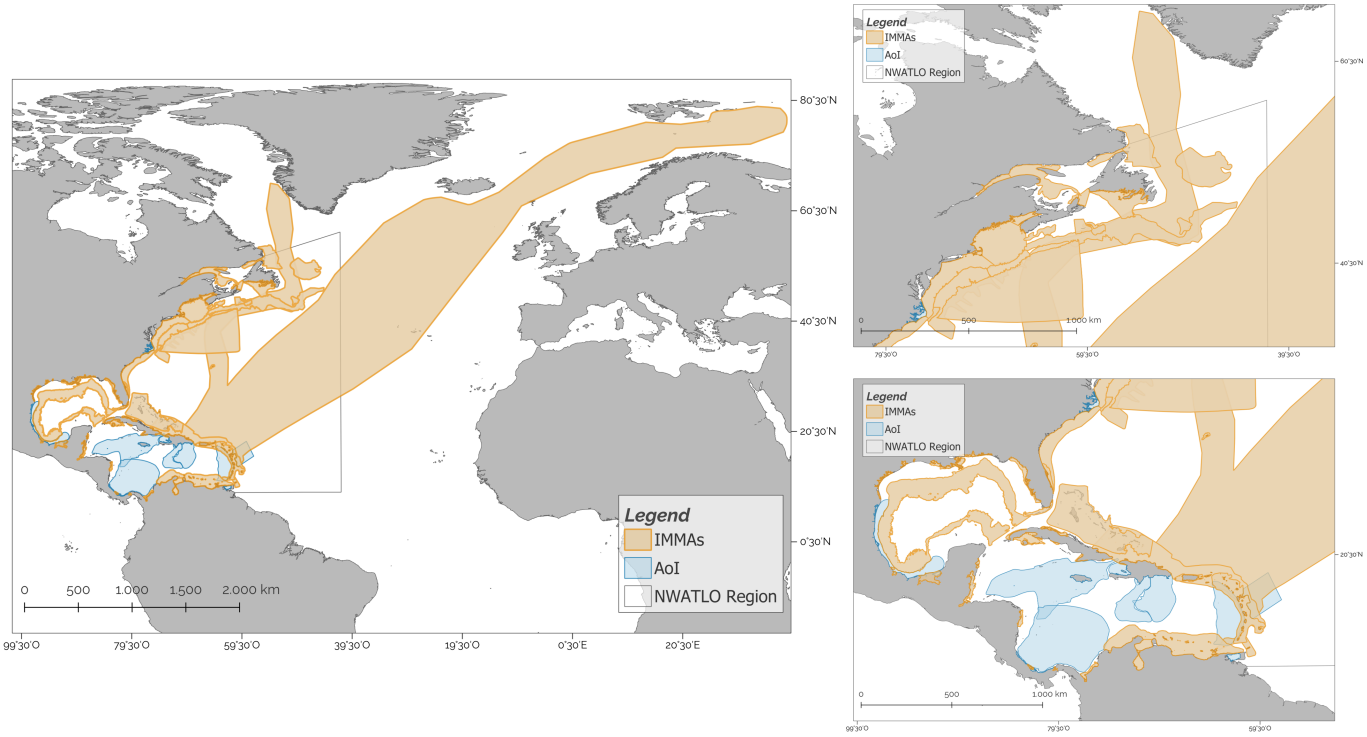


***Fig. 1.*** *Geographic location of the 43 IMMAs and 11 AoI approved for the North West Atlantic Ocean and Wider Caribbean (NWATLO) Region*

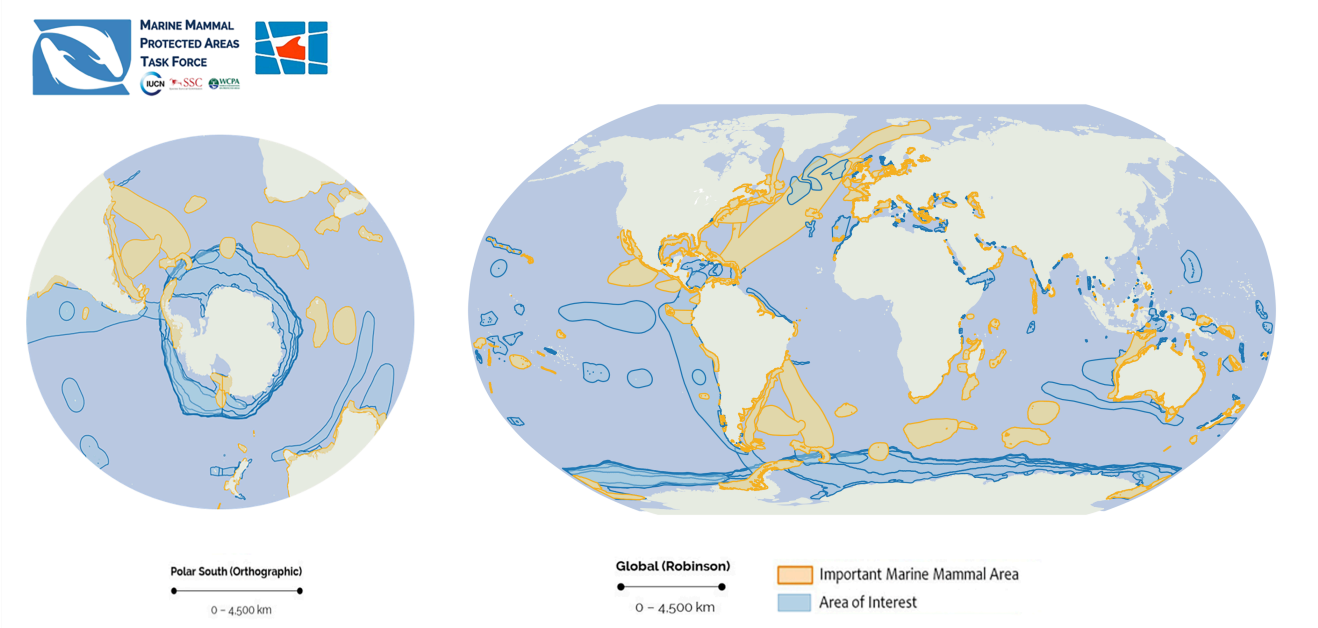


***Fig. 2.*** *Latest version of the global IMMA network totalling 323 IMMAs and 196 AoI (February 2025). This global map includes the results from the NWATLO region.*

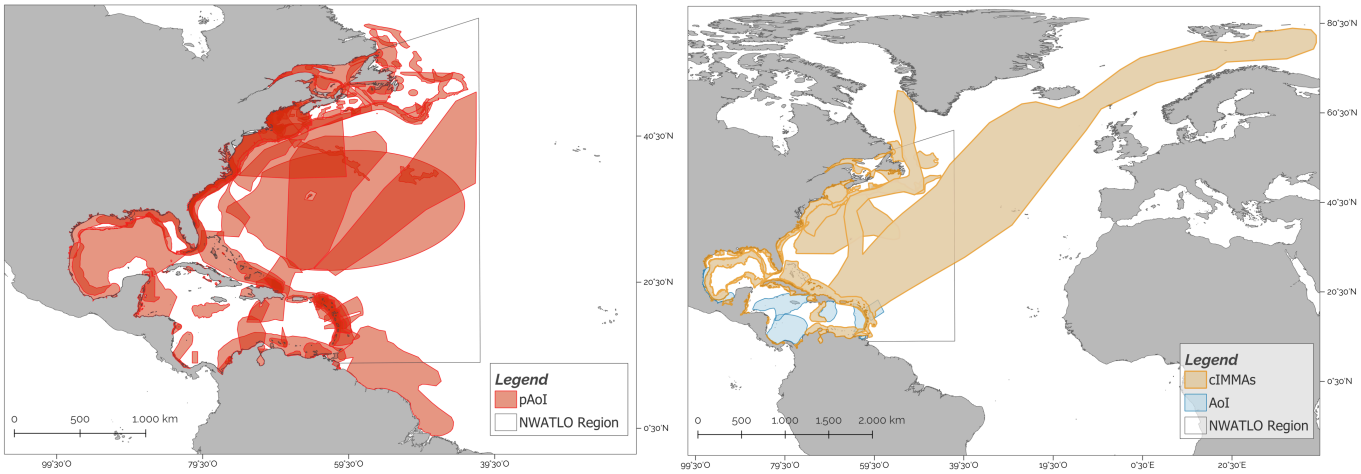


***Fig. 3*** *Spatial representation of proposed areas before and after the workshop. At left, the 284 Preliminary Areas of Interest (pAoI) collected in advance of the meeting and on the first day and, on the right, preliminary results of the workshop showing the 46 candidate IMMAs (cIMMAs) and 7 Areas of Interest (AoI) for informing the IMMA review process.*

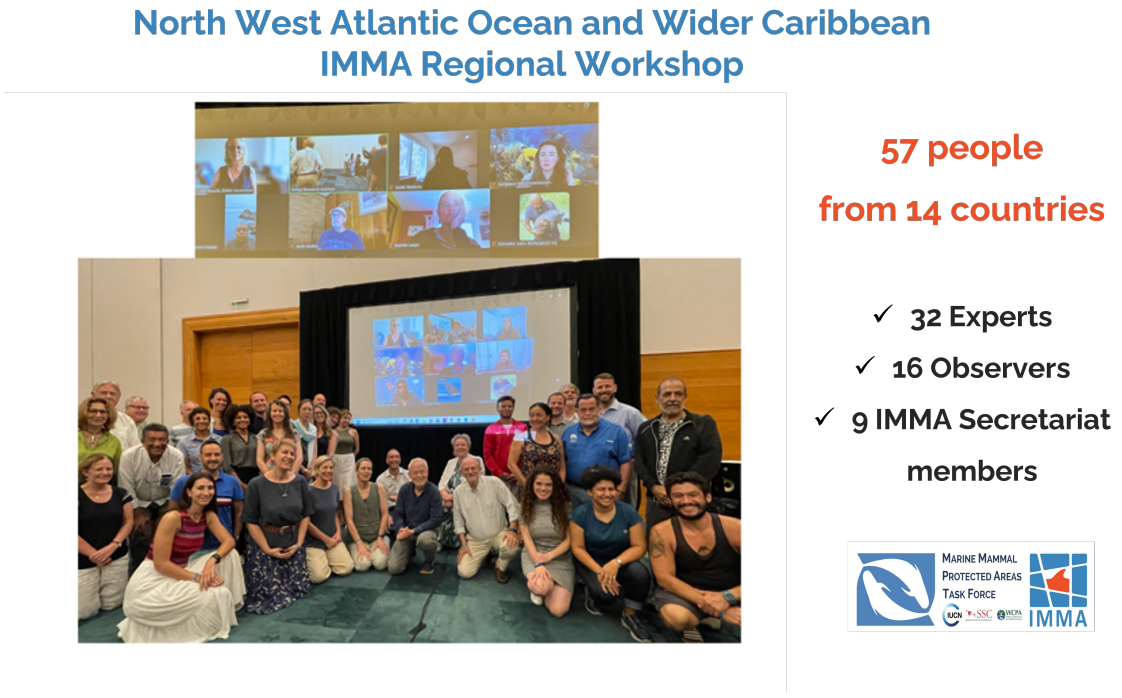


***Fig. 4.*** *Participants and observers of the 11th IMMA Workshop in Playa del Carmen, México, and online. For the complete list of in person and online participants and observers, see Annex I.*

**Acknowledgments**

Giuseppe Notarbartolo di Sciara and Simone Panigada handled the workshop's initial setup, including holding talks with the Water Revolution Foundation and with the Sargasso Sea Commission to secure their support, drafting the participants and observers list, selecting and booking the venue, and sending the invitations. The workshop was chaired by Simone Panigada, with various sessions and breakout groups led by Erich Hoyt, Giuseppe Notarbartolo di Sciara, Margherita Zanardelli, and Sascha Hooker. The GIS work for each breakout group was undertaken by Caterina Lanfredi assisted by Viola Panigada. The organizers thank Jason Roberts for his help with GIS mapping. The workshop was organised by the Task Force with support from a grant provided by the Water Revolution Foundation. The Water Revolution Foundation contribution was facilitated by Vienna Eleuteri who attended and spoke at the workshop and Robert van Tol who spoke online. The Task Force work in this region was conducted in cooperation with the Sargasso Sea Commission through the Sargasso Sea child project of the Common Oceans Programme funded by the Global Environment Facility. It is implemented by UNDP and IOC-UNESCO, as well as through the 'SARGADOM' project which is funded by the French Facility for Global Environment, in collaboration with MarViva, the University of Brest, and the French Biodiversity Agency. Financial support, acquired by Erich Hoyt, was also provided by OceanCare and the Animal Welfare Institute; Hoyt coordinated the logistical support from Whale and Dolphin Conservation. Travel and other logistics for the venue were arranged by Margherita Zanardelli and Simone Panigada from the IMMA Secretariat. Thanks also go to Caterina Lanfredi, Gill Braulik, and the rest of the IMMA Secretariat for their extensive work during the preparation of the workshop. Secretariat member Elena Politi prepared and supervised the virtual component of the workshop and the Canvas platform during the workshop.

This report was written by Erich Hoyt. The background regional documents presented at the workshop were prepared by Caterina Lanfredi; Lanfredi led the mapping efforts and developed all the maps presented in this report. For talks given on the opening day, thanks are due to Javier Carballar Osorio (Quintana Roo Institute of Biodiversity and Protected Natural Areas), Maria del Carmen García Rivas (Parque Nacional Arrecifes de Puerto Morelos), Vienna Eleuteri and Robert van Tol (Water Revolution Foundation), David Freestone (Sargasso Sea Commission), Geraldine Conruyt (Regional Activity Centre, Specially Protected Areas and Wildlife for the Wider Caribbean Region), Jerôme Couvat (Agoa Sanctuary), Madhu Rao (Chair, IUCN World Commission on Protected Areas), Felipe Paredes (IUCN WCPA Marine Vice-chair), Melanie Virtue (Convention on Migratory Species), Susan Millward and Georgia Hancock (Animal Welfare Institute), Nicolas Entrup (OceanCare) and Lyne Morissette (Expertise Marine). The post-workshop submissions to the review panel and follow-ups were conducted by Gianna Minton, Gill Braulik and Caterina Lanfredi, and Elena Politi with Lanfredi led the effort to update the IMMA e-Atlas with the new downloadable shapefiles. The independent review panel was coordinated by Randall R. Reeves. Other members of the panel were Randy Wells, Buddy Powell, Jason Baker and Bob Brownell. We could not have undertaken this

workshop without the substantial administrative support provided by Tethys Research Institute and Whale and Dolphin Conservation.

**Introduction and Background to the IUCN Marine Mammal Protected Areas Task Force[1] and the IMMA Initiative**

The important marine mammal area (IMMA) initiative, developed by the IUCN Joint SSC[2]/WCPA[3] Marine Mammal Protected Areas Task Force (the "Task Force"), is modelled on the successful example of the BirdLife International process for determining important bird and biodiversity areas (IBAs). The intention is that the identification of IMMAs through a consistent expert process, independent of political and socioeconomic influence, will provide valuable information about marine mammals and their habitat, which will contribute to existing national and international conservation initiatives. The implementation of conservation is separate from, and occurs later than, the initial IMMA identification process.

IMMAs, as an advisory, expert-based classification, have no legal standing as MPAs but are intended to be used in conservation planning by a variety of stakeholders. These include *inter alia*, governments, intergovernmental organisations, conservation groups, and the general public. In application, IMMAs may merit specific place-based protection and/or monitoring and, in some cases, reveal additional zoning opportunities within existing MPAs. By pointing to the presence of marine areas of particular ecological value, IMMAs can serve the function of promoting the conservation of a much wider spectrum of species, biodiversity and ecosystems, well beyond the specific scope of conserving marine mammals.

The identification of IMMAs can also help to spotlight marine areas valuable in terms of biodiversity during the process of marine spatial planning (MSP). IMMAs are already starting to build institutional capacity at national and international levels, to make substantial contributions to the global marine conservation agenda.[4] Marine mammals are indicators of ocean ecosystem health and thus, the identification of IMMAs supports the Convention on Biological Diversity (CBD) marine portfolio of ecologically or biologically significant areas (EBSAs). EBSAs aim to provide a basis for promoting awareness of marine biodiversity, leading to conservation in specific areas of the world's oceans. IMMAs are also supporting the creation of key biodiversity areas (KBAs) identified through the IUCN KBA Identification Standard. Finally, IMMAs can contribute to the designation of International Maritime Organisation (IMO) particularly sensitive

[1] IUCN SSC/WCPA Marine Mammal Protected Areas Task Force (https://marinemammalhabitat.org/)
[2] Species Survival Commission (www.iucn.org/theme/species/about/species-survival-commission)
[3] World Commission on Protected Areas (https://www.iucn.org/theme/protected-areas/wcpa)
[4] For more information, see: Tetley, M.J., Braulik, G., Lanfredi, C., Minton, G., Panigada, S., Politi, E., Zanardelli, M., Notarbartolo di Sciara, G., Hoyt, E. 2022. The Important Marine Mammal Area network: a tool for systematic spatial planning in response to the marine mammal habitat conservation crisis. *Front. Mar. Sci.* 9:841789 doi: 10.3389/fmars.2022.841789

sea areas (PSSAs) and other shipping directives related to the threat of ships striking whales and increasing noise in the ocean.

**Summary of the process of the IMMA Regional Workshop preparation, execution and follow-up**

**STAGE 1 – Nomination of preliminary Areas of Interest (pAoI):** pAoI are proposed by experts in the weeks before the workshop, via a dedicated pAoI form. Participants attending the workshop are also encouraged by the IMMA Secretariat to submit additional pAoI by the end of the first day. At the workshop, all pAoI forms that have been submitted are compiled, together with the associated GIS files showing the location and boundaries of the proposed areas, and these are provided to regional experts so that they can evaluate the submitted pAoI, along with existing marine mammal place-based conservation measures (e.g. SACs, MPAs, EBSAs).

**STAGE 2 – Workshop for the development of candidate IMMAs (cIMMAs):** participants – both in person and remotely – are invited to use their regional knowledge to develop cIMMAs, based upon their review of all the pAoI that have been submitted (either in advance of, or in the first day of the workshop). To assist participants in the identification of cIMMAs in the region, a variety of contextual datasets (e.g. IUCN Red List Species Range maps, OBIS SEAMAP elaborated dataset, oceanographic, bathymetric, and geomorphological features of the area) have been summarized into an Inventory of Knowledge for use by experts. Candidate areas must start out as pAoI first, and only then, after group discussion, do they have the chance to graduate to cIMMAs.

There are four main criteria and eight sub-criteria, at least one of which must be met in order to propose a cIMMA (the only exception to this is Criterion A which cannot be applied alone):

Criterion A – Species or Population Vulnerability (based on the IUCN Red List Status)

Criterion B – Distribution and Abundance

> Sub-criterion B1 – Small and Resident Populations: Areas supporting at least one resident population, containing an important proportion of that species or population, that are occupied consistently.
>
> Sub-criterion B2 – Aggregations: Areas with underlying qualities that support important concentrations of a species or population.

Criterion C – Key Life Cycle Activities: Areas containing habitat important for the survival and recovery of threatened and declining species.

Sub-criterion C1 – Reproductive Areas: Areas that are important for a species or population to mate, give birth, and/or care for young until weaning.

Sub-criterion C2 – Feeding Areas: Areas and conditions that provide an important nutritional base on which a species or population depends.

Sub-criterion C3 – Migration Routes: Areas used for important migration or other movements, often connecting distinct life-cycle areas or the different parts of the year-round range of a non-migratory population.

Criterion D – Special Attributes

Sub-criterion D1 – Distinctiveness: Areas that sustain populations with important genetic, behavioural or ecologically distinctive characteristics.

Sub-criterion D2 – Diversity: Areas containing habitat that supports an important diversity of marine mammal species.

For Sub-criterion D2, the overall average species richness for the region and IMMA subregions (based on the species richness considered via the knowledge assessment in the Inventory of Knowledge report) is provided as a threshold benchmark for participants to consider suitable pAoI for which to develop rationales for cIMMAs using the D2 Criterion.

Thus, the general outline of every workshop programme consists of:

- a plenary session to introduce the IMMA selection criteria, present the pAoI list, select the subregion group facilitators, and discuss the pAoI that have been proposed;

- a reading session of the IMMA documents including an IMMA guidance document called the IMMA Handbook, the Inventory of Knowledge, and the list of the pAoI submitted in advance of the meeting by experts as well as those gathered by the IMMA Secretariat;

- multiple working group sessions to select and draft proposals for the cIMMAs to go forward on a subregional basis; and

- a closing plenary to adopt the results of the workshop, to select one or more Task Force regional coordinators, and to discuss conservation implications of the workshop results.

**STAGE 3 – Final review and IMMA status qualification:** an independent panel chaired by Randall R. Reeves, IUCN Cetacean Specialist Group co-chair, reviews the cIMMAs proposed by the workshop participants, and decides whether they can be accepted as IMMAs, often with major or minor changes (or additions) required.

**List of Workshop Resources**

To aid in the efficient running of the workshop, participants are provided with a number of resources. These include the following:

- guidance documentation of the IMMA selection criteria and process, the IMMA Handbook,
- the Inventory of Knowledge (IoK) document of the biological and geographical features of the workshop region,
- the compilation of preliminary Areas of Interest (pAoI) expert submissions and existing sites relevant to marine mammals in the workshop region,
- the Sorter Table summarizing all the pAoI detailing the species and criteria for which they are proposed, the points of contact that submitted the area, and a unique identification number,
- GIS data from IoK and pAoI including a spatial layers package (geographical, biological and pAoI georeferenced layers),
- on hand and online instruction on the use of QGIS, and Google Earth,
- the candidate IMMA submission review template (in Microsoft Word format),
- the Task Force reports archive for all previous IMMA workshops,
- the species list for the region recognised by the Society for Marine Mammalogy's Committee on Taxonomy with the IUCN Red List Conservation Status, and
- video tutorials, including an IMMA training course.

The IMMA Secretariat has created an easy-to-use Canvas platform for the previous several workshops, in which the above materials (or links) are shared and made available for download and consultation before and during the workshop. Additional useful data are also provided on shared Google Drive documents with links in Canvas. Canvas also has instructions for connecting virtually to the workshop as well as daily updates during the five-day period.

The IMMA workshops are largely in person but organized to include remote participants; plenary sessions are broadcasted live on a dedicated channel on YouTube, with the remote participants connected through Zoom. Separate break-out rooms are also organized to facilitate the drafting of cIMMA templates with the help and support of virtual participants.

As these workshops contain a technical mapping element, workshop participants are advised to find means to access and edit common geospatial data, e.g., ESRI Shapefiles (.shp) and Keyhole Markup Language (.kml). Constant support is provided before, during and after the workshop by the IMMA Secretariat GIS expert Lanfredi.

The following two free access mapping programs are recommended for use:

QGIS: https://www.qgis.org/en/site/forusers/download.html

Google Earth: https://www.google.com/earth/about/versions/

## REPORT OF THE WORKSHOP

### IMMA Workshop Day 1, 13 May 2024

**Erich Hoyt** and **Giuseppe Notarbartolo di Sciara,** co-chairs of the IUCN Marine Mammal Protected Areas Task Force, welcomed participants and thanked them for coming. They introduced the workshop's sponsors, including the Water Revolution Foundation and the Sargasso Sea Commission, and said that their representatives would speak in the morning session. **Simone Panigada** was nominated as chair for the workshop and agreed to accept the role.

Panigada extended his welcome to the group and introduced the first speaker, **Javier Carballar Osorio**, Director of Quintana Roo Institute of Biodiversity and Protected Natural Areas. Carballar welcomed the group to the state of Quintana Roo and said that he appreciated the participation of field experts to help prevent the ecosystems and marine mammal species in the region from adverse impacts from human activities. He noted the great local appreciation for marine wildlife especially for the local manatees.

Next **Maria del Carmen García Rivas**, director of the nearby Parque Nacional Arrecifes de Puerto Morelos, introduced the group to the wide range of sites around México where whales are protected in MPAs such as Bahia de Loreto National Park for blue whales and the local Puerto Morelos Reef National Park for manatees which is an emblem for the state of Quintana Roo. She also mentioned other sites in Mexico notable for their value for endangered marine mammals, such as the northern Gulf of California reserve where the vaquita remain on the edge of extinction and the Guadalupe Island Biosphere Reserve where the Guadalupe fur seal is recovering. García said that the marine protected area rangers throughout México are focused on protecting the species. They want the MPAs to be safe areas for these species.

**Vienna Eleuteri** from the Water Revolution Foundation thanked the people in the IMMA Secretariat for their work and said that the event this week was particularly meaningful to her, as it resonated deeply with her passion for the ocean and related topics.

"As an anthropologist," she said. "I recognize the immense value in sharing knowledge and expertise for a greater purpose. Our aim here is to contribute to a tool that can guide us all toward adopting measures and behaviours that respect our natural habitats. I've had the privilege of witnessing the inception of the IMMA programme," she continued, "and have been enthusiastic about its potential from the start. It represents a new way of thinking about nature conservation as part of a broader development model. The private sector, too, has a crucial role to play in moving beyond sustainability

and viewing nature conservation as a fundamental investment and integral part of its business model, transitioning to a regenerative development model. This is precisely the mission of the Water Revolution Foundation within the yachting community.

“Today, I won't delve into the specifics of how this transition is taking place. Instead, I want to emphasize that the IMMA serves as an ideal model and platform for cultivating common interests. The knowledge we share here, and that you make accessible to everyone, allows us to reshape our relationship with the ocean and reconnect with the non-human world, enriching our humanity and even benefiting industry interests. Together, we have the power to effect real change. By pooling our knowledge and experiences, we can create positive impacts that extend far beyond this workshop. Let's seize this opportunity with open minds and hearts, ready to learn from each other and collaborate for the greater good.”

Eleuteri then gave the floor to **Robert van Tol**, Co-founder and Executive Director of the Water Revolution Foundation who remarked from his remote connection how this would be an exciting and promising week for the northwestern Atlantic Ocean and the Caribbean. “On behalf of our board of directors, a special thanks and congratulations to the IMMA team for organising this special gathering for the North West Atlantic project. The Water Revolution Foundation exists now for 5 years, and has last year also funded the North East Atlantic IMMA project, with a successful workshop and accompanying meetings of the foundation in Hamburg. We now highly look forward to the results from the North West part. We are active in the global yachting industry to significantly reduce its environmental footprint, but also to expand its potential as a hub for innovation and stewardship of the precious oceans. We work with the yachting community on this ambitious mission. Education and scientific research are an important base of our activities. We act as a bridge between science and industry, who both speak a very different language. We consider our collaboration with both crucial for mutual success. We will not only challenge industry on your behalf, but also vice-versa, to come closer to one another and make much needed progress.

“The delivery of IMMAs is essential—we admire your knowledge, drive and passion for creating these. We however need to remind ourselves that the creation of IMMAs is only the beginning. Recognition, adoption and living it is where the success lies, not only by the big organisations but by each individual connected to the blue economy in daily life. We not only support IMMAs financially, we work on adopting the IMMA maps onboard yachts for more conscientious navigation and participating in any way beneficial for the group of scientists present at this and other IMMA workshops. We wish you an inspiring and productive week; we cannot wait to learn about the nominations on Friday.”

Panigada, the chair, thanked both Eleuteri and van Tol for their contributions and for believing in the IMMA Secretariat and waving their magic wand to help make this workshop and the previous one happen.

Then Panigada introduced and thanked the other main supporter of the workshop, **David Freestone**, Executive Secretary of the Sargasso Sea Commission.

"The Sargasso Sea Commission is happy to be a co-sponsor of this important workshop and we are delighted to be working alongside the Water Revolution Foundation – which has already supported this important work in other major areas of the ocean. Let me take the opportunity to say a few words about the Sargasso Sea itself, about the Commission – and then why this workshop is so important to us.

"As many of you know, the Sargasso Sea is a two-million square mile (5.2 million square km) open ocean ecosystem, bounded by the circulating currents of the North Atlantic Gyre. The foundation of this unique pelagic ecosystem is the floating golden Sargassum seaweed for which the sea is named. As well as supporting ten fascinating endemic species, Sargassum acts as a critical nursery habitat for many species of pelagic fish and several species of sea turtles. The Sargasso Sea is the only known spawning area for the endangered European and American anguillid eels – which transition from marine breeding grounds to freshwater feeding grounds. It also acts as an important migratory corridor for humpback whales and other cetaceans, and for several species of sharks and rays. It is a significant carbon sink, representing ca. 7% of the global net biological carbon pump. The Sargasso Sea is subject to several anthropogenic pressures including shipping, fishing, plastic and other pollutants, and climate change.

"The Sargasso Sea Commission was established in 2014 under the Hamilton Declaration on Collaboration for the Conservation of the Sargasso Sea. This political declaration now has ten Signatory governments led by Bermuda – the other signatories are the Azores, Bahamas, British Virgin Islands, Canada, Cayman Islands, Dominican Republic, Monaco, the UK and US. The objective of the Commission is to 'encourage and facilitate voluntary collaboration toward the conservation of the Sargasso Sea' and to 'exercise a stewardship role for the Sargasso Sea and keep its health, productivity and resilience under continual review.

"Since 2022, the work of the Commission has been supported by two major grants. One from the Global Environment Facility through the FAO-administered Common Oceans Program. That grant is funding the development of a Socio-Ecosystem Diagnostic Analysis (SEDA) of the state of the ecosystem. It will then finance a Strategic Action Programme to facilitate the development of a comprehensive conservation framework. Led by UN Development Programme (UNDP), implemented by IOC/UNESCO, and supported by a comprehensive network of partners, it brings together the regional fisheries management organizations, national agencies and intergovernmental organizations and initiatives, the private sector, civil society and academia. Further support is provided by the French Facility for the Global Environment (FFEM) for the 'SARGADOM' project. This focuses on two remarkable high seas sites – the Sargasso Sea in the North Atlantic ('SARGA') and the Thermal Dome in the Eastern Tropical Pacific

('DOM'). The partners are the University of Western Brittany, the French Biodiversity Agency, MarViva, and the Sargasso Sea Commission. The project will support the same SEDA/SAP process to contribute to the protection of biodiversity and ecosystem services, and to facilitate the development of 'hybrid ocean governance systems' in the two areas.

"The Sargasso Sea sits between Europe and the Americas; the Commission is currently looking closely at the possible impacts of the large quantity of vessel traffic that passes through it. The possible impact on humpback whales and other marine mammals is a critical consideration. We welcome the considered, objective scientific assessments of the leading experts gathered here at this workshop as to the importance of this area for marine mammals and look forward to the future designation of Important Marine Mammal Areas in the Sargasso Sea."

Freestone also mentioned that the Sargasso Sea Commission had collaborated with the International Maritime Organization (IMO) and MarViva through the SARGADOM project on the first international workshop on particularly sensitive sea areas (PSSAs) on the high seas in November 2023. Panigada, thanking Freestone for the Commission's support, talked briefly about the work with the governments of Italy, France, Monaco and Spain through the Marine Mammal Protected Areas Task Force and the CMS daughter agreement ACCOBAMS to gain a PSSA in the North-West Mediterranean Sea Slope and Canyon System IMMA to reduce the number of ship strikes of fin and sperm whales. The IMO application has been successful, reported Panigada, and with the involvement of the Sargasso Sea Commission and MarViva raising the profile of PSSAs internationally, there is hope that this tool can be used to address the great increase in shipping traffic and the threat of ship strike to large whales.

**Geraldine Conruyt** (Regional Activity Centre, Specially Protected Areas and Wildlife for the Wider Caribbean Region, referred to as SPAW RAC), sent a video with her talk on the status of marine mammals in the Caribbean and the actions conducted by SPAW RAC to support biodiversity.

Conruyt explained that the Cartagena Convention is a regional legal agreement that promotes the protection of the marine environment of the wider Caribbean region. Ratified by 28 countries, it is supported by three technical agreements or Protocols on Oil Spills, Specially Protected Areas and Wildlife (SPAW) and Land Based Sources of Marine Pollution (LBS). These are supported by four regional activity centres that work for the protection of biodiversity through the SPAW protocol which covers 300+ species, including 22 marine mammal species, and 37 protected areas. One of the SPAW protocols' key objectives, said Conruyt, is our mission is to support the establishment and strengthening of protected areas for the preservation of threatened species and to develop guidelines for protected area and species management. As a service for the contracting parties, we develop and support training projects. Six marine mammal

species are classified in the global list of threatened species and, in the Caribbean, all marine mammals are fully protected by the 18 countries that have ratified the SPAW Protocol in The Wider Caribbean region. There is a strong emphasis on increasing knowledge capacity and regional collaboration in order to act together efficiently to strengthen the conservation of the species and the sustainability of human activity depending on these species. We hope that the European Union support of this work will continue; this work is intended to be as inclusive as possible.

Next, the group heard from **Jerôme Couvat**, Scientific coordinator of the Agoa Sanctuary – French Biodiversity Agency (OFB), who was present in person at the workshop.

"I first heard about IMMAs during a plenary speech from Erich Hoyt at the European Cetacean Society conference in Portugal in 2013. Little did I know that he would be part of that process eleven years later, let alone for the Caribbean!

"The Agoa Sanctuary is a marine protected area dedicated to the conservation of marine mammals in the French West Indies. It was created in 2010 as a political stand following intentions of resuming commercial whaling in the Caribbean at the International Whaling Commission. It is managed by the French Biodiversity Agency (OFB), a public institution under the supervision of the Ministry in charge of the Environment and the Ministry in charge of Agriculture, that supported the IMMA initiative in its early stages. Within the waters of Saint-Martin, Saint-Barthélemy, Guadeloupe and Martinique, not only is whaling banned, but the team of the Agoa Sanctuary is also working hard to find the balance between long-term conservation of marine mammals and the development of human activities that are vital for our islands. Some progress has been made in that regard but a lot of work remains to be done to achieve this very ambitious objective, as our new freshly printed management plan shows.

"Other marine mammal sanctuaries have been created in the region, from the Dominican Republic in 1986, which has recently announced a new extension, to Yarari in the Dutch Caribbean, Bermuda, Stellwagen Bank in the US and Saguenay-Saint-Laurent in Canada. Not to mention the upcoming sperm whale reserve in Dominica. Whilst this is going in the right direction and we daily work to increase collaboration between our sanctuaries, this will not be enough. Marine mammals know no maritime boundaries: neither EEZ, nor territorial waters. IMMAs have a crucial role to play here by providing internationally recognised, science-backed, biologically-orientated and manageable areas to policy makers in order to connect and complement current protected areas".

"280 IMMAs and 185 AoI have already been established so far, highlighting the tremendous work of the Task Force and the marine mammal experts worldwide to put these species at the forefront of international conservation efforts. Now, drawing boxes on a map won't save marine mammals if they remain 'paper parks', as Erich called them in his speech in 2013. But it is an essential first step towards that objective. So, let's roll up our sleeves, scratch our heads and argue about our dear marine mammals (which we

love doing, let's be honest) and deliver the best contribution we can to that global effort. I wish us enriching discussions and a very productive week."

Next **Madhu Rao**, Chair of the IUCN World Commission on Protected Areas (WCPA), offered her comments by video:

"Target 3 is one of the most ambitious targets in the Global Biodiversity Framework, calling for 30% of marine, terrestrial and inland water realms to be protected by 2030. Within this context, a key consideration is that it's not just the quantitative element of 30% that's important. Of equal significance is the quality. The specific target calls for areas to be effectively protected and conserved. The recognition and importance of marine mammal areas is of extraordinary significance within the context of the global policy commitments made by countries including the many that are represented here at this workshop. I can congratulate the IUCN SSC-WCPA Marine Mammal Protected Areas Task Force for their enduring commitment and investment toward the recognition of important marine mammal areas globally."

**Felipe Paredes**, the IUCN WCPA Marine Vice-Chair, followed, also by video, with his welcoming support of our efforts:

"IMMAs are very important in terms of scientific information for marine mammals. Information in the ocean is often scarce, so this process to consolidate information and to create a tool is essential for future marine protection. Now we have the goal of protecting 30% of the ocean. Currently we have only protected 8% of the ocean. There is a sense of urgency to protect the rest, the 22%, so now we need to move quickly. We also now have a new biodiversity treaty, the High Seas agreement, which needs to be ratified but after it comes into force there will be a mechanism for creating MPAs on the high seas, and the IMMAs will become even more valuable."

Panigada thanked Rao and Paredes, adding that now that we've been blessed with both the godmother and the godfather of our Task Force, we can go forward. He added that indeed the high seas will be a crucial component of our future work.

Next, **Melanie Virtue**, from the Global Convention on Migratory Species (CMS), spoke online from Bonn, Germany:

"We're part of UNEP, like the Cartagena Convention that you've just heard from. I head the aquatic species team. As well as marine mammals, my remit includes sharks, rays, turtles, freshwater fish, eels, and as David Freestone just mentioned, the polar bear".

"CMS has been associated with IMMAs since their inception:

• IMMAs were first mentioned in a Resolution in 2014, calling on CMS parties to apply IMMAs.

• In 2016, our scientific council asked the Conference of the Parties (COP) to endorse IMMAs and the IMMA criteria.

• In 2017 the COP adopted a resolution dealing specifically with IMMAs, greatly increasing the visibility of the concept with our Parties.

• We now report on progress in the development of IMMAs to each COP and ask Parties to report on their utilization of these designations.

• We reported to COP14 in February of this year. The Parties adopted four decisions on IMMAs, including directing the Secretariat and the CMS Scientific Committee to collaborate with the IMMA Secretariat, and linking that to the BBNJ Treaty for the High Seas.

"The IMMAs concept fits very well with CMS, given our species-based approach, and global remit. In fact, we are happy that the IUCN has now expanded this concept to cover Sharks and Rays with Important Shark and Ray Areas (ISRAs). In 2023, the Signatories to the CMS MoU on Sharks and Rays agreed to endorse, support and utilize the ISRA concept. Now we're working with the turtle specialist group on the development of International Marine Turtle Areas (IMTAs)".

"But back to marine mammals: this region is vitally important for so many marine mammals, as you've already heard, and most of these are listed on CMS. It's an important task you have here this week, to map out the most important areas. I look forward to hearing the results of the workshop, and in time, informing CMS Parties of the new IMMAs you identify."

Panigada thanked Virtue and took the chance to amplify that this is indeed the first IMMA workshop that has polar bears as a primary species in one of our proposed areas. We had to wait 11 workshops to get to polar bears.

Next **Susan Milward**, CEO of Animal Welfare Institute (AWI), noted online that AWI had been following the Task Force work since the beginning and that as a group AWI had worked extensively on marine wildlife in the Wider Caribbean and that they were thrilled that the Task Force was now focusing efforts to identify IMMAs here. AWI was one of the first supporters of the IMMA work even before the first workshop in 2016 and they have steadily provided help ever since for various IMMA regional workshops, including this one. Following Susan, **Georgia Hancock**, director of AWI's Marine Wildlife

Program, who was online said she was very supportive of the IMMA work and looked forward to seeing the results.

Then **Nicolas Entrup,** Director, International Relations at OceanCare, sent a video presentation. OceanCare has granted support to several IMMA regional workshops, including this one, and OceanCare scientists have participated in a previous workshop.

"It's exciting to know that you all have gathered in Playa del Carmen, México, to engage in the identification of Important Marine Mammal Areas in the North West Atlantic and Wider Caribbean in the coming days. With this challenge ahead of you, I think it is appropriate that you also jointly hold in for a moment, take a breath and reflect upon what has been achieved already.

"With three quarters of the world ocean examined, resulting in the identification of 280 IMMAs and 185 Areas of Interest, the output of an initiative born just about 11 years ago, is nothing but stunning and impressive. But even more so, when you take into account the logistical, but especially financial, challenges this initiative is facing, the results speak for themselves.

"So this is one part of the setting, the kind of framework, you are meeting up, putting your heads together, launching into the journey of addressing one major part of the remaining 25% of the world's ocean.

"But there is another part – with multiple facets – of the wider picture to this initiative: the impact that IMMAs generate for the animals, once they are identified. And yes, also in that respect the ball has started rolling.

"The UN Convention on Migratory Species (CMS), with up to 130 Parties, has already recognised the IMMAs as a scientifically robust and important concept. At the last Conference of the Parties, in February 2024 in Samarkand, Uzbekistan, the States again adopted a decision requesting States to 'Make use of the identified Important Marine Mammal Areas (IMMAs) … when identifying habitat at risk or designing threat mitigation measures, and when designating marine protected areas, or generally for marine spatial planning purposes, to support the conservation of CMS-listed marine mammals'.

"Furthermore, States shall enhance the cooperation and coordination with the Agreement under the United Nations Convention on the Law of the Sea on the conservation and sustainable use of marine biological diversity of areas beyond national jurisdiction (BBNJ). Noting that 43% of the already identified IMMAs are located in international waters on the high seas, this attests to the importance that the IMMAs concept is enshrined into the BBNJ procedures when area-based management tools are developed.

“This is important progress. And the IMMAs initiative is also testimony that science has to play a major role in today’s and tomorrow’s policy decision-making process. ‘Listen to the science’ – something that sadly can’t be taken for granted anymore, in a time we face a triple planetary crisis: climate change – biodiversity loss – pollution.

“Your work is important.

“Let me conclude by saying thank you to the colleagues at the IMMA Secretariat - Caterina, Elena, Gianna, Gill, Margherita, Erich, Giuseppe and Simone – for your amazing efforts taking the IMMAs project forward, and to every one of you for sharing your expertise and by contributing to fill the remaining gaps of this tour of the globe to identify IMMAs around the world. OceanCare is proud to support this initiative and grateful for everyone’s contribution.”

After Entrup, **Lyne G. Morissette** from Expertise Marine in Québec, Canada, a participant present in person at the workshop, spoke about the impressive concerted action for marine mammal conservation from Canada to the Caribbean. She noted that as a biologist from Canada she was more accustomed to studying marine mammals in icy conditions for half the year. Thus, experiencing a tropical environment was a delightful change.

“In Canada, the ice pack is often our fieldwork area to study a rich diversity of pinniped species. These ecosystems are home to harp seals, harbour seals, hooded seals, ringed seals, grey seals, and walruses. The eastern part of our country also provides critical habitat for a variety of odontocetes: sperm whales, killer whales, northern bottlenose whales, long-finned pilot whales, belugas (the emblem of the St. Lawrence River), harbour porpoises, white-beaked dolphins, and Atlantic white-sided dolphins. Each year, our waters also welcome visits from baleen whales, who come to feed on the abundant supply of krill, capelin, sand lance, and other plankton and small fish. This impressive diversity of great cetaceans includes humpback, sei, bowhead, blue, minke, and fin whales, not to mention the North Atlantic right whale, one of the most critically endangered species of whales. It’s sobering to note that there are only estimated to be 356 of these whales left on Earth.

“For these species, as for other marine mammals in Canada, the situation is quite challenging. Of the species I mentioned, half are at risk—classified as endangered, threatened, of special concern, or even locally extinct. The primary threats they face are numerous and severe, including ship strikes, entanglements in fishing gear, underwater noise, and pollution and ecosystem changes.

“However, amidst these challenges, there is hope. Many sectors of human activity are taking proactive steps to develop solutions to coexist with marine mammals. We are making strides in innovative detection and anti-collision systems that operate day and night, from planes, underwater acoustics, and even space, leveraging new technologies and AI. We are also developing ropeless fishing (or buoy on demand) technologies to

reduce entanglement risks, allowing both harvesters and whales to coexist in the important ecosystems we all depend on. Additionally, the use of noise reduction materials in ships and the electrification of transport are making vessels quieter. Furthermore, ocean conservation projects aimed at protecting our marine ecosystems are more numerous and ambitious than ever".

"Thanks to my colleagues from the government of Canada, extensive annual survey efforts are conducted to document species at risk, such as the North Atlantic right whale, using aerial surveys and acoustic monitoring. Their innovative Passive Acoustic Monitoring (PAM) systems provide near real-time and archival detections of multiple cetacean species in eastern Canadian waters. These efforts are crucial in understanding and mitigating the threats these species face.

"Marine mammals don't recognize the national boundaries we have set. Through their migratory patterns, they remind us of the importance of international collaboration. They are the greatest ambassadors of cooperation between nations, from Canada to the Caribbean, inspiring survey, research, and conservation efforts across countries, organizations, and institutions. In eastern Canada, a myriad of groups from universities, research labs, and government departments, such as Fisheries and Oceans and Parks Canada, are dedicated to this cause.

"Marine mammals inspire teamwork and cooperation. Many of us in this room have crossed paths due to our shared work on humpback whales, which are also true ambassadors of collaboration. The workshop this week feels like a family reunion, with colleagues from Martinique, Guadeloupe, Dominican Republic, México, USA, Canada, and other countries along the humpbacks' migration route that I had the chance to work with on different projects over the years.

"And while we're all here together, I'd like to invite you to the next Humpback Whale World Congress in 2025. The Gulf of St. Lawrence, encompassing five Canadian provinces plus Saint-Pierre-et-Miquelon in France, will host our next family reunion. It will be a fantastic opportunity to continue our collaboration and share our advancements.

"For this week ahead, let's channel our collective expertise and creativity to identify and make these Important Marine Mammal Areas the most useful tools possible, keeping in mind the 30% target we have set for deploying Marine Protected Areas by 2030. Our work is vital for the future of these species and the health of our oceans."

Panigada then gave the floor to Erich Hoyt and Giuseppe Notarbartolo di Sciara's for their joint introductory presentation, noting that they had started the IMMA process a few years earlier, and that when Notarbartolo di Sciara had invited him to participate, Panigada was initially skeptical, thinking it was another thing related to MPAs, but Panigada "came on board on the advice that 'IMMAs were a different thing' and now 11 workshops later..."

Leading off the Task Force presentations, Task Force co-chair **Erich Hoyt** gave a short history with a timeline, talking about how IMMAs came about — what had led up to this the 11th IMMA Regional Workshop. In the first decade of the 2000s, there was a growing recognition that marine mammals were being missed out in various conservation planning processes. This awareness came through the International Committee on Marine Mammal Protected Areas (ICMMPA) which was formed in 2008 and had its first conference in 2009, as well as through Hoyt's book *Marine Protected Areas for Whales, Dolphins and Porpoises* (2nd ed., 2011) and the experience of Michael Tetley, Giuseppe Notarbartolo di Sciara and Hoyt bringing marine mammal data to various Convention on Biological Diversity EBSA workshops. There was no systematic process for presenting marine mammal data at the CBD EBSA workshops or at other international meetings. Much of the data was unpublished. At the CBD workshops, the value of the BirdLife International tool of important bird and biodiversity areas (IBAs) became apparent, as well as in the designation of many MPAs around Europe through the Special Areas of Conservation (SACs) of the EU Habitats Directive.

Subsequent meetings with BirdLife in Cambridge helped to shape early thinking about devising a marine mammal tool which became IMMAs. At the same time ICMMPA needed a vehicle to drive and obtain traction for their global effort related to marine mammal spatial protection and that became the IUCN Task Force on Marine Mammal Protected Areas, situated strategically within both the IUCN Species Survival Commission and the World Commission on Protected Areas.

There was a realization in the ICMMPA and in the Task Force (when it was formally announced in 2013), that many MPAs that were said to protect marine mammals were designated for political or socioeconomic reasons without ecological considerations and not based on marine mammal habitat considerations. There was a need to highlight important marine mammal habitat based on science first before moving forward with efforts to try to protect that habitat through spatial and other measures and through monitoring in the future.

Hoyt gave details about how each workshop follows a defined process developed in consultation with regional marine mammal science and conservation communities. Candidate IMMAs are identified on the basis of received proposals for pAoI, following the template given in Annex IV. After the workshop, cIMMAs are submitted to an independent Review Panel of experts who review and verify them. Final approval is given to approximately 70-80% of submitted cIMMAs. Those requiring more data to support the chosen criteria and boundaries revert to AoI. These AoI are included on the e-Atlas along with the approved IMMAs.

Hoyt recalled the 3rd International Marine Protected Areas Congress (IMPAC 3) in Marseille in 2013 where the IUCN with ICMMPA gave birth to the Task Force and a workshop was held to devise IMMA criteria. The purpose of IMMAs was to develop a place-based conservation tool identifying discrete portions of habitat, important for one

or more marine mammal species, that have the potential to be delineated and managed for conservation. Hoyt explained that the identification of IMMAs employs a robust scientific process based on the application of scientific criteria. Thus, IMMAs are evidence-driven and purely biocentric.

Hoyt showed the map with the current total numbers of 280 IMMAs and 185 AoI, and the convenient accessibility provided through the marinemammalhabitat.org e-Atlas on the website. In total 91 marine mammal species (out of 134) have IMMAs identified. 66% of IMMAs were identified based on important habitat for a threatened (VU, EN, CR) species.

Hoyt then turned things over to the Task Force co-chair **Giuseppe Notarbartolo di Sciara** who provided some of the metrics to date:

- The Task Force has examined 74.3% of the global ocean surface.

- The total area of all 280 IMMAs identified so far is more than 35,747,000 $km^2$—13% of the global ocean surface.

- IMMAs occupy 7% of the ABNJ (high seas) surface providing scientific knowledge to contribute to the UN GBF goal (Target 3) of protecting 30% of the ocean by 2030 as well as supporting the BBNJ Treaty.

- 58% of IMMAs are in Exclusive Economic Zone waters and 42% are on the high seas.

- The website has had 770 downloads of the IMMA spatial layers accessed by users from over 80 different countries. The users include industry and business (22 %), governmental organisations (17%), non-governmental organisation (20%), inter-governmental organisations (2%), and university and academia (39%).

He then talked about marine conservation and management initiatives taking advantage of the IMMA process.

The IMMA process has inspired:

- Important Shark and Ray Areas (ISRAs)—an IUCN Species Survival Commission–Shark Specialist Group project;

• Indonesia's coastal zoning to protect Irrawaddy dolphins (*Orcaella brevirostris*); and

• Malaysia's national policy on Biological Diversity.

The IMMA process is supporting:

• Maritime Spatial Planning and management of human activities at sea (e.g., shipping, fishing, industrial and scientific exploration);

• the establishment of Marine Protected Areas (e.g., in Bangladesh and Viet Nam);

• the identification of marine Key Biodiversity Areas via the IUCN Standard;

• refinement of Australia's Biologically Important Areas;

• the Convention on Biological Diversity's Ecologically or Biologically Significant Areas (EBSAs) process; and

• the work of the CMS and daughter agreements, ACCOBAMS and ASCOBANS.

The IMMA process has also contributed to:

• the International Whaling Commission's efforts to identify potential vessel strike hotspots;

• addressing vessel interactions in specific areas (e.g., in the northwestern Mediterranean) and inspiring the establishment of IMO's Particularly Sensitive Sea Areas (PSSAs);

• the U.S. Navy taking action to manage low frequency (LFA) sonar in large whale IMMAs; and

• engagement by Proteus, Vanguard, and Global Fishing Watch to add IMMA layers for easy access to industry and for risk analysis for shipping and fisheries.

Panigada then called for questions. Dalia Barragán Barrera asked if freshwater species would be included. Hoyt answered that the IMMA process is already including species in

estuaries but that there will be a freshwater workshop (date to be set), possibly with other groups involved in freshwater dolphins and manatees. The IMMA process includes all the marine mammal species as recognized by the Society for Marine Mammalogy, even though some are not strictly marine.

Panigada asked if everyone was happy with the agenda (Annex II).

As there were no more comments or questions, Panigada outlined the process of the next few days as set out in the agenda. Panigada then called for participant and observer introductions. One by one, they approached the microphone to say a few words; then the online participants spoke (Annex I lists the names and affiliations, both those attending in person and those on line).

The coffee break provided a good chance for informal discussions.

Panigada then introduced **Gill Braulik** who presented a talk (online from the UK) on the IMMA Identification Process and Selection Criteria for the North West Atlantic Ocean and Wider Caribbean Region. She introduced her presentation by saying that she would be talking about what was going to happen at the workshop and the important role that the participants would play moving forward so that everyone knows what to expect. She said that this would be a more technical discussion of IMMAs to set the framework to show how the information will be used. Her talk would cover: The destination – The Final IMMA Product; the Workshop Plan; the IMMA Selection Criteria, and the cIMMA Submission and Review Process.

Braulik said that there is such a strong appetite now from industry and managers for this intermediary product to in effect be able to access the raw data and what's published in scientific papers, so that it can be used for decision making. She said that she thought it would be useful to demonstrate the end product and what will happen after the workshop and when everything has been through review and put on to the website as IMMAs. The Task Force site marinemammalhabitat.org displays all the IMMAs and when users click on individual polygons they see the full information, including the metadata (e.g., species, locations and criteria used for selection, and why the habitat is important) and links to a downloadable PDF where they can obtain the shapefiles. Then Braulik walked the group through the searchable database.

Braulik outlined the process of working from the pAoI, many of them submitted by participants. Over the next few days, the task would be to sift through them to refine and determine which ones should be taken forward, combined or excluded. She said that there would be breakout groups that would focus on each subregion's portion of the pAoI list and decide which ones could go forward before bringing them to the full group in plenary. Thus the next few days would be a process of working and presenting

progress until the workshop arrived at a final product. The whole group would thus be on board with the final package and the work would be considered not of an individual but of the whole workshop. Then after the workshop, the cIMMAs would go for expert review with some being returned for more work.

Next, Braulik went through the eight selection criteria and sub-criteria in detail, the nuts and bolts of how you build a candidate IMMA, along with examples for each. She pointed out the "The IMMA Handbook" PDF, available through Canvas and the marinemammalhabitat.org website. The IMMA Handbook was developed over a number of years by the IMMA Secretariat in consultation with outside experts and it is constantly being refined and updated. This is the best source for understanding the application of the criteria, as well as other points related to the process of creating candidate IMMAs (See https://www.marinemammalhabitat.org/download/guidance-on-the-use-of-selection-criteria-for-the-identification-of-important-marine-mammal-areas-immas/). She also pointed out that there were videos on Canvas and a short "cheat sheet" which had been printed with multiple copies so that the criteria and examples could be quickly accessed during discussions and preparation of cIMMAs.

Braulik reminded the group that it's best to choose the criteria and the species for which you have the strongest data and supportive evidence. Different currencies of information could be used to support each criterion, but in every case the focus was on the habitat. She remarked that, regarding boundaries, they should be drawn with the evidence supporting that particular habitat and that there is no minimum or maximum size. Straight lines on maps and political boundaries rarely correspond to actual habitats. Static bathymetric features can be a good basis for drawing boundaries, while dynamic habitat features and modelled data are weaker. She said that Lanfredi would help with drawing boundaries for submission as we get closer to deciding on the cIMMAs chosen. Braulik added that how the group brings together the data and integrates them is part of the process of working together over the next few days.

Next Braulik explained the difference between primary species, the ones being used for criteria, and the supporting species, those species present in the area but without sufficient data to defend criteria. She explained that an IMMA can be made on the basis of one species, fulfilling a single criterion while some IMMAs have many species that can be employed to support the Diversity Criterion D2. She pointed to the Society for Marine Mammalogy website for the official list with the accepted names of all the marine mammal species (https://marinemammalscience.org/science-and-publications/list-marine-mammal-species-subspecies/). She noted that they were also available on Canvas.

Panigada thanked Braulik and called for questions. The first one came from an online participant.

**Q:** Are country-based listings for Criterion A accepted?

**A:** No, we mainly follow the IUCN Red List at the global level, but it's also possible to use subspecies and there are some Red List assessment for regions and specific species in those regions. Global is the strongest rationale, but we do consider other listings from country assessments and it can be valuable to mention them. But, for example, something like the common bottlenose dolphin that might be listed in a given country as threatened would not be a strong case because the species is so widely distributed. It's necessary to present a case to the Review Panel.

Panigada added that in the Mediterranean, the regional IUCN Red List assessments were used but not national assessments.

**Q:** When using Criterion C, if we identify a breeding area should we also try to identify a feeding area so we're capturing both aspects?

**A:** No, it's on a case-by-case basis depending on what the data support. We don't have a process of making sure those are paired.

Doug Nowacek asked: "How should we consider acoustics? One part of that is how far away the animal can vocalize and be heard and how that impacts the selection of the cIMMA. But it's also how noise comes into it, as that can affect the size of the area. This is not a management forum but sound and noise does come into what we're thinking about in terms of habitat. Where do IMO and other international projects stand on all this—I don't know. The US does have a process to incorporate acoustic and noise considerations under the Endangered Species Act but we don't know how far it will extend into the ocean and marine species. Anyway, I'm just planting the seed to think about this because it's not easy in a lot of ways."

Braulik, responding, said that regarding anthropogenic noise, the IMMA criteria are all about features of the habitat and the animals and there's nothing about threat or human activities that might be detrimental. The rationale behind that is that it helps in the uptake of the IMMA product because it is really about the species. Afterwards, you can take the final product of the IMMA and start looking at threats. It's not included in the identification process but it's very much a part of what happens after the IMMA is identified. Of course, acoustic data itself can feed into satisfying the criteria for specific species depending on the kind of data you have.

Nowacek: "It's partly over what sort of ranges that you can hear your conspecifics. This can make the proposed IMMA larger, particularly with the low frequency baleen whales because the sounds travel further, so that should have an impact on size of the IMMA."

Braulik: “The acoustics experts in the room can discuss this in proposing their IMMAs and the sizes and so on, and reporting into the plenary what you come up with. I’m not sure we’ve encountered this issue before in terms of defining boundaries with acoustics plus noise.”

Panigada: “That’s a good approach and when we start drafting in the breakout groups, we can have small plenaries for discussion as needed to sort things out.”

Veronique Lesage: “In the Canadian context when we protect an important habitat, we need to provide the features of the habitat as we’re doing here. One of the features that we have to protect is the acoustic environment that makes the area special. In Canada, if you think about an area where you have aggregations of various species and it’s traffic-free then that’s a characteristic that we need to protect as a habitat feature.”

Jason Roberts: “I have two questions. There are several dozen bottlenose dolphin populations not submitted to the workshop. What happens to them after the workshop? And regarding IMMAs with different behaviour, do you prefer one IMMA covering all behaviours or separate IMMAs for each one?”

Panigada: “We do nominate regional coordinators from the workshop who help to carry on this work, and we’ll talk more about this later. However, in terms of areas not included as pAoI, there is still a chance to include them today. It is important to discuss them and determine what to do because we won’t be able to revisit this region for another 10 years. As it stands that is the process for creating new IMMAs. Regarding the second question, this came up first in the Mediterranean and we could have selected the entire Mediterranean and gone home, but we found there would be greater benefit in selecting specific IMMAs based on the habitats that specifically support the species, often with the criterion of a particular behaviour. So, in general the smaller IMMAs are ideal, but if the criteria are met for a larger IMMA, we can have that. And it doesn’t need to be one or the other. There can be smaller IMMAs within a larger IMMA. We’re not trying to avoid large areas. We just need to have robust scientific support.”

Braulik: “Regarding size, it’s easier to discuss specifics once we have a candidate IMMA on the table. Then we know what we’re talking about and we can discuss different ways to break up the area vs keeping it together. So that’s what we’re here to do. But everywhere can’t be important.”

Lanfredi talked about examples where boundaries are drawn around small bays to create an IMMA but there are lots of options.

Nataly Castelblanco Martínez asked about the migratory criteria and how we deal with migratory routes that are outside the area that we're considering. For example, we are dealing with humpbacks who migrate all the way from Svalbard to the Caribbean. How do we deal with them in terms of a proposal? Can candidate IMMAs extend outside of the region or do we have to keep within the limits of the North West Atlantic?

Lanfredi says that it is important to involve scientists who operate in other regions and to bring them into the discussion as much as possible through zoom in the breakout groups. This is a collaborative process and we encourage participants to contact people who are not in the room and of course to collect the additional supporting data needed for the cIMMA proposal as well. In the southwestern Atlantic we drew boundaries for migratory corridors for humpback whales by considering satellite tracking data; same in Australia, we excluded the more external tracking data, just looked at the commonly found tracks.

Braulik: "We also have cases where we knew that an IMMA was extending far into another region and that the workshop for that second region would be happening in another year, so we deferred the final cIMMA proposal. That's an option here as well. But it's fine if a cIMMA extends into another region. We can't pretend marine mammals don't cross our artificial boundaries. If a cIMMA extends outside, we can in most cases just go ahead but sometimes we might defer final decisions to a later process involving that other region, especially if it will happen next or soon."

Panigada announced the group photograph to be followed by the lunch break.

Re-convening after lunch, the group heard from **Elena Politi** who shared her screen to give everyone a refresher on "how to use Canvas" based on the invitations that were sent out to each participant and observer. Everyone should have set up their account or they can do so now. Canvas gives access to the workshop where it can be watched live online, or re-watched for missed sessions. It is also a way to contact anyone in the group, to make discussions and to exchange documents. Politi offered technical help related to Canvas for anyone as long.

Next, **Caterina Lanfredi** presented the IMMA Inventory of Knowledge document to the group. She explained that it contained all the materials that she had collected before the workshop in order to provide the group with additional resources available online and related to this region. These are contextual datasets showing area richness including the IUCN Red List species range dataset, OBIS-SEAMAP datasets, geomorphic and oceanographic features, and ESRI Shapefiles information. Directly addressing the group, she stressed that, of course, the group has the expert knowledge about this region with access to their own data and that of others in the region. The IMMA Inventory of

Knowledge is simply the additional resources that are being made easily available for reference.

Lanfredi explained that the maps she was showing were from the IUCN Red List species ranges and OBIS-SEAMAP datasets aggregated in 50 km hexagonal grids. Of course, the geomorphic and oceanographic features show where the canyons, slopes and trenches are, and she had made raster files to show bathymetry and average temperature and chlorophyll data. All of this was available through Canvas and as GIS and kml files, as well as summarized in PDFs.

Next, she displayed the data aggregated to show the highest species richness which, according to the species range, occurs mostly along the coastline from Canadian waters to Central America and northern South America. She also mapped OBIS SEAMAP datasets for cetacean whaling historic logbook records (1769-1920) and for the modern era (1920-2023).

She explained that these comparative datasets to arrive at approximate species richness had enabled her to create and advise benchmarks to set the minimum threshold for diversity with **7 or more species** being necessary to propose a cIMMA using the D2 criterion.

Finally, she showed the bathymetry maps and other layers showing features (shelves, plateaus, slopes, terraces and so on) and sea surface temperatures useful for defining the boundaries of cIMMA proposals. She said these tools were for those familiar with GIS but for those experts who are not familiar that she, assisted by Viola Panigada, would be going around the room throughout the week to show these layers in the context of helping to select boundaries for each of the proposed cIMMAs. There is also provided a detailed list of the species in the region with their global IUCN Red List status.

Lanfredi opened up the session to questions and Eric Angel Ramos asked about the species diversity advised baselines for Criterion D2 and whether this included all the marine mammal species. Lanfredi clarified that yes, it does.

Then Oswaldo Vasquez stood up to say how he now understood the nature of IMMAs and their potential value, while indicating concerns that the data from all the experts would somehow be able to be included even though not all the experts had been invited. He stressed the need for everyone to get together to realize that IMMAs are an initiative to attract attention for an area as important for marine mammals. The size doesn't matter. IMMAs are not in reference to existing or proposed marine protected areas. Then he said that they planned to propose a cIMMA for all of Dominican Republic waters.

Panigada in response said he agreed with most of Vasquez's comments but noted that the Task Force cannot invite all the researchers as we are limited by space, time and money, but the hope is that the invited researchers will seek to include as much data and involvement from other researchers as possible. He also gave a caution about using a country's EEZ as the boundaries for a cIMMA and that focusing on physiographic, bathymetric or biological features to delineate the habitat of one species or a group of species would be truer to the animals in terms of defining habitat important to them.

The regional workshops have been effective in spreading the word about the meaning and value of the IMMAs, added Panigada. The European Commission, for example, now speaks about IMMAs in almost every presentation that they do, including papers and reports. Here in North America and the Wider Caribbean, the concept is new, so we will need to spread the word. Looking at the group here and online, Panigada said it feels like there is strong engagement at this initial stage and partly it will be up to you scientists to continue to spread the word and help the IMMA gain public awareness.

Eric Angel Ramos asked about the spatial mapping and the logistics about making cIMMAs where manatees are concerned. He said that he has access to maps and shapefiles for manatees in convoluted habitats of rivers and estuaries, but he wondered how we had dealt with fine-scale spatial complexity in other areas of the world. He asked if he should draw a boundary around the whole area including the land, or if he should delineate the habitat to show just the water areas. How do we deal with the boundary of water and land given that manatees are moving into these areas?

Lanfredi answered that any area even if it's a complicated ecosystem, or shared with different countries doesn't matter, but we want to share the discrete water portions, even if it is difficult to show it. So, we can use satellite data to show the rivers and estuaries, or maps and shapefiles that are already in existence. If the data provide the information, there is no limitation to showing it.

Shane Gero commented that the group is all trying to figure out where to scale their effort and their time. He asked where things would go after the workshop and was concerned that although it would be easy to draw big circles around the Caribbean for IMMA proposals based on diversity, it wouldn't then be so useful for specific countries like Dominica or the French islands. How has that been approached in the past, he asked, for example for the Mediterranean? How have other workshops solved the scaling issue?

Lanfredi said that the proposals need to be of a scale to be used, so a whole region diversity IMMA wouldn't be useful at all. Often, it's best to focus on the other specific criteria to define spatially the habitats that species use. It may be helpful to think in terms of usefulness for the IMMA layer in marine spatial planning.

Panigada next talked about how the process would go forward with the subgroups agreed in plenary. Each subgroup would answer questions as they go through the various pAoI proposals to decide which ones might go through as cIMMAs. Then the process goes forward to start filling out the forms with Notarbartolo di Sciara explaining the details of the form. And then Lanfredi and Viola Panigada will go around to help with the GIS mapping and the boundaries. Finally, at the end, the cIMMAs jointly proposed by the subgroups and the overall group, with agreed names, go forward to the review panel, after some pre-editing by members of the IMMA Secretariat. Panigada said that these details will be explained in more detail over the next days.

**Q:** During the drafting days, do we stay in the same group or do people move around?

**A:** Participants move around as needed for wherever they are able best to contribute.

**Q:** For the IMMAs, is it okay to translate the brochure into Spanish for implementation?

**A:** Once accepted, the IMMAs go on the e-Atlas with a Fact Sheet and Brochure (formerly called Downloadable Fact Sheets) in English. So, it would be fine if you are willing to translate it. The official one is the English one; we couldn't verify the Spanish translation, so it would be good to refer to both.

Lanfredi then presented again, this time on the collated preliminary Areas of Interest for the region. She explained that she would show use maps to share all the preliminary areas of interest (pAoI) submissions, all that have been proposed as expert submissions, as well as areas already designated in the region as MPAs, BIAs or EBSAs, so called existing area submissions. The question is whether some of the existing areas might be appropriate areas for the region, especially in light of the pAoI submitted by the participants which are the key areas to consider. Lanfredi noted that there may also be new areas that the group may want to submit which can be accepted during the day. The process will be to arrange ourselves in subgroups and for each subgroup to go through the pAoI sorter table choosing the areas to focus on. This is not just a process of selecting but of sometimes combining areas and of course eliminating some areas as irrelevant (due to a mostly political process, for example) or that are simply duplicates of expert proposals.

Lanfredi then showed the map of the 46 expert pAoI submissions submitted in advance to the workshop, but noting more areas will be added by the end of the day. She thanked the experts — the coverage for the region was considerable although a few gaps could be seen. She then showed a potential division into 4 subregions, displaying the pAoI that would be in each area. Then she showed the map for the existing MPAs with marine mammals (74 areas), the EBSAs (110 areas), the BIAs (36 areas) and 4

critical habitat areas for North Atlantic right whales. These existing designations totalled 224 sites.

Next, she showed the dense map of 270 polygons including the expert and existing sites to be considered.

Finally, she pointed out the folders on Canvas where the expert submission forms and the pAoI sorter table could be found. She encouraged all participants to make sure they are logged in. She directed the group to the Workshop Resources, where all these documents could be found.

For any additional areas to be proposed the main information that Lanfredi said she needed was a draft name of the area, the species list, and the criteria that can be defended with data, and then a starting point for the map either verbal or ideally a rough sketch in a jpg. or a rough version on Google Earth or GIS file. She promised after any others were submitted today or even by later tonight, to bring a revised region map to the workshop to show all the pAoI in plenary.

Questions then arose about the extent of the IMMAs across the global ocean and what that meant to government decision makers and others when they see that they overlap with each other and fill up the map.

Notarbartolo di Sciara noted that yes, the IMMA indicate areas that contain habitat that is important for species, but that we as scientists shouldn't be concerned about putting them on the map. It doesn't necessarily mean that they lead to legal measures. Yes, some could feed into MPA proposals, but others would inform about managing navigation, fisheries, noise and other issues. IMMAs have broad applications and we see them being harnessed for a wide variety of uses. Of course, we are concerned about the look of the map and we are trying new things all the time to show the areas, but we shouldn't be concerned about filling up the map if that happens. This is an exercise to put these areas up and to think about things from the marine mammal point of view.

After coffee break, Panigada reconvened the group and opened the discussion on the subregions which resulted in an adjustment that was agreed by the group. Partly this was done based on the number of participants available for each region. The original subregion division and the revised version are in Fig. 5.

There was much discussion around the group division and then for arranging the experts into one or other group ready for the work tomorrow. Panigada then closed the workshop at 5 PM and indicated the choices for dinner.

## IMMA Workshop Day 2, 14 May 2024

Panigada started the day by saying we had 14 more preliminary Areas of Interest submitted (3 MPAs and 11 pAoI submitted by Experts) which Lanfredi would show us this morning, but he was going to start by introducing online a short greeting from **Lindsay Porter**, vice-chair of the International Whaling Commission (IWC) Scientific Committee.

Porter recalled her participation as an expert at the North East Indian Ocean and South East Asian Seas IMMA regional workshop in Kota Kinabalu, Borneo, Indonesia, in 2018. She said that many IMMAs and AoI were identified there and that even though the AoI have not progressed to being at IMMA stage, what it has meant on the ground is real recognition by governments to support continued research in some of those areas. It has made a real difference for research all over South East Asia and she said that the repercussions from the identification of our IMMAs are still being felt strongly.

Putting her IWC hat on, she said that the progress with IMMAs is a source of delight. One of the things that she said they wanted to try to do in future is to integrate the work of the IMMA process with the work of the Scientific Committee. In particular, in the last two years, the IWC body has direct the Scientific Committee to understand better how plastics are impacting IMMAs and the marine mammals that occupy those areas. Due to Covid and other things, it has not been possible for Porter and the IWC Scientific Committee Chair Alex Zerbini to get together and sit down with the IMMA team to figure out strategies for integrating the work more closely.

She said that the IWC Scientific Committee looks at the IMMA work and that they are in awe of the progress that IMMAs have made over the past few years and look forward now to more updates.

Panigada reiterated that the IMMA team needs to sit down with IWC Scientific Committee to integrate our work for conservation, and then turned things over to Lanfredi.

Lanfredi updated the group with a few slides showing the old and new division of the regions (Fig. 5) and to show the new pAoI updated map and to outline the process for today. She noted that the pAoI sorter table was now fully up to date and that it had divided the submission into the three main subregions, though recognizing that two of these would likely split their region in two to accommodate the researchers present and to move faster. 11 new proposals were submitted mainly from the Caribbean Sea, as well as the Gulf of Mexico, and also for the Bahamas. The new total is 57 Expert pAoI with a total of 284 pAoI including the 77 MPAs, 110 BIAs, 36 EBSAs and 4 North Atlantic right whale critical habitats (Fig. 6).

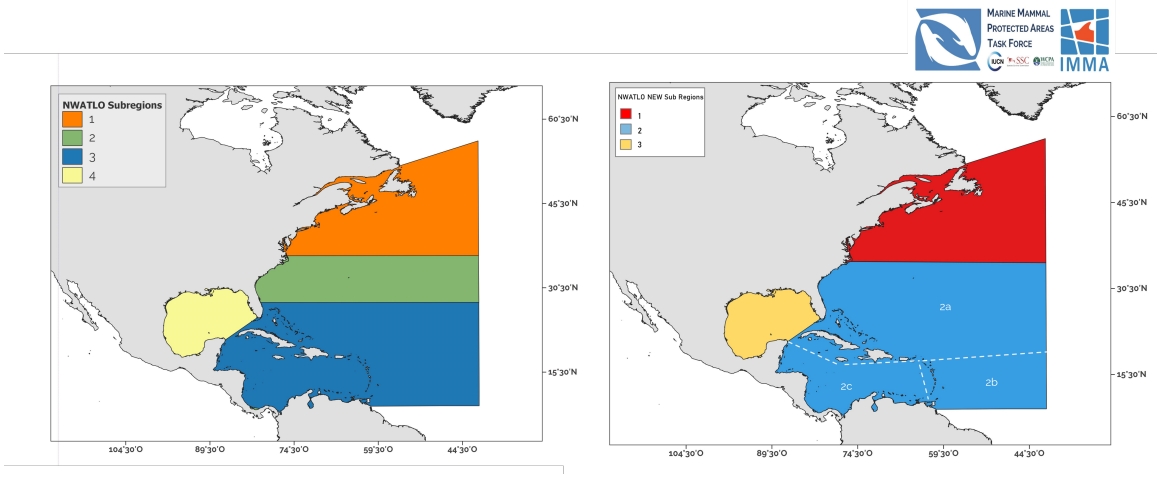


***Fig. 5.*** *The draft North West Atlantic Ocean and Wider Caribbean (NWATLO) Workshop subregions and the revised subregions (on the right) as agreed and used during the workshop. Revised subregion 2 was further subdivided into three subgroups (2a, 2b and 2c) during the break-out groups as needed for discussions.*

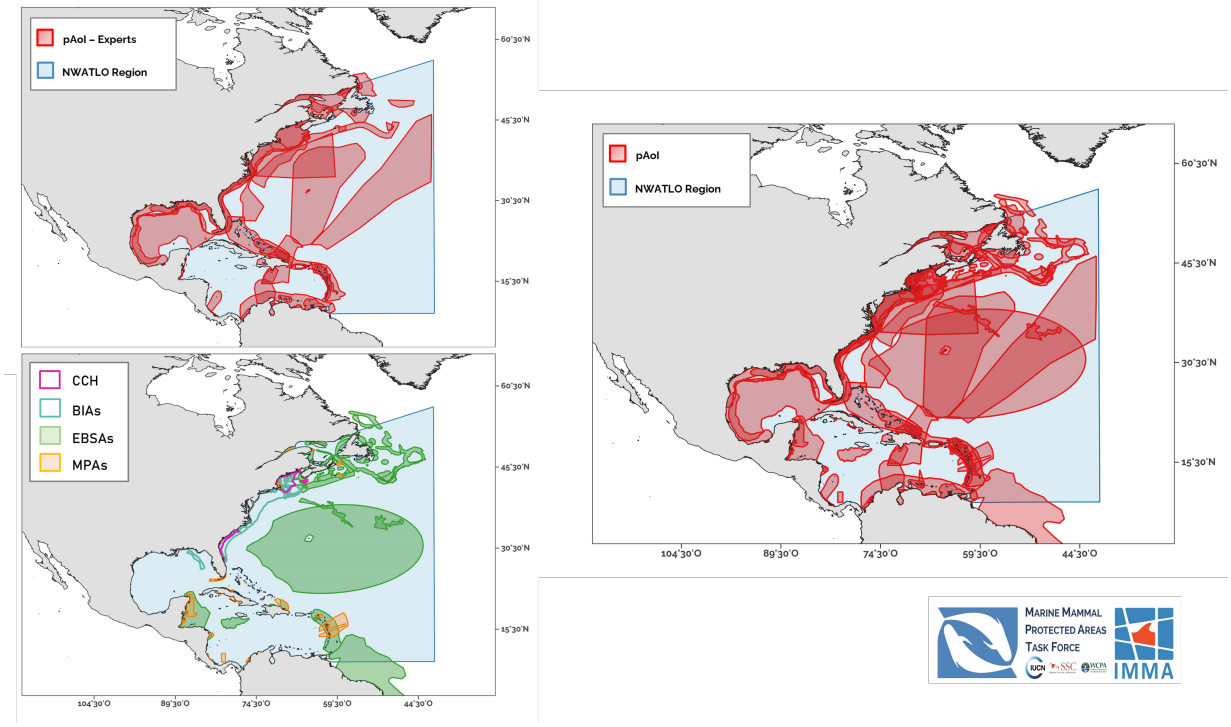


***Fig. 6*** *Spatial representation of the preliminary areas of interest (pAoI) including the 57 expert areas submitted (top left) and the 227 existing area designations (bottom left), which were collected from participants in advance of the meeting and on the first day of workshop. The map*

*at right shows the complete list of 284 pAoI including the participants' proposals and existing MPA, EBSA, North Atlantic right whale critical habitats (here reported as CCH) and BIA designations.*

Lanfredi invited the leader of each table to manage the pAoI sorter table for the process today of going through all the pAoI in their subregion, discussing them one by one and selecting those to go forward and those to be integrated or deleted. And then by the end of the day, the final modified table should be presented to Zanardelli to go forward for discussion including the final name for the area and the person who will be in charge of leading the completion of each individual candidate IMMA form. Mapping and other advice would be readily available through Lanfredi and V. Panigada.

Notarbartolo di Sciara commented that there are two different kinds of pAoI. The ones coming from Experts and the ones coming from the other sources, the EBSAs, MPAs, BIAs and so on. The Expert pAoI are the primary ones, but it's important to note that when these overlap, we can gain something by looking at the proposal for both.

Lanfredi turned over to Panigada to lead on the division of the three regions. He showed the list of people going into each group and that Group 2 was dividing their region for discussion purposes into 2a, 2b and 2c (Table 1, Fig. 5). There would be breakout rooms online for all of those, and people will be able to go online with the link and choose the room, and move around as needed. And one member of the IMMA Secretariat would be at each table, helping to go through the sorter table list and answering questions as needed, while Lanfredi and V. Panigada would be going around table to table to help with showing the maps.

Lanfredi encouraged people to move around as needed. She asked participants to note any mistakes on the sorter table on the list. And by the end of the day each table's list will be announced in plenary to the larger group.

The subgroups then arranged themselves on 3 main groups plus the subgroups and guided by the IMMA Secretariat (Group 1, Canada and Northern US, Sascha Hooker; Group 2, the southeastern US and Caribbean by Margherita Zanardelli and Giuseppe Notarbartolo di Sciara; and Group 3, The Gulf of Mexico by Erich Hoyt). The challenge for the day was to determine which species were likely to satisfy IMMA criteria in each chosen subregion and to narrow down the areas to those most useful in terms of becoming a cIMMA or being joined with other cIMMAs. Each table had a group coordinator, an IMMA Secretariat facilitator, as well as GIS technical support. Panigada reminded each subgroup that one person should also operate on Zoom to ensure good exchanges with the relevant online participants who would be arranged into breakout

rooms. The groups considered each of the 284 expert pAoI in turn, with reference to the much larger group of MPAs, SACs, EBSAs and other pAoI also available for reference. Each subgroup downloaded the pAoI sorter table in the detailed spreadsheet, selecting out the particular pAoI for their given subregion and going through them one-by-one with the subgroup discussion. The group coordinator guided the discussion using the following questions, focused also by the facilitators:

1. Is the pAoI important for the species/area when compared to the IMMA selection criteria?

2. Is there information or data to be able to create a boundary around the species/habitat for a cIMMA?

3. Could the pAoI species/area be combined with other pAoI for different species to create a multi-species cIMMA?

4. If the pAoI is not suitable for meeting the IMMA Selection Criteria, could the species/area be used to meet the IMMA selection Criterion D2 on Diversity when combined with other overlapping pAoI for different species?

5. If the pAoI for the species/area is not suitable as a cIMMA, and cannot be used to support another cIMMA for a different species/area, should the pAoI for the species be either Option 1 – kept as an AoI to inform a future process – or Option 2, not considered as an AoI on the IMMA e-Atlas?

Table 1. Breakout groups

| **Breakout group (Table/ subregion) number** | **Region: Countries included** | **IMMA Secretariat Facilitator** | **Group Coordinator** | **GIS Technical** |
|---|---|---|---|---|
| 1 | Southern Labrador and Gulf of St. Lawrence, south to Cape Hatteras | Sascha Hooker | Lyne Morrisette (Jason Roberts & Veronique Lesage) | Caterina Lanfredi & Viola Panigada |

| | | | | |
|---|---|---|---|---|
| 2a | Cape Hatteras coastal to northern Caribbean | Margherita Zanardelli | Antonio Mignucci-Giannoni | Caterina Lanfredi & Viola Panigada |
| 2b | Eastern Caribbean/ Lesser Antilles | Margherita Zanardelli | Shane Gero | Caterina Lanfredi & Viola Panigada |
| 2c | Southern Caribbean, ABC islands, coastal Venezuela to Trinidad & Tobago | Giuseppe Notarbartolo di Sciara | Nathalie Houtman | Caterina Lanfredi & Viola Panigada |
| 3 | Gulf of Mexico including Florida, southern US, Texas, Mexico | Erich Hoyt | Jeremy Kiszka | Caterina Lanfredi & Viola Panigada |

After lunch, Panigada reconvened the plenary for a presentation by KBA Marine Coordinator **Charlotte Boyd**. Boyd, a Task Force member, had participated in several previous IMMA workshops working in various subregional groups to ensure that prospective cIMMAs were specifically identified if they might qualify for KBA status. Following is a summary of her talk:

"Parties to the Convention on Biological Diversity have committed to conserving 'areas of particular importance for biodiversity', most recently in the Global Biodiversity Framework. Target 3 and the '30 x 30' commitment have garnered a great deal of attention, but it's not just about quantity – the success of this target will depend on whether the 30% encompasses areas of particular importance for biodiversity. For this reason, coverage of Key Biodiversity Areas (KBAs) by protected areas and other effective area-based conservation measures has been proposed as a key indicator for Target 3 and is already an indicator for the Sustainable Development Goals (including SDG 14: Life under Water).

“KBAs are defined as: ‘sites contributing significantly to the global persistence of biodiversity’. The KBA Standard provides a globally standardized approach for identifying KBAs based on a set of definitions, criteria and quantitative thresholds designed to ensure that KBA identification is objective, repeatable and transparent. It was formally adopted by IUCN and launched at the World Conservation Congress in 2016. Altogether, there are eleven criteria grouped into five high-level criteria (A through E) that aim to capture the various ways in which a site can be important for the global persistence of biodiversity. All sites should be assessed against as many KBA criteria and for as many taxonomic groups as possible, even though a site only needs to meet the thresholds for one criterion to qualify as a KBA.

“Each of the criteria have quantitative thresholds designed to ensure that KBAs are identified consistently across taxonomic groups. For species, the thresholds are mostly based on the percentage of the global population size that is regularly/predictably held at a site. Population size is defined in terms of numbers of mature individuals. But, if data on numbers of mature individuals are not available, we can use proxy parameters for population numbers (e.g., pup counts for pinnipeds) or one of several area-based parameters (e.g., area of occupancy, extent of suitable habitat, range, or even just number of localities). An advantage of quantitative thresholds is that it enables experts to identify KBAs consistently, even if working independently. While many KBA processes involve expert workshops, KBAs can be proposed without convening a workshop. This makes it easier to update sites if there is a change in species status or as new data become available.

“Typically, KBAs are identified through nationally driven processes, coordinated by National Coordination Groups (NCGs). For broadly distributed highly mobile marine species, there are clear synergies between IMMA and KBA processes. Regional workshops focused on specific taxonomic groups are the most effective tool for compiling and reviewing the data used to identify important sites. KBA NCGs can then integrate data for these sites across taxonomic groups and work to ensure that confirmed KBAs are included in national conservation plans and organize and support local conservation efforts.

“Thus, for IMMAs that qualify as KBAs,” Boyd concluded, addressing the group directly, “identifying those sites as KBAs as well as IMMAs can help strengthen safeguards for the sites. As you start refining the cIMMAs for this region, I hope to talk with as many of you as possible as to whether your site might qualify as a KBA and what kind of supporting data that you have for it.”

After Boyd finished, Notarbartolo di Sciara asked Boyd to comment and explain about the regional vs global significance of species and how that has a bearing on whether an area is made a KBA. With IMMAs, he explained, for example with sperm whales in the Mediterranean, we have identified an IMMA for sperm whales in the Eastern

Mediterranean for about 150 individuals. But globally that population is under the radar, and it might well be ignored except for the main researcher who is studying them and who has dedicated his life to them, Alexandros Frantzis and his team. So, with KBAs having a sole global approach, doesn't this in fact promote fragmentation of species and range decrease?

Boyd replied that at the beginning of the KBA work the focus was all on the global KBA but there was the aim that after the first cut of the global KBAs that the focus would include regional KBAs. Recently people are realizing that there is often a much more urgent need to identify KBAs at the regional level and partly because the taxonomic resolution is much coarser—for example, for killer whales, blue whales and sperm whales.

Boyd explained that she had been "pushing hard for the regional approach to make sure for marine mammals as well as for marine birdlife to have KBAs identified more regionally. So there is a process now looking at how to go ahead and identify regional KBAs, applying the criteria regionally and to see how that would work out so we don't end up with just a carpet of KBAs."

Nowacek asked about the conservation of North Atlantic right whales being split across countries with changing management schemes. There is also the MiCO project potential input supporting migratory conservation. How does that fit in with KBAs?

Boyd answered the first question saying that "the process doesn't stop with KBA identification, it has to move forward into conservation planning following the IUCN mantra of assess, plan and act. The IUCN Red List and KBA identification is assessment then that needs to be fed into conservation planning. KBAs do capture multiple species and ecosystems within a single site so it can be a useful tool for how to move forward but other approaches are needed for the migratory aspects and a consideration about protecting not just the breeding but also the feeding sites and recognizing that there is a migratory corridor but KBAs are not focusing on that or we would have KBAs everywhere."

Next Betzi Perez Ortega stood up to talk about the proposal for a corridor between Costa Rica and Panama for the manatee. The problem is that in the 1960s there was a small number of 10 manatees introduced into Gatun Lake in the middle of the Panamá Canal and now there are around 50 individuals. Researcher Hector Guzmán is doing genetic analysis to see whether they have diverged from the rest of the population, as the Gatun Lake individuals are thought to be separated because of the locks, but the study will reveal if there is exchange with the manatees in the Caribbean.

Notarbartolo di Sciara said this is a first case for a proposed IMMA because here we have a group of individuals who have been introduced to an area where they were never found before and have then been thriving. Should they be included in an IMMA or not? Or as a separate population?

Boyd said she could respond in terms of how they have handled this for KBAs, not that IMMAs need to have the same response. Essentially what happen is if it's a conservation translocation, either a deliberate movement of the animals to a new location because the habitat had been destroyed then we can include it. Or if it's not a deliberate translocation but that that population is considered critical to the species' survival, it can be included. But if it's just a translocation with species being introduced outside their range for other reasons, then it wouldn't be a KBA candidate.

Perez said that they were introduced to find out how many manatees it would take to control the vegetation in the canal. Panigada said that it could be that we decide together once we start drafting and then perhaps leave it up to the review panel to consider. He said it was definitely an interesting case.

Panigada said the next issue that has been brought to our attention is regarding Cuba. There are some important marine areas that should be in our list and Jeffrey Bernus has been trying to reach Cuban researchers so hopefully there will be a response in the next couple days.

Panigada next talked about corridors and V. Panigada was going to display the map regarding a case raised by Castelblanco regarding the migration route for humpback whales and the fact that they have two main migration routes. One route goes to Greenland and others go to the more northeastern Atlantic. How will we merge or account for migration in adjacent regions?

Panigada asked for any comments. Migration routes or corridors can qualify for IMMAs. "We've started calling them MIMMAs."

Jooke Robbins (online) said that this bifurcation has some Canadian parts that aren't shown on the map. Roberts said Group 1 decided to let the Caribbean folks in Group 2 take this one, and now Group 2 is looking to Group 1 to see what they are doing. Roberts added that the overall view of Group 1 and 2 on this seems to be that there wasn't a lot of detailed information to elucidate where these corridors would be. "We'd have to draw fairly large wide corridors and we didn't know if that fit within the IMMA context. Then we thought maybe they are an AoI and someone else mentioned MIMMA, so we're unsure. There is some tracking data to support some of the corridor and also in areas not shown on this migration map for the Atlantic. The extent of the tracking data is maybe 20 tracks in terms of highlighting where they are going."

Hoyt said that we had this issue in Brazil and Lanfredi made a nice working illustration of all the track of humpback moving through the South Atlantic and together with the researchers it was possible to come up with a corridor. Lanfredi's illustration would be useful right now if that's accessible.

Roberts said there is also a case of a humpback track going from the Azores to the Labrador Sea, so that corridor would cut through this main corridor and might be good to consider at the same time.

Robbins (online) added that actually most of the North Atlantic is going to be in these corridors so maybe not so useful to delineate them. So, it may look like the entire non-coastal North Atlantic Ocean.

Danielle Cholewiak said, "This is a good chunk of the ocean and this is just one species, so once we start including other species, we're then making a MIMMA for the whole ocean basin. We're wondering if that's valuable."

Panigada said: "Let's keep all this on hold and see what evidence we can provide and we can see then if it's worth sending for review. Of course, you can't go to policy makers and say we want to manage the whole Atlantic for marine mammals."

Lanfredi displayed the map of the South Atlantic showing 22 humpback whale tracks. She said that this is the map Hoyt was recommending that we look at showing the migration tracks. Working with Alex Zerbini, the group was able to select the main tracks but not the outliers to come up with a MIMMA.

Panigada said that we would keep all this background in mind when we come to proposing the new cIMMAs, and that again we would have help from Lanfredi. Panigada then brought up another issue related to coastal bottlenose dolphins.

Jeremy Kiszka explained that his subgroup realized that they had no pAoI for the many bottlenose dolphin areas along the vast coast from Chesapeake Bay down and around Florida and the Gulf Coast all the way along the Texas coast and into northeastern Mexico. "We drew a polygon for this whole area but there are about 20 stocks of bottlenose dolphins there so we don't know what's best in terms of handling this, whether it's one narrow band along the coast with a mosaic of estuarine ecosystems in one polygon or if we divide them up. There is a recent publication that delineated all of them. We've asked researcher Keith Mullin to comment but he hasn't replied yet. The BIA process did delineate some of them and there is a new process to delineate all of them. There's almost no connectivity to most of them so we're wondering whether to

make a multi polygon IMMA with a boundary for each one. It would be good to discuss this further in the next days."

Next Panigada asked for short reports from the various coordinators of the subregions to say how things were going and if they need more time or support to finish going through the pAoI sorter table to select the pAoI going forward.

Lesage reported for Group 1 focusing on the Canadian portion. She said that their discussions were around whether the focus should be species or habitats. They could see that the proposals should be around species and their habitats but not starting with a habitat point of view. So, they are still deep in discussion. They can agree on the obvious ones, but the more problematic ones are needing a lot more discussion. More guidance would be helpful on how to split the areas. The example was given of feeding areas with upwellings on a long stretch between Canadian and US waters where for some species it may be more consistently used but, for example, blue whales mainly use the Canadian upwellings.

Panigada clarified that only one species is needed to fulfil a criterion for an area to be proposed for an IMMA; the other species that don't meet the criteria then become supporting species.

Notarbartolo di Sciara further explained that really there are multiple approaches that can work in some of the more complex situations; it's not that there is only one correct solution.

Hilary Moors-Murphy elucidated the issue by explaining that the humpback areas extend more widely but the northern bottlenose and blue whales really don't travel as far south for feeding. Should we just make a big area with smaller features or separate IMMAs or one big IMMA for diversity criterion D2?

Notarbartolo di Sciara pointed out that if you want to focus on the northern bottlenose area, for example, you may want to spotlight that to make sure you don't lose them in an ocean of humpback whales. Like the *Kogia* of St. Vincent, there are multiple species in there but a small area within that has the *Kogia*'s highest recorded density in the world, so you really want to spotlight that. So special things should be spotlit. It can still be surrounded by a larger diversity IMMA if there is data to support the criteria chosen.

Next, Couvat presented a PhD thesis from 2023 that gathered 196 tracks of humpback whales that were tagged over 2 decades. He showed the map of the North Atlantic and it was clear that the tracks stretch across a substantial section of the North Atlantic. He

showed this to feed the previous day's discussion about what to propose in terms of migration IMMAs by Group 1 and 2.

Couvat noted that the data were not peer-reviewed or published in papers yet but that the data owners did allow the group to draw a broad boundary based on this work.

Panigada summed up and said that indeed this shows that a MIMMA might have to cover most of the North Atlantic but let's see. And he said that Group 1 and 2 should remember we are all here and happy to help.

Group 2A Mignucci-Giannoni reported on their discussions with their mergers of different cIMMAs and some areas were moved to Group 1. They moved the migratory areas down to be joined to the breeding grounds north of the Dominican Republic and Puerto Rico.

Group 2B, represented by Gero, reported on the Lesser Antilles. They had 3 areas and these were reduced to just one. Using the suggestion of the *Kogia* criteria, in fact, to augment the wider cIMMA rather than spotlighting just the *Kogia* area.

Group 2C, the coast of Venezuela and Colombia and nearby islands, reported by Nathalie Houtman. They had 15 areas to go over in this area and ended up with 9 approved and 1 still open. They are trying to find out if there is enough supporting data.

Group 3. Kiszka reported that the subregion of the Gulf of Mexico is challenging and they are working on sorting out the proposals.

Next Notarbartolo di Sciara presented a short powerpoint on "How to Write a cIMMA Summary in 10 Minutes". He apologised to those for whom this is basic but said that there will be some useful tips that streamline the process. He displayed the list of elements that should compose a good summary of 150 to maximum 200 words:

1. General statement of location
2. Sentence about key geographical features
3. Sentence about key ecological features
4. Reference to other existing designations
5. Mention species Criterion x
6. Mention species Criterion y
7. Mention species Criterion z (etc.)
8. Mention species Criterion D2 (if appropriate)

As an example, he proceeded to dissect the summary for the Osa Peninsula cIMMA proposal from Costa Rica's Pacific waters which had been submitted at a previous IMMA workshop and was now a listed IMMA. He linked each sentence to the above components, which he showed one by one. Breaking the task into these parts made the summary relatively easy to write.

He then enlarged the discussion to talk about the guidance for filling out the full cIMMA proposal. The guidance provides recommendations for the naming of cIMMAs (simple, geographical/oceanographic, unique if possible) and cautions regarding names that shouldn't be used (putting countries or species in the name). It was noted that a map must be included with the submission, and the points of contact listed. The criteria only need to be filled out for the qualifying species not the supporting species. He emphasized that the criteria is the most important part of the proposal so, if on deadline later this week, the identification and defence of the criteria is at the heart of the proposal and should be finished first.

Another key point is to keep things short and concise. The criteria were presented by Braulik so Notarbartolo di Sciara didn't go into more detail but pointed out that the template had good examples for the various criteria.

The boundary rationale can be written partly with the advice and assistance of Lanfredi.

The description of habitat is important, said Notarbartolo di Sciara, because when an IMMA is identified as a spatial entity, it is a habitat so it's important to provide this description with the essential elements.

He then clarified that the references should be followed by the annex with supporting figures, maps and images. The annex is the only case for the submission where more is better than less. The data will go in a folder to collect dust for eternity but will not be shown; it's just for the reviewers to support the cIMMA proposal. The IMMA Handbook, downloadable from the marinemammalhabitat.org website, contains the full text for the above instruction on preparing a submission.

Panigada then announced the coffee break. After coffee break, the group continued working until the end of the day, with many discussions within each subgroup.

## IMMA Workshop Day 3, 15 May 2024

Panigada opened Day 3 with housekeeping details and reiterated that anyone needing help should please contact the Secretariat, but that the plenary would be kept short so that the maximum focus could be on working to complete the cIMMA proposals. He

added that anyone finishing a draft could send it to Hooker or Braulik for comments. There were further questions about the Lago Gatun issue in Panama where the manatees had been introduced. They are reproducing and it seems now to be an important area for these marine mammals so the suggestion would be to complete a form and let the reviewers offer a view on it. Panigada called for any more questions. Then he said that the day would be flexible but at some point there would be reporting on progress from the subgroups.

Lanfredi asked for the floor to say that she and Zanardelli had received the sorter table last night and that Zanardelli was busy working on merging everything and double checking, while Lanfredi and V. Panigada will be going around to start the process to define and refine the maps.

Next Hoyt and Notarbartolo di Sciara stood up to explain about the regional coordinators. One of the legacies of the workshop and one of its most valuable aspects is the 300 plus scientists who have been involved in the process and growing all the time. All of the participants are part of the supporting regional groups, but within each group, each region, the Task Force likes to ask for between 2 and 6 coordinators.

Hoyt outlined the future role of the regional coordinators and Notarbartolo di Sciara then went over the provisions in detail, including:

(1) group maintenance and
(2) e-Atlas maintenance,
(3) support for follow-up actions and future workshops,
(4) IMMA Regional implementation,
(5) knowledge base consolidation, and
(6) annual reporting of developments in the region.

Hoyt said that this is a volunteer position but that in the past year funds have been secured to help monitor and work toward the implementation of IMMAs in five locations: Peru, Kenya, Malaysia, Oman and Brazil, with funding going to individual scientists who were Points of Contact for one or two IMMAs. He told the group they should discuss among themselves and nominate others or volunteer by Friday morning.

Notarbartolo di Sciara said that it could be fun to have a regional coordinators' zoom meeting at the end of the year and report out but also make it somehow festive and celebratory. He directed them to the website for more details (https://www.marinemammalhabitat.org/immas/regional-groups/).

Discussion was kept short, as participants were busy working on their proposals.

In the late afternoon, after the second coffee break, Panigada convened a plenary to bring everyone up to date (Table 2).

The names of cIMMAs and AoI for each subregion were projected:

In Group 1, Roberts reported that the writing is under way, but some are still deciding what exactly to propose. The transboundary areas are being sorted out and the writing is under way for those. There are some offshore areas and they are still in the process of being finalised.

Lesage, for the Canadian portion of Group 1, said that they had 15 drafts and were now refining the text and the boundaries. She said they would be able to finish this week.

Group 2a: Mignucci-Giannoni said that they were working hard and on track.

Group 2b: Gero said there are two areas that may possibly become one.

Group 2c: Houtman reported that they were on track with proposals and they thought the boundaries are already there.

Finally, for Group 3, Kiszka reported that with the Rice's whale cIMMAs, one of them was nearly ready. But that there were two much more complex species in this subregion, estuarine bottlenose and manatee, and there was continuing discussion about how many IMMAs potentially to make here and what the structure should be, and to what extent these areas go into adjoining subregions.

Panigada thanked everyone and asked if they were managing to liaise with those online. He stressed how important this was.

Hoyt remarked that only one group mentioned AoI. He reminded everyone to let the group know if they have any AoI in mind and that these would be valuable in terms of providing some signposts of potentially important areas in need of research and helping to obtain plans and to define a future research agenda.

Cholewiak asked about the potential migratory area under discussion, and if it was going to be proposed as a candidate IMMA or as an AoI. Discussion would still continue on this.

Lea-Anne Henry, working mainly on the Bermuda submissions, replied that Duke University colleagues were working to make the migratory submission better, so she was hoping to see it come together; it could be a MIMMA if there was enough information, otherwise it would be an AoI.

Following discussion on names for the cIMMAs, Zanardelli reminded everyone that if there is modification to the area name, then please send an email to her and Lanfredi to make sure it's included in the master sorter table.

Lanfredi thanked Roberts for the help with GIS mapping in Region 1, though lots of discussion continues. Discussion is needed with each subgroup so things can be worked and time is saved in the review process.

Panigada said that Braulik would make a presentation later about the review process to say where we go from here.

Hooker explained about the figures and legends. They can be put into the cIMMA proposal now for the reviewers, but taken out later if they represent work in progress that shouldn't be published with the IMMA Fact Sheet and Brochure.

Ramos had a question about polygons, specifically making a multi polygon IMMA for manatees even though there were 40 miles (64 km) between the 2 manatee areas. Notarbartolo di Sciara suggested to make it one polygon and Lanfredi agreed.

Table 2. cIMMAs and AoI going forward from each subgroup

| **Breakout group (Table/ subregion) number** | **cIMMAs going forward** | **AoI going forward** | **Group lead** |
|---|---|---|---|
| 1 | 21 | 0 | Lyne Morissette (assisted by Jason Roberts and Veronique Lesage) |
| 2a | 7 | 0 | Antonio Mignucci-Giannoni |
| 2b | 2 | 0 | Shane Gero |

| | | | |
|---|---|---|---|
| 2c | 9 | 2 | Nathalie Houtman |
| 3 | 5 | 1 | Jeremy Kiszka |
| Total | 44 | 3 | |

## IMMA Workshop Day 4, 16 May 2024

Starting with a plenary just after 9 AM, Panigada welcomed the group and noted that everyone appeared to be hard at work on filling out the cIMMA forms. Panigada said that Braulik would go through the review process and say what was happening in the next months. Then Lanfredi will give an update on the drafting, followed by time for questions, as needed. Panigada said an encouraging number of cIMMA proposals have already come forward.

Braulik presented her talk "What Happens Next?" outlining the timeline of the review process. After leaving on Saturday, the IMMA Secretariat compiles the templates and goes through everything to conduct a preliminary review and make high level suggestions on each template. Lanfredi checks and adjusts the maps as needed, and then, together with the others, prepares a package that goes to the Review Panel later in June or early July.

The review decisions could come back by September to the points of contact (PoC). The PoCs receive a cover sheet with broad instructions, outlining various options for minor or major revision, or a split or merge or reject and return to AoI. Revisions toward the final version would then be due within about a month. Braulik said that the aim was to have final versions approved and up on the e-Atlas in late 2024 or early 2025. Hoyt meanwhile will have prepared a report of the workshop, issuing a draft report, followed by a final version at the same time as the IMMAs go up on the e-Atlas. News and media releases follow. Then our designer will work with each point of contact to make the brochures more attractive for general use. These can be cited.

This workshop is just the beginning for this region. But: "It's all about you" and up to the participants and observers here to take the lead to push forward and help people know about the IMMAs and to formulate appropriate conservation initiatives.

Notarbartolo di Sciara then wanted to talk a bit more about the IMMAs being issued by the workshop and that they gain from the data and wisdom of the people in the room,

plus the reviewers. And that there is no individual authorship; the authorship is the workshop and the whole IMMA process. However, other scientists have asked us about authorship and we now have a way to acknowledge individuals through the brochures that can be downloaded and which are attached to each IMMA. There is an acknowledgment section where the points of contact or others can be mentioned with or without their organisations.

Hoyt added that the group authorship removes the thorny transboundary and political issues. This was appreciated by some experts who might be uncomfortable being in a perceived advocacy position, particularly in disputed political areas or across controversial boundaries.

Next Lanfredi displayed the latest map revealing about 20 of the total 43 cIMMAs and 3 AoI which are being worked on toward completion tomorrow, and she presented a polygon update showing the subregion-by-subregion progress.

Zanardelli reminded participants that if templates are finished, to show them to Hooker, or to Braulik, for a preliminary review.

Panigada then gave a preview of the rest of Day 4 and 5. Day 4, he said will be mainly drafting and we'll have an update at the end of the day. Day 5 will be drafting in the morning. Ideally, we should stop drafting at the end of the morning, so we leave time for discussion. In the evening, we will have dinner for 33 persons for the celebration. The transfers to airport are all arranged, and we will share the departure manifest so everyone knows the pick-up times at the hotel.

The rest of the day was dedicated to drafting. At 5 p.m. Panigada called for an update from the Subgroups.

Subgroup 1. Roberts reported that the cIMMA proposals were at various stages, some completely done, others in internal review, and a few in heavy writing stage. A few more are in development if we get time. He said that they hadn't submitted too many because they still needed internal review but that a lot of them will come in all at once.

Subgroup 2a. Henry reported good progress with a lot of merging, not a final number yet. They are working offline with researchers from Duke University and the Sargasso Sea Commission. She said that they are making good progress toward completion and had no concerns.

Subgroup 2c. Houtman reported some being submitted, some being reviewed. Their current work is on the Southern Caribbean upwelling, and they could use some help on

the boundaries for the shapefile, which should then enable them to finish. They now have 2 AoI.

Subgroup 3. Kiszka said that they originally had 5 cIMMAs, but now there are 8 cIMMAs and 2 AoI; they are in process of being submitted and will be done by tomorrow morning.

Panigada reminded participants that the room would be open early tomorrow for the final day if they needed to start earlier. Then tomorrow he will convene a final plenary where everyone agrees on the names, sees the final map and the coordinators for the region are selected from those who volunteer or who are nominated.

Lastly, Lanfredi next gave an update. She said that they were progressing very fast. Many polygons were coming from the northern US and Canada. There is a new cIMMA coming for Cuba and a name would be needed for it. But otherwise everything was on track and she hoped to finalize boundaries for the maps for the remaining submissions today.

Panigada urged everyone to keep going and besides starting early tomorrow, they could also stay later today, as needed. The room would be kept open.

### IMMA Workshop Day 5, 17 May 2024

Day 5 had no opening plenary. The participants stayed in their subgroups and worked on the cIMMA proposals.

Panigada asked for a brief check-up late morning.

Subgroup 1. Nowacek reported for the overall group that the cIMMA proposals were coming along fine, great camaraderie, having fun. Mike Hammill reported that 2 cIMMAs were being proposed for seals and he was ready to submit both.

Subgroup 2a was on track and 2b were focusing on helping with the Sargasso Sea.

There were other updates from around the Caribbean, but all was on track. In subgroup 2c, Castelblanco said they would finish today.

For Subgroup 3, Kiszka reported that most of the cIMMAs have been submitted, and now the manatee cIMMAs were being adjusted and were coming together. They were

just polishing and working on estuarine bottlenose dolphins, focusing on a few bays and estuaries, with the rest to be AoI.

Castelblanco had a question regarding AoI, and the procedure for getting them approved and what qualified.

Hoyt said that the whole ocean was an area of interest of course but AoI are made by rejected cIMMA proposals as well as others that are known cetacean areas but don't have enough data to support a cIMMA proposal.

Notarbartolo di Sciara said that an AoI is like an IMMA where you can't catch any criteria for it. "It's important for one or more marine mammal species," he added, "and if you had the data it would be an IMMA. Following more study and the acquisition of more data, an AoI will potentially become an IMMA.

Lanfredi said she thought of AoI as areas where there is insufficient evidence, but where you know that if you invest energy to increase knowledge it can lead to an IMMA. AoI sites can be huge but that's okay; we know they need more effort.

Hoyt said having them on the map is a bit like planting flags on the moon. It may seem remote to envision an IMMA but the very fact of having it on the IMMA e-Atlas gives some impetus to look harder there and submit proposals for more research.

Most of the participants kept working while this brief plenary took place. At the end, Panigada said let's meet at 3 pm for the final plenary. Everyone continued working on the cIMMA templates. As they finished, some left for a swim, but due to the mapping updates, Panigada moved the final plenary to 5 pm, adjusted then to 5.15, when all were back in the room.

At the final plenary, Hoyt called for nominations of the coordinators. The coordinators volunteering were Dalia Barragán Barrera, Jeffrey Bernus, Danielle Cholewiak, Jeremy Kiszka, and Hilary Moors-Murphy. This group of coordinators was ideal as it offered good geographical coverage within the region from Canada to the Caribbean. The coordinators were told that they would become members not only of the Task Force, but of the IUCN World Commission on Protected Areas and the Species Survival Commission.

As Lanfredi and V. Panigada worked to complete the final map and tally of cIMMAs and AoI submitted, Panigada thanked the participants for their hard work with a special note for the online participants and to the observers who presented talks. He thanked the IMMA Secretariat including co-chairs Notarbartolo di Sciara and Hoyt and the work of Elena Politi to set up Canvas and keep the online access running smoothly. He then

thanked the Water Revolution Foundation and the Sargasso Sea Commission for their support, making a special note of thanks to Vienna Eleuteri without whom the present workshop could not have happened. The other sponsors, Animal Welfare Institute and OceanCare, were also thanked, along with Tethys Research Institute and Whale and Dolphin Conservation for helping to facilitate the administration. Hoyt then stood up to thank Panigada as the workshop chair, on behalf of everyone.

Panigada then gave the floor to Lanfredi to display the workshop's results in map form. Lanfredi displayed first a map slide and explained that we had started 4 days earlier, on Monday, with a total of 57 expert and 227 other pAoI for a total of 284 pAoI. Most were collected from the participating experts before and during the first day of the workshop. With the careful coordination of Zanardelli, the last-minute changes in names and maps were accommodated so that the results could be rolled out before the workshop's close.

A few minutes later, the curtains parted to show the final result. The workshop had selected **46 candidate IMMAs and 7 AoI** to go forward to the reviewers. Lanfredi thanked the whole group for their efforts. The final map displayed on the screen led to applause from the group and photographs taken in front of the slide (Fig. 7).

A few participants stayed to finish off their work in the workshop room, but most got ready for the party and dinner. Panigada then closed the workshop.

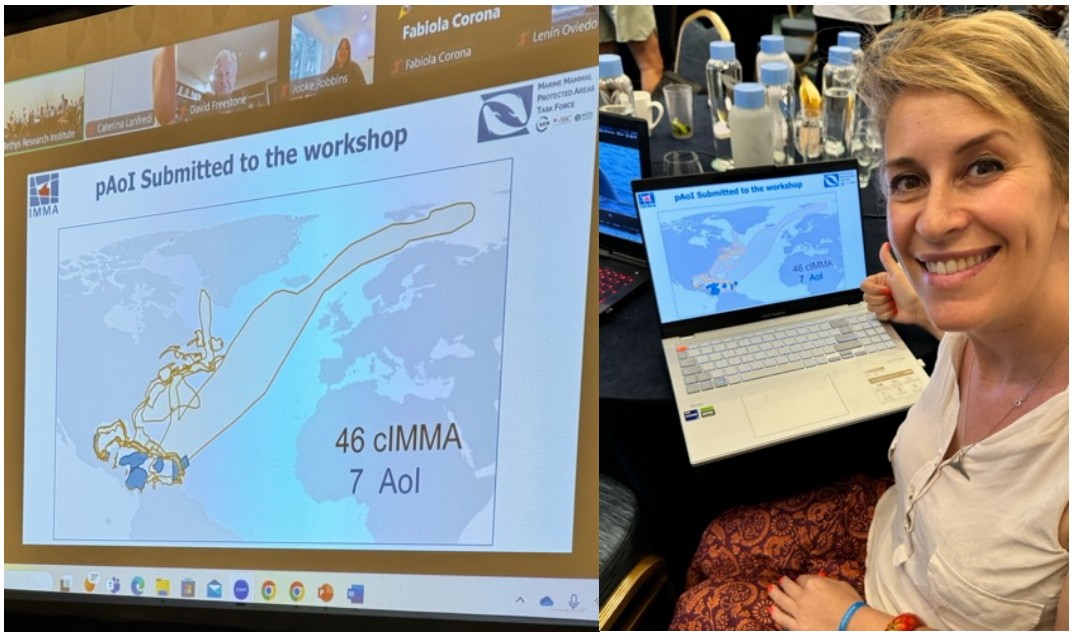


***Fig. 7.*** *Caterina Lanfredi of the IMMA Secretariat announces the 46 candidate IMMAs (cIMMAs) and 7 AoI proposed for the North West Atlantic Ocean and Wider Caribbean (NWATLO) Region*

## Post IMMA Workshop

Following the workshop, the next step was to assess and then send the compiled 46 cIMMAs to the independent review panel to determine whether the criteria were applied correctly and to verify that the evidence provided was sufficient to support the case for each cIMMA. This work was managed by IMMA Secretariat members Gill Braulik, Gianna Minton and Caterina Lanfredi. Considerable effort was then needed from the points of contact to go over the review comments and to address them one by one, preparing a final submission which was then again edited by Braulik and Minton, with the work for the new spatial layer spearheaded by Caterina Lanfredi, Elena Politi and Viola Panigada. The Brochures (formerly called Downloadable Fact Sheets) for each IMMA, prepared by Juariah Muhamad, will be uploaded over the next couple months.

For the 43 approved IMMAs, the boundaries and a summary of the supporting evidence have been made available on the IMMA e-Atlas, and included in the online IMMA database. Interested users are then able to request IMMA layers as ESRI shapefiles, Keyhole Markup Language, GeoJSON, Tabular (.xls,.csv), and Web Map Service for implementation initiatives. For the 11 AoI, it is recognised that these areas have strong potential, but at present do not have enough information to satisfy the selection criteria. The 11 AoI now appear on the IMMA e-Atlas, and thus highlight areas for further marine mammal research and monitoring to help build an evidence base on which future cIMMAs may be proposed. The full list of approved IMMAs and AoI can be found in Annex III. See Fig. 8 for the final map of the new IMMAs and AoI.

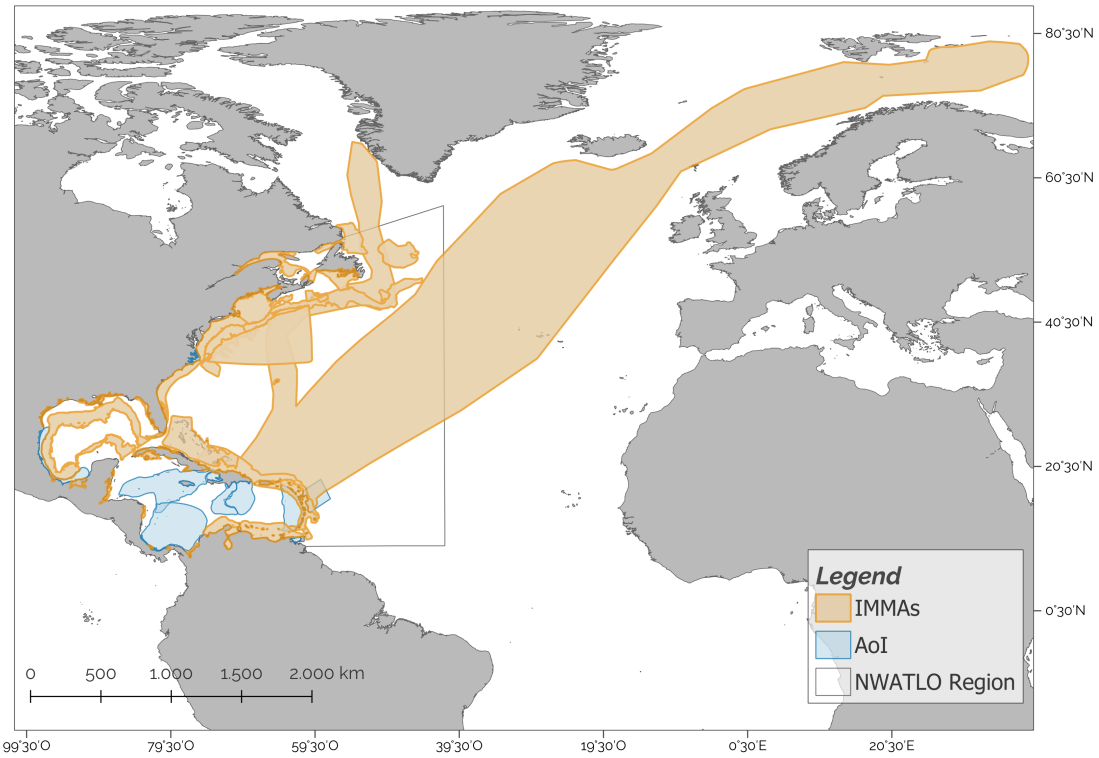


***Fig. 8.*** *Geographic location of the 46 candidate IMMAs (cIMMAs) and 7 AoI identified and approved through peer review in the North West Atlantic Ocean and Wider Caribbean (NWATLO) Region.*

# Annexes

## Annex I – List of participants

Dalia Barragán Barrera
R&E Ocean Community Conservation
Bogotá, Colombia

Jeffrey Bernus
Caribbean Cetacean Society (CCS)
Sainte Luce, Martinique

Jaime Bolaños Jiménez
Caribbean-Wide Orca Project (CWOP)
Venezuela
Caribbean-Wide Orca Project (CWOP)
Country of Aruba

Charlotte Boyd
Marine Key Biodiversity Area Working Group
Ireland

Nataly Castelblanco Martínez
El Colegio de la Frontera Sur (ECOSUR)
Chetumal, Quintana Roo, México

Danielle Cholewiak
NOAA Fisheries
Woods Hole, MA, USA

Jérôme Couvat
Agoa Sanctuary
French Biodiversity Agency (OFB)
Les Trois-Îlets, Martinique

Shane Gero
Biology Department — Carleton University
Ottawa, Canada
The Dominica Sperm Whale Project
Dominica

Mike Hammill
Maurice Lamontagne Institute
Fisheries & Oceans Canada
Mont-Joli, QC, Canada

Lea-Anne Henry
University of Edinburgh
Edinburgh, Scotland, UK

Nathalie Houtman
WWF The Netherlands
Amsterdam, The Netherlands

Jeremy Kiszka
Florida International University
Miami, USA

Veronique Lesage
Fisheries and Oceans Canada
Mont-Joli, QC, Canada

Antonio A. Mignucci-Giannoni
Caribbean Manatee Conservation Center
Inter American University of Puerto Rico
Bayamón, Puerto Rico, USA

Hilary Moors-Murphy
Fisheries and Oceans Canada
Halifax, Nova Scotia, Canada

Lyne G. Morissette
Expertise Marine
Sainte-Luce, QC, Canada
Institut des Sciences de la Mer de Rimouski (UQAR-ISMER)
Rimouski, QC, Canada

Eduardo Morteo Ortiz
Laboratorio de Mamíferos Marinos (LabMMar)
Instituto de Investigaciones Biológicas (IIB)
Universidad Veracruzana (UV), Xalapa, México

Doug Nowacek
Duke University
Durham, NC, USA

José David Palacios Alfaro
San José, Costa Rica

Betzi Perez Ortega
Panacetacea
Panamá

Mario Rafael Ramírez León
CICESE
Ensenada, México

Eric Angel Ramos
Fundación Internacional para la Naturaleza y la Sustentabilidad
Chetumal, Quintana Roo, México

Jessica V. Redfern
Anderson Cabot Center for Ocean Life
New England Aquarium
Boston, MA, USA

Jason Roberts
Duke University
Durham, NC, USA

Andrew William Stevenson
Whales Bermuda
Bermuda (UK)

Oswaldo Vasquez
Atemar
Santo Domingo, Dominican Republic

**Observers (In person)**

Javier Carballar Osorio
Quintana Roo MPAs and Biodiversity
Puerto Morelos, Quintana Roo, México

María del Carmen García Rivas
Parque Nacional Arrecife de Puerto Morelos CONANP
Puerto Morelos, Quintana Roo, México

Vienna Eleuteri
Water Revolution Foundation
Amsterdam, Netherlands

David Freestone
Sargasso Sea Commission
Bermuda (UK)

Stacey MacDonalds
Caribbean Cetacean Society (CCS)
Sainte Luce, Martinique

**Participants (Remote)**

Sophie Laran
Pelagis, UAR 3462
CNRS - La Rochelle University
La Rochelle, France

Keith Mullin
Marine Mammal & Turtle Division
Southeast Fisheries Science Center
National Marine Fisheries Service, NOAA,
USA

Lenin Enrique Oviedo Correa
Laboratorio de Ecología de Mamíferos Marinos Tropicales
CEIC Centro de Investigación de Cetáceos de Costa Rica
Proyecto Delphinus
Venezuela / México

Jooke Robbins

Humpback Whale Studies Program
Center for Coastal Studies
Provincetown, MA, USA

Beatrice Smith
Duke University Marine Geospatial Ecology Lab
Durham, NC, USA

Gary Stenson
Fisheries and Oceans Canada
St. John's, Newfoundland and Labrador, Canada

Hal Whitehead
Dept. of Biology
Dalhousie University
Halifax, Nova Scotia, Canada

**Observers (Remote)**

Geraldine Conruyt
Regional Activity Center
Specially Protected Areas and Wildlife for the Wider Caribbean Region
Saint-Phy, Basse-Terre, Guadeloupe

Nicolas Entrup
OceanCare
Wädenswil, Switzerland
Shifting Values
Vienna, Austria

Georgia Hancock
Animal Welfare Institute
Washington, DC, USA

Susan Millward
Animal Welfare Institute
Washington, DC, USA

Felipe Paredes
Marine Vice Chair, IUCN World Commission on Protected Areas
Santiago, Chile

Lindsay Porter
Vice-chair, Scientific Committee
International Whaling Commission (IWC)
Cambridge, UK

Madhu Rao
Chair, IUCN World Commission on Protected Areas
Gland, Switzerland

Fae Sapford
Sargasso Sea Commission
Bermuda (UK)

Robert van Tol
Water Revolution Foundation
Amsterdam, The Netherlands

Melanie Virtue
Convention on Migratory Species (CMS)
Bonn, Germany

**IMMA Secretariat**

Erich Hoyt
IUCN Marine Mammal Protected Areas Task Force
Whale and Dolphin Conservation
Chippenham, Wiltshire, United Kingdom

Giuseppe Notarbartolo di Sciara
IUCN Marine Mammal Protected Areas Task Force
Tethys Research Institute
Milano, Italy

Caterina Lanfredi
IUCN Marine Mammal Protected Areas Task Force
Tethys Research Institute
Milano, Italy

Simone Panigada
IUCN Marine Mammal Protected Areas Task Force
Tethys Research Institute
Milano, Italy

Margherita Zanardelli
IUCN Marine Mammal Protected Areas Task Force
Tethys Research Institute
Milano, Italy

Gill Braulik (attending remotely)
IUCN Marine Mammal Protected Areas Task Force
University of St Andrews
St Andrews, Scotland, UK

Elena Politi (attending remotely)
IUCN Marine Mammal Protected Areas Task Force
Tethys Research Institute
Milano, Italy

Sascha Hooker
IUCN Marine Mammal Protected Areas Task Force
Sea Mammal Research Unit
Scottish Oceans Institute
University of St Andrews
St Andrews, Scotland, UK

Viola Panigada
Tethys Research Institute
Milano, Italy

# Annex II – Workshop agenda

**Day 0 – Sunday 12 May 2024**

19:00 – 22:00 Icebreaker reception/welcome dinner at the Iberostar Paraiso del Mar

**Day 1 – Monday 13 May 2024 - Iberostar Paraiso del Mar**

09:00 – 11:00 Introduction to the North West Atlantic Ocean and the Wider Caribbean Region Workshop IMMA

- Opening of the workshop: Giuseppe Notarbartolo di Sciara and Erich Hoyt
- Nomination of Workshop's Chair – Simone Panigada
- Welcoming addresses:
  - Javier Carballar Osorio, Director, Quintana Roo MPAs and Biodiversity
  - Maricarmen García, Parque Nacional Arrecifes de Puerto Morelos
  - Vienna Eleuteri, Water Revolution Foundation
  - Robert van Tol, Water Revolution Foundation (remote)
  - David Freestone, Sargasso Sea Commission
  - Geraldine Conruyt, SPAW-RAC (video)
  - Jerôme Couvat, Agoa Sanctuary
  - Madhu Rao, WCPA Chair (video)
  - Felipe Paredes, WCPA Marine Vice-Chair (video)
  - Melanie Virtue, CMS Secretariat (remote)
  - Susan Milward and Georgia Hancock, Animal Welfare Institute (video/remote)
  - Nicolas Entrup, OceanCare (video)
  - Lyne Morissette, Expertise Marine
- Presentation by IUCN Joint SSC/WCPA Marine Mammal Protected Areas Task Force co-chairs: Erich Hoyt and Giuseppe Notarbartolo di Sciara: background of the IMMA programme
- Adoption of Agenda and participant introductions

11:00 – 11:30 Coffee Break

11:30 – 12:30 Introduction to Important Marine Mammal Areas

- IMMA Identification Process and Selection Criteria for the North West Atlantic Ocean and the Wider Caribbean Region - Presentation by Gill Braulik (remote)
- Question and Answer Session

12:30 – 14:00 Lunch

14:00 -14:05 Introduction to the Canvas platform - online presentation by Elena Politi

14:05 – 15:00 Inventory of Knowledge and Preliminary Areas of Interest (pAoI)

- Inventory of Knowledge for the NWATLO region and collated pAoI for the North West Atlantic Ocean and the Wider Caribbean Region - Presentation by Caterina Lanfredi

15:00 – 16:00 PLENARY Discussion on candidate IMMA (cIMMA) options, organisation of Breakout Groups

16:00 – 16:30 Coffee Break

16:30 – 18:30 PLENARY - Collation of final pAoI and cIMMA Group Assignments and Group leader and GIS reference person for each table

- Reading time

20:00 Informal dinner

**Day 2 – Tuesday 14 May 2024 - Iberostar Paraiso del Mar**

9:00 – 10:30 PLENARY:

- Welcoming remarks from Lindsay Porter, IWC SC Vice-Chair
- General discussion

10:30 – 11:00 Coffee Break

11:00 – 13:00 BREAKOUT GROUPS SESSION 1

13:00 – 14:30 Lunch

14:30 – 15:30 Presentation by Charlotte Boyd, Introduction to Key Biodiversity Areas

15:30 - 16:30 BREAKOUT GROUPS SESSION 2

16:30 – 17:00 Coffee Break

17:00 – 18:30 PLENARY - Assessment of cIMMA list (Subregion Summary)

- Group Facilitator Reports
- Discussion
- Agreement on preliminary cIMMA list
- How to prepare a cIMMA template - Presentation by Giuseppe Notarbartolo di Sciara

20:00 Informal dinner

**Day 3 – Wednesday 15 May 2024 - Iberostar Paraiso del Mar**

09:00 – 10:30 PLENARY - General discussion

10:30 – 11:00 Coffee Break

11:00 – 13:00 DRAFTING SESSION 1 – cIMMA submission forms

13:00 – 14:30 Lunch

14:30 – 16:30 DRAFTING SESSION 2 – cIMMA submission forms

16:30 – 17:00 Coffee Break

17:00 – 17:30 PLENARY - Review of cIMMA drafting progress

- Discussion

20:00 Informal dinner

**Day 4 – Thursday 16 May 2024 - Iberostar Paraiso del Mar**

09:00 – 09:30 PLENARY – Presentation by Gill Braulik on the c-IMMAs review process

9:30 – 1300 DRAFTING SESSION 3 – cIMMA submission forms (including coffee break at 10:30)

13:00 – 14:30 Lunch

14:30 – 16:30 DRAFTING SESSION 4 – cIMMA submission forms

16:30 – 17:00 Coffee Break

17:00– 17:30 PLENARY - Review of cIMMA drafting progress

- Discussion

20:00 Informal dinner

**Day 5 – Friday 17 May 2024 - Iberostar Paraiso del Mar**

09:00 – 13:00 DRAFTING SESSION 5 – cIMMA submission forms (including a coffee break at 10:30)

13:00 – 14:30 Lunch

14:30 – 16:30 PLENARY - Agreed cIMMA list and next steps for review –

- Final round-up by workshop organisers and Task Force co-chairs
- Implementation of IMMAs by workshop participants
- Regional Coordinator(s) and Regional Experts group
- Agreement on the final revised AoI list
- Agreement on final cIMMA for review
- Workshop Closes

16:30 – 17:00 Coffee Break

20:00 – 23:00 Celebratory dinner and drinks in the garden

# Annex III – List of IMMAs and AoI selected by workshop participants and approved through peer review

From a total of 284 pAoI submissions, 46 candidate important marine mammal areas (cIMMAs) and 7 areas of interest (AoI) were identified by the experts attending the IMMA Regional Workshop for the North West Atlantic Ocean and Wider Caribbean (NWATLO). The 46 standard submissions for IMMA status were prepared for inspection and potential approval by the independent review panel. Following peer review and substantial revisions in some cases, 43 areas were accepted as IMMAs, and 11areas were kept as AoI. Both IMMAs and AoI are now available for free download as a shapefile layer on the Task Force website and with each IMMA there is a summary of the supporting rationale (marinemammalhabitat.org).

Regarding the 11 AoI, when there is not enough evidence to succeed with a cIMMA proposal, it may be considered important to mark the AoI status on the e-Atlas so that the area can be used to facilitate and focus future monitoring and research activities on marine mammals in the region. This enhanced activity could provide additional evidence for the AoI to be reconsidered as an IMMA candidate during future iterations of the IMMA identification process and the regional expert workshops.

The names of the 43 approved IMMAs and 11 AoI are as follows:

## Important Marine Mammal Areas (IMMAs)

1. Somers Isles and Adjacent Seamounts IMMA
2. Southern Newfoundland Shelf IMMA
3. Bay of Fundy IMMA
4. Cape Breton Trough IMMA
5. Western and Central Scotian Shelf Basins IMMA
6. Mécatina Trough and Strait of Belle Isle IMMA
7. St. Lawrence Estuary IMMA
8. Sable Island Grey Seal Breeding Area IMMA
9. Eastern Scotian Slope Canyons IMMA
10. Sackville Spur and Orphan Basin IMMA
11. Northern Sargasso Sea IMMA
12. Southeast Shoal of Grand Banks IMMA
13. St Vincent-Bequia Channel IMMA
14. Eastern Caribbean Islands IMMA
15. Maracaibo Lake System IMMA
16. Punta Mona to Bocas del Toro Archipelago IMMA
17. Gulf of Mexico Outer Continental Shelf and Continental Slope IMMA

18. Borikén IMMA
19. Mesoamerican Barrier Reef IMMA
20. Cayo Miskito IMMA
21. Lucayan Archipelago IMMA
22. Southern Caribbean Upwelling System IMMA
23. West Indies Humpback Whale Breeding Ground IMMA
24. Campeche and Tabasco Lagoon System IMMA
25. Lake Gatun and Panama Canal IMMA
26. Southern Labrador Pack Ice Whelping Area IMMA
27. North Atlantic Humpback Whale Migratory Corridor IMMA
28. Cabot Strait IMMA
29. Gulf of Maine and Georges Bank IMMA
30. Cape Hatteras Shelf Break Point IMMA
31. Northwestern and Southern Gulf of St. Lawrence IMMA
32. Northwest Atlantic Canyon and Slope System IMMA
33. Georges Bank Canyons and Bear Seamount IMMA
34. Coabana IMMA
35. Florida Keys IMMA
36. Texas Coastal Bend IMMA
37. West Florida Seagrass Beds IMMA
38. South Atlantic Bight IMMA
39. Mid-Atlantic Bight IMMA
40. Northern Gulf of Mexico Bays, Sounds and Estuaries IMMA
41. East Florida Warm Water Refuges IMMA
42. Alvarado Inland and Coastal Waters and Veracruz Reef System IMMA
43. Urabá to Morrosquillo IMMA

## Areas of Interest (AoI)

1. Southern Gulf of Mexico Inner Shelf AoI
2. Cordillera Beata AoI
3. Panama-Costa Rica Manatee Corridor AoI
4. Gyres of Mosquitos and Darien Gulfs AoI
5. Southern Slopes and Northern Banks of the Dominican Republic Sea AoI
6. Golfe de la Gonâve AoI
7. Grenada Basin AoI
8. Cayman Trench AoI
9. Eastern Caribbean Windward Offshore Waters AoI
10. Gulf of Paria AoI
11. Pamlico Sound AoI

## Annex IV – Template form for preliminary Area of Interest (pAoI) leading to candidate IMMA (cIMMA) submission

Preparatory to the North West Atlantic and Wider Caribbean IMMA workshop, the expert participants, members of the public, and the marine mammal and ocean ecosystem communities were asked to fill out an Area Template form for any areas that they would potentially like to nominate for consideration as candidate IMMAs. This template form was then used at the workshop to draft the cIMMA submissions. The guidance and template form are available for download here: https://www.marinemammalhabitat.org/resources/imma-area-submission/

# Annex V – Historical data, traditional knowledge and IMMAs

As discussed in previous workshops, historical whaling data can be useful for proposing pAoI as well as contributing to cIMMA proposals. In the Indian and Pacific oceans, whaling data provided input for the EBSA determinations, and also have had a role in identifying pAoI contributing to the cIMMAs in those regions.

In recent years, the Scientific Committee of the International Whaling Commission (IWC) and associated researchers have helped to organize whaling data and make them accessible in scientific papers and on the IWC database. The two main data sources are a massive compilation of 19$^{th}$ Century whaling records, which plots sightings and catches, as well as the more formal record keeping from the 20$^{th}$ Century whaling industry. In future, it could be useful to explore in greater depth the value of historical data to IMMAs. Whaling, or other historical data, may help confirm the long-term viability of an area where marine mammals continue to be found, rather than as guidance for identifying present-day areas (see Annex V).

In December 2019, a Task Force workshop was held at the World Marine Mammal Conference in Barcelona, Spain, to explore data and pAoI triggers for the IMMA identification process. This included discussions regarding IWC historic catch records.

Traditional knowledge can also be used to assist in the identification of IMMAs, both in terms of informing the selection process and validating other data. In areas where marine mammals have been traditionally hunted, it may be possible to compute abundance and population trends. In any case, IMMAs are independent of political and socioeconomic factors during the identification stage.

## Annex VI – Preliminary areas of interest (pAoI) reserved to be considered at future workshops

No areas were reserved for future consideration near the boundaries of the North West Atlantic Ocean and Wider Caribbean region and other regions. However, the migratory corridors for humpback whales that also pass through the North East Atlantic and Baltic Sea region, and that extend into the Arctic region, was highlighted for further discussion and elaboration in future. Thus, some of these migratory IMMAs, which are being called MIMMAs, may be revisited at the future workshop for the Arctic region.

## Acronyms

| | |
|---|---|
| ABNJ | area beyond national jurisdiction (the high seas) |
| ACCOBAMS | Agreement on the Conservation of Cetaceans of the Black Sea, Mediterranean Sea and Contiguous Atlantic Area |
| AoI | Area(s) of Interest |
| ASCOBANS | Agreement on the Conservation of Small Cetaceans of the Baltic, North East Atlantic, Irish and North Seas |
| BBNJ | biodiversity beyond national jurisdiction |
| BIA | Biologically Important Area (Australia and US) |
| BMU | Federal Ministry for the Environment, Nature Conservation, and Nuclear Safety |
| CBD | Convention on Biological Diversity |
| cIMMA | Candidate Important Marine Mammal Area |
| CMP | Conservation Management Plan |
| CMS | Convention on Migratory Species |
| COP | Convention of the parties |
| CR | Critically Endangered (IUCN Red List) |
| DAF | Data appraisal form (for the IMMA process) |
| DD | Data Deficient (IUCN Red List) |
| EBSA | Ecologically or Biologically Significant Area |
| EN | Endangered (IUCN Red List) |
| GOBI-IKI | Global Ocean Biodiversity Initiative's project supported by the International Climate Initiative |
| GoM | Gulf of Mexico |
| IBA | Important Bird and Biodiversity Area |
| IBAT | International Biodiversity Assessment Tool |
| ICMMPA 1-5 | International Conference on Marine Mammal Protected Areas series of conferences with ICMMPA 1 being Maui, Hawaii (2009), ICMMPA 2 (Martinique, 2011), ICMMPA 3 (Adelaide, Australia, 2013, ICMMPA 4 (Puerto Vallarta, México, 2016), ICMMPA 5 (Messinia, Greece, 2019) |
| ICoMMPA | International Committee on Marine Mammal Protected Areas |
| IMMA | Important Marine Mammal Area |
| IMO | International Maritime Organisation |
| IMPAC3 | Third International Marine Protected Area Congress (Marseille, 2013) |
| IMPAC5 | Fifth International Marine Protected Area Congress (Vancouver, 2023) |
| IMTA | Important Marine Turtle Area |
| IoK | Inventory of knowledge (for the IMMA process) |
| ISRA | Important Shark and Ray Areas |
| IUCN | International Union for Conservation of Nature |
| IWC | International Whaling Commission |

| | |
|---|---|
| KBA | Key Biodiversity Area |
| LC | Least Concern (IUCN Red List) |
| MiCO | Migratory Connectivity in the Ocean |
| MIMMA | Migratory Important Marine Mammal Area |
| MM | marine mammal |
| MMO | marine mammal observer |
| MMPA | Marine Mammal Protected Area |
| MMPATF | Marine Mammal Protected Areas Task Force |
| MOP | meeting of the parties |
| MPA | marine protected area |
| MSP | marine spatial planning |
| NRDC | Natural Resources Defense Council |
| NT | Near Threatened (IUCN Red List) |
| NEATLO | North East Atlantic Ocean and Baltic Sea (referring to the IMMA region) |
| NWATLO | North West Atlantic Ocean and Wider Caribbean (referring to the IMMA region) |
| PoC | points of contact |
| pAoI | preliminary Area(s) of Interest |
| PSSA | Particularly Sensitive Sea Area |
| SAC | Special Area of Conservation (EU Habitats & Species Directive) |
| SSC | Species Survival Commission (of the IUCN) |
| SETTPO | South East Tropical and Temperate Pacific Ocean (IMMA region) |
| SWATLO | South West Atlantic Ocean (IMMA region) |
| TEK | Traditional Ecological Knowledge |
| VU | Vulnerable (IUCN Red List) |
| WCMC | World Conservation Monitoring Centre (within UNEP) |
| WCPA | World Commission for Protected Areas (of the IUCN) |
| WDC | Whale and Dolphin Conservation |
| WWF | World Wildlife Fund / Worldwide Fund for Nature |