

REPORT OF THE SCIENTIFIC COMMITTEE



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I. EXECUTIVE SUMMARY (by the SC Chair & the SC Vice-Chair)

The SC deliberations on the priority work that the Scientific Committee have developed till the last meeting - SC16 meeting – held in early December 2024 in Barcelona, Spain. The priorities identified by the SC15 meeting have been implemented, based on the actions and activities identified in the Work Programme of ACCOBAMS for the 2023-2025 triennium, as established by the MOP8 through Resolution 8.2.

- Effort is ongoing to develop and streamline the next ACCOBAMS Survey Initiative (ASI 2) to progress with the ACCOBAMS Long Term Monitoring Strategy (LTMP). Different meetings have discussed this important topic, and we are now ready, together with the Secretariat, to propose a way forward.
- The ASI Special Issue on Frontiers in Marine Science, Marine Megafauna, titled ‘The ACCOBAMS Survey Initiative (ASI): Implementing Large Scale Surveys for Marine Megafauna in the Mediterranean and Black Seas’ has been published, with 13 manuscripts. There is a dedicated volume available open access, including contributions dealing with different aspects of the ASI effort and covering both the Mediterranean and the Black Seas. The Special Issue also includes an editorial with a short and concise summary of each paper.
- Conservation Management Plans (CMP) are being developed for several species, with a few more species from the Mediterranean and Black Seas currently in the drafting phases. We have been discussing about a Stakeholders’ workshop for fin whales and Risso’s dolphins, which should be organized within the next year. The draft plan has been presented and discussed during the IWC Scientific Committee in May 2024. The Terms of Reference for the CMP Stakeholders workshops were presented and discussed during the SC meeting in Barcelona.
- A full-day expert workshop on fin whales was held ahead of the 35th European Cetacean Society conference in Catania, Sicily, on 8 April 2024. The workshop focussed on reviewing recent studies (after 2019) on Mediterranean Sea fin whales with discussions on knowledge gaps and future directions. The objective of this new expert workshop was not to revise the draft CMP but rather to review the most recent research on Mediterranean fin whales to ensure that, if necessary, IWC/ACCOBAMS can update the scientific background to the draft CMP and any consequential amendments to proposed actions prior to the stakeholder workshop. The primary focus of the workshop was on population structure and movements, seasonal distribution and abundance, and identifying important remaining knowledge gaps (i.e., stock structure).
- Further to the 'Marine Debris Workshop - New and Emerging Aspects' that ACCOBAMS ran jointly with ASCOBANS in April 2023, ACCOBAMS ran a follow-up workshop on 'Ingested Marine Litter Monitoring and Entanglement Evidences' in the ACCOBAMS Area, 6-7 April 2024 in Catania Italy. The recommendations of this workshop were presented to the Scientific Committee of the International Whaling Committee at its latest meeting, which endorsed them.
- One hybrid workshop was organised in Monaco on Area-based measures for cetacean conservation. The C.C.H. process has been redefined as “Cetacean Cooccurrence with Human activities”. We are now liaising with Duke Marine Lab (USA), which lead a significant work on species density modelling of all cetacean’s species over the ACCOBAMS area, to strengthen collaboration and benefit of this work if it fits the CCH process requirements.
- Different workshops have been organised during the 36th European Cetacean Society conference, which was held in the Azores, Portugal, in May 2025. The workshops covered the following topics:
 - best practices and guidelines related to invasive research within the ACCOBAMS region, including *inter alia* satellite telemetry, in collaboration with the IWC.
 - Cetacean watching
 - Cetacean culture
- The ACCOBAMS Secretariat is currently involved in two main projects funded or in the process of being funded by the Pelagos Initiative, through support from the Prince Albert II Foundation:

- Shiprint project, which aims to support the implementation of Associated Protective Measures (APMs) within the Northwestern Mediterranean Sea Particularly Sensitive Sea Area (NW Med PSSA). This project includes tracking AIS-equipped vessels, organizing workshops, raising awareness, and developing guidelines for a whale-safe certificate.
- Pelagos Consortium, which aims at establishing a group of different stakeholders within the Pelagos Sanctuary to apply an ecosystem approach to the area; this will consist of four different pillars, with the ACCOBAMS Secretariat participating to different actions on research, outreach, stakeholders' engagement.

II. REPORTS OF THE SCIENTIFIC COMMITTEE REGIONAL REPRESENTATIVES

1. Report on the conservation status of cetaceans and relevant activities in Western Mediterranean and contiguous Atlantic area

- Countries of the region: Algeria, France, Italy (Western coast), Monaco, Morocco, Portugal, Spain.
- Overview of activities in the Region in 2023-2025

Algeria: a National Action Plan has been produced. Progress in the new regulatory framework for the protection of marine resources. The available data on stranding for a period since 1973 were reviewed and compiled in the CNRDPA's National geodatabase prior to the implementation of the project named: «Establishment of a new operational network for monitoring cetaceans stranding along the Algerian coastline». A protocol was developed to enhance the data collection during the stock assessment surveys and should be applied along the Algerian coast during the next Pelagic surveys (ALPELs).

Italy: Guidelines and standard protocols of the national stranding networks are being updated.

Completing the monitoring activities for the second cycle of the Marine Strategy Framework Directive (MSFD). Data are considered for the IV reporting of the HD, too. Data have been considered also for the "Spatial analyses to assess cetacean distribution and abundance in the PELAGOS Sanctuary and surrounding areas" initiative. A workshop on cetacean abundance estimation through distance sampling methods (WKCETAB) aimed to start a coordination among the experts from EU Regions on method to estimate cetacean abundance and distribution has been hosted by ISPRA. A Life Mare Natura Project has been started in the 2023: "*Conservation of priority species of marine megafauna in Italy and Greece and Italy*". Coordinated by the Hellenic Center for Marine Research (HCMR) and in collaboration with ISPRA. Progress of the Life Conceptu Maris Project (ISPRA).

Concerning the Anthropogenic underwater noise the project TG Noise in the framework of MSFD, is aimed to set threshold values for both continuous and impulsive noise at EU level and PIAQUO Project aimed at reducing the impact of maritime traffic noise on marine ecosystems.

For ship strikes the IWC global database have been updated with data from NW Mediterranean and collaboration between Italy, France, Monaco and Spain are currently in the process of implementing the associated protective measures and data collection and technical working groups about ship strikes have been created.

Morocco: The Stranding Monitoring Network (SMN) of the National Institute of Fisheries Research (INRH) oversees the tracking of marine mammal strandings along Morocco's Mediterranean and Atlantic coasts.

A Project aimed at the *Contribution to the understanding of the interaction phenomenon between the bottlenose dolphin (Tursiops truncatus) and purse seine fishing* has been implemented.

Portugal: National stranding network of INSF fully implemented and operational along the entire coastline (4 regional networks). A project on the bioacoustics repertoires of *Delphinus delphis* and *Tursiops truncatus* in the Algarve Region has been launched. The working group of the National stranding network elaborated a national plan to reduce Bycatch. Several projects are ongoing from the University of Porto / Interdisciplinary Centre of Marine and Environmental Research covering cetacean's scientific and conservation aspects.

Spain:

- Implementation of periodic aerial surveys to assess cetacean distribution and abundances in Spanish waters at a regional scale. The first of these surveys was carried out in summer 2023 and the second one in summer 2025. These surveys derived in abundance estimates for most cetacean species in the region for 2023 and will be used to assess cetacean distribution. Analyses of the 2025 surveys are still ongoing.
- Implementation of photo-identification surveys to assess abundance, determine population parameters and habitat use of several management units (MUs) within the Spanish Mediterranean waters and an in the contiguous Atlantic area. These included four management units of three different species in the Mediterranean Sea, namely two bottlenose dolphin MUs (one in the Balearic Island and another one in the Strait of Gibraltar), the Sperm whale MU in the Balearic Islands and the long-finned pilot whale MU in the Strait of Gibraltar. An additional two MUs from the contiguous Atlantic area were included: The bottlenose dolphin MU in continental shelf waters of the Gulf of Cadiz and the Killer whale MU of the Gulf of Cadiz and contiguous waters.
- MITECO, through the LIFE IP Intemares project, has put out to tender three contracts for cetacean collisions with large vessels. Two of them in Canary Islands waters and the third in the Balearic Islands. In addition, through a contract with the Centre for Studies and Experimentation of Public Works (CEDEX), it has been commissioned to prepare an analysis of maritime traffic and collision hazards for both areas.
- In the Balearic Islands, through Intemares, the design and execution of campaigns has been contracted to improve knowledge of the distribution of sperm whales in the waters of the Balearic archipelago. This will allow for the design and testing of a program of measures to minimize collisions between cetaceans and vessels. The actions planned under this contract were: a) Execution of 4 campaigns per year (one at each station) for 2 years (8 campaigns in total), lasting 7 days each (56 days in total), using hydrophone tracking, b) Collection of 20 samples for genetic study, c) Satellite tagging of 10 individuals, d) Passive acoustic monitoring campaigns using 3 hydrophones, e) Monitoring the sperm whale population from ferries with biweekly shipments on five routes between the Balearic Islands and the Iberian Peninsula, f) Data analysis, preparation of results reports, and a program of measures, g) Pilot project to test one of the program's measures to verify its effectiveness in reducing collision risks.
- CEDEX has already submitted the maritime traffic and hazard analysis for the two study areas of this project: the Ibiza Channel and the Mallorca Channel. This analysis will now be cross-referenced with species distribution models to identify the areas with the highest collision risk by season. The species' collision risks with maritime traffic in the area will be analysed, and as a pilot project, mathematical modelling and GIS will determine how reducing speeds on different sections of passenger vessels would impact risk minimization. A thermal camera will also be tested.
- Also, through Intemares, satellite tagging has been contracted for 10 sperm whales in the Strait, 12 common pilot whale, and 14 fin whales in the Mediterranean to determine their distribution and habitat use and to propose conservation measures. For the same purpose, MITECO has contracted the satellite tagging of 6 orcas and has expanded to 4 more tagging.
- MITECO, through Intemares projects contracted in 2021 a pilot project to try to minimize interactions between orcas and sailboats in the Strait of Gibraltar.
- In February 2024, MITECO held a workshop in Madrid with international experts on orca interactions. This workshop was attended by orca experts from around the world and representatives from the conservation and

maritime navigation authorities of Spain, Portugal, and Morocco. The purpose of the workshop was to exchange knowledge on interactions, identify future research needs, and propose recommendations on how to manage these interactions by the governments of Spain, Portugal, and Morocco. The workshop report, which includes conclusions and recommendations, was endorsed at the IWC Scientific Committee meeting held in spring 2024.

Tunisia: interaction with fisheries and aquaculture project include PAM, population monitoring, and mitigation measure throughout pinger. National stranding network is actively involved in fostering collaboration with all stakeholders to collect accurate data and to provide urgent response to alerts. A study on the Interaction of cetaceans with marine debris in Tunisia is conducted by INSTM researchers.

- Major issue(s) or main threats or “hot” topics that have emerged during the said period for the Region:
 - ✓ The lack of data and scientific works on cetacean (publications) and dedicated funds in some countries.
 - ✓ Collision of Sperm Whale in the Strait of Gibraltar and Balearic Islands.
 - ✓ Increase of the water temperature including marine heat waves.
 - ✓ Overlapping of fishing areas with cetacean’s habitats in some areas: destabilization of populations, chasing of preferred habitats, depletion of prey --> interaction with fishing gear (economic losses for fishermen and risk of bycatch).
- Recommendations / suggestions for conservation Improvement
 - ✓ Improve the maintenance and upkeep of the tissue bank of INRH and where it is needed.
 - ✓ Support capacity building action (necropsy, postmortem investigations, observation at sea, photographic documentation, passive acoustic and stable isotopes) where it is needed.
 - ✓ Further evaluate the functioning of the national stranding networks where it’s need.
 - ✓ Support cetacean observation surveys where it’s needed.
 - ✓ Identification of funding to conduct studies and boost scientific publications.
 - ✓ Encourage and make citizen science actions more profitable.
 - ✓ Strengthening cooperation between Mediterranean research centers.
 - ✓ Identification of IMMA & CCH areas.
 - ✓ A strong and effective synergy is required among the various research and monitoring programs conducted at a national level within the framework of European conventions such as the Habitats Directive and MSFD, both in the definition of methodologies and in the subsequent data analysis phase. to ensure that the next ASI will take advantage of the planned national activities in the framework of both the MSFD and HD directives, hence incorporate them to benefit from.

2. Report on the conservation status of cetaceans and relevant activities in Central Mediterranean

- Countries of the region: Albania, Croatia, Italy (Adriatic coast), Libya, Malta, Montenegro, Slovenia, Tunisia.

- Overview of activities in the Region in 2023-2025

During the 2023–2025 period, cetacean research and conservation activities in the Central Mediterranean have been unevenly distributed, with some countries maintaining strong, continuous monitoring programmes and others showing limited or no activity. Overall, progress has been made in long-term population studies, fishery interaction assessments, and the application of new technologies such as passive acoustic monitoring, aerial photogrammetry, environmental DNA, and UAVs. Citizen science has also become a valuable tool in some areas, helping to collect broad-scale data on sightings and strandings.

Despite these advances, significant gaps remain. In several countries, research efforts are still sporadic, and comprehensive monitoring frameworks are lacking. Stranding networks are either absent or underdeveloped in much of the region, resulting in incomplete understanding of causes of mortality and health status of populations. In other areas, however, structured programmes continue to provide valuable long-term data on population abundance, habitat use, and ecological interactions, particularly for bottlenose dolphins, deep-diving species, and, to a lesser extent, common dolphins.

Country-level highlights include:

- **Albania:** No dedicated cetacean studies; occasional bycatch reports.
 - **Croatia:** Broad suite of activities including dolphin monitoring in Natura 2000 sites, deep-diver surveys, and fisheries interaction studies (e.g. LIFE Delfi), complemented by citizen science and stranding response.
 - **Greece (western coast):** Multi-species research across Ionian Sea, Ambracia, Corinth, and Hellenic Trench using photo-ID, biopsy, acoustics, and aerial techniques. Ferry surveys remain important for cross-basin monitoring.
 - **Italy:** Long-term studies on bottlenose and Risso's dolphins in the Adriatic and Ionian Seas, with strong focus on fishery interactions, abundance, and necropsy-based health assessments.
 - **Libya:** No active programmes reported.
 - **Malta:** Monitoring primarily through strandings and boat-based surveys.
 - **Montenegro:** Limited but ongoing photo-ID and land-based monitoring, supplemented by opportunistic reports.
 - **Slovenia:** One of the most comprehensive national efforts, combining photo-ID, acoustics, UAVs, eDNA, and pollutant studies to monitor bottlenose dolphins and other species.
 - **Tunisia:** Recent efforts on dolphin–fishery interactions and passive acoustics, though data remain outdated and geographically limited.
- Major issue(s) or main threats or “hot” topics that have emerged during the said period for the Region:

Across the region, the most pressing threats include:

- Bycatch and fisheries interactions, including depredation and gear entanglement.
- Growing marine traffic and associated underwater noise, particularly during tourist seasons.
- Unregulated dolphin watching in certain areas.
- Marine litter, debris, and pollution, which affect multiple species.
- Climate change, recognized as a growing but insufficiently understood factor, especially in semi-enclosed areas like the Adriatic.
- Lack of updated or comprehensive data in some countries, limiting effective conservation planning.

• Recommendations / suggestions for conservation Improvement

Key regional recommendations include:

- Strengthening and expanding stranding response networks, including necropsy training and tissue banking.
- Increasing capacity building, particularly in passive acoustic monitoring and marine mammal observer training.
- Enhancing monitoring of fisheries interactions and developing mitigation strategies.
- Implementing regulation and licensing schemes for dolphin watching to reduce disturbance.
- Ensuring adequate and sustained funding for long-term monitoring and research.
- Applying stricter oversight for invasive research techniques (e.g., biopsies, telemetry, active acoustics), to ensure operator expertise and minimize disturbance.
- Expanding marine protected areas and identifying Important Marine Mammal Areas (IMMAs) and critical habitats.
- Conducting standardized and updated monitoring campaigns in regions with outdated or limited data.

3. Report on the conservation status of cetaceans and relevant activities in Eastern Mediterranean

- Countries of the region: Cyprus, Egypt, Greece, Lebanon, Syria, Türkiye (Mediterranean coast).

- Overview of activities in the Region in 2023-2025:

Cyprus, Greece, Lebanon, and Türkiye are advancing regional efforts for the conservation of marine mammals and biodiversity in the Eastern Mediterranean. Cyprus has submitted its Marine Action Plan roadmap, expanded monitoring of cetaceans through surveys, databases, and networks, and is addressing underwater noise, strandings, and bycatch, alongside public awareness campaigns. Greece established National Action Plans for key cetacean species, and is strengthening legal frameworks for stranding management, expanding Marine Protected Areas to meet EU biodiversity targets, and implementing large-scale projects such as LIFE MareNatura and SAvE Whales to protect priority species and mitigate ship strikes. Research, citizen science, and training programs further support marine mammal conservation, while plans are underway for the establishment of a National Marine Mammal Rescue and Rehabilitation Centre. Lebanon is contributing through national monitoring surveys under EcAp MEDIII, and Türkiye has launched large-scale surveys combining visual and acoustic monitoring, recording rough-toothed dolphins for the first time in its eastern Mediterranean waters.

- Major issue(s) or main threats or “hot” topics that have emerged during the said period for the Region:

In the eastern Mediterranean, cetaceans face a range of human-induced threats across Cyprus, Greece, and Türkiye. In Cyprus, extensive underwater activities such as military exercises, sonar testing, and hydrocarbon exploration pose risks to marine mammals, compounded by the lack of trained personnel, permanent stranding networks, infrastructure to treat injured animals, baseline data on underwater noise, and certified MMO and PAM experts. In Greece, marine mammal populations are heavily impacted by fisheries, shipping, pollution, and inbreeding, with species such as the common dolphin showing unclear recovery trends. Current research underscores the necessity of assessing genomic diversity, health status, and disease dynamics in order to advance understanding and more effectively guide conservation strategies. By linking molecular data with ecological and health assessments, conservation planning can become more predictive, targeted, and effective. On Türkiye’s Mediterranean coast, continuous oil and gas operations and military activities generate significant underwater noise without sufficient mitigation measures or legislation, underscoring the urgent need for noise monitoring, impact assessment, and capacity building to safeguard cetacean populations in the region.

- Recommendations / suggestions for conservation Improvement:

Across the eastern Mediterranean, Cyprus, Greece, and Türkiye are identifying key priorities to strengthen marine mammal conservation. In Cyprus, the focus is on capacity building for a functional stranding network, developing proper infrastructure for treating injured animals, and advancing research on population monitoring and acoustic impacts. Greece highlights the need to systematically evaluate the impacts of environmental pressures and anthropogenic activities on marine mammal survival, to establish a genomic database of disease vulnerabilities, and to enhance both stranding network coordination and stranding response protocols through the integration of innovative methodologies, including environmental DNA (eDNA), to improve habitat diversity monitoring and strengthen the early detection of emerging disease and other threats to marine mammals. On Türkiye’s Mediterranean coast, priority actions include ensuring compliance with ACCOBAMS resolutions that restrict naval sonar and explosion activities near sensitive beaked whale areas, while promoting the use of Marine Mammal Observers (MMOs) and Passive Acoustic Monitoring (PAM) during seismic surveys and military activities to mitigate risks from industrial and military operations.

4. Report on the conservation status of cetaceans and relevant activities in Black Sea

- Countries of the region: Bulgaria, Georgia, Romania, Türkiye, Ukraine.

- Overview of activities in the Region in 2020-2022.

Major updates on cetacean density, abundance and distribution at the basin wide scale and also on the seasonal patterns of the harbour porpoise activity have been published. The results of the bycatch assessment were also published and widely discussed. Also, the efficiency of porpoise alerting devices (PALs) was tested to mitigate bycatch, and the PALs were considered as promising for use in the Black Sea. Threats posed by the war were identified. The activities have undertaken for continuous data acquisition in link with comprehensive cetacean population estimate and distribution, habitat use, passive acoustic monitoring, bycatch monitoring and mitigation trials, developing tissue banks, toxicology and microplastics contamination, stranding networks and events for the three subspecies inhabiting the Black Sea (*Delphinus delphis ponticus*, *Tursiops truncatus ponticus* and *Phocoena phocoena relicta*). A new IMMA (Important Marine Mammal Areas), in addition to 11 existing ones, was approved for the Eastern Anatolian waters. The assessment of the status of the three Black Sea subspecies in the IUCN Red List has been updated and submitted, now in the review process.

- Major issue(s) or main threats or “hot” topics that have emerged during the said period for the Region

The result of CeNoBS bycatch assessment showed that the bycatch of the harbour porpoise in the Black Sea exceeds the threshold for the sustainability of the population and poses a significant threat to this subspecies. The main tasks for the future activities remain from the previous period and include further updating fleet and effort assessments, enhancing the bycatch reporting and observation coverage, mortality analysis, and developing techniques for bycatch mitigation. Also, the efficiency of porpoise alerting devices (PALs) was tested to mitigate bycatch under the CetaByM project by the GFCM, and the PALs were considered as promising for use in the Black Sea.

The ongoing Russia's war against Ukraine escalated in February 2022 puts the entire Black Sea basin under a huge threat. Military activities in the marine and coastal areas may affect the marine biota in the region, including cetaceans, in multiple ways including but not limited to marine pollution, eutrophication, increased risk of infections, increased risk of bioinvasions of alien (non-indigenous) species, and other effects. Sea mines are especially threatening in short and long-term run. Also, war activities not directly related to combat are to be considered, such as construction works (especially those producing underwater noise or altering the seascape) or changes in shipping routes. The Scientific Committee specifically noted that the military operations may have adversely impacted all the riparian countries to some degree.

- Recommendations / suggestions for conservation Improvement.

The bycatch in turbot fishery and the high seasonal mortality of harbour porpoises, threatening the viability of the subspecies, it is of an urgent matter to refine and monitor estimates of porpoise abundance, population dynamics, causes of mortality and bycatch level, as well as to develop and test multiple measures to reduce bycatch. Among them, testing of porpoise alerting devices (PALs) for bycatch mitigation should be continued with their potential improvements. Also, bycatch monitoring of fisheries should be enhanced.

Comprehensive monitoring of underwater noise, marine pollution and biological indicators of stress in animals, as well as response to stranding events and studies of pathology, are necessary for understanding and managing the war impact and other human impacts (construction, seismic surveys). Cooperative regional effort is necessary for obtaining adequate material and data about the causes of mortality.

Demining measures and activities are necessary both in short and long-term run for reducing multiple threats for cetaceans, and other marine biota and research efforts. By prioritizing the removal of explosives, both historical and contemporary, using Best Available Technology and Best Environmental Practices, we can minimize the impact of explosions on the environment and support ongoing research efforts. This may include building on existing demining

initiatives in the North and Baltic Seas to develop comprehensive guidance for identifying and safely removing all types of underwater explosives, both floating and sunk.

Establishing new marine protected areas planned on the basis of earlier defined IMMAs, including transboundary and international reserves, will be important for cetacean conservation. Biosphere reserves may be suggested for areas of high cultural importance and human impact.

Improvement of effort and application of new techniques would be important for monitoring the animals in captivity to prevent illegal takes from the wild and illegal trade. No excuse or exemption can be made for takes of animals from the wild to captivity under the umbrella of stranding response effort.

The Scientific Committee recommended to organize dedicated regional workshops including the experts on the relevant topics to elaborate the road map for the Post-war Plan for the Black Sea region towards the mitigation of warfare consequences on cetaceans, their habitat and their preys; to consider specific areas, topics and activities/measures during the work on the Conservation Management Plan for the Black Sea cetaceans and the Post-war Plan for the Black Sea; and to promote implementation of applicable activities/measures under the Post-war Plan for the Black Sea as soon as it is adopted, regardless of the military situation, as some of the activities/measures are relevant at that moment.

III. REPORTS OF SCIENTIFIC COMMITTEE TASK MANAGERS

In accordance with the core priorities of the 2023-2025 Working Programme, the Scientific Committee decided to designate the following Task Managers:

1. CA1a- Cetacean population estimates and distribution

- Composition

Task Manager: Tilen GENOV

Vice Task Manager: Simone PANIGADA

Support Group: Aylin AKKAYA, Antonella ARCANGELI, Marta AZZOLIN, Ibrahim BEN AMER, Greg DONOVAN, Caterina FORTUNA, Silvia FREY, Pauline GAUFFIER, Draško HOLCER, Souad LAMOUTI, Giancarlo LAURIANO, Aurelie MOULINS, Marian PAIU, Guido PIETROLUONGO, Dimitar POPOV, Yianna SAMUEL, Aviad SCHEININ, Antonio VASQUEZ, Ayaka AMAHA ÖZTÜRK

- Overview of relevant activities on this topic during the 2023/2025 triennium

The Scientific Committee adopted a number of conclusions:

- Conclusion 6. The Scientific Committee appreciated the efforts done in disseminating the ASI results through a special issue on Frontiers in Marine Sciences and recommended that the Secretariat makes available in the ACCOBAMS website the list of all published papers that used ASI datasets.
- Conclusion 7. The Scientific Committee welcomed the proposal of the INFO/RAC representative to amend the ASI data policy (ACCOBAMS-MOP7/2019/Inf 13) by adding a new paragraph on data license as follows: "Recalling the license definition, the ASI data policy is based on the concept of open sharing, and considers relevant policies and guidelines used by geospatial communities to ensure use and re-use of data and products. The licenses, taken into consideration, were those provided by the Creative Commons Licenses (CCL –<http://creativecommons.org>) which are the most common and used licenses available for digital material. In this framework the main license for ASI data is the CC-BY 4.0."
- Conclusion 8. The Scientific Committee adopted the Recommendation 16.3 "ASI2 and LTMP" as shown in Annex III to the SC16 report.

- Conclusion 9. The Scientific Committee recommended that the Chair submits the ASI estimates to the IWC SC for review as part of the ongoing efforts to develop internationally recognized and consistent list of approved abundance estimates.
- Conclusion 10. The Scientific Committee commended the work undertaken by the ECAP/MSFD working group, welcomed the offer of Joan GIMENEZ to be a new co-chair of the working group, and appreciated the offer by SPA/RAC to invite the co-chairs to the next Biodiversity CORMON Meeting in 2025.
- Conclusion 11. The meeting appreciated the report of the ICES Workshop on cetacean abundance estimation through distance sampling methods and recommended to pursue the collaboration with ICES on this topic.
- Conclusion 12. The Scientific Committee adopted the Recommendation 16.4 “Species list for monitoring purposes” as shown in Annex III to the SC16 report.

2. CA1d – Functional stranding networks and responses to emergency situations

- Composition

Task Manager: Pavel GOL'DIN

Vice Task Manager: Anastasia KOMNENOU

Support Group: Marta AZZOLIN, Rimel BENMESSAOUD, Olfa CHAEIB, Erdem DANYER, Aytemiz DANYER Işıl, Aimilia DROUGAS, Carolina FERNANDEZ MALDONADO, Draško HOLCER, Thierry JAUNIAUX, Celine MAHFOUZ, Sandro MAZZARIOL, Danny MORICK, Marian PAIU, Guido PIETROLUONGO, Dimitar POPOV, Yianna SAMUEL, Marina SEQUEIRA, Mark SIMMONDS, Arda TONAY

Overview of relevant activities on this topic during the 2023/2025 triennium

During the Eight Meeting of Parties to ACCOBAMS, Parties requested the creation of a regional Task Force for stranding events: The ACCOBAMS Emergency Task Force for Stranding events (AETFS). The conceptual framework for the ACCOBAMS Emergency Task Force for Stranding events (AETFS) was presented at the Joint meeting ACCOBAMS - Black Sea Commission, 6-7 March 2024. The AETFS aims at assisting emergency and unusual cetacean mortality events and more specifically to monitor and report strandings and bycatch data in the area in a common and real time repository; collect information on ongoing underwater noise sources (including military sources, seismic surveys, use of sonar for oil and gas exploration research, or other work) that effect cetaceans to be monitored, and to enhance passive acoustic monitoring; routinely carry out complete postmortem investigations, including acoustic trauma, with remote advice and support from ACCOBAMS Experts (telenecropsy), when needed; collect and preserve tissue samples and store as a back-up; support the forensic examination of samples when necessary; support live strandings and unusual mortality events responses. The Task Force is jointly chaired by Sandro Mazzariol from Padova University and Thierry Jauniaux from Liege University.

The co-chairs of the ACCOBAMS Emergency Task Force for Strandings (AETFS), reported on the activities of the Task Force to the ACCOBAMS SC. They explained that since the creation of the AETFS, several unusual mortality events occurred in the ACCOBAMS area, reported about the recent method developments and suggested the following Conclusions and recommendations:

The understanding of unusual stranding event requires rapid post-mortem examinations with complete sampling, performed by local and/or remote experts, is confirming the interest of the ACCOBAMS Emergency Task Force for Stranding events. For that, it would be relevant to:

Be informed: information to local, regional authorities in charge of cetaceans' protection and conservation politics concerning the existence of the task force;

Be connected: information about the AETFS on a dedicated page of NETCCOBAMS including contact persons, necropsy protocol (Best practice on cetacean post-mortem investigation and tissue sampling);

Be ready: locally, it is necessary to identify official stranding networks, official authorities, veterinary institutions and facilities (heavy equipment...);

Be prepared/trained: maintain participation at necropsy and telenecropsy training sessions to develop and improve remote advice for dissection and samplings (see the ACCOBAMS/MOROCCO PROJECT: “Training in telenecropsy and standardization of cetacean stranding response methods”); new technologies for training as virtual reality and metaverse should be also put in place

Be standardized: to allow comparison in post-mortem investigations the use of the: “Best practice on cetacean post-mortem investigation and tissue sampling” and Resolution 7.14 for harmonizing diagnosis is essential.

The 17th annual marine mammal necropsy workshop was organized by the Department of Veterinary Pathology (University of Liege, Belgium), in collaboration with the Laboratory of Applied Bioacoustics LAB (Universitat Politècnica de Catalunya, Spain), the UMS Pelagis, Centre de Recherche sur les Mammifères Marins (University of La Rochelle, France), Institute for Terrestrial and Aquatic Wildlife Research, University of Veterinary Medicine Hannover (Germany) and the department of Comparative Biomedicine and Food Science, (University of Padova, Italy). The main goal of this workshop was to train experts biologists and veterinarians on the European Best Practice Document on cetaceans’ postmortem investigations and tissue sampling in order to gain information on possible threats for marine mammals’ conservation. The special focus was on postmortem, telenecropsy & inner ear investigations. The workshop was two-step, May 13: on-line webinar, and July 9-11: on-site necropsy workshop (University of Liege, Belgium).

A telenecropsy training workshop on a scientific photography protocol was organized by ACCOBAMS in collaboration with SPA/RAC and INSTM, at INSTM Monastir Tunisia, in November 2023. The second ACCOBAMS workshop on ingested marine litter monitoring and entanglement evidence in marine mammals of the Adriatic Sea was held in February 2024 at the University of Padova, Italy. The workshop on ingested marine litter monitoring and entanglement evidence in the ACCOBAMS area was convened on the 6 & 7 April 2024 in Catania, Italy. The main objective was to improve the collection of relevant data, especially from stranded cetaceans, with a specific focus on identifying best practice related to monitoring ingested marine litter and entanglement evidence in the ACCOBAMS Area. Series of internal online trainings on live strandings, necropsy and sample collection as well as zoonotic diseases under one health aspects for the provincial personnel of the Ministry of Agriculture and Forestry of Turkish Republic have been conducted since 2021 by the Turkish veterinary experts. Under the project LIFE DELFI, online and in presence training were organized in Italy and Croatia in order to harmonize diagnostic interpretation of post-mortem findings applying specific frameworks to the post-mortem investigations. First results regarding pathogens prevalence have been recently published, as well as some preliminary results on human interactions. Videos and virtual reality experiences were developed for continuous and standardized capacity building events. Local rescue teams were trained for a first response in case of alive strandings and for disentanglement procedures. Additionally, some tools for continuous and standardized training on post-mortem investigations were developed by the AEFTS members for virtual and on-distance training as videos and virtual reality experience.

Telenecropsy initiative was developed, and the progress report on the ongoing tele-necropsy initiative was also presented to the ACCOBAMS SC. This initiative is based on ACCOBAMS Scientific Committee's recommendation to use new technologies for remote training, support, and advice in cetacean strandings. Morocco is leading this pilot project, which involves training in scientific imaging to standardize stranding intervention methods and developing a regional photography protocol. The initiative includes both theoretical and practical training phases, with workshops held in various locations and the use of advanced tools like Discord and NAS for communication and data storage. Future strategy and suggestions were provided based on the progress report.

National Stranding Networks and stranding research teams have been active in most Party countries, including but not limited to Bulgaria, Croatia, Cyprus, France, Greece, Italy, Malta, Romania, Spain, Slovenia, Tunisia, Türkiye, Ukraine, and now many of them are listed as members of the Global Stranding Network (GSN) (<https://globalstrandingnetwork.com/>). Among them, the National Stranding Network for Cetaceans in Tunisia has been actively involved in reporting cetacean strandings along the Tunisian coast. Since May 2023 until today, over 45 carcasses were documented from five different species, with a notable dominance of *Tursiops truncatus*. Necropsy was undertaken when possible and tissue samples were actively collected. Greece has implemented on May 2023 the Joint Ministerial Decision (Official Gazette no. 3376/B/19-5-2023) of the National Stranding and Monitoring Network

of marine wild species (cetaceans, monk seals, marine turtles and Chondrichthyes [sharks, rays]) management stranded alive or dead in Greek territorial waters. A georeferenced National Marine Species Strandings Databank and a National Tissue Bank is also forced to be created to collect and evaluate all the past and present related information. For helping towards the effective management of marine wild species local Stranding network hubs are created in Cyclades islands, following the coastal area and islands of Ionian and Aegean Sea. ARION's Vet Network offers their knowhow and help in stranding events in other Mediterranean countries when asked (e.g. Albania, Cyprus, etc).

In Romania the national network included more than 1000 students and teachers as part of it. In Bulgaria, the Ministry of Environment and Water continues its effort to improve the stranding network by assigning collection and necropsies of fresh carcasses of stranded cetaceans to Green Balkans' Wildlife Rescue Centre. Yet, coordination with Regional Environmental authorities and municipalities is not perfect and such cases when that is achieved are very scarce. The first draft Action Plan for Functional stranding networks and responses to emergency situations based on the ACCOBAMS Resolutions and information documents has been discussed with the input from Task Force members. The OceanCare representative stressed that National Focal Points shall provide the appropriate support to allow in-depth identification of causes of death, especially when it comes to strandings resulting from acoustic trauma and/or noise-generating activities. Information about all activities correlating in space and time in context to the stranding would be helpful to consider all potential causes.

Several unusual mortality events were recorded in the ACCOBAMS area. An atypical multiple stranding of beaked whales *Ziphius cavirostris* was recorded at the coast of Cyprus in February 2023, likely linked to navy exercises. The presence of undigested fresh squid in the stomach, which is an indicator of sudden death, and the intravascular gas bubbles seen in macroscopic examination are consistent with the general findings obtained in previous studies on beaked whales stranded due to military activities. According to the report provided by the government of Cyprus, it was "likely to have been caused by an acoustic related disturbance, probably associated to mid-frequency sonar activities". An UME of harbour porpoises was recorded in the Ukrainian north-western Black Sea in summer 2023, following the freshwater discharge after the Kakhovka dam was blown up, and another event was suggested in Georgia in March 2024. In January 2024, five unusual whale strandings were reported in Morocco, with partial necropsies revealing signs of gastritis and severe kidney congestion. In May 2024, a mass stranding of Cuvier's beaked whales was reported in Corsica, potentially caused by human noise from military exercises. In May 2024, three disoriented *Ziphius* were stranded alive on the eastern coast of Corsica, and two days later another whale was found dead on the island of Elba. In October 2024, three disorientated adult *Grampus griseus* were stranded alive on the Northern coast of Corfu Island in Greece. Death was probably related to fishing activities in the area. Also, an adult Cuvier's beaked whale stranded alive and died on the coast of Almeria, Spain, in November 2024.

Among the most needed activities the members of the Task Force listed the creation and maintaining a living updated list of stranding networks, involved research institutions, other relevant contacts in the ACCOBAMS countries and other networking mechanisms. Also, a role of national focal points and ACCOBAMS Sub Regional Coordination Units in developing stranding networks and responses to emergency situations was suggested as crucial.

3. CA2a – Interactions with fisheries/aquaculture

- Composition

Task Manager: Dimitar POPOV

Vice Task Manager: Caterina FORTUNA

Support Group: Marta AZZOLIN, Ibrahim BEN AMER, Rimel BENMESSAOUD, Pauline GAUFFIER, Tilen GENOV, Joan GIMENEZ, Pavel GOL'DIN, Joan GONZALVO, Draško HOLCER, Souad LAMOUTI, Hüseyin OZBILGIN, Ayaka AMAHA ÖZTÜRK, Marian PAIU, Guido PIETROLUONGO, Marina SEQUEIRA, Aviad SCHEININ, Mohamed Naoufal TAMSOURI, Arda TONAY

- Overview of relevant activities on this topic during the 2023/2025 triennium

Mediterranean Sea

1. ACCOBAMS Secretariat is a partner in three FAO projects:
 - The Monitoring Activities and Mitigation Measures for the Reduction of Dolphin Depredation in Small-Scale Fisheries - Western Ionian Sea (GSA 19)" project, also referred to as the "Depredation-3" is done in consortium with Marecamp Association;
 - Reduction and mitigation of the catch of elasmobranchs, sea turtles, and any other vulnerable species incidentally captured by trawlers along Turkish coast (GSA 24 – Northern Levant Sea) in consortium with the Cukurova University (Adana, Türkiye);
 - Monitoring activities and mitigation measures for the reduction of the elasmobranchs incidentally captured by trawlers and for the reduction of dolphin depredation in purse seiners (GSA 3– Southern Alboran Sea), with the National Institute of Fisheries Research (Morocco). **Joan Gimenez and Pauline Gauffier** are acting as experts in this project.

The ACCOBAMS Secretariat provides overall coordination, through dedicated Steering Committees, advice, and expertise to support the implementation of the activities of each project. **Joan Gonzalvo** is acting as an advisor to assist the Secretariat in the implementation of these three projects.

2. The National Institute of Marine Sciences and Technologies (INSTM) continued monitoring depredation and testing mitigation measures in Tunisian waters (GSA 12 and 13) that was started through a joint project led by ACCOBAMS and GFCM, with the collaboration of SPA/RAC, the National Institute of Agronomy of Tunisia (INAT) and INSTM aiming to mitigate bottlenose dolphins interaction with fish farm and to reduce depredation occurrence in purse seine fisheries. An attempt to monitor passively acoustic occurrence of dolphins around fish farm and around purse seine was made. The bottlenose dolphins' diet was studied and a paper was submitted.
3. The project LIFE DELFI: Dolphin Experience Lowering Fishing Interaction - Life18 NAT/IT/000942) (1.1.2020 – 31.12.2024), coordinated by the Institute for Marine Biological Resources and Biotechnology of the National Research Council (IRBIM-CNR, Italy) with the partnership of 4 MPAs, 3 associations and 2 Universities, aims to reduce negative interactions between dolphins and fishing activities in Italian and Croatian waters while limiting the associated economic loss to fishermen. Activities include: the development and adoption of deterrent devices (acoustic and visual) and alternatives gears to limit the interaction; dolphin watching courses as alternative economic sources for fishermen; the establishment of dolphin Rescue Teams to provide first aid and disentanglement to cetaceans; and the adoption of harmonized necropsy protocols and frameworks for the assessment of fishery interaction on cetacean carcasses.

Black Sea

4. Collaboration with GFCM within the framework of CetaByM project in the Black Sea: testing of mitigation measures for reducing bycatch of cetaceans - PAL pinger trials, fishing gear modifications (mono- and multifilament, net height) and temporal closures. Results in Bulgaria in 2024 showed a smaller reduction of bycatch (78%) compared to 2023 when 89% was observed. That was largely due to higher bycatch levels observed in summer. The final report is pending but provisional results have been very promising and suggest effective mitigation of porpoise bycatch by use of PAL pingers. It is of great importance for these results to be communicated to relevant stakeholders and decision-makers.
5. Collaboration with the Black Sea Commission during the joint ACCOBAMS/Black Sea Commission meeting in March 2024: a proposed network for harbour porpoise bycatch between EC/DG Mare, GFCM, ACCOBAMS, and BSC; regarding the monitoring and mitigation project of harbour porpoise bycatch by GFCM, participants agreed that the results of the GFCM project were impressive and promising for the use of PALs as mitigation

measures against the bycatch of harbour porpoises, which is still the most serious threat for this subspecies. Participants recommended stressing this point at the next SC and following MOP to elaborate some practical recommendations (ex. use of PAL-pingers as a proven mitigation measure; bycatch estimates and threshold values based on CeNoBS project results, etc.).

6. Collaboration with ICES - risk assessment of Black Sea harbour porpoise within ICES WGMME; presenting results of testing different pingers for mitigation of cetacean bycatch to ICES WGBYC (2023, 2024).
7. Participation in ASCOBANS "Workshop to recommend small cetacean conservation objectives in relation to anthropogenic removals - Part 2". The workshop discussed different approaches on specifying acceptable bycatch limits or thresholds. A conservation objective document was drafted. It is highly recommended similar approach be undertaken for ACCOBAMS as we are aiming to reach a unified approach for bycatch threshold assessment together with ASCOBANS, to be introduced to the EC and ICES.
8. The ongoing collaboration with the European Commission as a part of the MSFD D1C1 updating: Members of SC contributed to the work on the setting of threshold values for MSFD D1C1 on incidental bycatch for the European Commission, Directorate D – Sustainable Resources.
9. Projects (Net Free Black Sea and Black NETs) on detection and removal of ghost nets in the Black Sea contributing to lowering bycatch in such gear.
10. Between 15 February and 15 March 2024, about 30 common dolphins were stranded, especially on the western Black Sea coast of Türkiye and in the İstanbul Strait. (In the same period in 2022, at the beginning of the Ukraine-Russia war, it was roughly twice more than this). Four of them underwent necropsy and they were bycatch cases. The main suspects for these abnormal stranding cases are purse seine and mid-water trawls, because 1) they had net marks on the rostrum and mandibles, 2) their stomachs were full of undigested horse mackerel, the target fish species of the most intensive pelagic fisheries in the region at that time. An onboard observer was not available; thus, there was no report of bycatch.
11. The collected data from bycatch monitoring in Bulgaria in 2023-24 included 81 hauls (292.21 km nets) by 7 vessels using bottom set gillnets targeting turbot. The number of bycaught cetaceans was 112 porpoises and 9 bottlenose dolphins.
12. ACCOBAMS/ASCOBANS Joint Bycatch Working Group (JBWG) second official meeting, originally planned in October 2024, was re-scheduled for February 2025. The main issues to be addressed were development in mitigation measures, updates on projects related with bycatch, review of some other fisheries, which have not been evaluated before (e.g., recreational fishing), and, most importantly, revision of the program of work (POW) and appointment of relevant experts who can take tasks in the POW.

Adjacent Atlantic area - (Portugal)

13. Under Order nr. 12140/2023 from the 29th of November a working group was established to identify and propose the adoption of specific measures to minimise interactions between marine mammals, birds, and reptiles with fisheries and to minimise incidental catches of these species as a result of such interactions, in the maritime areas under national sovereignty or jurisdiction included in the continental subdivision of the Marine Strategy Framework Directive.

The objective of the working group is to develop an Action Plan to minimise the incidental capture of marine mammals, birds and reptiles in fisheries, which shall include the following specific objectives:

- (a) identify species whose good population status is at risk in the long term, taking into account current knowledge of their abundance and levels of incidental catches;
- (b) identify, on the basis of current knowledge, the fishing gears and areas with the most significant interactions and incidental catches of the species identified in point (a);
- (c) propose management measures taking into account the information identified in (a) and (b);
- (d) propose programmes to monitor incidental catches by fishery, abundance, and distribution of marine mammals, birds, and reptiles;

(e) propose strategies for the dissemination of best practices contributing to the implementation of the Action Plan.

It is expected that a preliminary version of the Action Plan could be ready by the end of 2024 to be submitted to the relevant ministries and that a set of public sessions could be scheduled with the relevant stakeholders at the beginning of 2025.

4. CA3a – Area-based measures for cetacean conservation

- Composition

Task Manager: Léa DAVID

Vice Task Manager: Souad LAMOUTI

Support Group: Aylin AKKAYA, Antonella ARCANGELI, Marta AZZOLIN, Ibrahim BEN AMER, Rimel BENMESSAOUD, Greg DONOVAN, Nicolas ENTRUP, Caterina FORTUNA, Silvia FREY, Susan GALLON, Pauline GAUFFIER, Tilen GENOV, Joan GIMENEZ, Pavel GOL'DIN, Joan GONZALVO, Draško HOLCER, Giancarlo LAURIANO, Aurelie MOULINS, Ayaka AMAHA ÖZTÜRK, Marian PAIU, Simone PANIGADA, Guido PIETROLUONGO, Dimitar POPOV, Yianna SAMUEL, Mark SIMMONDS, Naoufal TAMSOURI Mohamed

- Overview of relevant activities on this topic during the triennium 2023/2025

An internal **workshop** has been organized the 18th of March 2024, in Monaco, within members of the Task Group on area-based measures for cetacean conservation entitled “REDEFINITION OF THE C.C.H. PROCESS”. The objectives of the workshop were to update the originally proposed ‘CCH’ process used to identify important cetacean habitats, hot spots of human activities that may threaten cetaceans and thus identify important high-risk areas. First an overview has been provided of how and when existing area-based mechanisms and tools can support the Parties to achieve the objectives stated in Annex 2 of the Agreement, including MPAs, OECMs, IMO-related tools, EBSAs and IMMAs, etc. A table has been completed with relevant information considering those existing mechanisms and tools. As the term “Cetacean Critical Habitat” did not exactly reflect the process, the following terms have been chosen explaining better the process and, moreover, keeping the acronym CCH for visibility and traceability reasons: Cetacean Co-occurrence with Human activities. The workshop confirmed the interest in achieving the overall idea of overlapping cetacean layers and human pressures and wrote some practical recommendations for the process to follow. One of them was to strengthen links with Duke University which was leading a global analysis about mapping cetacean densities through Surface Density Modelling over the entire ACCOBAMS area.

During the Monaco Ocean Week, ACCOBAMS organized a side-event “Why do we care about whales and dolphins” Oceanographic Museum of Monaco, Room “Tortue”, the Wednesday 20th March 2024, 14h00 – 16h00. The CCH process has been presented among other initiatives.

A **workshop** was organized and held during the 35th annual conference of the ECS, in Catania, Sicilia, the 8th April 2024, intitled “Mapping human activity data in the ACCOBAMS area”.

According to the ACCOBAMS Conservation Plan, Parties shall establish and manage specially protected areas corresponding to the areas which serve as habitat of cetaceans. In parallel, data on human pressures at an appropriate geographical and temporal scale are needed, with spatial mapping being an important tool to identify hot-/cold-spots of anthropogenic pressures. The obtained maps on human pressures will be overlaid with those on cetacean's density and will feed the Cetacean Co-occurrence with Human activity (CCH) initiative. The objectives of the workshop were: 1) Review the relevant sources of data, access and availability; 2) Identify spatial analysis methods for each of the above to obtain quantitative maps (with associated measures of uncertainty and precision) and agree on terminology; 3) Review and identify metrics to use for the aim of mapping pressures in the context of cetaceans. As conclusion it has been recognised that presentations of reference on how to map human pressure were presented, including good methodological synthesis for this type of work for 5 human activities, synthetised by experts (SHOM,

Globalfishingwatch, CIMA foundation, University of Brest, SINAY), including some work in link with existing ACCOBAMS initiatives (noise, whale-watching). Those presentations were followed by discussions about the identification of limits and relevant methods for each, and some recommendations were agreed on by the 37 participants from all Europe.

At the SC 16 meeting, held in Barcelona (nov 2024), the Duke University was invited and presented the results of its work.

The task manager attended two workshops about Marine Spatial Planning (MSP data Tools and Guidance, 13th March 2024 and MSP4Bio, 9th April 2025) and is also part of the Ad hoc Group of Experts for Marine Protected Areas in the Mediterranean (AGEM) from the SPA/RAC and therefore participated at several meetings and workshops.

IV. REPORTS BY THE CHAIRS OF THE WORKING GROUPS

1. Joint By-Catch Working Group

The **Joint Bycatch Working Group (JBWG)** was established in January 2019 as a collaborative mechanism between **ACCOBAMS** and **ASCOBANS** to advance coordinated efforts on cetacean bycatch. It is co-chaired by **Dr. Ayaka Amaha Oztürk** (Turkish Marine Research Foundation/Istanbul University, Türkiye) and **Dr. Peter Evans** (Sea Watch Foundation/Bangor University, UK), who have maintained close contact with each other and their Secretariats.

JBWG Meetings and Workshops

- **JBWG1** (10–12 February 2021, online): Attended by more than 150 participants from 31 countries. The meeting produced a **Programme of Work (PoW) for 2021–2023** and 24 recommendations.
- **Catch-up Meeting** (18 August 2022, online): Focused on reviewing progress on the PoW.
- **Workshop on Current Bycatch Issues in European Waters** (17 April 2023, O Grove, Spain): Organized prior to the European Cetacean Society conference, with 43 participants, including representatives from fishing communities.
- **JBWG2** was originally scheduled for October 2024 but rescheduled to **February 2025** due to low registrations. Its aims are to:
 - Revise the PoW and establish priorities;
 - Secure task leads;
 - Consider updates to the Terms of Reference;
 - Elect new Co-Chairs.

In parallel, two **ASCOBANS Conservation Objectives workshops** (April–May 2023) evaluated bycatch thresholds. The long-term goal is to minimize (ultimately eliminate) anthropogenic removals. In the short term, the objective is to restore or maintain populations at ≥80% of carrying capacity. For harbour porpoises, bycatch should remain <1% of the best population estimate, with >1.7% removals considered unacceptable. For species with reduced populations or high uncertainty, thresholds may be set lower.

Other Bycatch-Related Activities

Beyond the JBWG, several initiatives have been undertaken across the ACCOBAMS and ASCOBANS areas:

Workshops and Conferences

- **FAO-GFCM Fish Forum 2024** (Antalya, Türkiye): Workshop on *“Mitigating multitaxa fisheries interactions in the Mediterranean”*, co-organized by ACCOBAMS, GFCM, UNEP-MAP-SPA/RAC, IUCN-Med, MEDASSET, BirdLife ECA, WWF, and the Turkish Marine Research Foundation.

- **The Future of Marine Biodiversity Monitoring in Europe** workshop (5–7 November 2024, Sitges, Spain): Organized by JRC and CINE, with ACCOBAMS Co-Chair participation. Challenges and solutions in monitoring, including fisheries, were addressed.

Bycatch Projects

Recent projects such as **OBSCAMe**, **CetAMBicion**, **CIBBRiNA**, **Marine Beacon**, **MedBycatch**, and **Bycatch4Fish** have advanced knowledge and produced results now being shared within the JBWG framework.

Coordination with International Bodies

JBWG collaborates closely with international organizations addressing bycatch, including **ICES WGBYC**, **FAO**, **GFCM**, **IWC**, **OSPAR**, and **HELCOM**. To avoid duplication, the WG integrates external efforts while focusing on filling knowledge and action gaps. Representatives from these bodies regularly attend JBWG meetings.

ASCOBANS Co-Chair Dr. Evans maintains liaison with **NEAFC**, **NAMMCO**, **OSPAR**, **HELCOM**, and the **Marine Stewardship Council**, and actively contributes to **ICES WGBYC** (bycatch of protected species) and **ICES WGMME** (marine mammal ecology), leading a Term of Reference on bycatch risk estimation. He also engages with the European Commission's Joint Research Centre (JRC).

Conclusion

Since its establishment, the JBWG has served as a key platform for harmonizing actions to reduce cetacean bycatch across the ACCOBAMS and ASCOBANS regions. Through its formal meetings, thematic workshops, regional projects, and coordination with international bodies, the Group is advancing common objectives to reduce anthropogenic removals, strengthen scientific collaboration, and ensure the effective integration of conservation targets into fisheries management.

2. Joint Noise Working Group

A progress report was provided by the co-chair of the Joint Noise Working Group (JNWG) on activities carried out during the last triennium, which included:

- the ACCOBAMS Mediterranean technical assessment on anthropogenic underwater noise as part of the 2023 Quality Status Report of the Barcelona Convention (IG.26 taken at COP23 of UNEP/MAP);
- collaboration with the TG-Noise for the development of new EU guidelines on underwater noise monitoring and assessment;
- the participation to the SeaSounds project;
- engagement in the Joint ACCOBAMS-ASCOBANS Workshop with Navies on Underwater Noise and Cetaceans held on 26-27 November 2024 which focused on mitigating the impact of underwater noise—particularly from sonar and unexploded ordnance (UXO) blasts—on cetaceans.

Discussion focused on the need for ACCOBAMS Parties to provide comprehensive information on impulsive noise-generating activities to allow a proper assessment of noise emissions in the Agreement area and their potential impact on cetaceans. National responsible institutions should provide data on impulsive noise generating sources and activities from anywhere in the ACCOBAMS Area into the existing Regional Noise Registry, managed by ACCOBAMS for publicly available data.

3. Working Group on Ship Strikes

Vessel strikes are a significant threat to large cetaceans, particularly fin and sperm whales, in the Mediterranean. Recognizing this, **ACCOBAMS** and the **International Whaling Commission (IWC)** have collaborated to understand the

issue and develop mitigation measures. Workshops have identified **high-risk areas** where dense shipping overlaps with whale habitats:

1. Strait of Gibraltar
2. Wider Pelagos Sanctuary
3. Hellenic Trench
4. Balearic Islands
5. Almería–Nador (eastern Alborán Sea)
6. Strait of Sicily

To address this, a **Working Group (WG)** was established under the ACCOBAMS Scientific Committee to follow up on workshop recommendations and coordinate actions with the IWC, Pelagos Sanctuary, Range States, and experts.

Objectives and Methods

The WG focuses on identifying risk areas for vessel strikes and developing mitigation strategies through:

- Analysis of **vessel traffic data** (AIS, routes, density, speeds).
- Mapping **cetacean distribution and abundance** in relation to shipping.
- Collecting strike data from strandings, necropsies, photo-ID, and the IWC vessel strike database.
- Modelling collision risks and potential population-level impacts.

The ultimate goal is to conduct a **robust assessment of vessel strikes** in the Agreement Area and identify effective mitigation measures, prioritizing areas where population-level effects are likely.

Terms of Reference

- Members contribute voluntarily and communicate mainly by email.
- Meetings may occur alongside existing events (e.g., ECS, IWC).
- The WG prioritizes and implements research and management recommendations in collaboration with Parties, Range States, IWC, and the Pelagos Sanctuary.
- Strong links are maintained with the IWC's **Ship Strike Working Group (SSWG)**, using the same global vessel strike database.

Key Work Areas

- **Improved reporting and awareness:** promoting vessel strike reporting, involving shipping companies, and engaging marine press.
- **Evaluation of mitigation tools:** WhaleAlert app, REPCET, routing measures, and speed restrictions.
- **Collaboration with IMO and CMS:** ensuring uptake of measures at international level.
- **Enhanced data collection:** necropsy protocols, photo-ID evidence, telemetry to track whale movements, and AIS analysis of vessel activity.
- **Integration of IMMAs:** using Important Marine Mammal Areas to identify high-risk zones requiring management attention.

Mitigation Measures

Workshops emphasize that **separating whales and vessels** spatially/temporally (e.g., routing schemes) is most effective. The **only proven measure** to reduce lethal collisions is to lower vessel speed to **10–13 knots**. Comprehensive data collection and reporting to the IWC database remain essential for evaluating risk and developing tailored measures.

The Shiprint Project

Launched in 2023 and funded by *Initiative Pelagos*, the **Shiprint project** supports the implementation of the **Northwestern Mediterranean Sea Particularly Sensitive Sea Area (NW Med PSSA)**, established by IMO (Resolution MEPC.380(80)).

Activities include:

- Expanding **NETCCOBAMS** with a new AIS tracking module, incorporating speed recommendations, GHG emissions, and underwater noise.
- Organizing **four in-person workshops** (plus online training) for shipping companies, vessel operators, and port authorities to promote mitigation.
- Raising awareness through a **photo exhibition** and the development of **whale-safe certification guidelines**.

Future Work (2026–2028)

Planned priorities include:

1. Continue collaboration with IWC on vessel strike data.
2. Liaise with the Pelagos Agreement and related working groups.
3. Participate in ongoing mitigation projects (e.g., LIFE SeaDetect, LIFE Conceptu Maris).
4. Develop a **whale-safe certificate** (drawing on U.S. and European initiatives such as Stellwagen Bank and Green Marine Europe).
5. Assess compliance with NW Med PSSA measures via NETCCOBAMS.
6. Use **IMMAs** to identify high-risk areas.
7. Collect **telemetry data** to integrate whale movements with AIS traffic for Close Point of Approach (CPA) analysis and mitigation design.

4. Working Group on MMO

In 2023-2025, 7 trainings have been realized, leading to the certification of around 80 new ACCOBAMS MMO/PAM of different nationalities, mainly from the ACCOBAMS area and Atlantic bordering countries. There is a need to update the course content in order to reflect the evolution of this topic and scientific knowledge, and adapt the training tools. The creation of a LinkedIn profile for the ACCOBAMS certification to strengthen its visibility and promote links among stakeholders, as ACCOBAMS MMO/PAM, trainers and industrials has been proposed.

5. Working Group on NETCCOBAMS

The NETCCOBAMS platform aims at tackling specific management needs and objectives of ACCOBAMS by aggregating data in one place, scientific validation, and supporting decision-making based on insightful data. So far, there are 120 registered users on the platform; however, not many active users add data/information to the network. Feedback so far has mainly been related to technical issues with registration. There are still six members of the ACCOBAMS Scientific Committee who have not registered on the platform and have been kindly invited to do so. There are now 44 projects in the “Activities” section of the platform. Most have explicit descriptors (logo, tags, description), however, many still lack data/files in the *Documents* section.

NETCCOBAMS was a subject in two workshops of the European Cetacean Society conference in April 2024:

- Mapping human activities data in the ACCOBAMS area
- Advancing knowledge on fin whales in the Mediterranean Sea. Effort was undertaken to address one of the workshop resolutions: importance of regular contact amongst Fin whale experts in the region in addition to more intensive workshops (say every 5 years). Options suggested include establishing a more formal fin whale community, use of an email list, use of NETCCOBAMS. It was suggested that the organizers of the present workshop investigate this and develop a proposal for consideration by the participants.

NETCCOBAMS and KMaP

During the second coordination meeting of the NW Mediterranean PSSA (Particularly Sensitive Sea Area) collaboration between UNEP-MAP KMaP (<https://kmap.info-rac.org/>) and ACCOBAMS NETCCOBAMS platform (<https://accobams.org/>) was presented showing available tools and functionalities. An experiment of cooperation already carried out was shown and concretized in an experiment of mean boat speed display during the 2023 summer over the new PSSA area, by extrapolating AIS data from NETCCOBAMS over 1km square cells grid and representing them in the KMaP as an animation.

Further collaboration regarding ship strikes and underwater noise is being discussed between ACCOBAMS and the Information and Communication Regional Activity Centre (InfoRAC).

NETCCOBAMS from ACCOBAMS and KMap from UNEP-MAP are fully complimentary and compatible since both the platforms share geographical data, allow for multiple levels of access, with different rights and permissions, and support metadata sharing together with data, acknowledging the importance to document data.

For this reason, a general collaboration plan was signed in the form of a Memorandum of Understanding where the roles are basically summarized as follows:

- ACCOBAMS, to respond to specific needs and management purposes through its NETCCOBAMS platform:
 - Data Production for the PSSA, including through AIS data which are already available and used for different purposes such as ship-noise monitoring
 - Data production for D11/EO11 monitoring and assessment through Acoustic Map module;
 - Data production for D1/EO1 monitoring and assessment through ASI programme
- InfoRAC to capitalize the data and information shared from NETCCOBAMS
 - To harmonise data and information on ship strikes with other topics addressed in the KMaP platform
 - To contribute achieving UNEP/MAP objectives, including IMAF Ecological Objectives
 - To raise awareness on the specific matter

In particular, for the needs of the NW PSSA establishment, NETCCOBAMS offers a tool (Visi Zone) to evidence, in near-real time, the speed of boats navigating over a selected geographical region from AIS data and KMaP offers tools for data dissemination such as animated maps and dashboards. From the PSSA definition document, a speed comprised between 10 and 13 Nautical Knots could diminish considerably the risk of ship strikes with cetaceans.

In this frame, a first pilot study and cooperation experiment is introduced where a time series of maps of ships mean speed in the PSSA area are produced from Visi Zone. Subsequently, the dataset is represented in KMaP using an animation map and a dashboard to visually explore traffic loads and characterize speed.

For the future, it would be interesting to improve the current experiment by spatially evidence zones where the limit of 13 kn is more frequently overpassed or cross these zones with eventual cetacean routes to understand the effective risk of collision.

It would also be interesting to improve technical/scientific cooperation (i) extending the experiment in time to create a proper database of boats' speed weekly aggregated data, (ii) study the evolution over time of mean speed to better characterize boat traffic in the PSSA (e.g. spatial variation from one season to the other, identification of most frequented zones etc.), (iii) better understand how to cross quasi-real time data offered by NETCCOBAMS with cetaceans observation survey data to create meaningful and effective risk maps.

6. Working Group on semi-captivity “centers” in the ACCOBAMS Area

Semi-captivity of cetaceans has been an issue considered for several years by ACCOBAMS, which was addressed in particular in 2 reports: “Taking of cetaceans, dolphinarium and quasi-dolphinarium: a legal analysis relating to ACCOBAMS Parties” (ACCOBAMS-MOP7/2019/Inf 09); and “Scientific perspective on “potential marine semi-enclosed facilities” in the ACCOBAMS Area” (ACCOBAMS-MOP8/2022/Inf52).

Based on the recommendations of the latter, the Eighth Meeting of the Parties to ACCOBAMS (MOP8) agreed that the Scientific Committee should establish an Advisory Committee on semi-enclosed facilities to provide guidance to interested Parties in relation to all questions related to semi-enclosed facilities. At its Fifteenth meeting held on 10-11 May 2023 in Tunis, the ACCOBAMS Scientific Committee adopted Terms of Reference for an ACCOBAMS Advisory Committee on semi-enclosed facilities (ACCOBAMS-SC15/2023/Doc17). A detailed document, drafted by the members of this Advisory Committee, has been largely adapted from the document *Standards for Cetacean Sanctuaries* adopted by The Global Federation of Animal Sanctuaries (GFAS) and released in June 2023, taking into account the ACCOBAMS framework.

A few initiatives have been made public, which aim at providing increasingly necessary facilities posing an alternative to dolphinarium and marine parks, by creating the so-called cetacean sanctuaries or refuges. In an ACCOBAMS’ context it is suggested to use the latter term **refuge**, to avoid confusion with concepts of marine protected areas. For example, the “Pelagos Sanctuary for Mediterranean whales and dolphins”, a well-known protected area in the Mediterranean, has a completely different nature and goal than dolphin refuges. Hence, tentatively, hereafter Semi-enclosed Facilities for Cetacean Species will be referred as refuge/s.

It must be emphasized that a true refuge intends to approximate a natural cetacean habitat to the fullest extent possible while promoting diverse, natural behaviours and relationships amongst the cetaceans. The welfare of cetaceans takes priority over all other considerations, including visitors, caregivers, scientists and donors. Cetacean refuges, as do traditional dolphinarium and marine parks, must provide human care essential for animal health and safety.

Finally, the recent application should be noted of the EU Directive 2016/429 on transmissible animal diseases and amending and repealing certain acts in the area of animal health, also named ‘Animal Health Law’ (AHL) and the Regulation 2035/2019 supplementing Regulation (EU) 2016/429 of the European Parliament and of the Council as regards rules for establishments keeping terrestrial animals and hatcheries, and the traceability of certain kept terrestrial animals and hatching apply to potential cetacean refuges.

These legal frameworks dealing with diseases transmission in all the animals kept under human care, including terrestrial and aquatic wild animals, should be applied by EU members and candidate Countries. This legal framework provides a well-defined legal classification for all the facilities keeping animals, including those maintaining wild animals in a confined establishment. All the member states will adopt differently the classification of the different establishments and, in case of proposal of a dolphin refuge, this national classification should be considered as a legal reference. As an example, Italy has adopted the above-mentioned EU legal framework with the Law Decree 135/2022 and the following decrees from the Ministry for Health and Ministry for the Environment:

Dolphin refuges are included among the collections of wild species different from zoos and aquaria.

All these establishments have to identify proper management measures considering biosafety, animal welfare and workers safety and respond to national and international recommendations.

7. Whale Watching Working Group (WWWG)

The following activities were developed:

- The results of the study carried out in the Sado estuary (Portugal) to define a carrying capacity for commercial dolphin watching are ready to be implemented and a new system of licensing will be developed in the future.
- An App named ILogWhales incorporating the common procedure for data collection by the whale watching companies, was developed by CIMA Research Foundation (CIMA) in the framework of the Interreg Fr-It project EcoSTRIM. Since 2023 CIMA and the Whale Museum (Madeira) collaborate to update the App and test it with whale-watching operators in the Mediterranean and in Atlantic. The results (to be presented at SC17) are promising but a few updates and improvements are still needed. It is expected that a new version could also be tested in south Portugal in 2025.
- In the framework of the project “*NextGenerationEU – Piano Nazionale Resistenza e Resilienza (PNRR)*” funded by the EU thanks to the Award of the MUR “*National Biodiversity Future Center – NBFC - Activity 4 Biodiversity mainstreaming in Maritime Spatial Planning*”, CIMA is mapping the whale-watching effort and quantifying the socio-economic value of the whale-watching with the High Quality Whale-Watching® in the Ligurian waters. Results will be available at the end of 2025.
- MIRACETI implemented a pilot study (MARKER 2021-2023) aiming at providing concrete and standardized assessment tools (ecological and socioeconomic indicators) to monitor the evolution of pressure on cetacean populations from whale-watching activity in the French Mediterranean Sea and evaluate the effectiveness of the High Quality Whale-Watching® (HQWW) certification. Following the preliminary results, MIRACETI will look for funding to develop an in-depth study to further analyse this issue.
- The HQWW collective certification mark has been renewed with Cabinet Hautier by ACCOBAMS. However, the Regulations governing the use of this label still need to be updated and can be registered with the Monegasque and EU trademark offices in the next months.
- MIRACETI initiated the co-construction of a consolidated project to promote the contribution of whale-watching operators to cetacean conservation in MPAs by:
 - Strengthening collaboration with MPA managers;
 - Testing tools for collecting and promoting cetacean data and knowledge;
 - Developing tools for exchanging and sharing knowledge.
- ACCOBAMS is an associated partner of the Interreg Euro-MED “*BlueWatch*” project proposal, led by CIMA Research Foundation. If accepted, it will involve Italy, Portugal, Croatia, Spain, and Montenegro, with the goal of reinforcing and promoting sustainability in the marine tourism sector, focusing on marine life watching.

Summary of MSFD/EcAP Correspondence Working Group and Related Initiatives

The **MSFD/EcAP Correspondence Working Group (WG)** was established at MOP6 (2016) to foster transnational collaboration and ensure consistency in defining Good Environmental Status (GES) for marine mammals. Its Terms of Reference (SC11, 2017) include: collecting information on national monitoring programmes, identifying representative species for GES assessments, harmonising criteria and threshold values across frameworks, and ensuring alignment with the EU Marine Strategy Framework Directive (MSFD) and the Ecological Approach (EcAP) under the Barcelona Convention.

In 2021, the WG contributed to the UNEP/MED report on **IMAP Common Indicators (CI3: distribution, CI4: abundance, CI5: demographics)**. The report highlighted the need for refined sub-regional monitoring units (e.g., fin whale feeding grounds, sperm whale breeding areas) using ASI data and IUCN Red List assessments to strengthen the next evaluation cycle.

A significant milestone was the **Workshop on Cetacean Abundance Estimation through Distance Sampling Methods (WKCETAB)**, held in April 2024 at ISPRA (Rome). Experts from Spain, France, Italy, and other Mediterranean states reviewed design-based vs. model-based analytical approaches using datasets from SCANS, ASI, CETAMBICION, ABIOMED, and ICCAT. The workshop emphasised the need for methodological coherence and proposed a roadmap, with the 2025 meeting set to tackle: (1) agreement on Assessment Units, (2) long-term monitoring strategies, (3) harmonised abundance reporting methods, (4) improved data flow and management systems, and (5) synchronisation of large-scale surveys. The ACCOBAMS Scientific Committee Chair's participation was considered crucial for ensuring regional consistency.

Within the **Pelagos Action Plan (2022–2027)**, spatial analyses of cetacean abundance and distribution are underway using datasets from French (SAMM, MOOSE, Pelmed), Italian, and Spanish (MEDIAS, ICCAT, DMESAL, DMLEBA) surveys covering 2009–2023. These analyses target fin whales, sperm whales, Cuvier's beaked whales, and bottlenose dolphins, applying spatial density models with environmental covariates. Results will deliver updated abundance estimates and density maps for the Pelagos Sanctuary and the wider western Mediterranean, aligned with MSFD reporting.

The **ABIOMMED project** (2020–2023) further supported Mediterranean Member States in MSFD implementation through a regional questionnaire. While general consensus emerged on monitoring methods, no agreement was reached on common assessment methodologies, underscoring the importance of continued coordination through ACCOBAMS and related fora.

V. RECOMMENDATIONS ISSUED BY SC16

[RECOMMENDATION 16.1](#) - POST-WAR PLAN FOR THE BLACK SEA CETACEANS

[RECOMMENDATION 16.2](#) - ABUNDANCE AND DISTRIBUTIONS

[RECOMMENDATION 16.3](#) - ASI2 AND THE ACCOBAMS LTMP

[RECOMMENDATION 16.4](#) - SPECIES LIST FOR MONITORING PURPOSES

[RECOMMENDATION 16.5](#) - POPULATION STRUCTURE

[RECOMMENDATION 16.6](#) - STRANDINGS ISSUES (AETF, FUNCTIONING STRANDING NETWORKS)

[RECOMMENDATION 16.7](#) - BYCATCH AND BOTTOM TRAWLING

[RECOMMENDATION 16.8](#) - REVISION OF THE FAO GFCM GUIDELINES ON MONITORING INCIDENTAL CATCH OF VULNERABLE SPECIES IN THE MEDITERRANEAN AND BLACK SEAS (FAO 2019)

[RECOMMENDATION 16.9](#) - ANTHROPOGENIC UNDERWATER NOISE

[RECOMMENDATION 16.10](#) - SHIP STRIKES

[RECOMMENDATION 16.11](#) - COMMERCIAL WHALE WATCHING IN THE ACCOBAMS AREA

[RECOMMENDATION 16.12](#) - MARINE DEBRIS

[RECOMMENDATION 16.13](#) - SEMI-CAPTIVITY (PASSPORT & GUIDELINES)

[RECOMMENDATION 16.14](#) - AREA-BASED MEASURES FOR CETACEAN CONSERVATION

[RECOMMENDATION 16.15](#) - NETCCOBAMS

RECOMMENDATION 16.1 – POST-WAR PLAN FOR THE BLACK SEA CETACEANS

Recalling Resolution 8.12 on “IUCN Red List Status of Cetacean Species in the ACCOBAMS Area” which:

5. Calls on Parties to take into account the military and anthropogenic impacts of military operations during the implementation of Conservation Management Plan in the Black Sea;

Recalling Resolution 8.17 on “Anthropogenic Noise” which:

7. asks the Scientific Committee to develop a post-war Plan for the Black Sea region towards the mitigation of warfare consequences on cetaceans, their habitat and their preys;

Taking into consideration its operative paragraph is clearly not restricted to looking into noise generating activities and impacts, but with a generic approach addressing all consequences resulting from warfare activities including marine pollution, eutrophication, increased risk of infections, increased risk of bioinvasions of alien (non-indigenous) species, and other effects. Also, war activities not directly related to combat are to be considered, such as construction works (especially those producing underwater noise or altering the seascape) or changes in shipping routes.

Taking into consideration the results of the Joint ACCOBAMS – Black Sea Commission Meeting, where it was stated that: “In the framework of the AETFS [Emergency Task Force for Stranding events], a specific “Black Sea” Sub-Task, composed by experts from Black Sea Countries is to be created and shall provide annual summary information to the AETFS, and to the “Network for harbour porpoise bycatch in the Black Sea between the European Commission, DG Mare, GFCM, ACCOBAMS and the Black Sea Commission”.”

The Scientific Committee **specifically notes** that the military operations may have adversely impacted all the riparian countries to some degree.

Therefore, the Scientific Committee **recommends**:

- to organize dedicated regional workshops including the experts on the relevant topics to elaborate the road map for the Post-war Plan for the Black Sea region towards the mitigation of warfare consequences on cetaceans, their habitat and their preys (hereinafter, Post-war Plan for the Black Sea);
- to consider, *inter alia*, the areas, topics and activities/measures listed in the **Annex I** during the work on the Conservation Management Plan for the Black Sea cetaceans and the Post-war Plan for the Black Sea;
- to promote implementation of applicable activities/measures under the Post-war Plan for the Black Sea as soon as it is adopted, regardless of the military situation, as some of the activities/measures are relevant at that moment.

Annex I

Areas, topics and activities/measures relevant for the Post-war Plan for the Black Sea region towards the mitigation of warfare consequences on cetaceans, their habitat and their preys

Assessment

1. Comprehensive monitoring of underwater noise, chemical pollution, marine debris and biological indicators of stress in animals, as well as *postmortem* studies, studies of pathology, lifespan and population structure, are necessary for understanding and managing the war impact and other anthropogenic impacts (construction, seismic surveys), until it is secured that the post-war impacts have been decreased to pre-war levels.
2. Collecting and long-term archiving of organ and tissue samples for the purposes of multiple screening and identification of causes of death, including but not limited to identification of contaminants, pathogens, ingestion of or entanglement in marine debris, evidence of acoustic trauma or blast injury, brain damage and indicators of individual stress. ***Building and enhancing the capacity of the Parties, including national stranding networks and tissue banks, will contribute to this effort.***
3. Assessment of the losses, damage and potential possibility or need for restoration of species, populations and habitats. Development and application of existing remote sensing methods for assessing marine and coastal environments (including detection of sea mines and ammunition, other objects which can threaten the cetaceans and their prey at the sea floor). Enhancing new technology, including screening techniques for identification of contaminants, pathogens and alien (non-indigenous) species introduced by war related activities.
4. Assessing the impacts on distribution and abundance of prey for cetaceans is necessary.
Assess potential shift in distribution of species and populations, their feeding and breeding grounds and migration routes due to warfare activities. This may include cooperation with the GFCM and other dedicated national and international bodies related to fisheries.
5. Assessing increase of bycatch risk and related bycatch mitigation measures in light of shifts in prey distribution and other stress factors affecting animal health.

Action

6. Demining is crucial for the short and long-term health of cetaceans and the entire marine ecosystem. By prioritizing the removal of explosives, both historical and contemporary, using Best Available Technology and Best Environmental Practices, we can minimize the impact of explosions on the environment and support ongoing research efforts. This may include building on existing demining initiatives in the North and Baltic Seas to develop comprehensive guidance for identifying and safely removing all types of underwater explosives, both floating and sunk.
7. Establishing new marine protected areas by Parties planned on the basis of previously identified Important Marine Mammal Areas (IMMAs), including transboundary and international reserves, will be important for cetacean conservation. Biosphere reserves may be suggested for areas of high cultural importance and exceptionally high anthropogenic impact, including those damaged by war.
8. Response to stranding events is recommended to be enhanced by Parties, aligned with strengthening the national stranding networks and cooperation with the relevant task force for a better response and capacity to carry out *postmortem* investigation, collect, preserve and analyse samples.

9. Development and implementation of bycatch mitigation measures including those responding post war effects are recommended to be further elaborated by Parties, along with monitoring of the bycatch.
10. Education and public awareness campaigns for the Black Sea marine ecosystem under pressure, particularly from military activities, are recommended to be provided and created by Parties for a broad audience and professionals in relevant fields.
11. A post-war basin-wide synoptic survey of cetaceans in the form of aerial survey will be necessary for updating the status of cetacean populations in the Black Sea.
12. Cooperative regional effort is necessary for achieving the aforementioned objectives. This also may involve international and transboundary projects and agreements, as well as the Sub-Regional Coordination Unit.

RECOMMENDATION 16.2 – ABUNDANCE AND DISTRIBUTIONS

MODELLING ANALYSES BY DUKE UNIVERSITY

Cañadas presented a summary of her work on analysis of more than two decades of survey data (including ASI data) in the Black Sea and the Mediterranean Sea. This was the result of an enormous collaborative effort, where 12 organizations from the Black Sea shared their data totalling more than 42,000 km of survey effort yielding more than 8,000 observations of cetaceans, and 43 organizations from the Mediterranean Sea shared their data totalling more than 1,600,000 km of survey effort yielding more than 40,000 observations of cetaceans. All these data were analysed by Cañadas to produce abundance estimates and distribution maps through density surface modelling and applying correction factors for availability and perception biases to all surveys, as well as other methods like winsorizing to avoid unrealistic extrapolations and a statistical approach to assign unidentified species to particular species. Challenges encountered during the analysis were discussed, as well as cautions in the interpretation of results, and opportunities that these approaches present for the future.

The Committee welcomed the presentation by Cañadas that reflected an enormous and comprehensive effort to try to integrate a vast amount of data from a wide variety of data sources over some two decades to examine cetacean abundance and distribution. This vast dataset provides an excellent opportunity to examine the implications of many assumptions involved in such an integration process and, especially, in terms of examining the costs and benefits of such an approach in terms of the effects on uncertainty on abundance estimates and distribution in terms of their use in a conservation and management context.

The Committee **recommends** that:

- (1) the abundance estimates provided by this modelling exercise are **not** considered approved estimates in a conservation and management context, at least until the uncertainties behind the assumptions of the analysis and the robustness of the results (in terms of precision and bias) have been examined and the question as to what time period they may be considered to apply;
- (2) the great potential to use the extensive work undertaken so far to examine the implications of assumptions made is not lost e.g., with respect to: inclusion/exclusion of different datasets, e.g., types of survey; treatment of uncertain identifications; approaches to estimate $g(0)$ and effective strip widths; use of 'climatologies', 'winsorising' etc. This is of wider implication than simply for the region presented and has important implications for distribution modelling, as well as abundance; and
- (3) the results from the design-based analyses from the ASI surveys represent the best recent abundance estimates for the region (recognising, as did the ASI programme itself that for some species, e.g., deep divers and those with limited distribution such as coastal populations, broad-scale surveys may not represent the most appropriate way to obtain abundance estimates) – this is consistent with the approach agreed in the report of the ICES group (ICES. 2024. Workshop on Cetacean Abundance Estimation Through Distance Sampling Methods (WKCE-TAB);
- (4) the published ASI estimates (recognising the limitation for some species identified above) will be submitted to the IWC Scientific Committee for review as part of ongoing efforts to develop internationally recognised and consistent lists of approved abundance estimates;
- (5) once the work on assumptions and uncertainty with respect *inter alia* to datasets referred to under (2) are dealt with, efforts are made to integrate such time series of appropriate data within modelling exercises to improve analyses of distribution.

RECOMMENDATION 16.3 – ASI2 AND THE ACCOBAMS LTMP

The Scientific Committee **welcomes** the commitment in principle shown by the Parties to ASI2 as part of the ACCOBAMS LTMP (recommendation 14.1) expressed in Resolution 8.10 where, *inter alia*, ACCOBAMS Parties stated that :

... the LTMP is not only fundamental to the ability of the Parties to meet the stated objectives of ACCOBAMS, but will also assist individual Parties to meet relevant national and international commitments, which include the objectives of the Barcelona Convention Ecosystem Approach/Integrated Monitoring and Assessment Programme (EcAp/IMAP) and the Action Plan for the Conservation of cetaceans in the Mediterranean Sea (IG25/13), the European Union relevant legal frameworks, *inter alia* the Habitats and Marine Strategy Framework Directives, the Black Sea integrated monitoring and assessment programme.

It **notes** that despite the exhortations of Resolution 8.10 and the efforts of the Secretariat, the Scientific Committee and some Parties, the necessary funds to implement the work required to start the LTMP programme/ASI2 were not obtained. In summary, the Scientific Committee **stresses the urgency** of the Parties meeting their commitments to ASI2 soon as possible and:

- (1) **reiterates** the fundamental importance of a synoptic ASI2 survey and the LTMP to the ability of ACCOBAMS to meet its stated objectives;
- (2) **agrees** that new technologies do not, certainly at present time, provide a scientifically (or economically) viable alternative to the existing agreed protocols for ASI2;
- (3) **confirms** that ASI2 thus needs to follow the approved survey design principles and methods adopted during ASI, modified in the light of (a) consideration of the geopolitical situation; (b) final evaluation of the density maps from ASI; and (c) the available funding, noting that an initial re-examination of the costs for similar coverage to ASI will be close to the breakdown and estimate shown in SC16-Doc08 (1,100,000 EUR) and that finessing this is dealt with under (5) below;
- (4) **endorses** the Bureau's decision to postpone the implementation of ASI2 for the Mediterranean and the contiguous Atlantic area to at least summer 2026;
- (5) **stresses** that the ASI experience has shown that the scientific and logistical work involved in organising and coordinating such a large-scale, multi-national survey is immense and cannot be achieved in a timely fashion (even for summer 2026) without immediate minimal support, especially in the form of the appointment of a scientific coordinator and a project officer as soon as possible;
- (6) **recommends** that the Executive Secretary, in collaboration with the Chair of the Scientific Committee, and the support of the Bureau, reignites urgent contacts with the Parties to:
 - reiterate in a practical manner their commitment to Resolution 8.10 on the ACCOBAMS Long-Term Monitoring Programme and especially ASI2;
 - secure the necessary financial contributions or at least formal commitments by or soon after the extended Bureau meeting to allow the necessary planning time for a summer 2026 survey.

With respect to the financial aspects, the Scientific Committee notes the significant contribution of funds by bodies that are non-ACCOBAMS parties such as the MAVA Foundation and recognises that this will likely need to be the case for ASI2. The Scientific Committee was informed that the US Navy expects an update of the spatial distribution models developed by the Marine Geospatial Ecology Lab, discussed under Item 3.2.1. The voluntary submission of data at the basin scale were crucial for this exercise and the ASI data were a major contribution. ASI2 data will be essential for the success of any future exercise. Given this, the Scientific Committee **recommends** that in its approaches to potential donors, the Secretariat emphasises this to the US Navy, and those who attended the November 2024 Joint ACCOBAMS-ASCOBANS Workshop with Navies on Underwater Noise and Cetaceans and invites them to consider contributing to the implementation of ASI2.

Finally, the Scientific Committee **notes** with appreciation Italy's confirmation of its in-kind contribution to the activities planned under the MSFD and acknowledges the proposal to postpone these activities to 2026 to align them with ASI2. Although recognising the practical difficulties, the Scientific Committee furthermore respectfully requests Spain to carefully investigate the possibility to defer its planned 2025 survey activities to 2026.

RECOMMENDATION 16.4 – SPECIES LIST FOR MONITORING PURPOSES

Article I of the Agreement text states that the “*Agreement applies to **all cetaceans** that have a range which lies **entirely or partly within the Agreement area** or that **accidentally or occasionally** frequent the Agreement area*” and directs to “*an **indicative list***” of species [emphasis added] which is provided in Annex 1 of the Agreement.

However, in the context of the implementation of the EU Marine Strategy Framework Directive (MSFD) and the Ecosystem Approach (EcAp)/IMAP processes, ACCOBAMS Resolution 6.12 (2012) instructed the Scientific Committee to:

assist ACCOBAMS Parties, both European Union Member States and non-European Union Member States, in integrating conservation action reflecting objectives, decisions, recommendations and information by ACCOBAMS within their national programme of measures, with a view to achieving a good environmental status under the MSFD and relevant EcAp Processes.

Accordingly, an MSFD/EcAp Working Group was established in 2017 at SC11 (ACCOBAMS-SC11/2017/Doc25/Annex9). One of the ACCOBAMS SC MSFD/ECAP Working Group ToR is to:

suggest the set of species representative of each species group for the MSFD assessment of Good Ecosystem Status regarding marine mammals as recommended by the European commission (Decision 2010/477/EU).

All sightings are recorded in national and international monitoring programmes; however, sub-regional lists of regularly occurring species are necessary to assist ACCOBAMS Contracting Parties to design the best monitoring plan tailored to the resident species in each sub-region of the Agreement Area. The need for agreed sub-regional list of species was also highlighted by the ABIOMMED project.

Therefore, the Scientific Committee **recommends** to the Parties the adoption of the list in Appendix I. The Scientific Committee will periodically reconsider it in view of a potential need for updating linked, for example, to climate change or other factors.

Appendix I – Sub-regional list of cetacean species for monitoring purposes

Species / Sub-region	Adjacent Atlantic area	Western Mediterranean	Central Mediterranean and Ionian Sea	Adriatic Sea	Aegean & Levantine Sea	Black Sea
<i>Phocoena phocoena</i>	REG	VAG	NP	NP	NP	NP
<i>Phocoena phocoena ssp. relicta</i>	NP	NP	NP	NP	REG / Turkish Straits System pop	REG
<i>Steno bredanensis</i>	NP	NP	REG	NP	REG	NP
<i>Grampus griseus</i>	REG	REG	REG	REG	REG	NP
<i>Tursiops truncatus</i>	REG	REG	REG	REG	REG	REG(?)
<i>Tursiops truncatus ssp. ponticus</i>	NP	NP	NP	NP	REG(?)	REG
<i>Stenella coeruleoalba</i>	REG	REG	REG	REG	REG	NP
<i>Delphinus delphis</i>	REG	REG	REG	VAG	REG	REG(?)
<i>Delphinus delphis ssp. ponticus</i>	NP	NP	NP	NP	REG(?)	REG
<i>Pseudorca crassidens</i>	REG	VAG	VAG	NP	VAG	NP
<i>Orcinus orca</i>	REG / Iberian pop	REG / Iberian pop	NP	NP	NP	NP
<i>Globicephala melas</i>	REG	REG	NP	NP	NP	NP
<i>Mesoplodon densirostris</i>	REG	NP	NP	NP	NP	NP
<i>Ziphius cavirostris</i>	REG	REG	REG	REG	REG	NP
<i>Physeter macrocephalus</i>	REG	REG	REG	REG	REG	NP
<i>Kogia sima</i>	REG	VAG	VAG	NP	NP	NP
<i>Eubalaena glacialis</i>	VAG	NP	NP	NP	NP	NP
<i>Balaenoptera acutorostrata</i>	REG	VAG	VAG	NP	VAG	NP
<i>Balaenoptera physalus</i>	REG	REG	REG	REG	REG	NP
<i>Megaptera novaeangliae</i>	REG	VAG	NP	NP	NP	NP

Key: REG = regular; VAG = vagrant; NP = not present (this category to “surely not “regular”).

RECOMMENDATION 16.5 – POPULATION STRUCTURE

Recalling ACCOBAMS Resolution 3.9 “Guidelines for the establishment of a system of tissue banks within the ACCOBAMS area and ethical code”,

Recalling also that the ACCOBAMS Scientific Committee has recognized the need for Institutions dedicated to the preservation of body samples/parts from marine mammals of the Mediterranean and Black Seas. Such Institutions should: a) promote non-invasive or post-mortal collection of samples from cetaceans living in the Mediterranean and Black Seas and adjacent waters; b) prepare such samples for long term storage; and c) distribute them to the community of marine mammal researchers,

Recalling Recommendations from the ACCOBAMS Workshop on Data Collection on Cetacean Population Genetics, *Recalling* Resolution 8.11 “Cetacean population genetics”,

1) The Scientific Committee **reiterates** the need:

- a. for Partners conducting sample collection and research on population genetics to apply the ACCOBAMS Best Practices on Cetacean Population Genetics in their work and to regularly provide the Secretariat with relevant information to update the online cetacean sample database, as well as the list of suitable genetics laboratories and new scientific publications;
- b. for Parties to collect updated information regarding research results on population genetics and to include it in their National Report.

2) The Scientific Committee **recommends** Parties to provide the Secretariat with relevant national legislation and standard procedures for the exchange of samples (for example, under the Nagoya Protocol, or CITES permits).

3) The Scientific Committee **encourages** the harmonization of the procedures for samples exchanges among CITES scientific and forensic institutions in the ACCOBAMS area.

RECOMMENDATION 16.6 – STRANDINGS ISSUES (AETF, FUNCTIONING STRANDING NETWORKS)

Recalling the Eighth Meeting of Parties to ACCOBAMS (November 2022, Malta), when Parties agreed to encourage the creation of a regional Task Force and collaborations among national network of parties for stranding events (Resolution 8.2) and provisioned this work as the CA1d Conservation Action for 2022/2025;

Recalling the Resolution 8.15 reiterating the urgent need of implementing effective and functioning stranding networks enforcing cooperation, also using novel technologies, and encouraging exchange of information and samples at regional level using the existing tissue banks for joint analyses;

Noting that during the meeting jointly organized by the Secretariats of ACCOBAMS and of the Black Sea Commission that took stock of common subjects in relation to the Black Sea on 6-7 March 2024, in Istanbul, participants agreed that in the framework of the ACCOBAMS Emergency Task Force for Stranding events (AETFS), a specific “Black Sea” Sub-Task, composed by experts from the Black Sea Countries has to be created;

Noting that standardized post-mortem investigations and harmonized interpretation of findings were considered relevant for the implementation of different ACCOBAMS strategies like those related to by-catch, ship strikes, marine litter and underwater noise;

the Scientific Committee **recommends**:

- to update the ToR for ACCOBAMS Emergency Task Force for Stranding events (AETFS) by taking into consideration other existing initiatives, in terms of objectives and a prioritization system to provide support in case of capacity building request and emergency response;
- to consider an emergency situation as a cetacean stranding event which can overwhelm local resources and/or representing a transboundary emergency situation (e.g., mass strandings, large whales, unusual mortality events, epidemic outbreaks), or even single events involving threatened/endangered/data deficient species in the ACCOBAMS area (e.g., Cuvier’s beaked whales, sperm whales, Iberian killer whales);
- to keep a continuously updated list of existing stranding experts and stranding networks contact points/coordinators to be included in the ACCOBAMS website to facilitate reporting and communication. Additionally, keep updated lists of tissue banks (Resolution 3.9), responsible institutions designed by the parties and laboratories registered as CITES scientific and/or forensic institutions including the WOH collaboration centers, for facilitating transboundary exchange of samples and investigations;
- to update existing ACCOBAMS adopted documents related to strandings management and investigations (best practices, guidelines and protocols) when needed through regular meetings among experts to include novel findings and analyses and to promote harmonization in interpreting post-mortem findings;
- to promote a systematic adoption of technologies for remote assistance during investigations, supporting the acquisition of suitable hardware and software to routinely apply this approach in the ACCOBAMS area;
- to implement capacity building through the training modules targeting veterinarians and biologists involved in post-mortem investigations using novel technologies (i.e., virtual/augmented reality, metaverse, 3D printing) and including principles of forensic photographs and tele-necropsy. National Focal Points shall provide the appropriate support to collect information on any human related activity that could be related to

the event. Stranding network coordinators and relevant authorities shall help in bringing carcasses to competent laboratories in order to allow in-depth identification of causes of death;

- to create an emergency fund through voluntary contribution by Parties, international organizations, and public and private donors. The emergency fund should be managed by the ACCOBAMS Secretariat with the advice of the AETFS, creating simple and effective procedures to support expensive analyses (e.g., toxicology, genomics, research on hearing), samples exchange and any expert travel for investigations on emergencies in Countries asking for support. The procedures for requests and funding should be discussed with the AETF and the ACCOBAMS Secretariat and proposed to the ACCOBAMS Scientific Committee for approval.

RECOMMENDATION 16.7 – BYCATCH AND BOTTOM TRAWLING

The ACCOBAMS Scientific Committee (SC) strongly reiterates that bycatch in fishing gear is a widespread and significant threat to cetaceans across the Agreement Area. Particularly, in the Black Sea, bycatch was identified as the main source of human-induced mortality for the threatened Black Sea harbour porpoise (*Phocoena phocoena relicta*).

The ACCOBAMS Survey Initiative - the first synoptic survey conducted in 2018 and 2019 - provided baseline cetacean abundance estimates for the whole Agreement Area. During the same period in the Black Sea, intensive work on the assessment of bycatch levels and testing of mitigation measures, such as acoustic deterrent devices (pingers), has been carried out in the framework of CeNoBS and ACCOBAMS SCF projects. These were followed by the GFCM's CetaByM project which confirmed the effectiveness of Wideband PAL (Porpoise Alert Devices) pingers in the mitigation of porpoise bycatch in the Black Sea. New data from the Black Sea and the Mediterranean Sea have indicated that interactions of bottlenose dolphins (*Tursiops truncatus*) and common dolphins (*Delphinus delphis*) with mid-water trawls and purse seiners may have lethal effects on these cetaceans (Tonay, pers. comm.; Keznine et al., 2024).

Fisheries management tools prohibit bottom trawling in the Mediterranean Sea in narrow coastal areas and deeper than 1,000 meters¹. The ACCOBAMS SC **welcomes** the EU Action Plan "Protecting and restoring marine ecosystems for sustainable and resilient fisheries" adopted in 2023, which urges EU Member States to adopt national measures or, where appropriate, propose joint recommendations to prohibit bottom trawling in the Marine Protected Areas (MPAs) that are Natura 2000 sites designated under the Habitats Directive that protect the seabed and marine species, and to ensure that bottom trawling is phased out in all MPAs by 2030.

Taking into account that certain points of ACCOBAMS Recommendation 14.5 on bycatch have been implemented, **in terms of monitoring** the ACCOBAMS SC **strongly recommends** that:

1. parties ensure that monitoring schemes by independent observers are made obligatory for the fishing methods that have been proven to pose a threat to cetaceans (e.g., bottom-set gillnets targeting turbot in the Black Sea, purse seine fishery and mid-water trawls in the Mediterranean and the Black Seas);
2. the FAO-GFCM Guidelines for bycatch monitoring (FAO, 2019) be revised as 0.5% coverage for onboard observation is far from being satisfactory to understand the complete situation of cetacean bycatch (see Recommendation 16.8);
3. whenever possible, the relevant authorities (environmental and fisheries) should encourage the retrieval of dead bycaught animals from vessels to perform necropsies by relevant institutions involved in the national strandings network. As a minimum, onboard observers should collect tissue samples for a wide range of analyses (minimum samples for age (teeth), genetics (skin), and physiological status (blubber)) to understand the status and demographic characteristics of the affected populations (e.g., ICES 2024);
4. Parties implement active awareness-raising programmes among fishermen to encourage reporting of bycatch events in order to improve data collection and assess more precisely the extent of this threat.

In terms of mitigation, the ACCOBAMS SC:

5. **strongly recommends** the use of PAL pingers in turbot fishery in the Black Sea as an effective measure to mitigate harbour porpoise bycatch in bottom set gillnets according to the best available practices (FAO, 2019; Hamilton and Baker, 2019);
6. **encourages** further testing and development of bycatch/depredation mitigation measures in the ACCOBAMS area;

¹ Commission Implementing Regulation (EU) 2022/1614 of 15 September 2022 determining the existing deep-sea fishing areas and establishing a list of areas where vulnerable marine ecosystems are known to occur or are likely to occur, OJ L 242, 19.9.2022, p. 1-141.

7. **encourages** the ACCOBAMS Secretariat to strengthen the collaboration with GFCM in addressing the impacts of several fisheries on cetaceans, their prey, and habitats;
8. **requests** that the ACCOBAMS Secretariat engages with GFCM and ICCAT to address illegal driftnets' continued use in the Western Mediterranean Sea;
9. **encourages** ACCOBAMS Parties to phase out bottom trawling within MPAs, including Natura 2000 Sites of Community Importance, by 2030;
10. **encourages** fishery national authorities to strengthen control to prevent IUU (illegal, unreported, unregulated) fisheries.

References

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RECOMMENDATION 16.8 – REVISION OF THE FAO GFCM GUIDELINES ON MONITORING INCIDENTAL CATCH OF VULNERABLE SPECIES IN THE MEDITERRANEAN AND BLACK SEAS (FAO 2019)

The ACCOBAMS Scientific Committee (SC) was informed that, following a special request from the European Union's Directorate-General for Environment (DG-ENV), ICES convened a series of workshops on appropriate sampling schemes for protected, endangered and threatened cetacean species bycatch (WKPETSAMPs). In particular, WKPETSAMP3 (2024) that was tasked with providing concrete inputs for appropriate bycatch monitoring and assessment and for the promotion of regional cooperation. This workshop ran new simulations on multiple, ground-truthed scenarios, in addition to considering the '0.5% scenario', which is indicated as the minimum appropriate level by the FAO/GFCM guidelines on monitoring incidental catch in the Mediterranean and Black Seas (FAO 2019). These guidelines were adopted by the relevant Data Collection Framework Regional Coordination Groups (DCF RCGs) within the Agreement Area and used to build national monitoring programmes.

The FAO/GFCM (FAO 2019) refers to 0.5% as "*often accepted (MARE/2014/19, 2016)*". MARE/2014/19 (2016) used 0.5% as target for bycatch monitoring, stating that 0.5% is "*what is commonly achieved by the by-catch monitoring programmes carried out under the Regulation (EC) No. 812/2004 (see Northridge et al. 2015)*". However, both documents fail to clarify that (1) those were commonly achieved targets under the Habitats Directive (92/43/EEC), not Regulation 812/2004 and (2) Northridge et al. (2015) clearly state that those coverages are mostly related to *métiers* for which they "*do not consider [to] have representative coverage*" (ICES WGBYC 2021).

Simulation scenarios (via downsampling at the haul level datasets from on board monitoring), WKPETSAMP3 concluded that:

- (i) above a certain level of monitoring effort (circa >10%) and for more frequently bycaught species, the bias and CV (Coefficient of Variation) on BPUE (Bycatch Per Unit Effort) are low and increasing observation effort does not improve estimate and precision;
- (ii) the bias and CV on BPUE increase rapidly at low levels of monitoring effort and, in some case, (e.g. **0.5% effort**) they are **unacceptable**;
- (iii) the **detection probability of a species** as a bycaught event, increases rapidly with increasing coverage, and less so for the rarer species. Hence, to "*be able to certainly detect a bycatch event when happens for species with "very high" or "high/moderate" or "very low" bycatch frequency, the coverage needs to be higher than about 1% or 5% or 50%, respectively*". In addition, "*to exit the field of detection causality/random detection*" for "*species with very low bycatch frequency*", a coverage of 7-10% is necessary.

The ACCOBAMS SC **recognises** the extensive simulation work incorporating realistic scenarios. Supporting these results and conclusions, the SC **recommends** that FAO/GFCM guidelines (FAO, 2019) are updated to incorporate the best available advice on appropriate onboard observer coverage as soon as possible.

References

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RECOMMENDATION 16.9 - ANTHROPOGENIC UNDERWATER NOISE

A progress report was provided by the co-chair of the Joint Noise Working Group (JNWG) on activities, based on the [JNWG WP 202302 final.pdf](#), which included:

- the ACCOBAMS Mediterranean technical assessment on anthropogenic underwater noise as part of the 2023 Quality Status Report of the Barcelona Convention (IG.26 taken at COP23 of UNEP/MAP);
- the collaboration with TG-Noise for the development of new EU guidelines on underwater noise monitoring and assessment;
- the participation to the SeaSounds project;
- engagement in the Joint ACCOBAMS-ASCOBANS Workshop with Navies on Underwater Noise and Cetaceans held on 26-27 November 2024 which focused on mitigating the impact of underwater noise—particularly from sonar and unexploded ordnance (UXO) blasts—on cetaceans.

A discussion addressed numerous issues relating to the results of the activities reported, as well as on other matters and developments related to the impacts of anthropogenic noise on cetaceans in the ACCOBAMS area.

The ACCOBAMS Scientific Committee (SC) **recommends** that:

- 1) an in-person meeting of the JNWG is organised and requests the ACCOBAMS Secretariat to explore with the Secretariats of the other two IGOs how this can best be progressed, recognising that the meeting will require Terms of Reference, a steering group and funding;
- 2) the ACCOBAMS Secretariat responds positively to an invitation to join the Intersessional Working Group (IWG) on noise, created in the framework of the Mediterranean Strategy for the Prevention of, Preparedness, and Response to Marine Pollution from Ships (2022-2031) of the Regional Marine Pollution Emergency Response Centre for the Mediterranean Sea (REMPEC). ACCOBAMS participation in this group shall also promote the use of NETCCOBAMS and encourage ACCOBAMS Parties to provide data for the work of this group, which is vital for the further development of the NETCCOBAMS software accordingly;
- 3) the Threshold Values for Impulsive and Continuous Noise emissions recently adopted by EU Member States shall become applied and used by all ACCOBAMS Parties;
- 4) ACCOBAMS Parties support the adoption of “ocean noise pollution” as a Common Indicator at the Barcelona Convention, which is currently a Candidate Common Indicator; and that cetacean species are used as indicator species for its application;
- 5) ACCOBAMS Parties apply the “IMO Guidelines for the reduction of underwater radiated noise from shipping to address adverse impacts on marine life” [IMO/MEPC 1/Circ.906] and participate in the experience building phase submitting respective information to the IMO’s Marine Environment Protection Committee (MEPC);
- 6) ACCOBAMS Parties participate and contribute to the global review of marine seismic airgun surveys currently being undertaken by the International Whaling Commission (IWC) <https://forms.gle/vmrnHSWrWR3yWz3FA> and that regional representatives are asked to bring this initiative to the attention to the respective national focal points;
- 7) the promotion of the ACCOBAMS HQ MMO/PAM training and certification to all stakeholders;
- 8) ACCOBAMS Parties request the employment of ACCOAMS HQMMO/PAM certified people, if respective activities take place, as complementary mitigation measure;
- 9) the ACCOBAMS Parties, SC and Secretariat contribute to the development and implementation of the “Post-War Plan for Black Sea Cetaceans” [Recommendation 16.1] and respective activities, with particular focus given to the removal of all types of underwater explosives, both floating and sunk, including mines.

The ACCOBAMS SC refers ACCOBAMS Parties to Resolution 8.17 and **reiterates** the need for Parties to provide comprehensive information on impulsive noise-generating activities to allow a proper assessment of noise emissions in the Agreement area and their potential impact on cetaceans. National responsible institutions are requested to provide data on impulsive noise generating sources and activities from anywhere in the ACCOBAMS Area into the existing Regional Noise Registry, managed by ACCOBAMS for publicly available data.

The ACCOBAMS SC **encourages** the JNWG to continue its work as proposed within its update Report, including:

- 1) further development of the concept of “quiet zones” as outlined in Recommendation 10.5 of the ACCOBAMS SC;
- 2) updating the noise models available in NETCCOBAMS and securing their compliance with evolving guidance from EU-TG Noise under the European Union Marine Strategy Framework Directive (MSFD-2008/56/EC);
- 3) comparison of the results of noise modelling with appropriate in situ anthropogenic noise recordings made throughout the ACCOBAMS Area, taking account of the diverse sensitivities of the different cetacean species;
- 4) continued efforts to monitor anthropogenic activities generating underwater noise;
- 5) further encouragement of the use of mitigation measures for anthropogenic activities generating underwater noise;
- 6) further efforts to develop and assess the effectiveness of new mitigation measures; and

improved facilitation of the exchange of relevant information with competent authorities related to military activities and exercises, from planning to assessment of impacts.

RECOMMENDATION 16.10 – SHIP STRIKES

ACCOBAMS and the International Whaling Commission (IWC) have long recognized the problem of ship strikes, particularly of large whales. This spans the issues of conservation, animal welfare and human safety. They have been working together to develop a better understanding of the problem and to develop effective mitigation measures, *inter alia*, within the ACCOBAMS area, particularly for fin and sperm whales. The Pelagos “Collisions and Shipping” Focus Group (PCSFG) is working on improvements of the precision surrounding the identification of collisions and the Committee welcomes further co-operation (see below).

The Scientific Committee **welcomes** the adoption in July 2023 of IMO Resolution MEPC.380(80) establishing the Northwestern Mediterranean Sea as a Particular Sensitive Sea Area (NW Med PSSA) at the initiative of the four ACCOBAMS countries (Spain, France, Italy and Monaco).

The Scientific Committee **recommends** that Panigada, as convenor, liaises with the Pelagos Agreement to create a Joint Ship Strikes Working Group with agreed Terms of Reference, part of which will include:

- (a) liaison with riparian nations, the IWC and other stakeholders to continue (and improve) the collection of information on cetaceans and vessel traffic, to enable better identification of actual or potential high-risk areas for cetaceans (especially fin and sperm whales) by incorporating information on whale and vessel distribution into risk models (more details on how to achieve this can be found under Item 3.3.3 of the SC report);
- (b) incorporating the results of the IWC-IUCN-ACCOBAMS workshop (Messinia, 2019) and work on IMMAs;
- (c) investigation of ways to support the integration of and updating of cetacean risk information (e.g. IMMAs) into Electronic Charts Systems (ECDIS) used for maritime navigation;
- (d) improving efforts and approaches to quantifying ship strike occurrence (e.g. via necropsies and evaluation of signs in photos obtained in the context of photo-identification studies);
- (e) promotion and use of the IWC ship strikes database and appropriate modules within NETCCOBAMS;
- (f) elaboration of improved methods to evaluate the effectiveness of mitigation measures and especially recent or new PSSAs (and associated protective measures), building for example on work within NETCCOBAMS and OceanCare and studies of ‘near miss events’ and ‘close point of approach (CPA)’;
- (g) review of the results of relevant studies being undertaken in the region e.g., Life SeaDetect, Life *conceptu maris*, SEASteMAR;
- (h) review of the results of existing efforts and encouragement of the development of new real time cetacean localization projects, which are designed to be complementary tools in avoiding ship strikes; and
- (i) review of the progress on the development of a whale-safe certificate (e.g., within the Shipprint project or the Green Marine Europe programme, related to keeping speeds below 13 knots).

The Scientific Committee also **recommends** that ACCOBAMS Parties and the Secretariat:

- (a) promote communication with stakeholders (e.g., shipping companies, navies, port authorities, whale watching organisations, etc.) on the issue of vessel strikes, including mitigation approaches and reporting to the IWC ship strikes database;
- (b) encourage and support regional data collection and mitigation initiatives and foster the development of incentive systems to shipping companies that adopt appropriate mitigation methods;
- (c) continue to work within IMO (and its MEPC) on relevant initiatives including mitigation approaches such as shipping lanes, including through initiatives with member states (the most appropriate mechanism for IMO action);
- (d) foster and improve collaborative efforts with other bodies working on this issue including, IWC, the Pelagos Agreement, IMO, CMS;

- (e) support efforts to improve access to the temporal and spatial distribution of shipping, particularly vessels that do not transmit AIS information;
- (f) support, when appropriate, activities within the framework of SEASteMAR in particular for the activity 1.4 - Definition of criteria for the identification of high-risk areas;
- (g) offer support to the Greek Authorities for reducing the risk of ship strikes the Hellenic Trench, including strengthening collaboration with the International Hydrographic Organization (IHO) and the Hellenic Hydrographic Office to develop standards and accelerate the process for nautical charts to be updated and reflect the area crucial for the protection of marine life;
- (h) inform stakeholders of the willingness of the ACCOBAMS Scientific Committee to provide advice on ship strikes and mitigation approaches.

RECOMMENDATION 16.11 - COMMERCIAL WHALE WATCHING IN THE ACCOBAMS AREA

Recalling Article II of the Agreement, according to which the Parties shall prohibit and take all necessary measures to eliminate any deliberate taking of cetaceans, including harassing or attempting to engage in such conduct,

Recalling Section 2 of Annex 2 to the Agreement, according to which Parties shall develop guidelines and/or codes of conduct to regulate or manage activities that create direct and indirect interactions between humans and cetaceans, such as tourist activities,

Aware that ACCOBAMS Resolution 4.7 sets forth Guidelines for Commercial Cetacean Watching Activities in the ACCOBAMS Area and Annex 2 to Resolution 6.20 provides regulations governing use of the collective certification mark "High Quality Whale-Watching®" and the Guidelines for acquiring a label for whale-watching operators in the Pelagos/ACCOBAMS Area,

The ACCOBAMS Scientific Committee:

- in line with previous ACCOBAMS resolutions (Res. 4.7, Res. 6.20 and Res. 7.16) **reiterates** the need for legally enforceable whale watching regulations to be in place and fully implemented by all of the ACCOBAMS Parties;
- **reiterates** the importance of carrying an analysis of existing national legislations related to whale watching regulations that could support the work of the expert who will be tasked to analyse existing national legislations related to whale watching. This analysis should be done in coordination with the work done by the Pelagos WG Leggi in particular with item: "Action I-29b Study of governance procedures and legislative measures and namely to the whale watching activities";
- **encourages** the continuation of the testing and updating the IlogWhales App that incorporates the common procedure for data collection by whale watching operators, making sure that there is compatibility with other similar programmes running on collaborative platforms (eg.: OBSenMER);
- **encourages** the collaboration with relevant organisations such as IWC, CMS and Pelagos Agreement on issues related to whale watching activities;
- **approves** the implementation of pilot studies to define the whale watching carrying capacity in a targeted geographical area where commercial whale watching is intensively practised;
- **recommends** that the regulations governing the use of the collective certification mark "High Quality Whale Watching®" (HQWW) be revised with the objective of simplifying the implementation at the national level and **facilitates** replication in other geographical areas;
- **urges** the Greek government to implement specific legislation, in accordance with the 'Guidelines for Commercial Cetacean Watching Activities in the ACCOBAMS Area', to mitigate current and potential pressure put on the Critically Endangered Gulf of Ambracia bottlenose dolphin subpopulation due to the development of unregulated dolphin-watching activities in the Gulf in recent years by operators, as well as locals offering opportunistic dolphin-watching trips.

RECOMMENDATION 16.12 – MARINE DEBRIS

Recalling recent workstream on marine debris, noting that this was underpinned by ACCOBAMS Resolution 8.20 on Marine Litter & Chemical Pollution, adopted by ACCOBAMS Parties in 2022,

Recalling the ACCOBAMS workshop convened on 6-7 April 2024 (Catania, Sicily), in collaboration with the University of Padova with the objective to improve collection of relevant data, especially from stranded cetaceans, with a specific focus on identifying best practice related to monitoring ingested marine litter and entanglement evidences in the ACCOBAMS Area,

Taking into consideration that all the recommendations from this workshop were presented to the IWC Scientific Committee (22 April - 3 May 2024, Bled, Slovenia) which endorsed them,

The SC particularly encourages:

- a more coordinated effort to better understand the toxicological effect of macro and micro-litter ingestion in cetaceans (considering both chemical, ecotoxicological and physical effects);
- harmonization of a diagnostic methodology that includes: a) evaluation of the presence of marine litter in marine mammals gastro-intestinal tract (GIT) (at least) (ACCOBAMS/ASCOBANS, 2019; Corazzola et al. 2021); b) categorization and quantification of identified marine litter through the determination of polymers by spectroscopy technique (FT-IR); c) detection of plastic additives and absorbed contaminants to plastics in organism tissues; and d) develop risk, impact and mortality indexes;
- Parties to further collaborate at a regional level between tissue banks, to facilitate the exchange of tissue samples for joint analyses and retrospective studies;
- continued joint efforts in the Adriatic Sea to merge data on bottlenose dolphin-human interactions (including set net interactions, marine debris ingestion) and mitigation efforts, as well as creating a multi-level multidisciplinary model to identify hotspot risks;
- the defining and development of new methods to evaluate the exposure to plastics and plastic additives in free-ranging organisms, including new approaches such as -omics, which could reveal the exposure to a plethora of stressors (microplastics, emerging chemicals, legacy chemicals etc.) and drive the identification of new end-points (via e.g., metabolomics, transcriptomics, epigenetics);
- multiple stressors investigation: development of new diagnostic techniques to understand the effects of cumulative stressors on cetaceans both on:
 - stranded organisms, investigating the potential ecotoxicological effects caused by the ingestion of marine litter and emerging and legacy chemicals, both through biomarker identification and analysis of tissues;
 - *in vitro* experiments, assessing the effects of micro- and nano-plastics (combined by the presence of emerging and legacy chemicals) through new technologies applied on cetacean cell lines, organoids and 'organ-on-chip' technology.

Recommendations on Indicator Species

The SC **recommended** that cetacean species should be promoted as indicators for microplastics (*i.e.*, fin whale, *Balaenoptera physalus*) and macro-litter pollution (*i.e.*, *Physeter macrocephalus* and, *Ziphius cavirostris*) at the ACCOBAMS scale. *Tursiops spp.* could be used as indicators at sub-basin levels.

The SC also **encourages** the Barcelona Convention and the European Commission to include cetaceans as indicator species within the IMAP candidate indicator 24 and MSFD descriptor 10.

RECOMMENDATION 16.13 – SEMI-CAPTIVITY (PASSPORT & GUIDELINES)

Recalling Resolution 5.14 on live removals of bottlenose dolphins (*Tursiops truncatus*) in the Black Sea in which the Black Sea Parties were asked, in coordination with the Black Sea Permanent Secretariat, to carry out an assessment and an inventory of all specimens of bottlenose dolphins kept in captivity by means of genetic, morphological and photographic identification methods;

Recalling Resolution 3.20 providing Guidelines for the Release of Cetaceans into the Wild: all this document stresses a particular attention that should be paid in relocating captive animals in a wild or semi-wild condition with one of the main concerns of possible genetically contamination of the local population(s) in case of escape from the pen expressed by several documents (MOP7.Inf09 and MOP8/2022/Inf52);

Considering the existing international legal frameworks asking for a proper identification and internationally recognized system for identifying cetaceans kept by human in officially accredited facilities;

Recalling the Resolution 8.11 on Cetacean Population Genetic giving proper details on cetaceans' samples for genetic analyses, their preservations and technical approaches;

The SC recommends to the Parties that they adopt the process toward cetacean genetic passport and adapt the form and the template proposed in [Annex I](#), which includes genetic and other relevant individually distinct biological data, to the current national procedures for the identification of cetaceans kept in aquaria and dolphinarium, including CITES permits, information and laboratory results from genetic analyses which should be performed for all the animals to confirm their origins. The form should be then transmitted to the ACCOBAMS Secretariat and kept in a centralized repository.

Moreover, **Parties are advised** to refer to the Guidelines for *Best Practices During the Installation and Management of Semi-enclosed Facilities for Cetacean Species in the ACCOBAMS Area* ([Annex II](#)), as well as to the *Procedural Steps for Requesting Advice from the ACCOBAMS Advisory Committee on Semi-Enclosed Facilities* ([Annex III](#)), when these kinds of initiatives are prospected within their jurisdiction.

ANNEX I - Genetic Passport Template

Individual information			
1. Name		5. ID Type	
2. Species	<i>Latin name</i>	6. ID number	
	<i>Common name</i>		
3. Sex	<i>M/F</i>	7. Place of birth	<i>Specify complete address</i>
4. Origin	<i>wild/zoo/other</i>	8. Date of birth	
9. Previous facilities	1.	2.	3.
CITES information			
10. Type of document		12. Date of Issue	
11. No. of the certificate		13. Country of origin	
14. Permit*		16. Date of Issue	
15. No. of permit		17. Country of import	
Parents information			
Father ID details**		Mother ID details**	
18. Name		23. Name	
19. Species		24. Species	
20. ID Type		25. ID Type	
21. ID number		26. ID number	
22. Origin		27. Origin	
Physical marks and features			
28. Total length (cm)		29. Total weight (kg)	
30. General picture from the left***			
31. General picture from the right***			

32. General picture from the top***			
33. Picture of the dorsal fin (from the right and from the left)***			
34. Picture of the caudal fin (from the top)***			
35. Description and pictures of morphological peculiarities, abnormalities, scars and injuries (left)****			
a.	b.	c.	d.
e.	f.	g.	h.
36. Description and pictures of morphological peculiarities, abnormalities, scars and injuries (right)****			
a.	b.	c.	d.
e.	f.	g.	h.
X-ray for age determination	Y/N		
<i>* If imported</i>		<i>*** include pictures in the form and attached originals</i>	
<i>** Include all documentation for parents</i>		<i>**** Refer with letter different marks on the drawings</i>	
Genotype			
37. Laboratory			
38. ID of the sample in the laboratory		39. Date of the analysis	
40. Description of the sample (blood/swab/tissue)		41. Date of sampling, methods or preservation and name of the sampler	
42. Species confirmation		43. Targeted genes	

44. Locus	Fragment Size	Primer Sequence	
1. D08			
2. EV37			
3. KWM2			
4. KWM9			
5. KWM12			
6. MK6			
7. MK8			
8. MK9			
9. Ttr04			
10. Ttr11			
11. Ttr19			
12. Ttr58			
13. Ttr63			
14. TexVet05			
15. TexVet07			
16.			
17.			
18.			

ANNEX II - *Draft* Guidelines for Best Practices During the Installation and Management of Semi-enclosed Facilities for Cetacean Species in the ACCOBAMS Area

Joan Gonzalvo, Frances Gulland, Lori Marino, Giuseppe Notarbartolo di Sciara and Sandro Mazzariol (ACCOBAMS Advisory Committee on semi-enclosed facilities)

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1. BACKGROUND

Semi-captivity of cetaceans has been an issue considered for several years by ACCOBAMS, which was addressed in particular in 2 reports: “Taking of cetaceans, dolphinarium and quasi-dolphinarium: a legal analysis relating to ACCOBAMS Parties” ([ACCOBAMS-MOP7/2019/Inf 09](#)); and “Scientific perspective on “potential marine semi-enclosed facilities” in the ACCOBAMS Area” ([ACCOBAMS-MOP8/2022/Inf52](#)).

Based on the recommendations of the latter, the Eighth Meeting of the Parties to ACCOBAMS (MOP8) agreed that the Scientific Committee should establish an Advisory Committee on semi-enclosed facilities to provide guidance to interested Parties in relation to all questions related to semi-enclosed facilities. At its Fifteenth meeting held on 10-11 May 2023 in Tunis, the ACCOBAMS Scientific Committee adopted Terms of Reference for an ACCOBAMS Advisory Committee on semi-enclosed facilities ([ACCOBAMS-SC15/2023/Doc17](#)). The present document, drafted by the members of this Advisory Committee, has been largely adapted from the document *Standards for Cetacean Sanctuaries* adopted by The Global Federation of Animal Sanctuaries (GFAS) and released in June 2023, taking into account the ACCOBAMS framework.

A few initiatives have been made public, which aim at providing increasingly necessary facilities posing an alternative to dolphinarium and marine parks, by creating the so-called cetacean sanctuaries or refuges. In an ACCOBAMS’ context it is suggested to use the latter term **refuge**, to avoid confusion with concepts of marine protected areas. For example, the “Pelagos Sanctuary for Mediterranean whales and dolphins”, a well-known protected area in the Mediterranean, has a completely different nature and goal than dolphin refuges. Hence, tentatively, hereafter Semi-enclosed Facilities for Cetacean Species will be referred as refuge/s.

It must be emphasized that a true refuge intends to approximate a natural cetacean habitat to the fullest extent possible while promoting diverse, natural behaviours and relationships amongst the cetaceans. The welfare of cetaceans takes priority over all other considerations, including visitors, caregivers, scientists and donors. Cetacean refuges, as do traditional dolphinarium and marine parks, must provide human care essential for animal health and safety.

Finally, the recent application should be noted of the [EU Directive 2016/429 on transmissible animal diseases and amending and repealing certain acts in the area of animal health](#), also named ‘Animal Health Law’ (AHL) and the [Regulation 2035/2019 supplementing Regulation \(EU\) 2016/429 of the European Parliament and of the Council as regards rules for establishments keeping terrestrial animals and hatcheries, and the traceability of certain kept terrestrial animals and hatching](#) apply to potential cetacean refuges.

These legal frameworks dealing with diseases transmission in all the animals kept under human care, including terrestrial and aquatic wild animals, should be applied by EU members and candidate Countries. This legal framework provides a well-defined legal classification for all the facilities keeping animals, including those maintaining wild animals in a confined establishment. All the member states will adopt differently the classification of the different establishments and, in case of proposal of a dolphin refuge, this national classification should be considered as a legal reference. As an example, Italy has adopted the above-mentioned EU legal framework with the Law Decree 135/2022 and the following decrees from the Ministry for Health and Ministry for the Environment:

- Dolphin refuges are included among the collections of wild species different from zoos and aquaria.
- All these establishments have to identify proper management measures considering biosafety, animal welfare and workers safety and respond to national and international recommendations.

2. CETACEAN HOUSING

2.1. General considerations

The habitat and living conditions consider hygiene and the species' physiological, psychological, and social needs. This includes consideration of outdoor and temporary/short-term indoor space, vertical and horizontal space, and diversity and complexity of space.

Policies and procedures are in place such that personnel can enter and exit enclosures without risk of the animals escaping, and can shift animals as appropriate between and out of enclosures prior to entering the enclosure. Facility design takes into account caregiver-animal safety and ease of maintaining a positive relationship.

Animals are provided access to as many areas of the enclosures as possible at all times, except during facility maintenance activities, unless security or welfare concerns dictate otherwise. All enclosures are constructed without creating 'dead ends' to allow for freedom of movement of subordinate individuals.

Animals are provided with regular access to outdoor space with sufficient room to engage in natural behaviours and designed to promote species-specific wellbeing. Access is ideally given daily, with consideration to weather and animals' individual needs (e.g., animals in quarantine or isolation, or being observed for medical reasons, may be kept indoors), and species-specific risks.

The habitats include an acoustic monitoring system and provide appropriate visual and acoustic barriers and physical distance from the public/human activity, where necessary. Exposure to high-intensity sounds or noises are avoided. Appliances or machines in the vicinity of the enclosure that produce such noise in the animals' hearing range are insulated as much as possible.

The habitat provides security from predators and unauthorized human access. 24-hour systems are in place to minimize the risks of theft, malicious damage or harm to animals. This may include staff on site, security guards, security cameras, alarm systems, etc. Moreover, in addition to the primary permeable perimeter on the ocean side, a secondary permeable barrier should be considered to prevent direct human access and to serve as secondary containment should an animal escape.

Enclosures have enough area (see Housing section below) per animal to accommodate natural individual and group behaviours/activities. Enclosures provide enough area for individuals to be spatially dispersed from one another according to the individual preference or in the event of social conflict.

Quarantine facilities have appropriate housing and design features for treatment of injured or ill animals. Healthy animals admitted to quarantine have as large an enclosure as possible to help maintain natural locomotion and behaviours. Features of the quarantine facilities should comply with EU Zoo Directive 1999/22/CE and EAZA guidelines for marine mammals kept under human care.

Enclosures are designed to allow for safe cleaning. Any products used for cleaning the enclosure and other features (e.g., foot baths, cleaning products for food buckets and enrichment items) should be reviewed by attending veterinarian for use with the species housed.

A regular program of refuge maintenance is in place. Any enclosure in need of repair, or any defect that may cause harm to animals, is immediately repaired or replaced. If that is not an option, the animals are relocated to an alternative secure enclosure.

All gates and walkways are constructed of materials which minimize any injury to the animals due to shape, sharp or rough surfaces and/or those which would create additional noise in the environment.

If enclosures use netting for walls or floors, the netting is appropriate for the species. If enclosures use netting or another form of barrier for "walls" the distance between the top of the wall and any walkway above or adjacent to it is only a few centimetres wide to minimize the possibility that an animal gets entangled or trapped.

2.2. Housing

- ✓ Many factors influence the minimum space required for animals, including natural species-specific behaviours, health needs, and social groupings.
- ✓ For cases where mixed-species housing is foreseen, enclosure dimensions can be adjusted accordingly so that the space reflects that required for multiple species if housed separately.
- ✓ The refuge's area should be at least equivalent to the average daily swim performed in the wild for the species being housed. Moreover, enclosures should provide enough space to allow the animals to move horizontally in a straight line for at least 10+ tail strokes. The determination of average daily swim distance should be based on the best available science as determined by consultation with experts on conspecifics in the wild and current available scientific literature, at the time the refuge is designed. The process used to determine the average daily swim distance should be documented and verifiable. The latest [*Standards and Guidelines for the management of aquatic mammals under human care by European Association for Aquatic Mammals \(EAAM\)*](#), for bottlenose dolphins, propose a minimum pool surface area of 550 m² and a pool volume of 2,000m³, for 1-6 animals (adding 75 m² and a 300m³ per additional animal. These values should be considered as an absolute minimum. In the context of a modern and newly created dolphin refuge, we should expect facilities considerably larger.
- ✓ The refuge's depth should be equal to or greater than the typical dive depth in a near- shore environment for the species being housed, for at least one-third of the overall space. If the typical dive depth is not known for the species being housed, then, at a minimum, a depth equal to or greater than 3 times the body length of the resident species should be used. The determination of typical dive depth in a near-shore environment should be based on the best available science. The process of expert consultation and literature review used to determine the typical dive depth of conspecifics in the wild in a near-shore environment should be documented and verifiable.
- ✓ The refuge should contain variable depths and range in natural topography.
- ✓ The water volume provided should allow for the animal(s) to dive and spend the majority of their time below the water surface.
- ✓ Animals requiring treatment for illness or injury are housed in enclosures that allow for appropriate treatment and ease of care.
- ✓ Cetacean Refuge sites must possess the requirements to ensure the well-being of the animals on the basis of their ecology, behaviour and physiology. For example, a potentially feasible site may be either in a sheltered, shallow and semi-enclosed body of marine water such as a small bay or fjord, or in a coastal lagoon, where appropriate enclosures can be fenced.
- ✓ Enclosed areas need to be as protected as possible from severe weather, and have easy access for personnel to care for the animals in all weathers.
- ✓ To ensure that the refuge animals can experience acoustic connectivity to their environment, the refuge should have at least a portion of its perimeter defined by an acoustically permeable barrier (e.g., an enclosed bay may be defined by land on three sides but defined by net at the opening of the bay, thus allowing acoustic connectivity).
- ✓ The shape of the refuge perimeter does not disrupt the swimming pattern of the animals in a harmful way or allow any animals to be cornered.
- ✓ Experts in captive cetacean behaviour should be consulted to ensure that netting or other containment material is designed to minimize risk to the refuge residents. The permeable barrier should include design features that prevent cetaceans from getting trapped under any floating walkways or entangled due to 'bagging' (i.e., slack in a net caused by water movement), in any cables, floats, edges or anchoring systems. The mesh size and gauge for the permeable barrier is appropriate for containing the animals without risk of entanglement, and suitable for excluding wild species or allowing them to pass through without risk of entanglement).

- ✓ A comprehensive list of local species known to be present in the area of the refuge should be compiled and used to inform the decision on mesh size and gauge.
- ✓ Netting should be constructed to maintain its integrity (i.e., mesh size and gauge) throughout the required duration of the enclosure, be able to be effectively cleaned and maintained while in place, and to minimize abrasion or other potential risks to the refuge cetaceans or wild species in the area. Double netting should be considered as a basic measure to prevent dolphin escapes.
- ✓ The anchoring system for the perimeter and any associated structures should be robust enough to withstand normal weather patterns for the region (as determined by marine engineers).
- ✓ The barriers should be inspected and maintained at regular intervals to avoid the accumulation of biological fouling, which could compromise the integrity of the barrier over time by creating significant drag. Maintenance may be preventative and include components such as algae and/or marine debris control booms.
- ✓ Barriers and enclosures are inspected routinely for signs of breach.
- ✓ The refuge staff should have the capacity to repair permeable barriers on-site in an emergency situation and replace them when necessary.
- ✓ The structure that the permeable barrier hangs from should not pose a risk to the animals being housed or wild species and be well marked.
- ✓ A marine vessel 'no-go' zone should be established and clearly marked around the perimeter of the refuge to ensure that the animals cannot be accessed by the public via water.
- ✓ The refuge design should allow for continuous monitoring of the animals throughout the entire refuge, both visually and acoustically to minimize blind spots. This may include a network of underwater and above-water cameras and hydrophones.
- ✓ Maintenance of operational data archives (e.g., video recordings, acoustic recordings) will be necessary.

2.3. Gates

- ✓ Animal holding areas (i.e., separation areas and larger refuge areas) should be equipped with gates to allow for the movement of animals between areas when needed.
- ✓ Gates should be appropriately sized to the species held in the refuge and designed to allow for animals' normal swimming while traveling through. Moreover, caregivers must be able to have a clear view of enclosures and animals while operating the doors.
- ✓ Gates and doors are constructed of appropriate materials and designed to ensure safety of animals and humans and to remain functional under all circumstances.
- ✓ The refuge should have tools available on-site to guide animals to a specific location (e.g., herding and crowding nets).

2.4. Shelter and Shade

- ✓ Ideally, refuges are located where water depth is sufficient to filter the majority of light, to protect residents from overexposure to UV light simply by spending more time at or near the bottom of the enclosure(s). Non-reflective enclosure substrate is encouraged to protect animals from overexposure to UV light.
- ✓ Areas of shelter from the sun should be provided for the animals where water depth may not be sufficient to filter the majority of light, such as with medical or quarantine pools.

2.5. Sanitation

- ✓ The refuge must be designed based on a carefully planned 'carrying capacity', which should be documented in a plan created prior to moving any animals into it. This means that, based on site-specific hydrology and physical features, as well as anticipated waste production per animal (calculated for each individual based on species, surrounding water temperature and daily food intake), there is a limit to how many animals can be housed at the refuge without negatively impacting (nutrient and bacterial loading) the surrounding environment.
- ✓ Once animals are residing in the refuge, impact should be monitored with regular (annual at a minimum, in addition to every time a new animal is introduced) sediment and water column sampling. All sampling records should be archived.
- ✓ Monitoring protocols should be in place for animal feedings so that food waste within the refuge itself is kept to a minimum and not concentrated in a single area (e.g., underwater cameras at the location of remote food deployment devices).
- ✓ Protocols should be in place to remove food not consumed by refuge animals.
- ✓ Each enclosure/separation area has dedicated equipment and tools to prevent cross contamination. When resources restrict the ability to have dedicated tools, tools are disinfected between enclosures to prevent the spread of parasites and disease.
- ✓ Adequate protocols must be in place to dispose of waste, including food waste and human waste/trash so that it does not accumulate on-site in a way that negatively impacts the local environment or area in which the animals are residing.
- ✓ Quarantine facilities must be designed in order to be properly sanitized: surfaces should be easily cleanable and disinfected with round corners, smooth edges and proper water filtration systems.

2.6. Environment

- ✓ The refuge should be located in a climate appropriate to the animals being housed (i.e., seasonal fluctuations, maximum storm cycles, and days of sunshine per year should all be within the normal range for the species in the wild)
- ✓ The temperature should be within an acceptable range for the species housed. Allowance is made to accommodate individual animals unable to tolerate temperatures above or below the usual range of comfort for the species. Housing of geriatric, juvenile, and/or ill animals may not be appropriate for some refuges and will require case- by-case review. In case, proper facilities for these categories should be projected with the capability of controlling temperatures.
- ✓ Water temperature should be within the thermoneutral range for the species. Records of daily water temperature should be maintained along with water quality data.
- ✓ A hydrological study of the area should be obtained prior to construction of the refuge and should be kept on record.
- ✓ The refuge area should have adequate flushing, ensuring that there is not harmful (to the refuge animals or surrounding ecosystem) nutrient accumulation from waste material in the vicinity of the refuge. If natural tidal flushing is not adequate pumps, paddles or sprayers can be used to increase flushing.
- ✓ The water current and dynamics of the site should not be strong enough to threaten the integrity of the netted perimeter, anchoring system, or associated structures.
- ✓ Water quality in the area should have adequate dissolved oxygen, minimum turbidity appropriate for the ecosystem and resident species, minimal contaminant and pollution levels, as well as locally appropriate and resident species appropriate nutrient, pH and salinity levels. Water quality should be monitored for temperature, salinity, pH, pathogens daily, weekly for pollutants, and records of results should be archived.

Parameters should comply with any governmental or permitting agency mandates and consistent with bathing water quality regulations.

- ✓ The refuge should be located in an area protected from large sources of acoustic pollution (e.g., not directly next to a shipping lane, not near a military testing site). Low level acoustic pollution (e.g., recreational boaters) should be limited, either by selecting a site that is more remote and thus not exposed to heavy activity, or by creating and enforcing a no-go zone around the refuge that limits acoustic pollution to a level that does not interfere with the animal's daily activity. The impacts of acoustic stimuli should be monitored using passive acoustic monitoring coupled with behavioural observations of the animals.
- ✓ If the refuge overlaps with habitat for sensitive or protected flora or fauna, protocols should be in place to ensure that normal refuge activities do not negatively impact those sensitive species. As stated above, a double fence should prevent any escape or intrusion. Additionally, a contingency plan for any incidental exit or entrance should be prepared.
- ✓ Supplemental lighting is provided as needed to ensure adequate light for caregivers to observe animals, clean enclosures and perform related animal care tasks. Light pollution from artificial lights should be minimized along the shoreline of the refuge.

3. NUTRITION REQUIREMENTS

3.1. Hydration

- ✓ Fresh clean water must be available in sufficient quantity at all times to all individuals via high quality food and supplemental hydration when required.
- ✓ Fish quality and water content are kept at the highest possible level to maintain appropriate water absorption during feeds.
- ✓ If hydration supplementation is deemed necessary, hydration should be achieved via established methods, utilizing the least invasive methods whenever possible, under the supervision and direction of the attending veterinarian.
- ✓ Hydration should be monitored utilizing regular voluntary blood sampling, examination of eyes, mucous membranes and skin.
- ✓ Water used for hydration should be at room temperature (temperature of the food prep area or comfortable indoor temperature) when administered (unless providing ice cubes is the method utilized).
- ✓ Potable water sources should be tested for quality and contaminants annually at a minimum (more frequently in location with annual variations in water quality) and whenever there is a change to the water system or reason for concern (such as an animal exhibiting a medical concern for an unknown reason).

3.2. Diet

- ✓ A balanced and healthy diet is provided appropriately based on the needs of each animal, following veterinary instructions for special needs.
- ✓ A veterinarian or qualified veterinary nutritionist periodically reviews all aspects of the animals' diets at the refuge and makes adjustments to individual diets with consideration of species, age, life stage, size and condition. The calories in foods used as enrichment are considered when planning the overall diet.

- ✓ Diets of individual animals (including vitamin supplementation) are of a quality, quantity and variety to match the physiological and psychological state of the individual as it changes over time, with consideration for the age, life stage, species, condition, size and health of the individual.
- ✓ The refuge utilizes a feeding procedure that ensures each individual receives adequate nutrition regardless of status in social groups, such as routine observation of feeding activity. Each animal's daily dietary needs are available to animal care staff.
- ✓ Daily food consumption and other behaviours are monitored and, if any changes are detected, immediately reported.
- ✓ Feed types should remain varied as appropriate for each species to ensure that the animals are able to easily adapt to changes in food availability.
- ✓ Protocol should be implemented for testing the quality of each lot of food. Food quality is continually monitored. Food safety and quality should meet criteria for human consumption included in current national regulations. If not already adopted by the food suppliers, who should provide detailed information, protocols should include analysis of calories, nutritional components, lipid oxidation, histamines and peroxides, contamination, and microbiology sampling such as enterobacteria, salmonella, and mesophilic aerobes.
- ✓ Social status must not negatively impact food quantity for any individual animal (e.g., dominant animals taking more food than subordinate animals and thus certain animals not receiving their required daily intake).
- ✓ If animals are believed to be consuming live food items from the habitat, similar food items should be collected and sampled to assess nutritional content, as well as screened for contaminants and toxicity.
- ✓ Prior to offering vitamins or other supplements, the individual animal's health and condition, as well as the diet, are reviewed by the veterinarian or a nutritionist experienced in the species' care.
- ✓ Species-appropriate supplements should be utilized to support each animal's nutritional needs and compensate for the nutrient loss due to the feed freezing and thawing process.
- ✓ To the extent possible, food should be sourced from local fisheries using environmentally friendly and sustainable methods (but this effort should not compromise the nutritional needs of the animals by dictating type or quantity of feed). A dedicated program involving local fishermen could be implemented considering local fish species, in order to adapt the dolphins to more natural conditions.
- ✓ Any diet changes, based on weight and condition of the animal, food consumption, activity level and other medical or behavioural considerations, should be made or approved by the veterinarian or other qualified personnel, with any adjustments made to the entire diet to ensure continued nutritional balance.

3.3. Food Presentation and Feeding Techniques

- ✓ The feeding schedule should make every effort possible to mimic the frequency and timing of feeding patterns in the wild for each species.
- ✓ Records for each feed, including the type of food, amount consumed, supplements and medications given, and behaviours during feeding should be kept.
- ✓ Feeding in multiple locations can encourage wider utilization of the refuge area and helps to ensure that low-ranking individuals have adequate access to food.
- ✓ Feeding stations are able to be monitored effectively both above and below the water, so that food intake can be monitored and uneaten food does not accumulate in any location
- ✓ A variety of feeding techniques and locations should be offered to encourage more diverse feeding behaviours (e.g., remote feeders, enrichment devices, and, when appropriate, live food)
- ✓ All methods used to encourage engagement with enriching feeding methods should be based on positive reinforcement.

3.4. Food Storage and Handling

- ✓ Food processing and storage should be done in dedicated kitchen and rooms build according the national regulation for human consumptions: walls and floors should be easily cleanable with round edges and corners; the surface materials have to be easily cleaned with water and routine disinfectants at the working surface; the room should have enough light to ensure proper evaluation of the food and dirty areas; the working areas should have proper drinkable water supply and drainage for cleaning; windows and doors should be equipped with mosquito nets to avoid entrance of flies and other insects; a pest control and cleaning programs should be adopted and routinely implemented.
- ✓ Food is stored, handled and prepared in an appropriate manner to retain nutritional value, freshness, and prevent its deterioration, invasive species or other forms of contamination.
- ✓ Frozen fish or other frozen food should be stored in freezers that are maintained at a maximum temperature of -18°C. A recording system for temperature control should be adopted.
- ✓ Items frozen for use are dated and labelled, and no frozen items are thawed and refrozen. A freezer register should be adopted.
- ✓ Frozen food items should be stored in a sanitary freezer, away from the walls, elevated off the floors and away from the condenser/fans of the freezer to allow for proper air circulation within the freezer.
- ✓ Thawed fish/food should be stored in a refrigerator or kept on ice to maintain a temperature no greater than 4°C, used within 12 hours of thawing to minimize bacterial overgrowth, and clearly labelled with the time of thawing.
- ✓ Food items requiring refrigeration are stored in a clean, dry refrigerator, and/or ordered at regular intervals in amounts that can be used prior to spoilage.
- ✓ Products are dated and expired food as well as bags damaged by pests are discarded.
- ✓ Two to three months' worth of food availability should be ensured at all times.
- ✓ During its handling, food is protected against deterioration, mold, and/or contamination by insects, birds, rodents or other animals.
- ✓ Food preparation surfaces are thoroughly cleaned and disinfected between uses and personnel wash hands thoroughly prior to handling food. Wearing gloves during food preparation is recommended.
- ✓ Staff should avoid handling food while sick.
- ✓ Thawing should take place in a refrigerator. If this is not possible or food is still frozen, clean, cold, running salt water can be used. If salt water is not available, thawing with potable, running fresh water may be considered, assuming the area/water is clean and post-thaw refrigeration remains prompt.
- ✓ Food handling protocols should be plainly visible in the food preparation and storage areas.

4. VETERINARY CARE

4.1. Veterinary Program Personnel

- ✓ The refuge's veterinary medical program is developed and carried out under the supervision of a licensed and experienced cetacean veterinarian and with adequate support personnel.
- ✓ Refuges unable to maintain a full-time veterinarian have access to a part-time veterinarian with suitable training and experience for the animals housed.

- ✓ The refuge has properly trained and qualified professional and supporting personnel as necessary to implement: (1) husbandry (caregivers) and (2) technical support (veterinary technicians, or individuals trained at the refuge).
- ✓ One or more personnel is trained and designated to deal with emergencies until a veterinarian arrives or is reached. According to national legislation and under the direction of the veterinarian, he or she should be able to, perform basic first aid, assess animals, administer prescribed medications and treatments, be responsible for administration of post-surgical care, and be skilled in maintaining appropriate medical records.
- ✓ Refuges have the appropriate number of personnel, including veterinarians and veterinary technicians or assistants, to meet these standards for all animals in their care 24/7, with consideration given to the number of animals, number of enclosures and/or social groups, and individual medical conditions or needs (e.g., a large number of geriatric or elderly animals, known disabilities or conditions, etc.).
- ✓ The attending veterinarian(s) must be comfortable conferring with other marine mammal veterinarians/specialists as needed for complex cases.

4.2. Veterinary on-site Capabilities (laboratory & diagnostics)

- ✓ The refuge has on-site and/or off-site capabilities for pathology, surgery, and other veterinary procedures and treatments, and any on-site facilities are appropriately maintained. If it does not have an on-site veterinary facility, or only a partially outfitted facility, it has an arrangement with a nearby veterinary practice for off-site treatment as needed.
- ✓ On-site and/or off-site facilities and services include the following:
 - ✓ Diagnostic capabilities including cytology, microbiology, parasitology, complete blood count, blood chemistry, urinalysis, serology, radiology, ultrasound, endoscopy and other appropriate laboratory procedures.
 - ✓ Necropsy capabilities include capacity for collection of tissues for histopathology.
 - ✓ Medical treatment facilities that are clean, have adequate lighting and ventilation, can be easily cleaned and disinfected, and with access to appropriate anaesthetic and emergency equipment.
 - ✓ Drugs should be acquired managed and stored according to existing legal framework.
 - ✓ Medical treatment equipment is maintained in good working order and is on a program of routine preventive maintenance.
 - ✓ Only a licensed veterinarian or veterinary nurse can perform all medical procedures using best practices and protocols for the species.
 - ✓ Protocols, guidelines and best practices should be recognized as international standard and they should be approved by a scientific and ethical committee.
 - ✓ Veterinarians and support personnel are compassionate and knowledgeable about the humane aspects of animal treatment, including the proper use of anaesthetics, analgesics, and tranquilizers.
 - ✓ Basic physical capture and restraint equipment to facilitate medical treatment is available at the refuge and there is the possibility to rapidly isolate an animal in a way that allows veterinary or care staff to access an animal in the event it is medically or otherwise necessary (slide outs are acceptable in most situations, but the refuge should be equipped with a medical lift or medical pool area with hydraulic lift floor that can facilitate safe access to an animal unable to or unwilling to slide out).
 - ✓ Medical lifts should be appropriately sized to the species held, designed to remain functional under all circumstances (e.g., be easily connected to a back-up power sources in the event of a power outage), and maintained in good working order.
- ✓ The ability to weigh each animal should be incorporated into the design of the refuge so that every cetacean resident can be effectively weighed (including those in quarantine).

- ✓ Necropsies on any deceased animals, will be done at a separate facility. If on-site, this area should be physically separated from live animal holding areas and daily care facilities such as food storage, as well as from other medical areas used to treat live animals.
- ✓ Removal of cetacean remains from the refuge should follow all applicable levels of regulations.
- ✓ A detailed report of necropsy results must be archived at the facility. Cause of death and contributing factors for each animal that dies at the facility should be reviewed. Any appropriate changes to husbandry protocols, facilities, and/or medical care should be diligently incorporated based on the findings.

4.3. Preventative Medicine Program

- ✓ The veterinary medical program includes long term preventative medical protocols and disease surveillance and containment procedures, and is developed and carried out under the supervision of a licensed veterinarian with training or experience in providing medical care for the species housed at the refuge, and who is aware of any specific health issues of the individual animals.
- ✓ Preventive medicine protocol will address the following:
 - regularly scheduled physical examinations/health assessments and blood analysis
 - behavioural assessments
 - quarantine procedures
 - parasite surveillance and control
 - immunization
 - contraception if not regulated with social group management
 - infectious disease screening
 - dental prophylaxis
 - periodic reviews of diets and monitoring of feed intake
 - applicable species-specific husbandry needs
 - routine water quality screening
- ✓ Daily health checks of each animal should include (but are not limited to):
 - Observing physical appearance
 - Assessing activity level
 - Monitoring behaviour and eating habits
 - Nature and frequency of respirations
- ✓ Animals are immunized as recommended by the attending veterinarian, using currently recommended procedures and products as appropriate for the country, species and individual. When animals are immunized on-site by refuge personnel, the type, serial number, and source of the product are recorded in the individual animal's medical record.
- ✓ Each animal should receive at least one comprehensive medical exam annually. This is a minimum standard for preventative medicine and should be exceeded when conditions warrant.
- ✓ A comprehensive medical exam should include:
 - Morphometrics (including body build index and/or weight)
 - Body condition exam consistent with any applicable scoring system (including skin, eyes, teeth, genital opening, anus, blowhole, mentation and responsiveness, buoyancy, overall symmetry, etc.)
 - Dental examination
 - Blood sampling (routine haematology and serum chemistry, hormone and additional analysis as indicated)
 - Blowhole cytology and microbiology, including antibiotic resistance, and evaluation of respiratory system health
 - Endoscopy or gastric wash and collection of gut microbiome data

- Faecal sampling (cytology, parasitology, and bacterial culture, possibly including microbiomics, proteomics and metabolomics)
- Pathogen screening (tailored to the specific pathogens of concern for the region, species, and individual history)
- Diagnostic sonography
- ✓ Each animal is weighed annually at a minimum, either during a routine physical or through the use of a built-in scale integrated into slide-outs, to monitor for signs of illness and to determine dosages for pharmaceuticals and chemical anaesthetics.

4.4. Quarantine and Isolation Care and Facilities

- ✓ The refuge should have separation areas for separation of animals not in need of full medical quarantine (e.g., animals in need of separation due to behavioural considerations, separating females from males during fertile periods, or animals being isolated prior to introduction to the larger refuge area). A separation area may have shared water with the larger refuge area (simple netted separation).
- ✓ The refuge should have a medical quarantine facility with adequate capacity to prevent pathogen transmission between hosted cetaceans, and between refuge cetaceans and wild populations (e.g., double netting).
- ✓ Quarantine areas may be shaded or indoors if deemed necessary for animal care or necessary to meet applicable regulation requirements.
- ✓ A medical quarantine facility must have the ability to do full examination and treatment of the animals under care: the quarantine pool should have the physical features as suggested by EAZA and EU Directive 1999/22/CE including easily cleanable surface with round edges and corners; controlled water supply and management with a disinfectant dosage system; a pump system able to change rapidly the entire water body; the ability to manage rapidly water depth through a lifting floor or by a rapid draining system which allow a rapid intervention on the animal
- ✓ All utensils, equipment, supplies, and outer clothing used in quarantine are restricted to that area. Where this is not possible, items that the refuge does not have duplicates of and which cannot be restricted to quarantine areas must be thoroughly cleaned and disinfected prior to being moved to or from quarantine areas, and movement between areas should be minimized.
- ✓ Protective clothing, boots and footbaths are used by all staff entering the quarantine area or areas containing quarantined animals. Quarantine clothing is not removed from the quarantine area, except in a sealed container for cleaning. Footbaths are changed regularly.
- ✓ Caregivers are equipped with appropriate personal protective equipment such as masks, face shields, disposable examination gloves, boots, Tyvek-type suits or sleeves, when cleaning or handling anything with which the quarantine animals come into contact.
- ✓ Water from the medical quarantine area should be filtered or treated and disposed of in a safe area away from the habitats of the other refuge animals.
- ✓ Waste or biological material from medically quarantined animals should be treated as biologically hazardous material and disposed of accordingly.
- ✓ Clearly visible signs indicating areas of quarantine are displayed as needed, with particular consideration for placement at entry/access points.
- ✓ A detailed risk assessment must be completed for each new animal introduced to the refuge. The risk assessment should identify any potential threats to the health of the current refuge animals, new animals, and the local ecosystem, as well as outline planned steps to mitigate those threats. The likelihood and consequences for each identified threat should be considered.

- ✓ All new arrivals to the refuge from captive facilities should undergo a health evaluation and be pre-screened for transmissible pathogens, including serological examinations, prior to transport and kept isolated after pre-screening from those that are not being transferred to the refuge.
- ✓ Prolonged isolation of an animal either in a medical quarantine area or a separation area should be avoided (see Well-being and Handling of Cetaceans section);
- ✓ During quarantine of incoming animals, the following procedures should be performed as applicable: examination, vaccination as appropriate, clinical and laboratory tests, treatment for external and internal parasites as needed, evaluation of psychological well-being, verification of identification.
- ✓ An enrichment program is in place for quarantined animals.
- ✓ Animals that die in quarantine receive a complete post-mortem examination including histopathology.

4.5. Breeding Policy and Contraception (no intentional breeding of animals in lifetime care)

- ✓ Group management rather than medical contraception should be preferred to prevent breeding and avoid reproduction.
- ✓ In case it is not possible, contraception programs are appropriate for the species and, as determined by the veterinarian, prioritise the most effective and minimally invasive methods.
- ✓ Moving pregnant females should be avoided. In the event that a pregnant individual is brought to the refuge, appropriate habitat for birthing and caring for an unweaned calf should be provided to the mother-calf pair.
- ✓ If animals arrive at the facility pregnant, the refuge provides necessary care as determined by the veterinarian. Neonates are only removed from the mother for hand-rearing if there is a threat to the life of the new-born or mother.
- ✓ Males should not be housed with pregnant females, prepartum or postpartum females.

4.6. Zoonotic Disease Control Program

- ✓ The personnel and refuge veterinarian are knowledgeable about zoonotic diseases that may affect animals at the refuge, and implement appropriate policies and procedures as needed to mitigate risk and deal with any exposures that occur.
- ✓ The refuge has emergency procedures and a defined process to avoid transmission of all potential or emerging diseases through bites, scratches, body fluids, direct contact with animals and other means.
- ✓ Personnel have adequate training to understand the potential risk of disease transmission, including potential sources of disease, modes of disease transmission, and clinical signs associated with disease, and are encouraged to contact their own health care provider if they experience any unusual symptoms after working with cetaceans. All personnel are informed when a zoonotic disease occurs at the refuge and relevant personnel are trained in how to safely care for animals with disease.
- ✓ Personnel should periodically be checked according to the national worker safety legislation. They should declare any contact with domestic, wild or livestock animals in order to prevent any contact and implement proper screenings.
- ✓ When a reportable disease is identified, all local, state/province, and national regulatory officials are contacted, as required.
- ✓ A complete necropsy, including histopathology and microbiology, has to be performed on deceased animals known or suspected to carry zoonotic disease within 24 hours of death.
- ✓ All areas in which personnel have direct contact with animals have hand-washing facilities available in the immediate vicinity (or an equivalent; e.g., bactericidal hand wipes).

- ✓ Food consumption by personnel does not occur in the immediate area of animal contact.

4.7. Euthanasia (IF performed, in compliance with any national or local law, under the strict supervision of a licensed veterinarian)

- ✓ The veterinarian is the only person responsible for recommending and performing humane euthanasia, according to the national existing laws. Euthanasia is in the best interest of the individual animal and is only used as a final option, and is not used as a management tool (such as a means to create space for more animals).
- ✓ Acceptable reasons for euthanasia include:
 - incurable medical/behavioural health status that is likely to cause unmanageable pain or suffering;
 - medical/behavioural health status where available treatment will cause unmanageable pain/suffering, or it will not be effective in restoring the animal to an acceptable quality of life;
 - medical/behavioural health where treatment is beyond the normal community standards of monetary expenditure and would cause an excessive burden on the refuge resources, and no other facility/placement provides a reasonable alternative option;
 - the process of aging has resulted in an unacceptable quality of life;
 - in the event of presenting an infectious disease risk to some or all of the residents;
 - in the event of presenting a high risk of harming themselves, other animals and/or humans.
- ✓ Euthanasia should be adopted after the evaluation of an ethical committee.
- ✓ The decision whether or not to separate (both visually and acoustically) the animal being euthanized from the other animals should be made by the attending veterinarian and the animal care staff.
- ✓ A complete post-mortem examination including histopathology should be performed to confirm the underlying medical reason for euthanasia.

4.8. Biosafety and biosecurity

- ✓ A refuge may be also dedicated to wild animal rehabilitation. If that is the case, any rehabilitation area should be physically separated and different personnel and equipment should be used.
- ✓ Any wild animals entering the refuge deemed to be non-releasable, should undergo a strict quarantine and health check including all the known diseases listed for cetaceans (virological, microbiological, parasitological and mycological) including serological evaluation. Exams should include investigations of blood, serum, blow, mouth scrubs, faeces and should be performed using both cultural and the more advanced techniques as virome and microbiome approach. Antimicrobial resistance should be tested.
- ✓ A complete and throughout plan considering biosafety should be implemented. The plan should include the hazard analysis, critical control point management and a contingency plan in order to identify possible risks, the severity of risks and possible mitigations to prevent or solution to be adopted.
- ✓ The plan should include the evaluation of pathogens entrance considering water and food supplies, pests' control, personnel and equipment contamination, wild or domestic animals' entrance, animals' admittance and medical controls, quarantine procedures. Additionally, the plan should consider the data coming from the epidemiological situation in the area for all relevant and reportable diseases.
- ✓ The plan should also consider waste and food remains management; water output monitoring including viruses, bacteria and protozoa; procedures for water output treatment.
- ✓ The plan should include all the programs implemented for monitoring animals' and personnel health, water quality and food safety, disinfection and cleaning process for different areas and facilities, water output management and treatment; integrity of fences, gates and separation. The plan should also state all

technologies implemented and frequency of the procedures to ensure its regular and consistent implementation.

- ✓ Biosafety measures include also the contingency plans to avoid any incidental entrance of wild animals, incidental exit of the kept animals and entrance of external person or monitor of volunteer damages.
- ✓ The plans should include checklists forms, reporting systems and traceability of all the processes.

5. WELFARE AND HANDLING OF ANIMALS

5.1. Physical Welfare

- ✓ Animals should be routinely monitored by qualified personnel to ensure their physical well-being (i.e., nutritional, physical and social conditions) and any unusual activity should be reported and recorded, with appropriate timely response.
- ✓ The physical environment of the refuge should allow for a wide range of behaviours, including those related to the majority of cetacean species daily activity in the wild (see Cetacean Housing section). The refuge should allow for the animals to spend the majority of their time oriented to the underwater environment, while allowing for the animals to rest (stationary or swimming), interact with a stimulating natural environment, and to interact with any objects provisioned for enrichment. If possible, with consideration for provisioned food, animals should be allowed to forage for prey.
- ✓ Animals should be able to visually and physically distance themselves from one another, as well as humans such as care staff outside of interactions necessary to provide for the health and well-being of the animals.
- ✓ Physical abuse, deprivation of food, and other forms of negative reinforcement or punishment-based training are never used to train, shift or otherwise care for animals and will be considered as animal abuse according to the national legislation.

5.2. Social Housing and Group Management

- ✓ Animals are grouped so that they are compatible, with consideration to their natural social groupings and individual history, and with the safety of animals and refuge personnel in mind.
- ✓ Animals are housed so that:
 - those in the same enclosure are compatible;
 - they are not housed near animals that interfere with their health or cause them physical or psychological discomfort;
 - there is appropriate space between individuals within and between social groupings and to allow for temporary voluntary isolation from others;
 - no individual endures constant harassment or suffers physical injury, nor do social behaviour prevent any individual from maintaining proper nutrition and hydration.
- ✓ Solitary housing is generally reserved for situations including, but not limited to: quarantine; medical assessment and/or care; lack of appropriate social partners or social tension resulting in disruption to the social group, physical aggression leading to injuries, and anticipated birth. Ideally and when appropriate, individuals in solitary housing should have access to visual and auditory access to conspecifics as well as regular caregiver interaction.

- ✓ Staff have an understanding of the natural history and normal behaviour of the species in the wild and are regularly assessing compatibility among individuals through ongoing behavioural and health monitoring and assessments.
- ✓ If multiple species (not recommended) are present at the refuge, species are integrated or separated based on the well-being of the animals (e.g., no direct mixing of predator and prey species).
- ✓ If applicable and appropriate for the species, every effort should be made to keep mother- calf pairs in the same groupings.
- ✓ Introduction of any new animal to a social group is done safely and according to techniques appropriate for each species, under the direction of designated personnel.

5.3. Behavioural/Psychological Well-Being

- ✓ Schedules should be structured around the needs of the animals and, accordingly, individualized welfare plans prepared and approved jointly by veterinarian and animal care staff, are in place to enhance well-being. Their implementation is documented and archived.
- ✓ The behavioural choices of the animals should be monitored through non-invasive methods, documented and archived to ensure that the monitoring and review of long-term data of each individual is informing decisions impacting their well-being.
- ✓ The animal care staff should be trained to identify, address and minimize stereotypic or harmful behaviours (including the ability to interpret data).
- ✓ Individualized protocols to reduce/eliminate stereotypic or harmful behaviours should be developed and approved jointly by the veterinarian and animal care staff, and results documented and archived.
- ✓ There should be a positive reinforcement training program in place to maintain voluntary participation in animal care and veterinary procedures that support health and welfare goals. The animal care staff should be provided the tools and resources needed to safely and successfully implement the positive reinforcement training protocols.
- ✓ The refuge should provide staff with training on animal welfare and assessment methods. This training should be regularly updated to incorporate currently available information.
- ✓ Animal welfare should be assessed at a regularly established interval, and additionally as needed, including when significant changes occur, such as the addition (or removal) of animals, major environmental changes (e.g., weather events), and location changes. Results from welfare assessments should be documented, archived, available for review and should directly inform action plans created by animal care staff.
- ✓ Although the refuge environment should provide the appropriate physical and mental stimulation for the animals, there may be situations that necessitate additional opportunities, which are to be provided by staff. Whenever possible, engagement with the natural environment as a source of enrichment should be encouraged over artificial enrichment techniques.
- ✓ All enrichment opportunities should be evaluated and adjusted as necessary for each animal's well-being and should be safe for both the resident animals and any wild flora or fauna that may be exposed.
- ✓ If enrichment sources include human interaction with trained staff, the interaction should be limited by the interest level of the animals and should be non-disruptive to other animals in the vicinity.
- ✓ Emphasis should be placed on underwater enrichment sources rather than surface-level enrichment sources to encourage behavioural patterns normally seen in the wild.
- ✓ The refuge has an enrichment program that promotes species-appropriate behavioural opportunities at all times (including periods of quarantine and isolation) and ensures the animals' psychological well-being. An appropriate program may include the following:

- Structural enrichment - Enclosure design and furniture that add complexity to the environment and promote species-specific behaviour.
 - Object enrichment - Objects that encourage inspection and manipulation and promote species-specific behaviour.
 - Food enrichment - Varying food choices and food presentation, including the use of puzzles that increase food procurement time.
 - Social enrichment - Affiliative interactions between caregivers and animals may be appropriate in some instances.
- ✓ All animal care personnel are trained to recognize species-specific behaviour, abnormal behaviour and clinical signs of illness, and a plan to address the concerns is developed.

5.4. Animal-Caregiver Relationships

- ✓ Positive relationships between animals and caregivers must be maintained. However, to the extent possible, the most important relationships for each cetacean should be relationships with other cetaceans. Relationships between cetaceans and staff should be encouraged to be secondary and exist in support of meeting the animal's social and health needs in more species appropriate ways (i.e., cetacean to cetacean).
- ✓ Where possible, new caregivers accompany a trusted caregiver until the animal becomes comfortable with the new individual.
- ✓ Where possible and appropriate, animals become familiar with the veterinary staff, allowing close observation.
- ✓ Relationships between staff and the animals are evaluated at a pre-established regular interval and additionally when needed. Accordingly, changes are made to staff assignments when staff and animal relationships are found to be disruptive to the animals.

5.5. Handling and Restraint

- ✓ Any necessary handling and restraint must be done safely and appropriately, with minimal distress to animals, and personnel are trained in species-specific safe handling techniques/practices.
- ✓ Protocols for species-appropriate handling and restraint methods should be developed, while tools and resources needed for safe handling and restraint should be available on-site and maintained in good working order. These will include, at least, appropriately sized stretchers, medical lift(s) and netting.
- ✓ There should be protocols in place for managing animals should they not be near an area designed for handling and restraint in the event of an emergency (e.g., a cetacean in deep water a distance away from a medical lift or a netted bottom).
- ✓ Animals being handled or restrained should be closely monitored by qualified staff (cetacean veterinarians and/or highly trained animal care staff) for signs of stress both during and after the handling or restraint.
- ✓ Handling for veterinary care is done as expeditiously and carefully as possible in a manner that does not cause trauma, overheating, excessive cooling, physical harm, or unnecessary discomfort, and minimizes physical and psychological stress as much as possible.
- ✓ Chemical capture is performed only by a licensed veterinarian and only when other methods are not possible due to the significant risks of sedating free-swimming cetaceans. Specific anaesthetic protocols, including record-keeping, are followed. Emergency resuscitation drugs and equipment (oxygen, on-demand PPV, etc.) must be on-hand during any sedation event.

- ✓ Chemical capture is not used when multiple animals are in an enclosure except in an emergency situation. In such cases, all possible precautions are taken to prevent danger to personnel, all animals in the enclosure, and the animal being sedated.

5.6. Cetacean Transport (conducted only when strictly necessary – being transported to the refuge)

- ✓ Ideally, the refuge location should be easily accessible and well connected. Reaching the site should be easy through roads in good conditions to facilitate the arrival of heavy vehicles delivering materials, animals and, occasional visitors. The presence of an airport within a <100 km radius will also be an asset. In any case, cetacean transport should be conducted only when necessary (e.g., being transported to the refuge).
- ✓ A comprehensive plan that addresses every process step is established and communicated to all involved parties prior to any transport. Authority, roles and responsibilities are clear to all.
- ✓ Health examinations are conducted prior to an animal's arrival at the refuge or prior to transfer to another facility. These examinations may include a complete physical exam with attention to parasite checks, necessary vaccinations, and completion of any tests required by regulations of the receiving state/province or country.
- ✓ Candidates for transport should be medically and behaviourally evaluated prior to transport, and criteria should be established on an individual basis to ensure that the animal being transported is fit for transport (mentally, emotionally, and physically) and in appropriate condition for the receiving location (e.g., free from uncontrolled transmissible pathogens).
- ✓ Health certificates and any required transport permits accompany the animal when being transported interstate or internationally.
- ✓ Capture, restraint, and transportation methods consider the animal's temperament and behaviour in order to minimize injury and distress.
- ✓ Equipment suitable for lifting, cradling (where applicable) and transportation of animals kept within the refuge is maintained in good condition and readily available. Transport containers and vehicles are cleaned after use.
- ✓ All transport equipment should be appropriately fitted to the animal being transported and maintained in excellent condition and meet appropriate animal welfare standards. This equipment includes but is not limited to:
 - Stretchers
 - Cradles
 - Emergency medical/veterinary equipment
 - Monitoring equipment
 - Care equipment (e.g., spray bottles, sheets, A&D ointment)
 - Lifting equipment (e.g., cranes, lifting cables, taglines)
 - Communication equipment
- ✓ When possible, animals should be conditioned to the possible stressors of transport, such as stretcher and cradle training.
- ✓ All transport team must include members who have previous cetacean transport experience and all members should be trained on the transport procedure and aware of their individual roles within it
- ✓ Transport routes should be predetermined and secured (e.g., security escort agreements in place, local municipalities informed) prior to transport.
- ✓ Contingencies should be established for all parts of the transport and alternative arrangements should be available on standby during the transport.

- ✓ The transportation route should be selected based on the welfare of the animal being transported, taking into consideration duration, method of transport, and safety.
- ✓ The cetacean should be carefully monitored (respirations, heart rate, temperature, signs of distress or agitation) throughout the transport by trained staff.
- ✓ Sources of physiological and psychological stress should be mitigated. Methods should be employed to: maintain optimal temperature (cooling/warming), mitigate positional
- ✓ stress (padding, positioners), minimize noise, bright light and movement around the animal, and keep individuals with familiar cohorts.
- ✓ If the transport method uses a water-filled transport box, water temperature should be maintained in a species-appropriate range throughout transport.
- ✓ An appropriate supply of emergency food (based on species, individual eating habits, and routine duration/logistics) should be transported with the cetacean.
- ✓ A qualified cetacean veterinarian must be present throughout the transport.
- ✓ All animals taken outside the refuge are kept securely at all times and managed in such a way that the animal is under control and not likely to suffer distress, cause injury or transmit or contract disease.

6. ECONOMICS; considerations on long-term sustainability and operational costs

- ✓ The refuge will host cetacean primarily originating from the captivity industry and, whenever needed and possible, dolphins that have been rescued after stranding. Therefore, a cetacean refuge should be considered a permanent accommodation for all animals deemed to be unfit for release. Since these will be long-lived marine mammals, in many cases needing housing for a few decades, the long-term economic sustainability of this facility must be assured to every possible extent. A business plan should be developed and proposed considering all the costs and revenues.
- ✓ In this document it is not possible to tailor a generic economic sustainability plan for a cetacean refuge model because this plan may vary largely depending on a number of variables (e.g., country, authorities involved, geography). In any case, commitment of long-term support from local, national, regional and international authorities is essential.
- ✓ Additional possible sources of funding may include and are not limited to, among others, the following:
 - Private Donations from individuals, NGOs and foundations interested in marine conservation and animal welfare.
 - Corporate Sponsorships through partnerships with businesses interested in marine conservation and animal welfare.
 - Admission Charges from visitors and educational groups. Specialized tours focusing on education and conservation may be also an option.
 - Membership Programs: Annual memberships offering benefits to regular supporters.
 - Merchandising and educational materials (can be extended through an online store).
 - Collaborative Programs: Joint initiatives with universities, research institutions, and NGOs.
 - Application to different funding programs and calls
- ✓ Considering the variability of funding, a clear document stating the organization of the management of the refugee, including the different institutional bodies involved, should be clarified.

7. EDUCATION & OUTREACH

An effective educational program and outreach strategy can significantly enhance the impact of a cetacean refuge. By engaging the public, raising awareness, and fostering a connection between people and marine life, the refuge can build strong support for its conservation efforts and ensure long-term sustainability.

7.1. Education and research program development

- ✓ Potential for an education/interpretation centre with multimedia resources providing information on the biology of the animals, their conservation needs as well as the rationale dictating the need for cetacean refuges.
- ✓ Well-defined research proposals for non-invasive and unobtrusive respectful scientific research should be considered. These should be carefully reviewed by both, a scientific and an ethics committee, in collaboration with the refuge team. Priority should be given to the welfare of the animals hosted in the refuge and all proposals should include a protocol for the monitoring of the animals before, during and after the study/experiment is conducted. If any animal shows signs of distress when exposed to the research-related activities (directly or indirectly) the activity must be immediately interrupted.
- ✓ Research and educational programs should be aimed to enhance conservation and welfare of the animals in the wild.

7.2. Public engagement

- ✓ The refuge may allow, under certain conditions, the presence of visitors (see economics section). Dolphin observation will be encouraged by using remote technologies (e.g., webcams, advantaged land-observation points). Educational programs will be conducted to inform the public about the implications and consequences of captivity as well as promoting research programs on the rehabilitation and, when possible, the release of dolphins at sea.
- ✓ Volunteer Programs and Paid volunteer opportunities may be considered for individuals interested in contributing to and working at the refuge.

7.3. Communication channels

- ✓ By developing and implementing a well-rounded communication strategy, a cetacean refuge will be able to effectively promote its mission, engage with the community, and provide new opportunities for funding and collaborations (not only with potential sponsors but also, for instance, with research and conservation organizations). Key messages at the epicentre of the communication strategy must be very clear. Some to be considered may be:
 - Cetacean behaviour and ecology
 - Importance of Cetaceans (e.g., ecological, cultural, and economic significance)
 - Refuge's role
 - Cetacean conservation (threats, conservation strategies...)
 - How to help: steps for people to support the sanctuary (donations, volunteering, citizen science...).
- ✓ Some communication channels to be considered are:
 - Website: Create a dedicated website with regular updates, articles, and educational resources.

- Social media: Use platforms like Facebook, Twitter, Instagram, and YouTube to share engaging content, such as videos, infographics, and stories.
- Email Newsletters: Send regular updates to subscribers about news, events, and ways to get involved. Share compelling stories of individual cetaceans, success stories from the refuge, as well as profiles and/or testimonials of volunteers and staff.
- Press Releases: Distribute press releases to media outlets to announce important news and events.
- Community Events: Host events such as beach clean-ups, educational workshops, and guided tours of the refuge.
- Partnerships: Collaborate with schools, universities, and other organizations to reach broader audiences.
- Key metrics such as website traffic, social media engagement, email open rates, event attendance, and media coverage should be regularly evaluated (quarterly?) to get feedback on communication initiatives and their success.
- Feedback from visitors, volunteers, and partners also important to assess the effectiveness of communication efforts.
- Act accordingly and make adjustments to the strategy to improve outreach and engagement, as necessary.

ANNEX III - Note on Procedural Steps for Requesting Advice from the ACCOBAMS Advisory Committee on Semi-Enclosed Facilities

Step 1. Those seeking advice on issues related to semi-enclosed facilities for cetacean species in the ACCOBAMS Area are invited to firstly read carefully the Guidelines for Best Practices During the Installation and Management of Semi-enclosed Facilities for Cetacean Species in the ACCOBAMS Area².

If after reading those guidelines they feel the need to ask for further advice, they are kindly requested to produce a concept note to present the initiative/project for which advice is being requested (e.g., dolphin refuge)

Concept note should include:

- Background and context.
- Specific questions or guidance sought.
- Relevant supporting documents, including national legal background and scientific data.

Step 2. Submission of the concept note to the ACCOBAMS Permanent Secretariat by e-mail.

Step 3. The ACCOBAMS Secretariat will review the request for completeness and relevance, will acknowledge receiving the above-mentioned message (Step 2) and, if duly completed, will forward it to the Advisory Committee on semi-enclosed facilities (AC).

Step 4. The Chairman of the AC receives the e-mail with the concept note and, after confirming that at this stage no other information is needed, this concept note will be shared with the rest of the AC members and convene a meeting, if needed, depending on urgency.

Step 5. The AC, after internal consultation, will share its opinion with ACCOBAMS SC. It may also be the case that additional information or clarification from the submitting party is requested by either AC or SC.

Step 6. Once a response has been formulated, it is sent to the requesting party, via the Secretariat.

Step 7. Follow-Up Actions by AC.

Implement recommendations or seek further clarification, if needed.

If the matter requires ongoing support, the body seeking advice may consider establishing a formal collaboration with ACCOBAMS or relevant working groups.

Step 8. Reporting and Feedback

Within one month after receiving a response from the Secretariat, the body seeking advice should provide feedback to ACCOBAMS on how the advice is meant to be implemented and establish a calendar for providing a brief report on it.

This procedure should help in refining future advisory processes and ensure alignment with conservation common objectives.

² At the moment of presenting this note at SC16, the Guidelines document is still a draft doc.

RECOMMENDATION 16.14 - AREA-BASED MEASURES FOR CETACEAN CONSERVATION

Recalling that according to ACCOBAMS Conservation Plan (Annex 2 of the Agreement), Parties “shall co-operate to create and maintain a network of specially protected areas to conserve cetaceans” and “shall endeavour to establish and manage specially protected areas corresponding to the areas which serve as important habitat for cetaceans and/or which provide important food resources for them. Such specially protected areas should be established within the framework of the Regional Seas Conventions (OSPAR, Barcelona and Bucharest Conventions), or within the framework of other appropriate instruments”,

Recalling that in 2010, the ACCOBAMS Scientific Committee started a preliminary identification of areas of special importance for cetaceans in the Agreement Area, mainly based on ‘expert opinions’ (Resolution 4.15 Annex). Moreover, thanks to the ACCOBAMS efforts, including the recent ACCOBAMS Survey Initiative (ASI), knowledge of cetacean species has since greatly improved as has work in mapping pressure e.g. through the European Directive Marine Spatial Planning,

Recalling that at the MOP8 in 2022, Parties requested the revision of this Annex and of the ongoing process looking at quantifying anthropogenic pressures over cetacean habitats ‘taking into account the already existing mechanisms and tools related to area-based cetacean conservation’ (e.g. IMMAs, OECMs, MPAs, MSP, etc.),

Recalling the ACCOBAMS-SC12/2018/Doc35 “Recommendation 12.8 on the value of the designation of IMMAs and CCH to achieving ACCOBAMS objectives”, the report of SC15 conclusion 36 recommending to the Task Group on ‘Area-based measures for cetacean conservation’ to review and update the work to be done for “area-based measures for cetacean conservation”, also considering the recommendations from the workshop held in March 2022, the suggestion to replace the term “Cetacean Critical Habitat” with an appropriate terminology and the MOP8 discussions and Annex 14 of the report, and finally the internal workshop hold in March 2024 in order to reframe the process,

Aware of the Scientific Committee’s advice of the need for care and sensitivity when providing official maps which, although they provide a powerful communication tool, also have a potential capacity for misuse and/or misinterpretation,

Aware of the difficulties of appropriately combining overlapping maps created in different ways and from datasets of different spatial and temporal scales exercise to show robust and realistic co-occurrence to risk-area maps,

Recognising that IMMAs - “discrete portions of habitat, important to marine mammal species, that have the potential to be delineated and managed for conservation” - are an initiative of the Joint IUCN SSC/WCPA Task Force on Marine Mammal Protected Areas (the “Task Force”) and are identified following application of agreed criteria. This process has been acknowledged by CMS (Resolution 12.13, 2017), that *inter alia* requested Parties and invited Range States to identify specific areas where the identification of IMMAs could be beneficial,

Recalling the joint IMMA Task Force/ ACCOBAMS October 2016 workshop identifying IMMAs in the Mediterranean Sea (www.marinemammalhabitat.org/imma-eatlas/),

Recalling to the Post-2020 Regional Strategy for Marine and Coastal Protected Areas and Other Effective Area-based Conservation Measures in the Mediterranean, adopted by the Barcelona Contracting Parties at their 22nd Meeting (COP 22) (Antalya, Türkiye, 7-10 December 2021).

The Scientific Committee **recommends:**

- (a) adoption of the terminology and process agreed at the (2022 and 2024 workshops) and in particular replacing the term 'Cetacean Critical Habitat' with the more appropriate **Cetacean Co-occurrence with Human activities**;
- (b) continuation of the work of the CCH Task Group to develop proposed CCHs area, taking into account the recommendations of the workshop, as well as existing mechanisms and tools related to area-based cetacean conservation presented in the annex to the workshop report;
- (c) further exploration with relevant experts (including those at the IWC Scientific Committee) on appropriate consideration and mapping of uncertainty and the integration of maps of cetacean and human activities, including experts on Marine Spatial Planning;
- (d) liaison with INFO/RAC and PAP/Rac and their mapping platform Kmap as well as continued exploration of the facilities of the NETCCOBAMS network;
- (e) active participation in the "Strategical Alliance among the Secretariats of ACCOBAMS, GFCM, IUCN-Med, UNEP/MAP through SPA/RAC and in collaboration with MedPAN" and the Pelagos Agreement, concerning Spatial-based Protection and Management Measures for Marine Biodiversity;
- (f) reiteration of the great value of the IMMA process to ACCOBAMS and the need for the re-assessment of the Mediterranean region for the identification of IMMAs in 2026 as a priority action for the next triennium;
- (g) replacement of Resolution 4.15 with the present one and ensuring that the Archived Resolution Annex being clearly marked with the following text:

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RECOMMENDATION 16.15 - NETCCOBAMS

Considering the Recommendation 14.10 - NETCCOBAMS,

The SC **recommends**:

- to review and update the Terms of Reference of the expert working group (WG) on NETCCOBAMS;
- to develop Guidelines on NETCCOBAMS use including specification on access to maps, data and information according to different types of users, in order to guarantee the safe use of sensitive data;
- to the NETCCOBAMS WG to organize dedicated meetings (ToR to be prepared), as appropriate, to review existing maps, data and information present on the platform, and to agree on the best use of the platform's options;
- to the NETCCOBAMS WG to periodically meet, as appropriate, in order to determine which type of users can access the new material added into the platform (maps, data and information);
- that once published, the Secretariat should disseminate information on the value of the NETCCOBAMS online platform (including its contribution to achieved mitigation measures) to national and international fora, managers, stakeholders (e.g., shipping companies, ports and IMO) to increase the visibility of the work done and encourage its use and the submission of data.