Important Marine Mammal Area
Regional Workshop
for the South West Atlantic Ocean

Praia do Forte, Brazil, 5-9 December 2022
(Hybrid meeting)

FINAL REPORT
of the 9th IMMA WORKSHOP

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

Contents

This Final Report, along with maps and IMMA background data, is available for download from the IUCN Marine Mammal Protected Areas Task Force website: marinemammalhabitat.org/resources/documents/.

Executive summary[1]

From 5 to 9 December 2022, the IMMA Regional Workshop for the South West Atlantic Ocean was held in person, but with some online access, in Praia do Forte, Brazil, with the goal 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 84 preliminary Areas of Interest (pAoI) prior to the meeting and by Day 2, this had expanded to 112 pAoI. Through the workshop, many pAoI were considered redundant or were amalgamated. At the close of the workshop, through the expert-based process utilizing dedicated selection criteria, 36 candidate IMMAs (cIMMAs) were proposed, and sent for external review. Six additional areas were advanced as AoI to be retained for the IMMA e-Atlas. Following independent review and consideration of how the criteria supported IMMA identification, 33 IMMAs were accepted for full status with 5 submissions being reserved as AoI, all of which now appear on the IMMA e-Atlas (Fig. 1). More details are provided later on in this summary and in Annex III and IV. Worldwide, including the South West Atlantic Ocean region, there are now 242 IMMAs, as well as 30 cIMMAs, currently in the process of being transformed into IMMAs or AoI, and 158 AoI (Fig. 2). (See Fig. 3 for before and after maps of the initial pAoI and the proposed cIMMAs from the workshop.)

The South West Atlantic Ocean (SWATLO) Region covers nearly a quarter of the Atlantic Ocean. Its rich biodiversity features migrating southern right whales (*Eubalaena australis*), humpback whales (*Megaptera novaeangliae)* and sei whales (*Balaenoptera borealis*), some of which travel from Antarctica to this region. Besides the prevalent spinner (*Stenella longirostris)* and common bottlenose dolphins (*Tursiops truncatus)*, there are species endemic to the region including the Commerson's dolphin (*Cephalorhynchus commersonii*), the vulnerable franciscana (*Pontoporia blainvillei*), the vulnerable Lahille's bottlenose dolphin (*Tursiops truncatus* ssp. *gephyreus*) and the near threatened Guiana dolphin (*Sotalia guianensis*), all of which are susceptible to entanglement in gillnets. The vulnerable West Indian manatee (*Trichechus manatus*) is found along the coasts of the Guyanas and northeastern Brazil. The full list of marine mammal species included in the region's IMMAs, together with the boundaries of

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[1] This summary covers the work of the IMMA Regional Workshop for the South West Atlantic Ocean, held in Praia do Forte, Brazil, in December 2022, as well as the subsequent review with the tally of IMMAs and AoI completed in July 2023 and reported in Annexes III and IV.

accepted IMMAs, will become available as part of the IMMA e-Atlas. Some of the region's notable habitats for marine mammals include the Straits of Magellan and Patagonian waters around Península Valdés, Patagonia in Argentina, the Paramaribo River in Suriname, the Falkland Islands (Malvinas)[2], the Abrolhos Bank and the Fernando de Noronha islands, both off Brazil.

The workshop was attended by 31 experts (Fig. 4; Annex I), plus 2 observers, both connected remotely. Of the 31 experts, 26 participated in person throughout the week while 5 participated remotely. There were 7 participating members of the IMMA Secretariat in attendance and 1 remote. In summary, the participants came from the Atlantic-facing countries of South America, including (from north to south) Suriname, Brazil, Uruguay and Argentina, as well as from the Falkland Islands (Malvinas). Additionally, some participants had expertise in the area being considered but were based in France, Italy, United Kingdom, or the United States of America. The observers came from Chile and Ecuador. In some cases, the expert held a main residence in a country other than where the research was done, and several experts have worked in multiple areas in the region. The workshop was organised by the Task Force with support from a partner grant with the Global Ocean Biodiversity Initiative (GOBI) funded by the German government's International Climate Initiative (IKI). Additional funds were provided by OceanCare and Animal Welfare Institute, with substantial local support and hosting from Instituto Baleia Jubarte.

This workshop marked only the second time in six years that the IMMA Secretariat of the Task Force has taken on the challenge of holding two IMMA regional workshops in one calendar year, in this case covering virtually all the countries extending along the Latin American coasts in the Atlantic (from Guyana south to Argentina) and Pacific (from Mexico to Chile).

The South West Atlantic 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), the 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

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[2] https://www.un.org/dppa/decolonization/en/content/falkland-islands-malvinas

South East Indian Ocean (Perth, Australia, 10-14 February 2020), Black Sea, Turkish Straits System and Caspian Sea (Virtual, 22-26 February 2021), the South East Tropical and Temperate Pacific Ocean (San José, Costa Rica, 6-10 June 2022). This ninth IMMA Regional Workshop will, it is hoped, help provide conservation priorities to, and strategic direction for, place-based marine mammal conservation within the South West Atlantic Ocean (SWATLO) region.

Along with plenary discussions throughout the workshop, the focus was on the five breakout groups that covered the subregions (Fig. 3). Their task was sorting through the pAoI, merging those areas with common criteria and habitat supporting the species. As is typical for these regional workshops, participants had expertise in multiple areas and had worked together before, thus many cIMMA submissions were jointly prepared. The cIMMAs were then presented in plenary and considered to be a joint result of the workshop. IMMA Secretariat members Margherita Zanardelli, Caterina Lanfredi, and Michael Tetley presented the final numbers and names of the cIMMAs, along with maps of all the polygons prepared by Lanfredi and Tetley. On the last day, a regional Task Force group was set up to promote and progress marine mammal conservation work in the SWATLO IMMA region. These volunteer coordinators are Monique Pool, Federico Sucunza, Cecilia Passadore and Enrique Crespo.

Following the workshop, the next step was to assess and send the compiled 36 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. After the 36 cIMMAs were sent for review, many of them required major or minor revisions and were returned to the points of contact for further work. For the 33 approved IMMAs, the boundaries and a summary of the supporting evidence have been made available on the IMMA e-Atlas, and are included in the expanding IMMA database. Interested users will be able to request IMMA layers as shapefiles for implementation initiatives. For the 5 AoI it is recognized that these areas have potential but at present do not have enough information to satisfy the criteria. The 5 AoI will also be shown on the e-Atlas, and thus highlight areas for further marine mammal research and monitoring to help build an evidence basis on which future cIMMAs may be proposed.

The 33 new IMMAs and 5 areas gaining AoI status are listed below:

Important Marine Mammal Areas (IMMAs)

1. Abrolhos Bank IMMA
2. Argentine Basin IMMA
3. Babitonga Bay IMMA
4. Beagle Channel – Cape Horn IMMA
5. Coastal Waters of Santa Catarina, Paranà and Sao Paolo State IMMA
6. Commerson's Dolphin Habitat Network IMMA
7. Coral Coast IMMA
8. Falkland Islands (Malvinas) Inner Shelf Waters IMMA
9. Fernando de Noronha IMMA
10. Guanabara-Sepetiba Coastal Embayment Complex IMMA
11. Guianas to Amazon Outflow IMMA
12. Laje de Santos – Ilha Grande IMMA
13. Manatee Estuarine Complex IMMA
14. Marine Mammal Coastal Corridor in Northern Argentina IMMA
15. North-east Falklands (Malvinas) Right Whale Wintering Area IMMA
16. Northeast of Santa Cruz Province IMMA
17. Northeastern Brazil Antarctic Minke Whale Breeding Habitat IMMA
18. Northern Espírito Santo Coastal Waters IMMA
19. Northern Patagonian Gulfs and Valdes Front IMMA
20. Northern Rio de Janeiro IMMA
21. Paraíba Coast IMMA
22. Paranaguá-Cananéia Estuarine Embayments Complexes IMMA
23. San Jorge Gulf IMMA
24. São Pedro and São Paulo Archipelago IMMA
25. Sea Lion Island Group IMMA
26. Slope Front of the Argentine Shelf IMMA
27. South Brazil Bight IMMA
28. South Western Patagonian Continental Shelf IMMA
29. Southern Brazil and Uruguay Coastal Ecosystems IMMA
30. Southern Patagonia Coastal Waters IMMA
31. Southwest Atlantic Humpback Migratory Corridor IMMA
32. Southwest Atlantic Subtropical Continental Slope and Canyons System IMMA
33. Yká Ulu IMMA

Areas of Interest (AoI)

1. Atol das Rocas AoI
2. Makenke – Playa Grande AoI

3. Pipa and Lagoa Guarairas Rio Grande do Norte, Brasil AoI
4. Vitoria Trindade Chain AoI
5. West Flank Demerara Plateau to Shelf break of Equatorial Margin AoI
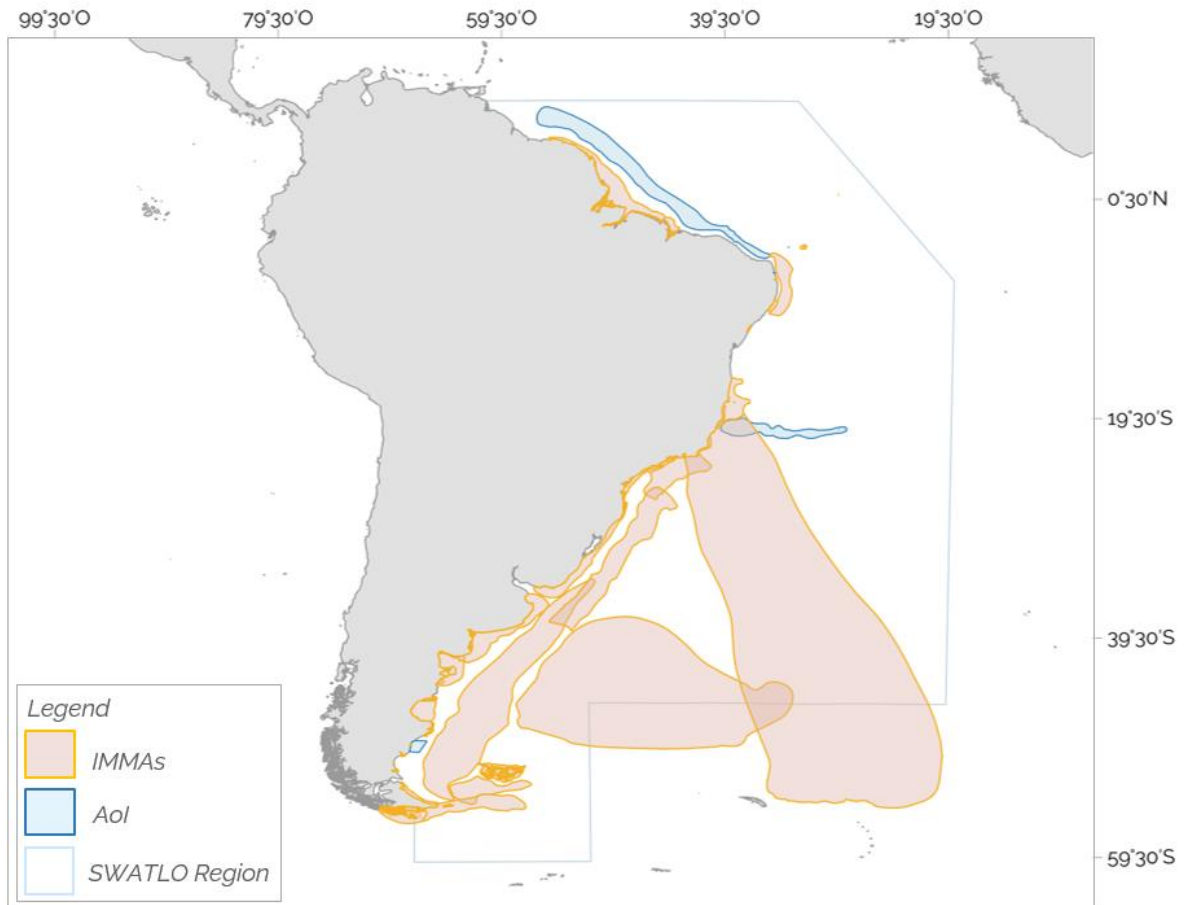

Fig. 1. *Geographic location of the 33 IMMAs and 5 AoI identified and approved through peer review in the South West Atlantic Ocean (SWATLO) Region*
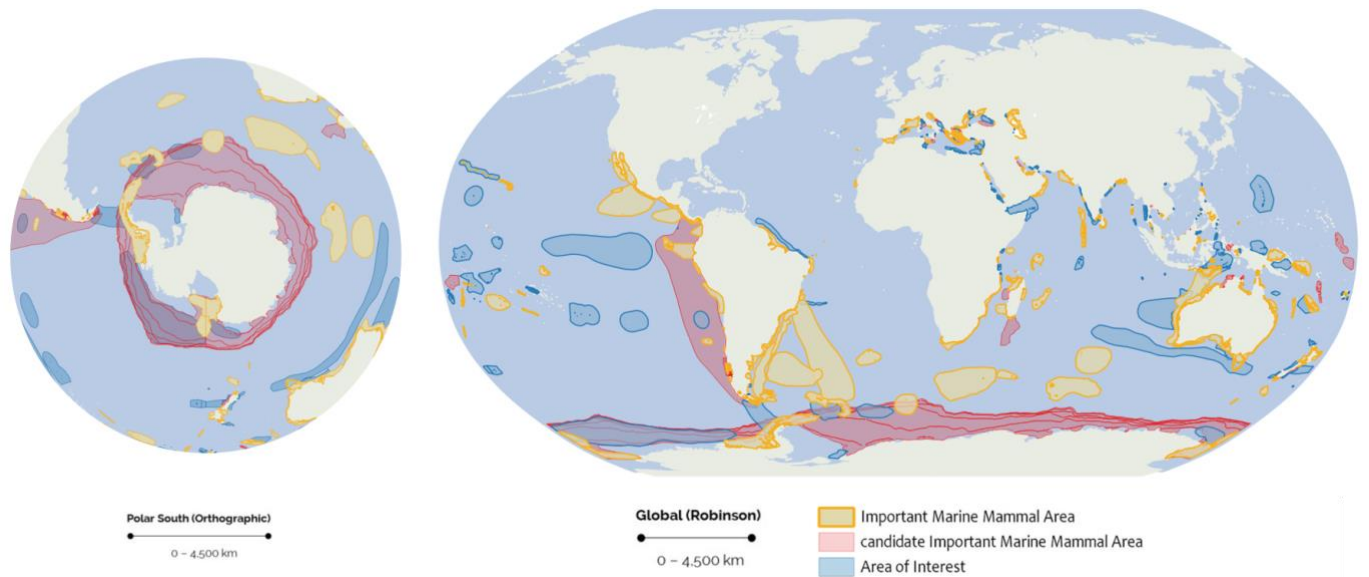
Fig. 2. *Latest version of the global IMMA network totalling 242 IMMAs, 30 cIMMAs and 157 AoI (Sept. 2023)*
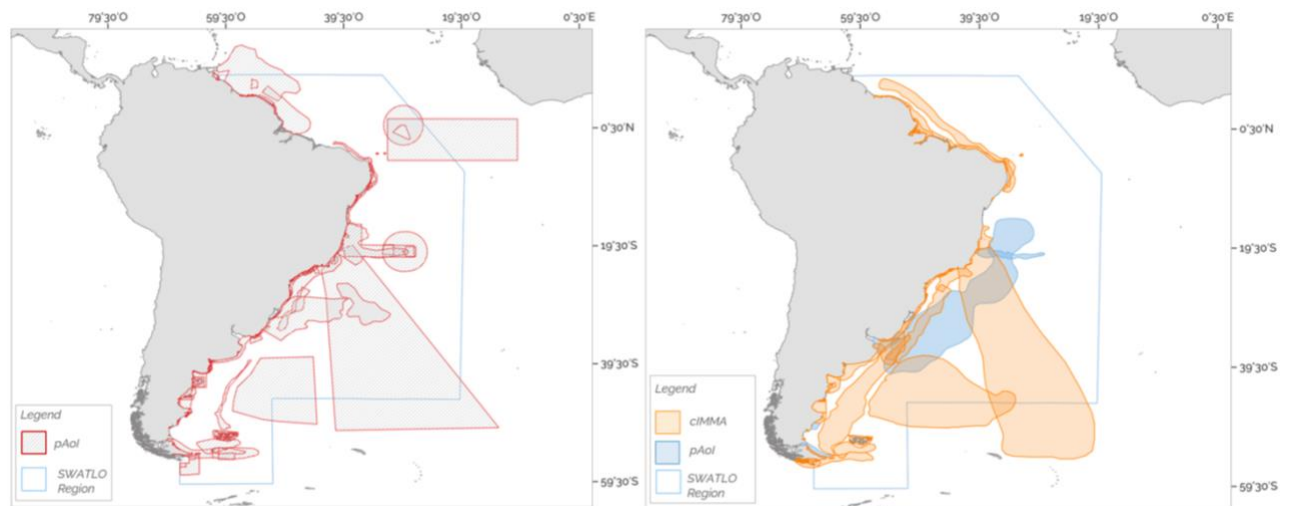
Fig. 3 *Spatial representation, before and after, the workshop. At left, the 112 Preliminary Areas of Interest (pAoI) collected in advance of the meeting and on the first 2 days and, on the right, preliminary results of the workshop showing the 36 candidate IMMAs (cIMMAs) and 6 Areas of Interest (AoI) for informing the IMMA process (see Annex III for complete list of cIMMAs and AoI).*

Fig. 4. Participants of the Ninth IMMA Workshop in Praia do Forte, Brazil. For the complete list of in person and online participants and observers, see Annex I.

Acknowledgments

Introduction and Background to the IUCN Marine Mammal Protected Areas Task Force[3] and the IMMA Initiative

The Important Marine Mammal Area (IMMA) initiative, developed by the IUCN Joint SSC[4]/WCPA[5] 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 any political and socio-economic concerns, will provide valuable inputs about marine mammals and their habitat, which will contribute to existing national and international conservation initiatives. Yet, the application or implementation process is separate from and occurs later than the identification process.

IMMAs are an advisory, expert-based classification. They have no legal standing as MPAs but are intended to be used in conservation planning by a variety of stakeholders, including *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 the international and national levels, to make substantial contributions to the global marine conservation agenda.[6] 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 sea areas (PSSAs) and other shipping directives related to the threat of ship-strikes of whales and increasing noise in the ocean.

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[3] IUCN SSC/WCPA Marine Mammal Protected Areas Task Force (https://www.marinemammalhabitat.org/)
[4] Species Survival Commission (www.iucn.org/theme/species/about/species-survival-commission)
[5] World Commission on Protected Areas (https://www.iucn.org/theme/protected-areas/wcpa)
[6] 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

The IMMA selection criteria were devised by the Task Force in consultation with the marine mammal science and wider conservation and stakeholder community. Since 2016, the Task Force has been applying these criteria to identify a worldwide network of IMMAs and to enhance their prospects for protection through regional expert workshops. The workshops have been focusing on large marine regions, beginning with the Mediterranean (October 2016), funded by the MAVA Foundation, followed by seven workshops, mainly in the southern hemisphere funded by the German International Climate Initiative (IKI) through the Global Ocean Biodiversity Initiative (GOBI): Pacific Islands (March 2017), North East Indian Ocean and South East Asian Seas (March 2018), Western Indian Ocean and Arabian Seas (March 2019), Australia-New Zealand and South East Indian Ocean (February 2020), Black Sea, Turkish Straits System and Caspian Sea (February 2021), the South East Tropical and Temperate Pacific Ocean (June 2022), and the South West Atlantic Ocean (December 2022). An additional workshop covering the Extended Southern Ocean (October 2018) was funded by the French Agency for Biodiversity through the IUCN Global Marine and Polar Programme. Supplemental funding for the various workshops was initially provided by the Eulabor Institute and then by Whale and Dolphin Conservation (WDC), Mava Foundation, OceanCare, NRDC, Animal Welfare Institute, and Tethys Research Institute, with administrative support from Tethys and WDC.

Summary of the process of the IMMA Regional Workshop and Follow-up

The general outline of every workshop programme consists of:

- a plenary session to introduce the IMMA selection criteria, present the pAoI, select the subregion group facilitators, and discuss the pAoI on offer;

- a reading session of the IMMA documents including an IMMA Guidance Document, 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.

The Workshop is part of a three-stage process that works toward producing the final IMMAs:

STAGE 1 – Nomination of Preliminary Areas of Interest (pAoI): pAoI are proposed by experts in the weeks before the meeting, via a dedicated online system (SeaSketch) or through completion of the available pAoI forms and are then summarized in the pAoI report. This document is provided to regional experts in order to evaluate the submitted pAoI, along with existing marine mammal place-based conservation measures. Participants attending the workshop are also encouraged by the IMMA Secretariat to submit additional pAoI by the end of the first two days.

STAGE 2 – Development of cIMMAs: participants are invited to use their regional knowledge to develop cIMMAs, based upon their review of pAoI submitted in advance or proposed during the workshop. Candidate areas must start out as AoI first, and only then, after group discussion, they have the chance to graduate to cIMMAs.

There are four categories of main criteria and eight criteria or sub-criteria, at least one of which must be met in order to propose a cIMMA:

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 AoI for which to develop rationales for cIMMAs using the D2 criterion.

STAGE 3 – Final review and IMMA status qualification: an independent panel chaired by Randall R. Reeves, IUCN Cetacean Specialist Group Chair, reviews the cIMMAs submitted during the workshop, and decides whether they can be accepted as IMMAs.

Workshop Facilities

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 Inventory of Knowledge (IoK) document for the workshop region,
- the Preliminary Areas of Interest (pAoI) report of submissions and existing sites in the workshop region,
- the "Sorter Table" summarizing all the pAoI,
- a spatial layers package (geographical, biological and pAoI georeferenced layers),
- the IMMA SeaSketch facility,
- on hand and online instruction on the use of QGIS, and Google Earth, and
- the candidate IMMA submission review template (in Microsoft Word format).
- a list of species occurring in the area and their Red List status, and
- video tutorials.

The IMMA Secretariat has created an easy-to-use Canvas platform for the last two 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 made available on shared google drives with links in Canvas. Canvas also provides

instructions for connecting virtually to the workshop as well as daily updates during the five-day period.

This workshop was largely in person but organized to include a few remote participants; plenary sessions were broadcasted live on a dedicated channel on YouTube, with the remote participants connected through Zoom. Separate break-out rooms were 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 were advised to find means to access and edit common geospatial data, e.g., ESRI Shapefiles (.shp) and Keyhole Markup Language (.kml).

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

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

Google Earth: https://www.google.co.uk/earth/about/versions/#download-pro

DAY-BY-DAY ACCOUNT OF THE WORKSHOP

IMMA Workshop Day 1, 5 December 2022

Erich Hoyt, co-chair of the IUCN Marine Mammal Protected Areas Task Force, welcomed the group and thanked them for coming. He also thanked the Institute Baleia Jubarte for hosting the workshop and allowing us to use their theatre for the opening plenary. Hoyt suggested they all take a moment to remember Michael Donoghue, dedicated New Zealand conservationist and friend to many at this workshop. He had died a few days before the start of the workshop. Donoghue wore many hats including that of Task Force co-founder and host of the first IMMA Workshop sponsored by GOBI held in March 2017 in Apia, Samoa, in the facilities of the South Pacific Regional Environmental Programme (SPREP).

Hoyt then introduced **Eduardo Camargo**, president of the Instituto Baleia Jubarte (Humpback Whale Institute). Camargo welcomed the group to Brazil and talked about how much it meant for them to have the workshop here in Praia do Forte where the Institute was based. He noted the 5,000 humpbacks in the region and the Institute's work to identify and protect these whales, and to open the doors to the public so that they would learn to care about whales.

Next, Hoyt introduced **José Truda Palazzo, Jr.** as his old friend since 1983 when they started talking about whale watching and the possibilities for whale conservation even while whaling was still being carried on in northeastern Brazil. "Truda", Hoyt said, has various diverse roles, including being a member of the Task Force and an active supporter.

Palazzo said it was a great privilege to have everyone here, especially those travelling a long way. He said that he remembered in the 1980s no one was talking about the intrinsic value of whale watching and that this was important globally. "He was the first person to recognize this," said Palazzo, "and he is here today standing next to me: Erich Hoyt. And since then we are learning more and more and especially about climate change and how whales can help alleviate the climate emergency." Palazzo said that we should also recognize the international attention put on the southwest Atlantic by international scientists such as Giuseppe Notarbartolo di Sciara and Simone Panigada. Palazzo said that he was here to help facilitate everything.

Hoyt said that there is one brief welcoming presentation from the Marine Vice-Chair of the IUCN World Commission on Protected Areas (WCPA). Speaking virtually from

Santiago, Chile, **Felipe Paredes Vargas,** provided a presentation to help place the IMMA workshop in the context of WCPA's global framework. Paredes was proud to have the workshop taking place in "our region". Paredes provided background information on the nature of the IUCN, its six main commissions and its sprawling membership, which comprises more than 1,400 members from national governments, government agencies, NGOs, civil society, and Indigenous organisations from 170 countries. The WCPA is focused on helping member governments achieve the 30 x 30 target, using the best science to inform where these areas should be located. To help achieve this goal, the WCPA also focuses on capacity building. Paredes' core initiatives and working groups include the Marine Mammal Protected Areas Task Force. Important marine mammal areas, the main product of this Task Force, are a key to the success of the WCPA because they lead to a stronger global profile for the role of marine mammals in marine protected areas, and because they ensure increased participation of the marine mammal community in IUCN and WCPA initiatives.

Leading off the Task Force presentations, **Erich Hoyt** talked about how IMMAs came about — what had led up to this the 9th 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. 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 get traction for this global effort and that became the IUCN Task Force on Marine Mammal Protected Areas.

There was a realization in the ICMMPA and in the Task Force when it was formally announced in 2013, that many MPAs were designated for political or socioeconomic reasons without ecological boundaries and not based on marine mammal habitat considerations. There was a need to highlight important marine mammal habitat based on science first and then to move 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 predefined process developed in consultation with regional marine mammal science and conservation communities, to identify candidate IMMAs 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 to verify them and final approval is given to approximately 70% of them. Those close to passing review but short of information remain candidate IMMAs, while others requiring more data to support the choice of criteria 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 is a scientific product generated by the best available science. IMMAs are based on an evidence-driven, purely biocentric process based on the application of scientific criteria.

Next Hoyt showed the table with the total numbers (pre South West Atlantic Ocean IMMA Region workshop) of 209 IMMAs, 30 cIMMAs and 152 AoI, maximum and minimum size and gave accounts of the species, led by humpback whales, that have been included. He provided some of the metrics to date:

- The Task Force has examined 67% of the global ocean.

- The total area of all 209 IMMAs identified so far is more than 25.7 million km^2.

- The largest IMMA is 2,861,819 km^2 encompassing an area of the Prince Edward Island and Western Oceanic Waters in the Extended Southern Ocean.

- The smallest IMMA is 45 km^2, the Akrotiri IMMA which includes small breeding caves for the Mediterranean monk seal (*Monachus monachus*).

- A total of 78 species have IMMAs identified (60% of all marine mammal species).

- A total of 25 threatened species (Critically Endangered, Endangered and Vulnerable) have IMMAs identified (19%).

- Including the current workshop, we have now had more than 275 scientists from many countries cumulatively participating across the nine (to date) week-long workshops.

IMMAs are not created in a vacuum; there are many processes and organisations that can use them. Other initiatives including CBD EBSAs, MSP, MPAs, IMO PSSAs and KBAs can utilize products of the IMMA process. A very significant step was made when the Convention on Migratory Species (CMS) adopted a resolution recognizing the IMMAs, which has put them into the global arena. At the 2017 CMS COP, Resolution 12.13 established that IMMAs can promote ecological networks and connectivity, and acknowledging the IMMA criteria and process, requested Parties and invited Range States to identify specific areas where the identification of IMMAs could be beneficial. The resolution also invited the CBD, IMO and IUCN to consider IMMAs as useful contributions for the determination of EBSAs, PSSAs and KBAs.

Finally Hoyt displayed the IMMA Secretariat's joint paper on all the IMMA work to date, published in *Frontiers in Marine Science* in July this year, and said that it was available for free download on the IMMA web page:
https://www.marinemammalhabitat.org/download/the-important-marine-mammal-area-network-a-tool-for-systematic-spatial-planning-in-response-to-the-marine-mammal-habitat-conservation-crisis/

Hoyt then said that **Simone Panigada** had been proposed as workshop Chair. All agreed and he accepted.

Panigada went over the agenda (Annex II) and then called for participant introductions. The microphone was passed from individual to individual, with each saying a few words (Annex I lists the names and affiliations of each person).

After the coffee break, **Michael Tetley** presented a talk on the "IMMA Selection Criteria, Identification Process and the Inventory of Knowledge (IoK) for the South West Atlantic Ocean Region". He outlined the criteria and the process for applying the criteria to create candidate IMMAs. Different currencies of information could be used to support the proposal, but in every case the focus was on the habitat. He went through each criterion and then reminded participants of the links to the videos and documents on Canvas that were available to help everyone. He opened the floor to questions which came from a number of participants:

Q: How have government and other authorities reacted to the creation of IMMAs, in terms of moving forward for conservation?

A: At first they were very concerned. Many had no idea we (the workshops) were getting together to present this information. They thought IMMAs were MPAs. Or that they were attempting to ban fishing. We tried to say that we were presenting what was happening with marine mammals in their waters. By now it is appreciated that we are simply assembling information in a packaged way to make it easy to use, information

that can be used by companies and other ocean stakeholders. So it's generally very positive now.

Q: How long has the IMMA process been going on?

A: The IMMA Secretariat of the Task Force has been working together since 2012 just three of us initially and then adding people until there are nine of us today. Since 2016, we've covered 9 regions. The whole process for each region from preparing pre-workshop, then the workshop and peer review, and follow-up to the e-Atlas takes about a year.

Q: How do you weigh the information process to include birds or other species?

A: We are using our information for marine mammals to make IMMAs that are supporting these life histories and drawing a line around them. But we recognize that marine mammals can be good indicator species for biodiversity. The habitats we choose also support other taxa, in part because we have aligned our criteria. Also we have the chance to start to overlap our IMMA information with other species. We've been working with the World Conservation Monitoring Centre, part of UNEP, and their critical habitat layer can overlap IMMAs with all those species.

Q: Do we need to note down information on other species?

A: No, focus on marine mammals and making strong cases for them with the criteria available.

Q: If we have areas important for the prey of marine mammals, would this be considered valid in the selection of a candidate IMMA?

A: No, prey habitats or other ecosystems potentially important for marine mammals but not used by them would not normally provide valid criteria for a candidate IMMA. Similarly, stranding information can give knowledge about the existence of marine mammals, but doesn't say where exactly is important, i.e. it doesn't help us define habitat because strandings may have travelled some distance. We are also not considering areas important for human cultural aspects, or for historical whaling or whale watching. We want to identify areas important for the marine mammals themselves.

Q (online): What about data that are unpublished? Can we use them? How?

A: The review panel is aware that not all data will be published. We're not going to be publishing anyone's data, the data won't be released and we won't publish images of the data, but they can be used to prove the validity of a criterion.

Q: What about indicating trends in terms of distribution and abundance?

A: Trends can be indicated in the candidate IMMA submission. But if you are modeling toward the future, or presenting habitat predictive maps far away from where you've collected data, those are not useful for creating a cIMMA.

Q: Can you give some guidance on what small and resident populations consist of (criterion B1)?

A: We don't have a definition of small. There are key biodiversity area (KBA) criteria which provide guidance on that, start with that. There is other guidance in the IMMA criteria description; look at the examples. But we're not here to define what is small. It's your role to consider what's small in that situation, relative to that species.

The questioner then commented that the rate of increase can be very useful and that we know in some species what is small now and where it goes.

A: Our role is to describe what's happening now. We can say if a population is recovering or declining, and this could in some cases be represented in criterion A, or by a threatened status in a national listing. It's useful to be able to say that a marine mammal population may be recovering. Here are two examples:

— In areas where populations are recovering, such as humpback whales, we can see that humpbacks have been absent from the UK and Ireland, but in the last 10 years are returning to these waters.
— In the Mediterranean, with the monk seals using sea caves and the number of pups expanding, we know that all sea caves don't have monk seals any more, but the habitat is still there. We may not have evidence now that they're using the sea caves but certainly those sea caves provide a strong case for an area of interest (AoI) as the population may continue to grow.

Q: You showed us the pAoI that have been submitted, but there are many other areas that can't be on that map. Or can we do that in the next 2 days?

A: There is time, but we need it ideally later today, or as soon as possible.

Q: Also, there are no migratory corridors on your global map of IMMAs on the website.

A: We actually do have a few of them — for example humpback and blue migratory corridors in Africa and Australia. Also the Migratory Connectivity in the Ocean project (MiCo) is working on migration aspects and providing an information tool, but not with defined boundaries (https://mico.eco).

Q: Can there be seasonal IMMAs?

A: Yes, many of them are seasonal — for example, seasonal humpback breeding and feeding grounds. We always identify the timing of the use of such areas. And we can have some flexibility with boundaries — the Antarctic sea ice is a good example. We could also have IMMAs that are discontinuous with particular zones within a larger buffer zone perhaps.

Q: Is the importance factor meaning compared to the adjacent area?

A: If you have information for an area, that doesn't make it more important than another area. The adjacent area might be useful and important too, for other reasons and independent of trends. Trend is interesting but it's not a criterion. We might not know anything about areas outside the IMMAs yet they may prove to be important as well, or not.

Next, Tetley presented the draft subregions based on the information available and the data appraisal process, as well as the information in the Inventory of Knowledge about individual species to help guide the process and focus our attention. The goal was to split the work efficiently also in view of our expertise in the room.

One participant commented that the map of the areas showed strong longitudinal distribution for the subregions and he wondered if we were sticking with these boundaries. Tetley explained that these boundaries were not limiting our thinking or any of our proposals — that they were just constructs for dividing up the work into subgroups but there would be fluidity between the subgroups and the opportunity to work and share with more than one.

Other questions arose about the time frame for the use of data, and Tetley responded that the past 10 years was the most important as we would have more confidence in that information, but that it is the participants' decision about what to present and certainly older data is valuable in some cases.

Q: Are we considering river dolphins and oceanic dolphins in the rivers?

A: We're not considering the large inland areas for river dolphins, only the oceanic areas up to and including estuaries.

Q: What about if there is one record of a species in an area — can that be included for diversity?

A: One record isn't enough. You can, however, propose diversity for fewer than seven species, but the reviewers may not accept it.

Tetley continued with his presentation, talking about the Inventory of Knowledge, with data developed by Lanfredi, which had been made available to all participants through Canvas. He showed the bathymetric atlas displaying seamounts, sea surface temperatures, chlorophyll concentration and other features.

Next Tetley presented the Data Appraisal Form statistics for each subregion, giving an indication of where there were more data and confidence in the data and where there were much less, which was generally offshore; he explained that this would help dictate how we divide the overall region into subregions for discussion and addressing the work to be done. He showed the cIMMA proposal form that was the core of the group's work during the week. He pointed out how we would draw boundaries for IMMA delineation, based on the data available, moving then from the evidence to the buffer zone.

For this region, based on the overall regional diversity, Tetley explained that 7 species or more could be considered enough for nominating a candidate IMMA under criterion D2 diversity. If there were 16 or more species in a cIMMA, this would be considered exceptional and likely to pass review using the D2 criterion. Thus, on the cIMMA template (Annex V) to be filled out later in the workshop, when the qualifying and supporting species number at least 7, then the cIMMA can be proposed under the criterion for Diversity (D2). Tetley stressed that it was not enough just to have 7 species documented in an area to pass the criterion D2—data must clearly indicate that the 7 species are regularly present, and that the habitat has unique characteristics that allow it to support that diversity. If the D2 criterion is being used, all the species that are regularly present and clearly supported by the habitat should be included in the Summary Table of cIMMA Species, even if they do not meet other criteria.

During the review process, splitting and joining of cIMMAs may occur several times. The advice is to avoid creating super IMMAs that cover everything, but instead to draw the lines to encompass the habitat that satisfies the criteria, bearing in mind that IMMAs should have the "potential to be managed", and that smaller areas that meet a more specific selection of criteria for particular species may help users develop more practical management measures than vast areas encompassing multiple species with potentially varying seasonal, temporal or geographical habitat use.

In terms of species, subspecies and special population names, the Society for Marine Mammalogy list was to be followed (https://www.marinemammalscience.org/species-information/list-marine-mammal-species-subspecies/).

After Tetley's presentation, Panigada introduced **Elena Politi** online who explained how Canvas worked. The group then broke for lunch.

Returning at 2.30 PM, the group listened to **Caterina Lanfredi** who presented the Preliminary areas of interest (pAoI) document for the South West Atlantic region. This had been her main work in recent weeks to gather the information from participants as well as existing EBSAs and MPAs with marine mammals. There was an impressive number of pAoI—84 of them—and she stressed that more could be added later today and early tomorrow, but after that the pAoI lists would be final. (Any areas proposed after that would have to be agreed by the group and go straight to a cIMMA proposal, as the breakout groups would be working on their cIMMAs.)
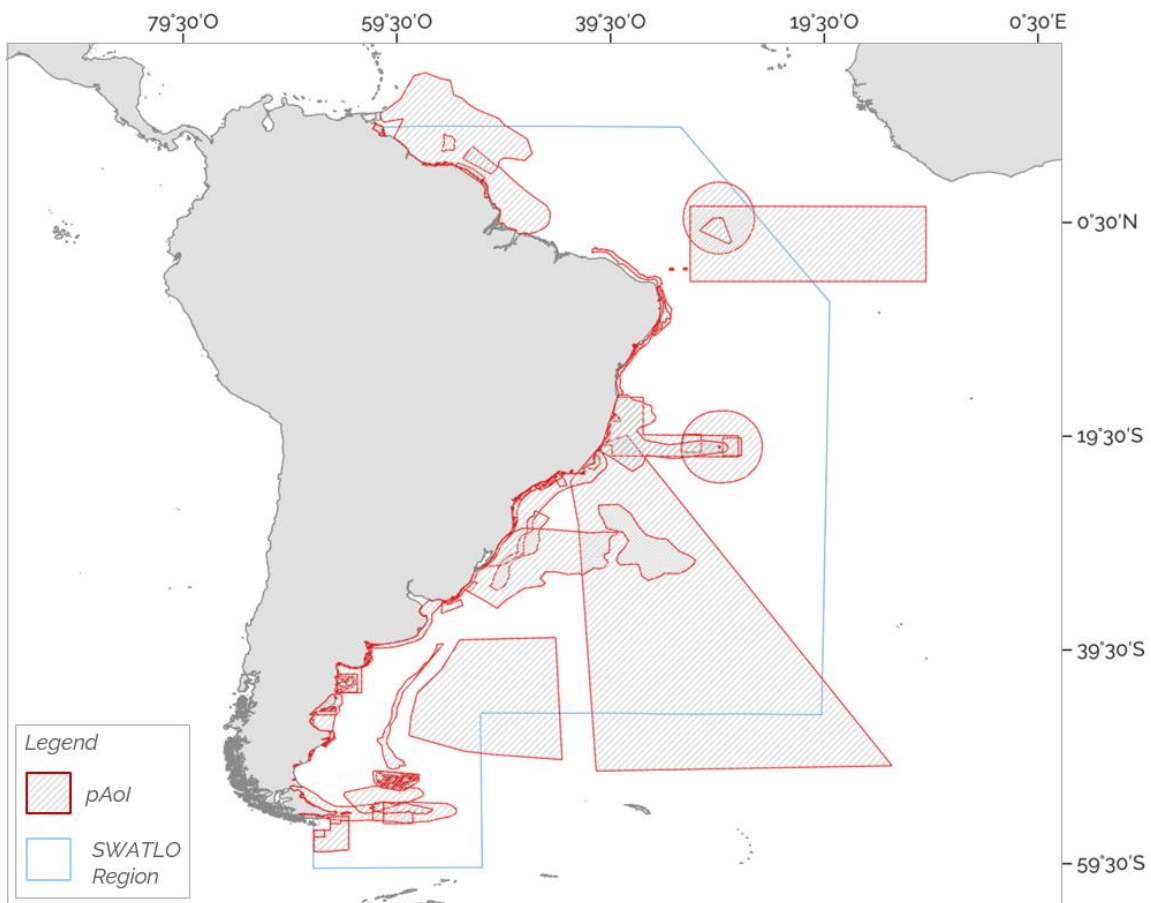
Fig. 5. 112 pAoI collated in advance of meeting (including Expert Submissions, EBSAs and MPAs) including pAoI added on Days 1-2
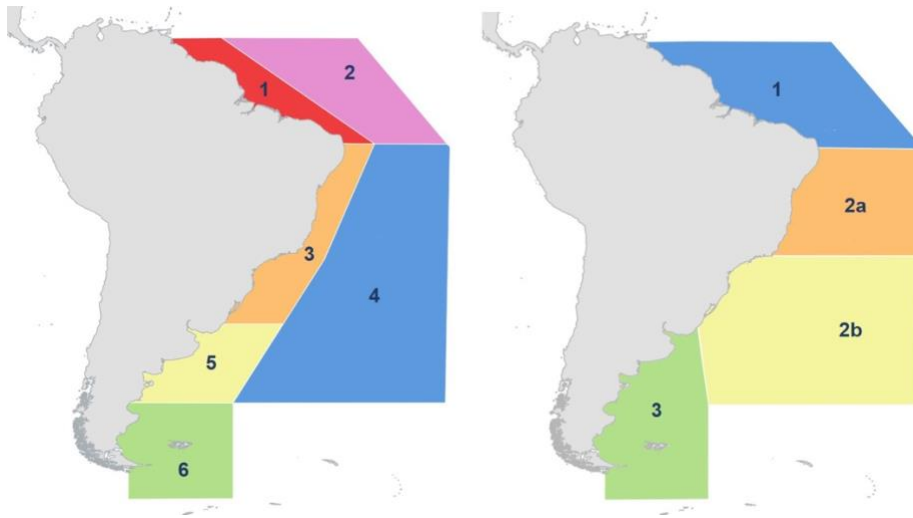
Fig. 6. The original and revised (on the right) subregions for the workshop.

Lanfredi showed participants where to find the pAoI report on Canvas, as well as the location of the Inventory of Knowledge and links to the ESRI shapefiles (i.e. pAoI polygons, geomorphological features, bathymetric lines), raster data (i.e. environmental data such averaged surface temperature and chlorophyll) and Keyhole Markup Language (KML) files that all the participants could access. She explained that she and Tetley were available to help with the GIS and the delineation of boundaries during the cIMMA proposal drafting process. She stressed that the pAoI report was the core of our work and demonstrated the distribution of numbers of pAoI from each subregion.

She then thanked the group for their submissions and opened the floor to questions.

Q: What happens if a proposed candidate IMMA would go outside the defined region?

A: That would be OK, as long as part of the IMMA is within the region, but if it's entirely outside the region then we wouldn't include it now because we wouldn't necessarily have the expertise in the room.

Panigada then introduced **Cecilia Tobar**, the regional IUCN KBA coordinator for Latin America and the Caribbean, who was present online, and asked if she could give us her presentation on Key Biodiversity Areas (KBAs). She gave the background on how and

why KBAs were set up within IUCN, and talked about how IMMAs can also be designated as KBAs. She said that if there were cIMMAs in the region that presented good possibilities to be classified as a KBA, then she would be happy to discuss. She was asked about what limits the size of a KBA. Couldn't the size of the KBA be increased until it would include 5% of the population as required by the KBA criteria? In fact, Tetley answered, the KBA requirement is that it be a size that is manageable. Although "manageable size" is flexible, IMMAs, which don't have this requirement and are dedicated to wide-ranging marine mammals, have been much larger.

Panigada then adjourned the workshop for the reading period with the message to submit any additional pAoI if possible before dinner time.

IMMA Workshop Day 2, 6 December 2022

The workshop moved to the hotel for the day 2 plenary in preparation for the breakout sessions that would focus on each subregion. Panigada introduced Tetley who presented a new pAoI to consider. Lanfredi then showed the new map with 28 new pAoI submitted by experts at the workshop, now totalling 112 pAoI (Fig. 5). She also showed the new map with the division of subregions (Fig. 6). There was a question about experts moving from one subregion to another, and of course that is expected and necessary. A further question concerned the biogeographic logic of the division of the subregions. Lanfredi responded that it was not biogeographic, but based on a division of the work in front of us, and to facilitate communication between the participants during the week. Panigada added that the map divisions were just internal to the workshop and would not be delivered as an outcome of the workshop. The group agreed to the division of three subgroups, while a little later the Brazilians divided themselves into a and b sections in order further to divide up the discussions and the work.

Margherita Zanardelli then explained how to work with the master pAoI sorter table. First, she said, download it from the Canvas site. The sorter table serves as the instrument that allows the participants to look at all 112 pAoI and the supporting documents and materials. She pointed out that it's important to keep the reference number code consistent for all supporting documents related to each cIMMA proposal. She then went through the sorter table categories that needed to be filled out in order to assign potential criteria or to merge 2 or more areas, or simply to delete a pAoI for being redundant or otherwise not useful.

Alex Zerbini asked whether each of the subgroups would know what the others were doing. Panigada replied that everything would be presented and discussed in plenary and eventually agreed by consensus. There would be plenty of opportunity for communication each day as we went along.

Panigada then concluded the plenary, saying that it's critical that each breakout group complete the cIMMA template forms for all the areas by Friday. He pointed out that the detailed instructions are on each form and, in answer to one query, that each proposed cIMMA needs a separate form (The cIMMA template is shown in Annex V.)

The breakout groups then arranged themselves on separate tables for the day, guided by members of the IMMA Secretariat, with the mission to go through their subregion, decide which pAoI they wanted to keep, which ones were to be joined or separated, and which species were likely to satisfy IMMA criteria in each chosen area (Table 1). Each table had a group coordinator, an IMMA Secretariat facilitator, as well as GIS technical support. The groups considered each pAoI in turn, guided by the following questions, focused 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) number	Region: Countries included	Group coordinator	IMMA Secretariat facilitator	GIS Technical

1	**northern South America: Suriname, French Guiana to northeastern Brazil**	Monique Pool	Erich Hoyt	Michael Tetley
2A	**northeastern and central Brazil**	Milton César Calzavara Marcondes	Gill Braulik	Caterina Lanfredi
2B	**southern Brazil**	Federico Sucunza	Margherita Zanardelli	Caterina Lanfredi
3	**Argentina**	Diego Horacio Rodríguez	Simone Panigada	Caterina Lanfredi
FI(M)	**Falkland Islands (Malvinas)[7]**	—	—	Michael Tetley

At the end of the day, the subgroups were asked to report on their progress (Table 2):

• Group 1 had started with 20 pAoI but after much discussion had reduced these, due to overlap and redundancy to only 8 pAoI that could be shaped into cIMMAs.

• Group 2 had divided itself into 2a and 2b to divide up the tasks according to the researchers present. Group 2A had started with 13 proposals and now had 7 pAoI going to cIMMA proposals, with 2 propose AoI to be kept for the future.

• Group 2B had merged areas and from a starting point of 17 pAoI now had 9 going forward as cIMMAs and no AoI.

• Group 3 had a total of 17 proposals including 4 of them that stretched between 2b and 3. There were also two offshore areas. These were merged into 14 cIMMAs and 1 AoI.

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[7] Note: There was no special group from this area, but the only researcher present at the workshop coordinated with other researchers online and through Canvas to submit four cIMMA proposals. It should be noted that these researchers submitted their proposals as "Falkland Islands". In Argentina, these islands are called "Las Malvinas". After internal discussions in the IMMA Secretariat, it was decided to report these cIMMA proposals as coming from "Falkland Islands (Malvinas)" according to the official United Nations nomenclature.

• The Falkland Islands (Malvinas) group reported 4 areas they were working on. See footnote 7.

Table 2. Day 2 status of cIMMAs going forward

Breakout group (Table) number	Started with (after discarding redundant areas)	cIMMAs	AoI	Group lead
1	20	8	0	Monique Pool
2A	13	7	2	Milton César Calzavara Marcondes
2B	17	9	0	Federico Sucunza
3	19	14	1	Diego Horacio Rodríguez
FI(M)	4	4	0	—
Total	73	42	3	

Gill Braulik then presented a tutorial on writing cIMMA proposals as that was the next step. She stressed that strong evidence was needed and in general, with the text, less is more. The important thing is to use data to convince the reviewers. She then explained about boundaries that would be refined one by one by Lanfredi and Tetley but that the strategy was to use features of the habitat for example bathymetric contours, canyons, straits, coasts, archipelagos and to avoid any political boundaries. In terms of qualifying species, she stressed only to include those for which experts are providing criteria justification. All the other species should go into the supporting species table. In general, in terms of length of text to defend criteria, 1-2 sentences were not enough but 1-3 paragraphs could be sufficient. Unpublished reports and data could be used, with key sentences taken out of the paper to show that there were data to back things up. The summary should be written last. About 150 words would be ideal. Braulik reminded

participants that it was fine to send unpublished data to the reviewers and that nothing would appear on the e-Atlas or be made public.

Panigada closed the plenary.

IMMA Workshop Day 3, 7 December 2022

Panigada, Lanfredi and Tetley, along with various participants from the subgroups, started work early, eager to move ahead with writing up the cIMMA proposals. A few participants had finished their cIMMA proposals and were circulating them within their group and sometimes asking for outside comments by email.

Panigada announced there would be a short plenary and called for any issues that participants felt needed to be discussed. First, however, Lanfredi updated everyone with new maps showing the rough locations pertaining to the cIMMAs that participants were working on.

The workshop was pleased to hear that Notarbartolo di Sciara was feeling much better though still testing positive for the Corona virus. He would still stay outside the workshop.

Julio Cardoso, online, pointed out that there is a large traditional whale migration route from southern Argentina up to Brazil, as well as further south to the Antarctic peninsula. He said that if there would be a visualization of the logbooks, this could be compared to the current data sets to see whether humpbacks are moving close to the coast. Zerbini and Cardoso exchanged thoughts on the photo-ID evidence which appears to show that humpbacks are expanding their migration route, that it is becoming wider. But noting that we still don't know where they are coming from exactly in the Antarctic. Zerbini asked that Cardoso send publications and these could be considered when they set the boundaries. Zerbini said that Lanfredi had the tracks so the borders could be set based on that.

Next there was a question from Juan Pablo Torres Flores about the area in Chilean waters that had remained a cIMMA after the South East Tropical and Temperate Pacific Ocean workshop earlier in the year. He asked Natalia Andrea Dellabianca if the group would be drafting a new cIMMA for Tierra del Fuego and Argentine waters showing overlap in the Beagle Channel, or if they would put the two areas together into one cIMMA. Tetley responded that he thought it would be better to draft two areas and note the overlap and then point it out to the reviewers to see if they thought it should be joined.

Zerbini asked Lanfredi if she could zoom into the Brazilian Bight where he noted that there was a cIMMA that overlapped another one. He was wanting to verify that if there was justification to overlap a cIMMA proposal that this could be done.

Tetley said yes (and the IMMA Guidance document describes the process), but then developed another point about extending boundaries too far, that there should be some consideration of the word "discrete" in the definition, although some IMMAs are indeed very large. Still it was better to separate into 2 cIMMAs species that had coastal restricted populations while some ranged offshore, or even moved from offshore to inshore at times. Bottlenose dolphins in some parts of Brazil and various other parts of the world present a good example. In some cases, the EBSA covering such an area would be large, not at all discrete, but there is the opportunity with IMMAs to clarify the habitat and which criteria apply to which habitat.

There were further discussions about Guiana dolphin and manatee data in Suriname waters extending to the Amazon, and how far offshore it extended and whether the habitat was continuous along the shore. Tetley said that if it was continuous then it could extend all along the coast in a single polygon with a good rationale for where it should stop, or with oceanographic features that could be used in the absence of marine mammal data points. If the populations were present only in pockets, then that should determine where the polygons would be drawn. In this case, according to Pool, the data looked continuous.

Sophie Laran asked about the slope data for offshore beaked whales off French Guiana and whether that polygon should be restricted to French Guiana where they had the data or extended further northwest to Suriname and Guyana waters, and south east into Brazilian waters until the Amazon. Tetley point out that evidence was needed but certainly suggestions could be made in the descriptions, even if there is limited evidence, but if it's more substantial then longer polygons can be made. Tetley reminded the group that they couldn't extrapolate very much. Cetaceans do associate with canyons but unless there is evidence or strong indications, we can't include it. The classic example was Mediterranean monk seals. There are many caves in the Mediterranean but there are few monk seals and many empty caves. So we can't make every cave a monk seal habitat and every canyon for beaked whales.

Panigada then closed the morning plenary and said that the day would be dedicated to drafting and discussion in the breakout tables, and that there would be a final Plenary near the end of the day.

The day was spent hard at work, with subgroups continuing discussions over lunch.

Panigada reconvened and asked each group to report on progress. The reports were as follows:

Group 1: On track to finish on Friday.

Group 2a: 2 cIMMAs nearly finished, the others in progress. On track.

Group 2b: Most of their cIMMA templates were complete and just being edited, with one sent to Gill for editing. On track.

Group 3: Most templates still in progress, but only 3-4 areas had completed cIMMAs. On track.

There was also a brief update from Simona Sanvito working on elephant seals in the Falkland Islands (Malvinas). She reported that she and her colleagues were working hard on four cIMMA proposals, but on track, too.

Panigada next sought to ease concerns in the room expressed by a few individuals that they might not finish on time. He reminded everyone that there were still quite a few hours left to do the work. He also said things don't need to be perfect and that the reviewers will understand for non-English speakers in particular.

IMMA Workshop Day 4, 8 December 2022

The morning began quietly with everyone working productively. At the mid-morning plenary, there was some discussion from Group 1 about freshwater species that swim out and use marine waters around the so-called "plume" of the Amazon outflow. Notarbartolo di Sciara, feeling much better and joining the workshop by sitting on the patio just outside the room where he could hear the conversations, answered that some species have populations that are freshwater and some marine and in the boundary areas there might be both, and in that case we do our best to include them, but we don't have sharp criteria dividing the marine from freshwater. It is up to us as a group to make a decision if we want to be more ecologically minded. Tetley agreed.

There was also discussion about listing the proposed *Inia* species, *Inia araguaiensis,* but Notarbartolo di Sciara noted that although this was likely to become a species, for now the Society for Marine Mammalogy did not recognize it on the authoritative List of Marine Mammals as the data were insufficient. On that basis, it could not be listed as a qualifying species. But he said that for the Criterion D1, it could be included in the description with the note that it may soon formally become a recognized species or subspecies. Then the IMMA Secretariat can address this later and include it.

Braulik reminded everyone to use the official list of species and subspecies as shown on the Society for Marine Mammalogy page [https://marinemammalscience.org/science-and-publications/list-marine-mammal-species-subspecies/]. In the case of *Otaria flavescens* with *Marine Mammal Science* being the only journal that uses *byronia,* the best thing is to list the "official" species name and have a footnote for the other name in common use.

The report from Group 2a was that things were going well including the exchanges with Group 1 for breeding and feeding areas for manatee. They had finished Abrolhos Bank already as well as the franciscana areas and were nearly complete with the northern Brazilian coast minke whales.

Group 2b had finished three areas and had one yet to start. They were needing help for the shelf and shelf break areas from Lanfredi and Tetley for GIS.

In Group 3, they were still working on all of them as a group in parallel.

For the Falkland Islands (Malvinas), they were waiting for information from one person still in the field but otherwise close to completion with three of the four areas.

Tetley then updated the mapping of the existing areas on the projector and showed how our work toward the cIMMA proposals was getting more refined from the original maps.

Panigada, as chair, asked the online participants for comments, questions or concerns. Cardoso made some suggestions about how the online participants could better participate through forming a WhatsApp group with the in-person participants in a given breakout group. It would have to be done in a more organized way that would allow more direct communication. So if it is aimed to be a hybrid workshop, it should be set up in advance with instructions made clear.

Panigada explained how the breakout rooms worked on canvas. "With hybrid workshops, the noise was the issue during the discussion periods. But, yes, WhatsApp is very useful. We took it for granted that you have this in your group already, but the official tools of zoom or canvas are already set up." Still, he said that he was aware that "it is difficult to do this in a hybrid way and that we're trying hard to facilitate. It works in many cases, but when it doesn't please let us know so we can help."

Hoyt then presented the concept of the volunteer regional coordinators and called for nominations. The IMMA regional coordinators (2 to 5 per region) were responsible for

facilitating implementation of the IMMAs and providing annual reporting to the IMMA Secretariat.

At the end of the day, all five groups reported excellent progress and that they would be able to submit all their cIMMAs on time the following day. The main areas that were slow to be completed were those that overlapped between two of the groups such that they needed to sit together and agree on the criteria and supporting data and references.

The final announcement before breaking for the day was that in about 15 minutes, the full moon would be rising over the South Atlantic. Some took a break to watch the moon or worked in their room on their remaining cIMMA proposals, but most stayed in the room to work together until dinner.

IMMA Workshop Day 5, 9 December 2022

In the morning, the participants worked on finishing the cIMMA proposals and the first plenary was held at 11.30 AM before lunch and before the World Cup game between Brazil and Croatia, to be held at 12 noon. Panigada reminded participants about the need to complete templates, and to hand them in with clear titles to Zanardelli before noon. The various subgroups then reported on progress. Pool reported that they had combined several IMMAs and now had 5 cIMMAs with 3 already submitted. Marcondes in Group 2A said everything had been handed in but one cIMMA needing corrections that would be ready in a few minutes. Sucunza in Group 2B said that most of their cIMMAs had been submitted and they would finish the rest of these on time. Group 3, reported by Rodriguez, said that they had sent in 4 cIMMAs and had 4 more still under discussion. Four areas had also been submitted by the Falkland Islands (Malvinas) participants working online.

Hoyt reminded the group that the Task Force was looking for nominations for the regional coordinators before the end of the day, and that they could consider 3 or 4 maximum coordinators for the region. He said that it would be best if each subregion talked among themselves and submitted their choices when the plenary reconvened at about 3 PM after the game.

Most of the Brazilians then hurried to finish while many of the other participants remained working on their submissions with an extended deadline to the end of the Plenary and close of the meeting.

At the final closing plenary, at 2.30 PM, Panigada called upon Braulik to present a concise talk on the cIMMA review process so that participants would know what to

expect in terms of the timeline for receiving back decisions. Braulik aimed to check the submissions, complete the internal review and send those going ahead for review in late January. The decisions could come back by end of March. At that point the draft report would be issued. In April, the Points of Contact for each cIMMA would receive the review decisions. 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 June, with final report at the same time, and news and media releases to follow shortly.

Next, Zanardelli presented the final draft list showing the names of the cIMMAs and AoI (Annex III). Some names were questioned and revised slightly. Zanardelli called for the remaining cIMMA standard forms to be submitted. There were only a handful outstanding and all were close to completion. In total there were 36 cIMMAs going forward for review and 6 AoI. The participants clapped and cheered. Hoyt said that the map showing the areas would appear shortly. It was asked how often could the researchers review their data and make changes based on an AoI. Notarbartolo di Sciara replied that the IMMA Secretariat could work to help transform a cIMMA to an IMMA, without sending the template again for review, as long as the original review recommendations were respected. For AoI, they could not be changed until another regional review was conducted, which would be in about another 10 years. Tetley said that even if a cIMMA were updated, however, that it wouldn't be put on the IMMA e-Atlas until the next regional revision which could be 6-12 months.

Cardoso then asked (remotely) if an identified IMMA were to gain extra information, could that be added in to the entry. But Tetley said there would have to be another workshop and they couldn't do more until then. However, the Task Force has the option to do more if the species may be going extinct or is in danger.

Then came the final round-up by the Task Force co-chairs. Hoyt invited the subgroups to present the names of the regional coordinators. For Subregion 1, Monique Pool from Suriname had volunteered and the subgroup agreed. Brazil had four volunteers. Two of them approached the front of the room and made a gracious withdrawal—Juan Pablo Torres Flores and Pedro Fruet—in favour of the other two candidates. The group then agreed that Federico Sucunza from Brazil and Cecilia Passadore who works in Uruguay should be the two coordinators. For Region 3, Enrique Crespo volunteered to be the coordinator. A photograph was then taken of the four coordinators and the two Task Force co-chairs, Hoyt and Notarbartolo di Sciara.

Hoyt then spoke about the implementation of the IMMAs in the South West Atlantic, stressing that everyone here would be part of the network and responsible for pushing ahead the work to implement the individual IMMAs. Hoyt said that through his organisation Whale and Dolphin Conservation, one of the sponsors of the Task Force and the IMMA global effort, applications had been made to set up a monitoring

program for IMMAs. The intention was to start with one or two IMMAs in each region and to evolve a system for collecting specific base line data against which further monitoring could be done. The challenge was to come up with meaningful indicators that could be quickly and easily noted. In essence, whales and other marine mammals are good indicators of the health of an ecosystem, but what exactly will provide the best measurement. The goal would be to be able to say when an IMMA needed to be adjusted or changed due to the species distribution and relative abundance. The monitoring should also be able to determine if IMMAs are in danger. Hoyt said that IMMAs could have a procedure similar to that used by UNESCO World Heritage which can designate a World Heritage Site in Danger. In terms of IMMAs there were already some sites in the Black Sea, where there is a total of 11 different IMMAs, that could qualify due to Russia's invasion of Ukraine and mobilization in the Black and Azov seas. In the months since the war began, strandings and other deaths have exceeded numbers from previous years and there are concerns that noise, pollution, ship traffic and floating mines will reduce dolphin and porpoise numbers.

Hoyt talked about implementation of the IMMAs and how all the workshop participants carry the legacy of this workshop and the IMMAs that result from it. Of course, the workshop participants can work to implement them in the various ways that may be individually relevant. Some may become MPAs or extensions of MPAs, or help to shape zoning proposals for existing MPAs. Others may show the need for traffic separation schemes or other navigation advisories through the IMO.

Hoyt next related information about IMMA implementation in various regions, particularly in Malaysia where regional coordinators have worked with the national government to ensure that IMMAs are used in coastal zone management and marine spatial planning and that progress has been made toward encoding this in national law. He also talked about the availability of IMMA shapefiles to all stakeholders with more than 400 shapefile requests logged and processed to date from a wide range of users including academic, industry, military, tourism and conservation sectors. The IMMA Secretariat is also collaborating with IBAT and Proteus to make the IMMA layers more easily available to ocean businesses and the private sector.

Tetley interjected that a paper had been published a couple years earlier by Task Force members detailing a strategy for dealing with (in effect) IMMAs in danger[8].

Hoyt next introduced the workshop certificates which he explained were being awarded to each participant as a souvenir of the workshop. This idea came from Braulik and the

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[8] Agardy, T., Cody, M., Hastings, S., Hoyt, E., Nelson, A., Tetley, M., Notarbartolo di Sciara, G. 2019. Looking beyond the horizon: An early warning system to keep marine mammal information relevant for conservation. *Aquatic Conservation: Marine and Freshwater Ecosystems* 29(S2):71–83. [DOI: 10.1002/aqc.3072]

co-chairs jumped in too with some ideas, but Braulik produced the final version which was then signed by the Task Force co-chairs. Hoyt and Braulik handed them out.

Notarbartolo di Sciara told the workshop that the IMMAs are building a family of like-minded scientists and conservationists of which the participants here were now part, tied together by a common effort to protect marine mammal habitats, which is grounded in our collective first-hand knowledge of what those habitats are. He asked the participants, therefore, to stay in the family and to go back to their communities and to begin to push for the implementation of IMMAs and to continue the wonderful work they'd been doing at the workshop. He also mentioned that the value of our IMMA work was expanding with the recent efforts to develop Important Shark and Ray Areas, or ISRAs, as well as Important Marine Turtle Areas (IMTAs), both of which will add to the information available from marine IBAs. At the IMPAC5 conference in Vancouver in February 2023, the IMMA work would be well represented by Notarbartolo di Sciara, Panigada and Hoyt. In addition to the main conference, the proponents of the shark and turtle areas, along with the bird areas, would also be participating with the IMMA Secretariat on a 2-day GOBI symposium and 1-day workshop in which all the above would combine their efforts to see how they could work synergistically in future.

Hoyt then turned over the floor to Lanfredi and Tetley to display the workshop's results in map form. Lanfredi showed the first map slide and explained that 84 pAoI had been presented before the workshop and that rose to 112 by the second day, as shown on the second map. From those pAoI, said Lanfredi, as she changed to the final slide with the cIMMAs and AoI going forward, she said that, in total, the workshop had selected 36 candidate IMMAs and 6 AoI to be reviewed (See Table 3; Fig. 7). She thanked the whole group for their fast, efficient efforts. The final map produced enthusiastic applause (Fig. 8). Then Lanfredi presented the map of the Area of Interest developed following the knowledge provided by Zerbini and located in proximity of the Scotia Arc. The area is entirely located outside the SWATLO Region and therefore will be considered at a future Extended Southern Ocean regional workshop (See Annex VII).

Then Tetley followed up saying he thought this was a tremendous effort and that everyone had worked exceptionally hard to be able to bring all the information and all this data together to put lines on a map. He said that he thought maps are both amazing and empowering and they really show, from this meeting and previous IMMA workshops, the extent of international collaboration, all of us working together, to bring our knowledge together, and to put it on a map for people to see and understand.

There was more clapping and then Panigada began thanking everyone who had helped. He closed the workshop just in time for Argentina to continue its climb to the trophy of the World Cup.

Panigada reminded participants about the celebration dinner at the seaside restaurant at the marine turtle sanctuary, Projeto Tamar, that evening. A few participants stayed to work while most moved to the hotel restaurant to watch the game. The workshop room stayed open and by the end of the game all of the proposed cIMMAs were submitted.

Table 3. Day 5 final cIMMA and AoI numbers by subregion group.

Breakout group subregion number	Proposed number of cIMMA submissions	Proposed number of AoI nominations
1	5	1
2a + 2B	16	2
3 + FI(M)	15	3
Total	36	6

Review Process and Final IMMA Approval and Publication

Following the workshop, the entire package of 36 cIMMAs was sent for review to the independent panel of experts consisting of members of the IUCN SSC Cetacean, Pinniped and Sirenian Specialist Groups. For each candidate area, the panel provided recommendations requiring either minor or major revisions, or, in a small number of cases, the merger of two areas or the splitting of a single cIMMA into two. These recommendations were returned to the points of contact so they could make the amendments necessary for the cIMMA to be accepted and published as an IMMA.

In total, 33 IMMAs were approved for the SWATLO region (Fig. 8). The boundaries and a summary of the supporting evidence are now available on the IMMA e-Atlas and are included in the expanding IMMA database. Five AoI will also go on the e-Atlas; it is recognized that these areas have potential but at present do not have enough information to satisfy the criteria to become IMMAs. These AoI highlight areas for further marine mammal research and monitoring to help build an evidence basis on which future cIMMAs may be proposed.
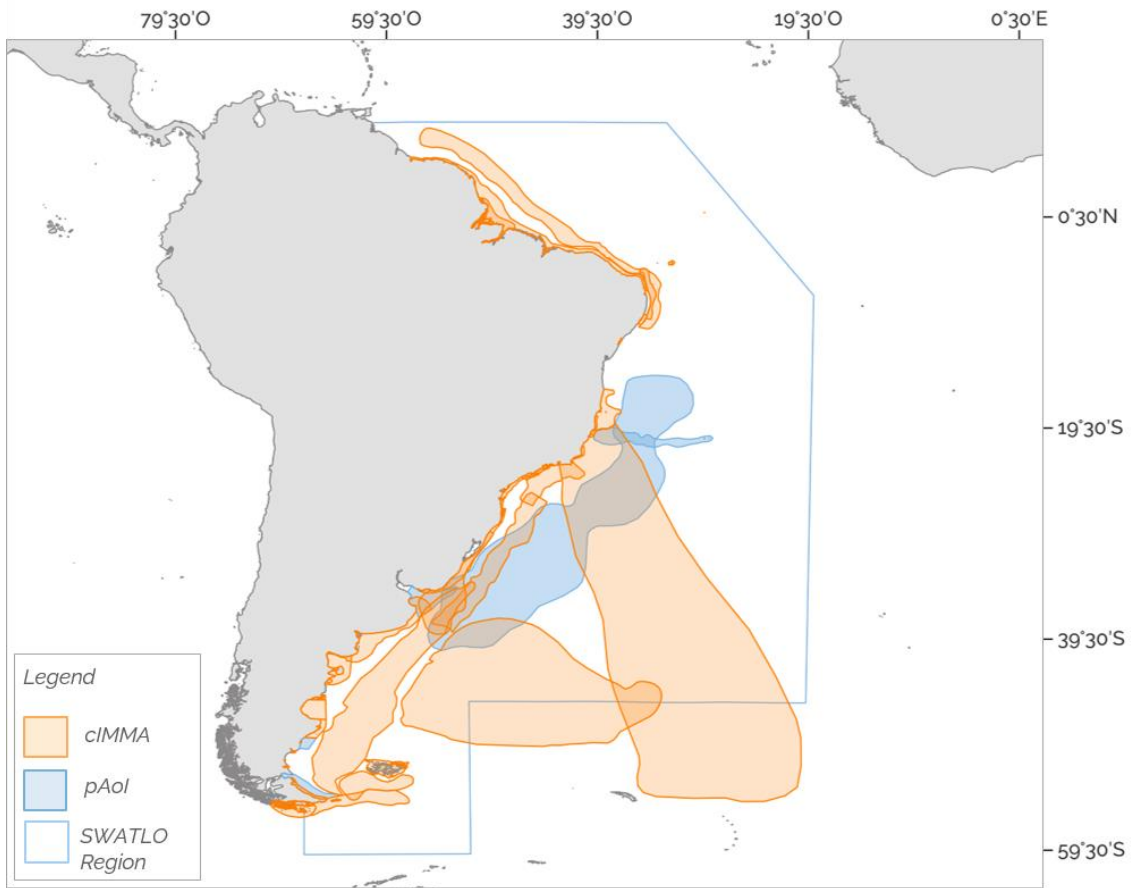
Fig. 7. *Map summary showing the candidate IMMAs (cIMMAs) and areas of interest (AoI) that went for review.*
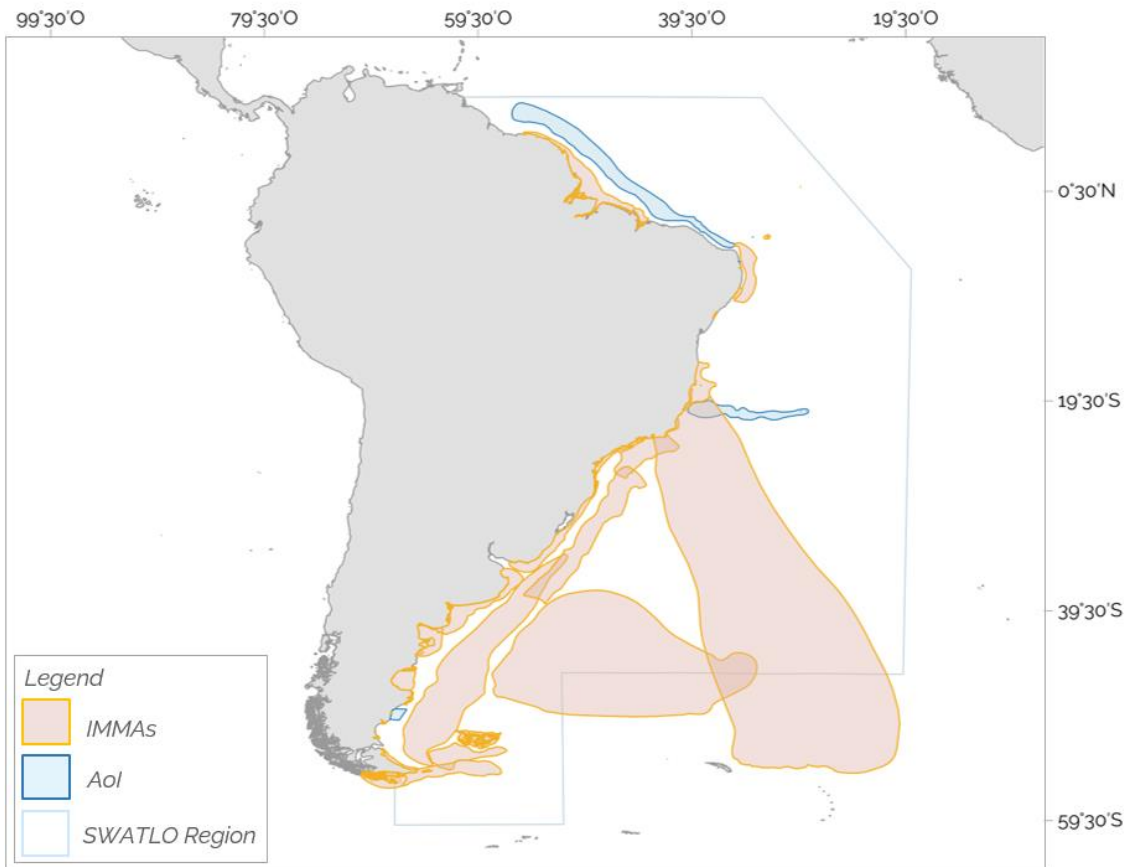
Fig. 8. Map summary showing the final IMMAs and areas of interest (AoI) that have been placed on the e-Atlas.

Annexes

Annex I – List of participants

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Annex II – Workshop agenda

Day 0 – 04 December 2022

19:00 – 22:00 Icebreaker reception and welcome dinner - Humpback Whale Institute

Day 1 - 05 December 2022 - Humpback Whale Institute

09:00 – 10:30 Introduction to the IMMA South West Atlantic Ocean Region Workshop

- Welcoming addresses: Eduardo Camargo (President Humpback Whale Institute), José Truda Palazzo (HWI), Cecilia Tobar (KBA), Felipe Paredes Vargas (WCPA)
- Presentation by IUCN Joint SSC/WCPA Marine Mammal Protected Areas Task Force Co-Chairs: GNS welcome and EH background of the IMMA programme
- Participant introductions
- Adoption of Agenda, Chair, and Workshop Facilitator(s)

10:30 – 11:00 Coffee Break

11:00 – 13:00 Introduction to Important Marine Mammal Areas

- IMMA Selection Criteria, Identification Process, and Inventory of Knowledge (IoK) for the South West Atlantic Ocean Region - Presentation by Michael Tetley, IUCN Joint SSC/WCPA Marine Mammal Protected Areas Task Force
- Question and Answer Session

13:00 – 14:15: Lunch

14:15 – 14:45 Preliminary Areas of Interest (pAoI) and Assignment of Breakout Groups

- Collated pAoI for the South West Atlantic Ocean Region - Presentation by Caterina Lanfredi, IUCN Joint SSC/WCPA Marine Mammal Protected Areas Task Force

14:45 – 15:30 PLENARY Discussion on candidate IMMA (cIMMA) options, agreement of AoI list for cIMMA investigation, and organisation of Breakout Groups – Group leader and GIS expert for each table

15:30 – 16:00 Coffee Break

16:00 – 19:00 Personal Reading and Planning Session

19:30 – 22:00 Informal dinner

Day 2 - 06 December 2022 - Hotel Via dos Corais

08:30 – 9:00   Breakout Group Facilitators Pre-Meeting (if needed)

9:00 – 10:30   PLENARY - Collation of final pAoI and cIMMA Group Assignments

10:30 – 11:00 Coffee Break

11:00 – 13:00 BREAKOUT GROUPS SESSION 1

13:00 – 14:15 Lunch

14:15 – 16:30 BREAKOUT GROUPS SESSION 2

16:30 – 17:00 Coffee Break

17:00 – 18:30 Assessment of cIMMA list (Sub-Region Summary) – Workshop Chair

- Group Facilitator Reports
- PLENARY Discussion
- Agreement on preliminary cIMMA list
- Revised AoI list

19:30 – 22:00 Informal dinner

Day 3 - 07 December 2022 - Hotel Via dos Corais

09:00 – 10:30   BREAKOUT GROUPS SESSION 3

10:30 – 11:00   Coffee Break

11:00 – 13:00   Assessment of cIMMA list (Sub-Region Summary) – Workshop Chair

- Group Facilitator Reports
- PLENARY Discussion
- Agreement on final cIMMA list
- Revised AoI list

13:00 – 14:15   Lunch

14:15 – 16:30   DRAFTING SESSION 1 – cIMMA standard submission forms

16:30 – 17:00   Coffee Break

17:00 – 18:00   Review of cIMMA drafting progress

- PLENARY Discussion – if requested

19:30 – 22:00   Informal dinner

Day 4 - 08 December 2022 - Hotel Via dos Corais

09:00 – 13:00   DRAFTING SESSION 2 – cIMMA standard submission forms (including coffee break at 10:30)

13:00 – 14:15   Lunch

14:15 – 16:30   DRAFTING SESSION 3 – cIMMA standard submission forms

16:30 – 17:00   Coffee Break

17:00– 17:30   Review of cIMMA drafting progress – Workshop Chair

- PLENARY Discussion – if requested

19:30 – 22:00 Informal dinner

Day 5 - 09 December 2022 - Hotel Via dos Corais/ Humpback Whale Institute

09:00 – 13:00 DRAFTING SESSION 4 – cIMMA standard submission forms (including coffee break at 10:30)

13:00 – 14:15 Lunch

14:15 – 16:30 Agreed cIMMA list and next steps for review –

- PLENARY Discussion
- Agreement on final cIMMA for review
- Agreement on final revised AoI list
- Formal submission of cIMMA standard forms

16:30 – 17:00 Coffee Break

17:00 – 18:30 Closing session

- Regional Coordinator(s) and Regional Experts groups
- Implementation of IMMAs by workshop participants
- Final round-up by workshop organizers and Task Force Co-Chairs
- Workshop Closes

20:00 – 23:00 Celebratory dinner and drinks

Annex III – List of approved IMMAs

From a total of 112 pAoI submissions, 36 candidate important marine mammal areas (cIMMAs) were identified by the experts attending the IMMA Regional Workshop for the South West Atlantic Ocean (Fig. 3). The 36 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, 33 areas were accepted as IMMAs and 5 areas kept as AoI (Fig. 5, see Annex IV). For IMMAs, a summary of the supporting rationale is now available on the Task Force website (marinemammalhabitat.org).

The titles of the 33 approved IMMAs are as follows:

Important Marine Mammal Areas (IMMAs)

Abrolhos Bank IMMA

Argentine Basin IMMA

Babitonga Bay IMMA

Beagle Channel – Cape Horn IMMA

Coastal Waters of Santa Catarina, Paranà and Sao Paolo State IMMA

Commerson's Dolphin Habitat Network IMMA

Coral Coast IMMA

Falkland Islands (Malvinas) Inner Shelf Waters IMMA

Fernando de Noronha IMMA

Guanabara-Sepetiba Coastal Embayment Complex IMMA

Guianas to Amazon Outflow IMMA

Laje de Santos – Ilha Grande IMMA

Manatee Estuarine Complex IMMA

MarineMammal Coastal Corridor in Northern Argentina IMMA

North-east Falklands (Malvinas) Right Whale Wintering Area IMMA

Northeast of Santa Cruz Province IMMA

Northeastern Brazil Antarctic Minke Whale Breeding Habitat IMMA

Northern Espírito Santo Coastal Waters IMMA

Northern Patagonian Gulfs and Valdes Front IMMA

Northern Rio de Janeiro IMMA

Paraíba Coast IMMA

Paranaguá-Cananéia Estuarine Embayments Complexes IMMA

San Jorge Gulf IMMA

São Pedro and São Paulo Archipelago IMMA

Sea Lion Island Group IMMA

Slope Front of the Argentine Shelf IMMA

South Brazil Bight IMMA

South Western Patagonian Continental Shelf IMMA

Southern Brazil and Uruguay Coastal Ecosystems IMMA

Southern Patagonia Coastal Waters IMMA

Southwest Atlantic Humpback Migratory Corridor IMMA

Southwest Atlantic Subtropical Continental Slope and Canyons System IMMA

Yká Ulu IMMA

Annex IV – List of AoI for future consideration

After consideration of the large number of Areas of Interest (AoI) summarized in the pAoI report with some added during the workshop, some were merged or deferred and others went into cIMMA submissions, leaving initially 6 to be kept as AoI. Some of these have been dropped and several others adapted from cIMMA submissions, following the review process, resulting in 5 AoI going forward to the e-Atlas (Fig. 5). The AoI status is valuable in terms of facilitating and focusing future monitoring and research activities on marine mammals in the region.

This enhanced activity could provide new evidence for some AoI to be reconsidered as an cIMMA during future iterations of the IMMA identification process and the Regional Expert Workshops. The AoI listed below, and any supporting rationale, will be highlighted in the Task Force website (marinemammalhabitat.org) and in other Task Force publications.

Areas of Interest (AoI)

Atol das Rocas AoI

Makenke – Playa Grande AoI

Pipa and Lagoa Guarairas Rio Grande do Norte, Brasil AoI

Vitoria Trindade Chain AoI

West Flank Demerara Plateau to Shelf break of Equatorial Margin AoI

Annex V – Template for preliminary Areas of Interest (pAoI) submission form

Preparatory to the Costa Rica workshop, the expert participants, members of the public, and the marine mammal and ocean ecosystem communities were asked to fill out an AoI submission form for any areas that they would potentially like to nominate for consideration as candidate IMMAs. This form was then used at the workshop to draft the cIMMA submissions using the template in Annex V.

THE PRELIMINARY AREA OF INTEREST (pAoI) SUBMISSION FORM

pAoI Title:
[Brief name that describes the area within the AoI]

Point(s) of Contacts
[Name, Affiliation/Organization, Contact Email]
[Name, Affiliation/Organization, Contact Email]
[Name, Affiliation/Organization, Contact Email]

Summary Table of pAoI species and qualifying criteria

ID	Scientific Name	Common Name	Population/ Subpopulation Name	IUCN Status	IMMA Selection Criteria Met (x)							
					A	B1	B2	C1	C2	C3	D1	D2

pAoI Map
[Simple boundary map of the AoI location]

Description of pAoI
[Description and references to supporting information about the pAoI location, i.e. country, geographic locality]

[Description and references to supporting information about the marine mammal species occurring within the pAoI]

[Description and references to supporting information about why the area meets the IMMA selection criteria and should be considered as a pAoI]

References and Other Supporting Information

[Use this space to add any references used in the submission including those citations, books, reports, or links to websites or databases used to support to submission]

Annex VI – Template for cIMMA submission form

At the Costa Rica workshop, a simplified cIMMA submission form was used (see immediately below). Following this form is a more detailed list of points that have been used to assist participants of regional workshops to draft their cIMMA submissions.

THE cIMMA SUBMISSION FORM

cIMMA Title:
[Brief name that describes the area within the cIMMA]

Point(s) of Contacts
[Name, Affiliation/Organization, Contact Email]
[Name, Affiliation/Organization, Contact Email]
[Name, Affiliation/Organization, Contact Email]

Summary Table of Species and Criteria

Table 1 - Qualifying Species - species that satisfy the criteria to qualify the area for IMMA status. All species and criteria need to be justified in the text below under the relevant section).

ID	Scientific Name	Common Name	Population/ Subpopulation Name	IUCN Red List Status	IMMA Selection Criteria Met (x)							
					A	B1	B2	C1	C2	C3	D1	D2

Table 2: Supporting Species – species present in the area but which do not meet at least one of the IMMA criteria. Do not include vagrant or extremely rare species.

ID	Scientific Name	Common Name	Population / Subpopulation Name	IUCN Red List status

cIMMA Map

[Simple boundary map of the cIMMA location]

Justification of IMMA Criteria

Criterion A – Species or Population Vulnerability
[Detailed description for meeting the above criterion – only required if the area meets the above criterion]

Criterion B1 - Small and Resident Populations
 [Detailed description for meeting the above criterion – only required if the area meets the above criterion]

Criterion B2 – Aggregations
 [Detailed description for meeting the above criterion – only required if the area meets the above criterion]

Criterion C1 – Reproductive Areas
 [Detailed description for meeting the above criterion – only required if the area meets the above criterion]

Criterion C2 – Feeding Areas
 [Detailed description for meeting the above criterion – only required if the area meets the above criterion]

Criterion C3 – Migration Routes
 [Detailed description for meeting the above criterion – only required if the area meets the above criterion]

Criterion D1 – Distinctiveness
 [Detailed description for meeting the above criterion – only required if the area meets the above criterion]

Criterion D2 – Diversity
 [Detailed description for meeting the above criterion – only required if the area meets the above criterion]

IMMA Summary
[please ensure that the summary (i.e. abstract) for the IMMA is no longer than 150 words. This text should summarise the submission including information on the location, geography and habitat, marine mammal species, and criteria used in the IMMA submission].

References and Other Supporting Literature

[Use this space to add any references used in the submission including those citations, books, reports, or links to websites or databases used to support to submission]

Annex A. Supporting Figures or Maps
[Use this space to add any figures including those maps, sightings, charts, data tables, or images which support the submission of the cIMMA – please ensure each figure is accompanied by a figure legend / appropriate description of the figure]

LIST OF POINTS USEFUL FOR THE PREPARATION OF cIMMA SUBMISSIONS

Part 1: cIMMA Description

- Title/Name of the area
- Points of contact for submission (names, affiliations, title, contact details)
- Description of the IMMA (feature type(s) present, geographic description, depth range, oceanography, general information data reported, availability of models and information on protective measures (e.g. MPA's etc) and other designations to the area (e.g. EBSA, KBA etc) can also be provided here as well as other information giving useful background)
- Location (Indicate the geographic location of the area/feature and the underlying rationale for boundary selection. This should include reference to a location map shown on page 11 of this form in the space provided, and the total size of the area in km^2. It should state if the area is within or outside national jurisdiction or straddling both.)
- Description of the species and features which qualify as IMMA (information about the characteristics of the feature to be proposed, e.g. in terms of species, population and underlying physical description (water column feature, benthic feature, or both) and then refer to the data/information that is available to support the proposal and whether models are available in the absence of data. This needs to be supported where possible with maps, models, reference to analysis, or the level of research in the area)

Part 2: Criterion A – Species or Population Vulnerability

- Explanation for cIMMA assessment (including rationale for feature selection and description of feature and condition)
- Declaration of confidence in evidence available (including information on data gathered, gaps in knowledge, reliability, age of information and any known biases)
- Additional notes on the cIMMA submission on Criterion A

Part 3: Criterion B - Sub-criterion B1 – Small and Resident Populations

- Explanation for cIMMA assessment (including rationale for feature selection and description of feature and condition)
- Declaration of confidence in evidence available (including information on data gathered, gaps in knowledge, reliability, age of information and any known biases)
- Additional notes on the cIMMA submission on Sub-criterion B2

Part 4: Criterion B - Sub-criterion B2 – Aggregations

- Explanation for cIMMA assessment (including rationale for feature selection and description of feature and condition)
- Declaration of confidence in evidence available (including information on data gathered, gaps in knowledge, reliability, age of information and any known biases)
- Additional notes on the cIMMA submission on Sub-criterion B2

Part 5: Criterion C - Sub-criterion C1 – Reproductive Areas

- Explanation for cIMMA assessment (including rationale for feature selection and description of feature and condition)
- Declaration of confidence in evidence available (including information on data gathered, gaps in knowledge, reliability, age of information and any known biases)
- Additional notes on the cIMMA submission on Sub-criterion C1

Part 6: Criterion C - Sub-criterion C2 – Feeding Areas

- Explanation for cIMMA assessment (including rationale for feature selection and description of feature and condition)
- Declaration of confidence in evidence available (including information on data gathered, gaps in knowledge, reliability, age of information and any known biases)
- Additional notes on the cIMMA submission on Sub-criterion C2

Part 7: Criterion C - Sub-criterion C3 – Migration Routes

- Explanation for cIMMA assessment (including rationale for feature selection and description of feature and condition)

- Declaration of confidence in evidence available (including information on data gathered, gaps in knowledge, reliability, age of information and any known biases)
- Additional notes on the cIMMA submission on Sub-criterion C3

Part 8: Criterion D - Sub-criterion D1 – Distinctiveness

- Explanation for cIMMA assessment (including rationale for feature selection and description of feature and condition)
- Declaration of confidence in evidence available (including information on data gathered, gaps in knowledge, reliability, age of information and any known biases)
- Additional notes on the cIMMA submission on Sub-criterion D1

Part 9: Criterion D - Sub-criterion D2 – Diversity

- Explanation for cIMMA assessment (including rationale for feature selection and description of feature and condition)
- Declaration of confidence in evidence available (including information on data gathered, gaps in knowledge, reliability, age of information and any known biases)
- Additional notes on the cIMMA submission on Sub-criterion D2

Part 10: Numerical Threshold Benchmarks

- Complete threshold benchmarks table where appropriate (including estimates of population abundance or percentage of population size)

Part 11: Species Description

- Complete the species list table where appropriate (including IUCN or other source for threatened or declining status information)

- Species condition and future outlook of the proposed area (description of the current condition of the area and species present– are they static, declining, improving, what are the particular vulnerabilities? Any planned research/programmes/investigations?)

Part 12: Maps and Figures

- Maps and supporting figures (showing the boundary or area of the candidate IMMA and any relevant supplementary contextual information supporting IMMA classification)

Part 13: References

- References (relevant documents and publications, including URL where available; relevant data sets, including where these are located; information pertaining to relevant audio/visual material, video, models, etc.)

Annex VII – Historical data, traditional knowledge and IMMAs

As has been discussed in previous workshops, historical whaling data can be useful for establishing pAoI as well as contributing to cIMMA proposals. In the Indian and Pacific Ocean, whaling data has provided input for the EBSA determinations, and therefore also had a role in identifying pAoI which contributed 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 19th Century whaling records, which plots sightings and catches, as well as the more formal record keeping from the 20th 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.

In December 2019, a Task Force workshop was held at the World Marine Mammal Conference in Barcelona, Spain, to explore data and AoI 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. IMMAs are independent of political and socioeconomic factors during the identification stage.

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

One preliminary area of interest (pAoI) submitted during the South West Atlantic Ocean IMMA Regional Workshop was assigned to a future regional assessment due to its location. This pAoI (Fig. 6 below) can be reassessed at a future Extended Southern Ocean Region workshop.

This pAoI identifies humpback whale foraging habitat based on new evidence collected by using satellite transmitters (Bedriñana-Romano et al. 2022) (See Fig. 6).
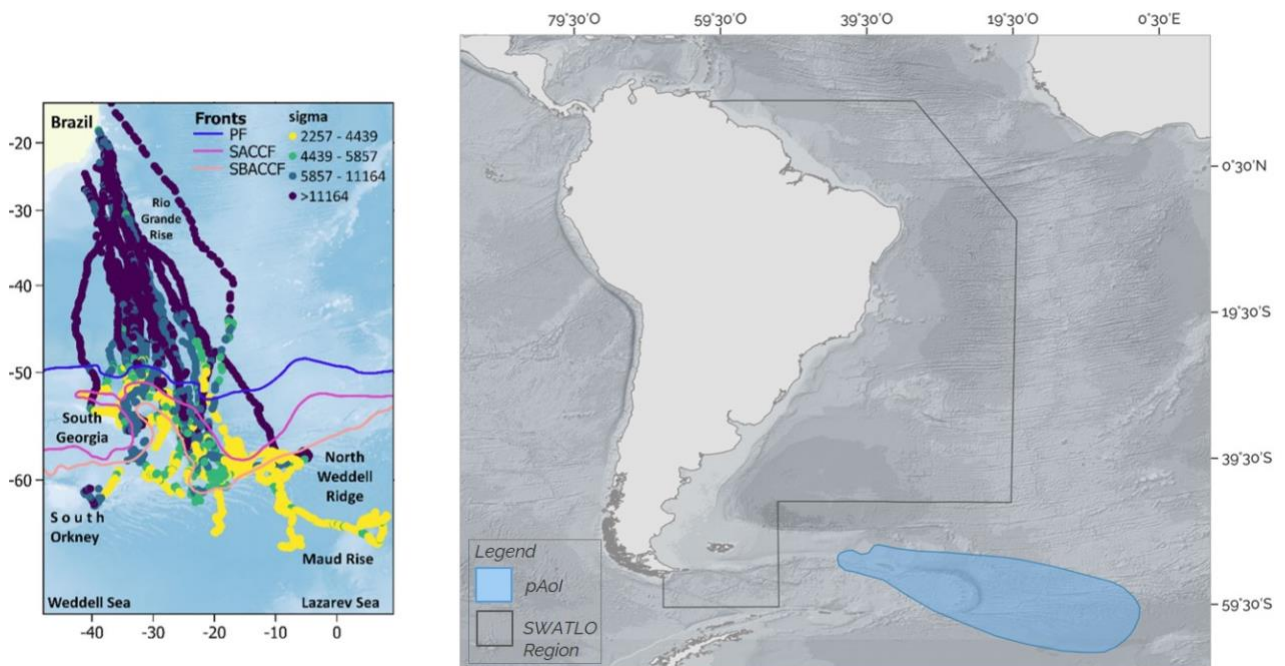

Fig. 6. *Humpback whale foraging pAoI proposed during SWATLO workshop (at right). Proposed boundaries are based on new evidence from satellite tracking data (at leftt, modified from Bedriñana-Romano et al. (2022); darker colours represent the more direct, migratory movement of humpback whales while lighter colours correspond to more convoluted, area-restricted search-like behaviour, suggesting feeding activity.*

Reference:

Bedriñana-Romano, L., Zerbini, A.N., Andriolo, A., Danilewicz, D. and Sucunza, F. 2022. Individual and joint estimation of humpback whale migratory patterns and their environmental drivers in the Southwest Atlantic Ocean. Scientific Reports 12(1), 7487.

Acronyms

AoI	Area(s) of Interest
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
CR	Critically Endangered (IUCN RedList)
DAF	Data appraisal form (for the IMMA process)
DD	Data Deficient (IUCN RedList)
EBSA	ecologically or biologically significant area
EN	Endangered (IUCN RedList)
GOBI-IKI	Global Ocean Biodiversity Initiative's project supported by the International Climate Initiative
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, Mexico, 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)
IoK	Inventory of knowledge (for the IMMA process)
IUCN	International Union for Conservation of Nature
IWC	International Whaling Commission
KBA	key biodiversity area
LC	Least Concern (IUCN RedList)
MiCO	Migratory Connectivity in the Ocean
MM	marine mammal
MMO	marine mammal observer
MMPA	marine mammal protected area
MMPATF	Marine Mammal Protected Area Task Force
MPA	marine protected area
MSP	marine spatial planning
NRDC	Natural Resources Defense Council

NT	Near Threatened (IUCN RedList)
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 RedList)
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