ACCOBAMS-SC14/2021/Doc40

REPORT OF THE
FOURTEENTH MEETING OF ACCOBAMS SCIENTIFIC COMMITTEE

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1. OPENING OF THE MEETING

1. The Fourteenth Meeting of the Scientific Committee (SC14) of ACCOBAMS was convened at the Oceanographic Museum in Monaco, from the 22nd to the 26th of November 2021. It was attended by Members of the Scientific Committee, Representatives from ACCOBAMS Sub Regional Coordination Units, Experts, Representatives of International Organizations and ACCOBAMS Partners. A few participants attended the meeting online.

2. The full list of participants is shown in Annex I to this report.

3. Susana Salvador, Executive Secretary of ACCOBAMS, welcomed the participants and opened the meeting at 14.00 on Monday 22nd November 2021. She expressed great satisfaction to finally meet in person the participants since she started in ACCOBAMS in April 2020. She provided logistic details and indicated relevant documentation for the Meeting, underlining that this meeting would be marked by the celebration of the 25th anniversary of ACCOBAMS with a ceremony planned for Tuesday morning.

4. Simone Panigada, Chair of the Scientific Committee, and Lea David, Vice-Chair, also welcomed the participants. He recalled that this was the last meeting of the Scientific Committee for the 3-years period. In particular, its results and recommendations would be used for the preparation of draft Resolutions to be presented for adoption at the Eighth Meeting of Parties in November 2022.

2. ADOPTION OF THE AGENDA

5. The provisional agenda of the Meeting contained in the Document ACCOBAMS-SC14/2021/Doc01 was presented and the participants were invited to review and comment it.

Conclusion 1.
The Scientific Committee adopted the agenda, as shown in Annex II to this report, together with the proposed timetable.

3. CONSERVATION ACTIONS

3.1 Report by Regional Representatives

6. The Chair recalled that in accordance with the rules of the Scientific Committee adopted by MOP7, each regional representative should provide a report to the Meetings of the Scientific Committee on the conservation status of cetaceans and relevant activities in the region that he or she represents. He invited the regional representatives to present their respective reports reflected in the following documents:
   - Report on the conservation status of cetaceans and relevant activities in Western Mediterranean and contiguous Atlantic area (ACCOBAMS-SC14/2021/Doc04rev1)

- Report on the conservation status of cetaceans and relevant activities in Central Mediterranean (ACCOBAMS-SC14/2021/Doc05)
- Report on the conservation status of cetaceans and relevant activities in Eastern Mediterranean[1] (ACCOBAMS-SC14/2021/Doc06)
- Report on the conservation status of cetaceans and relevant activities in Black Sea (ACCOBAMS-SC14/2021/Doc7)

Western Mediterranean and contiguous Atlantic area

7. Marina Sequeira presented the report on the Western Mediterranean and contiguous Atlantic area, namely on projects and actions mainly related to population monitoring, by-catch and depredation events, as well as threat mitigation (ship strikes, noise, impacts from whale watching). Recommendations for this region include i) encouragement and improvement of regional and cross-border cooperation on the issue of ship strikes and whale-watching in order to adopt a common strategy on the development of mitigation measures, ii) sharing of experience and the capitalization of existing tools at regional level, iii) training sessions for local scientists in matters related to cetacean censuses and monitoring (acoustic and visual methods), and iv) the follow up and support of projects concerning the assessment of underwater noise.

8. The representative of OceanCare provided additional information on activities/issues that occurred in Spain. The Spanish Climate Change and Energy Transition Law states that no exploration authorizations, research permits and hydrocarbon exploitation concessions will be granted throughout the national territory, including the territorial sea, the Exclusive Economic Zone and the continental shelf.

9. He also asked for information regarding an Italian law adopted in 2019 on the preparation of the Plan for the Sustainable Energy Transition of Areas Suitable for the Performance of Hydrocarbon Exploration, Research and Production Activities (PiTESAI), to be approved within 18 months. The Secretariat will contact the Italian authorities in order to get additional information on such Plan and on the areas identified as “suitable for the performance of hydrocarbon exploration”.

Central Mediterranean

10. Tilen Genov presented the report on the conservation status of cetaceans and relevant activities in Central Mediterranean. In general, activities have been hampered by the ongoing COVID-19 pandemic, which interrupted some activities at certain times in most places. Despite the situation, numerous actions have been carried out in the region.

11. Research has been carried out via a number of approaches, including local boat-based photo-identification studies, land-based surveys, dedicated line-transect aerial surveys, surveys from passenger ferries, passive acoustic monitoring, biopsy sampling, strandings and post-mortem investigations, and the use of unmanned aircraft (“drones”), focusing on common bottlenose dolphin (*Tursiops truncatus*), striped dolphin (*Stenella coeruleoalba*), common dolphin (*Delphinus delphis*), Risso’s dolphin (*Grampus griseus*), Cuvier’s beaked whale (*Ziphius cavirostris*), sperm whale (*Physeter macrocephalus*) and fin whale (*Balaenoptera physalus*), which are all regular species in this region. Although some parts of the region are well studied, with good understanding of

[1] This document was completed after the Meeting, according to Ocean Care comments (paragraph 16)

cetacean conservation status, large portions of the region remain poorly studied, with little or no information on cetacean presence, abundance, status or threats. A focused effort would likely be needed in those areas, both in terms of research and of building local capacity. As noted in the previous report (ACCOBAMS-SC13/2020/Doc07), the northern part of the region is much better studied, as compared with substantial information gaps in the southern portion of the region. Despite this, the analysis of acoustic data collected by the Song of the Whale during the ACCOBAMS Survey Initiative in 2018 revealed a relatively large number of detections of beaked whales in the southern part of the region, off Libya and Tunisia. This may suggest that these waters, which have historically been data deficient areas, may provide key habitats for beaked whales.

12. Furthermore, he explained that the main issues identified largely echo the ones reported in the previous report (ACCOBAMS-SC13/2020/Doc07) and represent ongoing and well-known threats, including bycatch in fishing gear and other interactions between cetaceans and fisheries, disturbance from recreational boating, shipping and other sources of underwater noise, chemical pollutants and marine litter. Bycatch is a known issue for cetaceans in the region, but robust estimates of bycatch are lacking. In addition to direct bycatch, ingestion of fishing gear related to depredation of net sets (trammel and gillnets) by common bottlenose dolphins has been identified as a potential conservation threat in the northern Adriatic Sea. An increasing reliance of common bottlenose dolphins on fish farms has been noted in some parts of the region, with animals reportedly being fed by people operating fish farms. In some areas, increasing rates of disturbance of cetaceans by recreational boating has been reported, as well as a general increasing trend of recreational boat traffic. A noteworthy emerging issue for concern pertains to the increased incidence of marine litter originating from personal protective equipment (PPE) and single-use plastics, both related to COVID-19 pandemic.

13. Finally, while policy decisions look largely adequate, a substantial lack of enforcement of ACCOBAMS provisions has been noted in several parts of the region and in relation to several types of threats.

Eastern Mediterranean

14. Celine Mahfouz presented the report on Eastern Mediterranean and highlighted the main activities/progress that occurred in the region, in particular:
    - In Cyprus, the Oceanid Marine area, which was adopted under the Natura2000 network in 2021, aims at protecting 12 species under the Nature Directives, including bottlenose dolphin (*Tursiops truncatus*).
    - In Lebanon, the National Centre for Marine Sciences (CNRS-L) hosted online the 5th Conference on Conservation of Cetaceans in the South Mediterranean Countries (CSMC5). Experts, researchers and students from the following South-Mediterranean countries participated at the Conference: Lebanon, Egypt, Libya, Syria, Turkey, Algeria, Tunisia and Morocco. The Conference was also attended by scientists from other countries.
    - In Turkey, two scientific expeditions were organized in Finike (Anaximander) Seamounts Special Environment Protected Area (SEPA), within the scope of protection and monitoring activities for Cetacea diversity. In addition, DMAD (Marine Mammals Research Association) has conducted traditional visual surveys combined with passive acoustic monitoring between Marmaris and Anamur in the Levantine Sea. Finally, the project "Understanding Mediterranean multi-taxa 'bycatch' of vulnerable species and testing mitigation - a collaborative approach "(Bycatch project) took place in Turkey, which aims to support UNEP/MAP Barcelona Convention, and specifically southern and eastern Mediterranean Contracting Parties (Morocco, Tunisia and Turkey), notably in identifying and testing measures that may reduce the fisheries impact on marine mammals, birds, turtles and elasmobranchs.

15. Furthermore, she concluded by raising the attention on the importance of developing noise monitoring and increasing the capacity of relevant organizations and people in Turkey, in terms of measuring underwater noise especially with the continuous oil and gas related activities (seismic surveys, drilling) in the region.

16. The representative of OceanCare provided additional information on activities/issues that occurred in this region, in particular regarding Greece, as follows:
    - OceanCare funded a multinational inter-disciplinary project "SAvE WHALES", a pilot project to localize sperm whales and transfer real-time data via maritime traffic to alerting mariners about the presence of sperm whales. This project has been successfully completed and once the final project report is available, alongside with the findings, it will be submitted to the SC. The SAvE Whales Acoustic Network consists of three acoustic stations and detection and localization results are automatically forwarded for notification of ships in the area.
    - The need to address and prevent ship strikes in the Hellenic Trench is evident and well documented within the ACCOBAMS framework. Another sperm whale stranding due to a collision with a vessel occurred early October 2021.
    - Early 2021 the Greek Ministry of Defence through the Hellenic Hydrographic Office, with the support and collaboration of relevant ministries and the Greek shipping community, issued two NAVTEX warnings instructing mariners transiting through the Hellenic Trench to take action in order to minimise the risk of hitting whales. An analysis is still pending whether these warnings have resulted in any shift of operation by mariners.

    Lastly, considering the increase in noise-generating activities in Turkey, he indicated that OceanCare recommends that the Turkish government should put in place concrete national mitigation procedures, including the application of ACCOBAMS Noise Guidelines, as well as CMS Guidelines to undertake Environmental Impact Assessments (EIAs) prior to noise-generating activities, as foreseen in ACCOBAMS Resolution 7.13.

BLACK SEA

17. Arda M. Tonay summarized those activities conducted in the Black Sea since last report on the Black Sea Region, October 2019. His presentation highlighted studies on cetacean abundance (the wide-basin aerial ASI/CeNoBS survey, ANEMONE boat surveys and new F-Pod project, namely BlackCeTrends), on stock identification and population structure, noise, marine pollution and conservation. He further emphasized the outcome of pilot studies on cetacean bycatch monitoring carried out under CeNoBS Project and bycatch mitigation measures in the Black Sea, referring to SC14/2021/Doc20. He highlighted hot topics and issues that need to be tackled in the region.

3.2 Improve knowledge about state of cetaceans

3.2.1 ASI technical workshop outcome

18. The Chair of the ACCOBAMS Scientific Committee presented the draft Report of ASI Technical Recommendations workshop (ACCOBAMS-SC14/2021/Inf03). One key objective of the ASI is to turn the survey results into conservation outputs for cetacean conservation and management of human uses of the sea. The ASI Technical workshop organised online in October 2021 was therefore dedicated to the development of conservation recommendations, covering several conservation related aspects, including the relationship between science and

policy. Recommendations and results that emerged from this collaborative effort are reflected in the workshop Report and are aimed to be used through ACCOBAMS channels in particular the Scientific Committee, and all relevant stakeholders.

19. After providing background information on the development and implementation of the workshop, the Chair of the ACCOBAMS Scientific Committee presented the recommendations issued from Sessions 1 and 2. He further emphasized the importance for the Scientific Committee members to build on those outputs when drafting the 14th Scientific Committee meeting recommendations. This was particularly relevant to related matters such as the development of an ACCOBAMS Long Term Monitoring, and other conservation actions.

20. Discussions were held following the moderation approach used by Dialogue Matters (DM) during Session 3. The Secretariat highlighted that this was a new approach aimed at enhancing a productive dialogue and enabling a favourable environment for open discussion and useful exchanges, and that all the material received from DM after the session would be put to the best use.

3.2.2 Cetacean population estimates and distribution

21. The Secretariat presented the progress and achievements of the ACCOBAMS Survey Initiative, as well as the activities to be implemented by the end of the project in 2022. Main key achievements since last Scientific Committee include the successful finalisation of CeNoBS project; the release of Mediterranean and Black Sea survey results Reports, now available on the ACCOBAMS website; the outputs and recommendations from the ASI Technical recommendations workshop; as well as the new ACCOBAMS publication on the Status of cetaceans in ACCOBAMS Area, that was developed alongside with the IUCN Red list Status reassessments/Assessments. The previously postponed ASI Data Analysis training workshops will be conducted in Monaco and in Istanbul in February and March 2022.

22. To reinforce and better coordinate monitoring programmes in the region, as a follow up to a first consultation workshop during WMMC 2019, the two-year EU Funded ABIOMMED project started in July 2021, and the Secretariat is coordinating an activity related to the MSFD Descriptor D1 selected criteria regarding mammal's species groups towards coordinated monitoring and assessment in the Mediterranean region. It will support particularly the establishment of a working group composed by researchers/managers appointed by MSFD national competent authorities for cetaceans monitoring in each EU Mediterranean country, aimed at strengthening coordination for monitoring cetacean MSFD related criteria, including the definition of proposals for regionally harmonized monitoring strategy and thresholds values.

23. Building on the experience gained so far through the development and implementation of ASI and as part of this project, the elaboration of an ACCOBAMS Long Term Monitoring Programme (ACCOBAMS LTMP) for estimating abundance and distribution of cetaceans, and assessing trends in space and time was initiated in 2020.

24. Chedly Rais, ACCOBAMS expert, presented ACCOBAMS-SC14/2021/Doc049 describing the ACCOBAMS Long Term Monitoring Programme (LTMP), emphasising it is a framework document building on the approach followed by the ASI. Surveying methods and protocols are not detailed in the document because the ACCOBAMS LTMP will make use of multispecies monitoring protocols, which were developed and used for carrying out surveys in 2018 and 2019 in the framework of ASI. He added that a preliminary draft LTMP was circulated for comments and views to ACCOBAMS Scientific Committee Members, and presented to the 5th Meeting of ACCOBAMS National

Representatives, held online 12-15 July 2021. Comments received were incorporated in the document presented to this Scientific Committee meeting.

25. An essential part of the ASI is to consolidate the reflection on sustainability of monitoring efforts by addressing conditions for its implementation and financial support. Hervé Léthier, ACCOBAMS Expert, presented ACCOBAMS-SC14/2021/Doc10 in which he developed a roadmap to sustain the necessary financial resources to implement the ACCOBAMS LTMP. M. Léthier reminded the previous process, in which he engaged with the Secretariat so to make both an intermediary review and an *interim* evaluation of ASI, before providing conclusions and recommendations. He further described different potential funding *scenarii* and the main operational steps structuring the proposed roadmap.

26. The meeting stressed the importance of the Scientific Committee role throughout the different LTMP implementation phases, as well as in ensuring political support from Contracting Parties during the implementation phase, in particular to facilitate permits and authorisations processes.

27. The ACCOBAMS Secretariat presented studies developed to explore other opportunities for additional data collection on cetacean's distribution and/or abundance, in line with the 2020-2022 ACCOBAMS Programme of Work. In addition to supporting long-term monitoring in ACCOBAMS Area using ASI framework, it is essential to diversify monitoring methods/approaches, which was also a recommendation issued by the Workshop held at WMMC in 2019.

28. Charlotte Lambert, from Pelagis Laboratory - La Rochelle University, presented her study on the use of multidisciplinary surveys (ACCOBAMS-SC14/2021/Doc11) aimed at assessing the potential of existing oceanographic and fisheries surveys to add-on cetacean censuses with embarked cetacean observers in the Mediterranean and Black seas. The study provides an overview of protocols used in such surveys, the ones used by cetacean observers, and benefits and weaknesses of the approach. Opportunities to build-on cetacean monitoring with recurrent censuses operated within the Agreement Area are promising. The study also includes a set of criteria to evaluate each surveys opportunity regarding the feasibility of adding-on observers and to select those that could be used as pilot studies.

29. The co-chair of the ACCOBAMS Scientific Committee presented a study she conducted on the Use of ferries as platforms of opportunity (ACCOBAMS-SC14/2021/Doc12) which offers a state-of-play on the use of ferries as platforms of opportunity for monitoring cetaceans, based on the IMPEL document[2] describing existing networks, data protocols and analysis. It reflects how this kind of monitoring can provide answers regarding abundance index, distribution, habitat, trends and threats. She presented an overview of existing ferry lines in ACCOBAMS area, as well as of priority areas where existing monitoring (FLT) may be supported and where new lines may be launched to extend the existing network.

30. The co-chair of the ACCOBAMS Scientific Committee further presented ACCOBAMS-SC14/2021/Doc13 providing an update on the Potential Use of Unmanned Vehicles for Cetacean Monitoring in the ACCOBAMS Area. Drones (Autonomous and unmanned vehicles) represent interesting technology whose capacities and improvements should be monitored with the view of using them for monitoring activities under ACCOBAMS. Those vehicles are not yet useful for monitoring cetaceans at the ACCOBAMS area, but technology and autonomy are likely to

[2] "Monitoring large marine vertebrates along fixed transects from ferries and cargo vessels: a state of the art", https://www.impel.eu/wp-content/uploads/2020/10/202014_FR_FLT-Europe-State-of-the-art.pdf

improve in the coming years and thus drones may become complementary tools in certain areas. A possible way forward could be to start drawing up guidelines on the use of unmanned aerial vehicles for aerial imagery data collection and for unmanned surface vehicles for acoustic data collection in the frame of ASI LTMP, as a complementary approach to conventional aerial surveys, and to explicitly expose the needs of ACCOBAMS and discuss them with developers.

31. The meeting discussed the value of using these methods and emphasised they were relevant to complement large-scale surveys results. Platforms of opportunity can be used as an efficient and affordable way to obtain data at sea and to assess trends at different temporal and geographical scales. They can also be used as part of national MFSD monitoring programmes, as shown by the example of France.

32. The Chair of the Scientific Committee presented ACCOBAMS-SC14/2021/Inf04 where general information on ASI Special Issue in Frontiers of Marine Science is depicted in detail. He stressed the need for all scientists involved in ASI to access the online platform and consider submitting a manuscript, underlining that the Special Issue will be important to disseminate results, conservation actions and recommendations from ASI and CeNoBS projects. He also mentioned the Topic Editors and the draft Terms of Reference supporting the process.

Conclusion 2.
The Scientific Committee recommended that the next synoptic survey of the ACCOBAMS LTMP be conducted in 2024/2025, 6 years after the first synoptic survey.
The Scientific Committee adopted **Recommendation 14.1** as shown in Annex III to this report.

3.2.3 Population Structure

33. Pauline Gauffier introduced Document ACCOBAMS-SC14/2021/Doc14 on proposed ToRs for an ACCOBAMS workshop on the improvement of data collection on cetacean populations genetics. She emphasised that the TORs were prepared in accordance with the 2020-2022 Working Programme, in which both the Secretariat and the Scientific Committee are requested to improve data collection on cetacean population genetics in the ACCOBAMS Area.

34. She added that the draft ToRs are in line with the provisions of ACCOBAMS Resolution 3.9 “Guidelines for the establishment of a system of tissue banks within the ACCOBAMS area and ethical code” and with the IWC DNA data quality and genetic analyses guidelines. The workshop is planned for 2022, and will address *inter alia* the following issues:
    - Existing tissue banks in ACCOBAMS area
    - Priority species or areas where samples should be collected (i.e., no samples currently available) and what could be feasible (strandings, sloughed skin, biopsies, fecal samples…),
    - Updating Resolution 3.9 (Guidelines for the establishment of a system of tissue banks within the ACCOBAMS area and ethical code) : is there a need to produce new Guidelines / Best Practices?
    - How the IWC DNA data quality and genetic analyses guidelines can be useful to ACCOBAMS experts?
    - What kind of capacity building, regarding Population structure, is needed in ACCOBAMS Area?

Conclusion 3.
The Scientific Committee agreed on a workshop to Improve data collection on cetacean population genetics in ACCOBAMS Area. Adopted Terms of Reference are shown in Annex IV to this report.

3.2.4 Monitoring cetaceans' status

- *IUCN status of cetacean species in the ACCOBAMS Area*

35. The Chair of the Scientific Committee presented ACCOBAMS-SC14/2021/Inf06 and informed on the ongoing effort to update previous assessments of cetaceans in the Mediterranean and Black Seas, under the IUCN Red List, thanks to ASI and CeNoBS results. This assessment process, carried out in cooperation with the IUCN Office in Malaga and the Red List Authority, resulted in 3 subspecies assessed in the Black Sea, all three belonging to a threatened status. 13 subpopulations of 9 species have been assessed for the Mediterranean Sea: 10 are threatened, 1 is Near Threatened and 2 are Least Concern.

36. The new ACCOBAMS Publication "*Conserving Whales, Dolphins and Porpoises in the Mediterranean Sea, Black Sea and adjacent areas: an ACCOBAMS status report, (2021)*" was presented by authors Giuseppe Notarbartolo di Sciara and Arda Tonay. Notarbartolo di Sciara highlighted the tremendous progress that cetacean conservation ecology has made in a quarter of century, counting on ACCOBAMS support and recently, the ASI. He stressed that while cetaceans remain under high pressure threats, efforts made by the conservation community are going in the right direction. However, the work should not be limited to maintaining the current *status quo* and ambitions should be higher as to restore former habitats and population numbers.

Conclusion 4.
The Scientific Committee adopted **Recommendation 14.2** on IUCN Red List as shown in Annex III to this report.

- *Conservation Management Plans*

37. Greg Donovan briefly reminded the CMP process background that was adopted by ACCOBAMS Parties through Resolution 6.2.1. Objectives include improving the conservation status of a species/population by developing a living document (*i.e.*, regularly reviewed), which:
    - consolidates the best available scientific, conservation and management expertise,
    - guides and co-ordinates effective management efforts amongst all stakeholders; and
    - provides a practical number of clear achievable priority actions with timelines.

38. He explained that developing a CMP is an iterative process requiring support from national authorities, and involvement of stakeholders at an early stage of development. It needs to identify clear and achievable conservation and user objectives, to provide a concise summary of the present status of species and threats, at a suitable level of detail so to justify practical and prioritized mitigation, and other actions that constitute CMP key components. He noted the great progress made thanks to an earlier workshop on fin whale and Risso's dolphin CMPs (December 2019, Barcelona, Spain). Although good intersessional work had been made on the remaining two species (common and bottlenose dolphins in the Mediterranean) he suggested that a small Steering Group be established to help ensuring consistency in style and approach between draft CMP on fin whale and Risso's dolphin and draft CMP on common dolphin and bottlenose dolphin, in accordance with the guidance reflected in the Resolution. Such intersessional work could be used as a preparatory stage to ensure an effective workshop in March 2022, in order to timely finalise all drafts prior to their consideration by a stakeholder workshop or workshops.

39. Coordinators of the four ongoing CMP, Simone Panigada, Léa David, Joan Gonzalvo and Guido Gnone, were invited to respectively present the following documents:
    - Progress report regarding fin whale Conservation Management Plan (CMP) in ACCOBAMS Area (ACCOBAMS-SC14/2021/**Doc15**)
    - Progress report regarding Risso's dolphin Conservation Management Plan (CMP) in ACCOBAMS Area (ACCOBAMS-SC14/2021/**Doc16**)
    - Progress report regarding Common dolphin Conservation Management Plan (CMP) in ACCOBAMS Area (ACCOBAMS-SC14/2021/**Doc17**)
    - Progress report regarding Bottlenose dolphin Conservation Management Plan (CMP) in ACCOBAMS Area (ACCOBAMS-SC14/2021/**Doc18**)

Conclusion 5.
The Scientific Committee adopted **Recommendation 14.3** on CMPs as shown in Annex III to this report.

- *National Action Plans*

40. Souad Lamouti presented the National Action Plan (NAP) in Algeria: Actions and Activities factsheets (ACCOBAMS-SC14/2021/**Inf07**). She explained that the first draft of the National Action Plan was prepared by Pr. Boutiba in 2011. In 2021, activity and action sheets have been updated, taking into account the ones that would potentially be achievable within the next three 3 years. In order to involve most of the national stakeholders since the beginning of the work, some meetings were jointly organized with ACCOBAMS and SPA/RAC, administration representatives, NGOs and scientists.

41. She explained that the National Action Plan document should be finalized by mid-2022 and developed on the basis of 5 main axes:
    - Legislative and institutional measures
    - Improvement of scientific knowledge on cetaceans
    - Capacity building
    - Communication and awareness (communication plan)
    - Financing the implementation and sustainability of the NAP

42. The SPA/RAC representative presented the Draft updated Action Plan for Conservation of Cetaceans in the Mediterranean Sea (ACCOBAMS-SC14/2021/Inf08). She explained that the updated Action Plan had a revised structure in line with other Regional Action Plans under Barcelona Convention. It was improved with new sections related to the presentation of cetacean species occurred in the Mediterranean, to the threats they are facing, as well as legislation and agreements covering their protection at regional level. In addition, the objective of the Action Plan and coordination structures have been updated to be in line with decisions adopted by international bodies such as ACCOBAMS, the Pelagos Sanctuary Agreement and the International Whaling Commission (IWC). Priorities and obligations agreed in the former version (2015) have been further developed to take into consideration the evolving regional context regarding cetacean conservation, new challenges and priorities as identified by the most recent scientific knowledge, as well as UNEP/MAP Decision IG22/7 on Integrated Monitoring and Assessment Programme and related Assessment Criteria (IMAP). Actions outlined are grouped in four categories: Education and Awareness, Capacity Building, Research and Monitoring, and Management, and are reflected in an implementation time schedule. Given the strong linkages with the implementation of

ACCOBAMS in the Mediterranean, SPA/RAC collaborated closely with the ACCOBAMS Secretariat in updating the Action Plan.

43. Participants suggested to contact Parties in order to pay particular attention on interactions with driftnets and on the noise issue, where it would be important to specify that CMS and ACCOBAMS Guidelines should be applied for noise generating activities.

3.2.5 Functional stranding networks and response to emergency situations

44. Sandro Mazzariol, one of the two experts in charge of ACCOBAMS necropsy trainings based on the "*Best Practices on cetacean postmortem investigation and tissue sampling resulted from the harmonization process in ACCOBAMS and ASCOBANS*", presented the relevant activities developed in 2021 and those planned for 2022. He explained that based on the decadal experience of University of Liege (Prof. Thierry Jauniaux) in organizing a workshop on cetaceans' necropsy and on that of University of Padova (Prof. Sandro Mazzariol), the training course was organized with the main goal of training 40 experts on postmortem procedures and tissue sampling and to encourage cooperation and harmonization. The training course was scheduled partially through remote teaching and partially face-to-face for practical activities, between June and October 2021 with an on-line intermediate assessment. Unfortunately, due to COVID-19 restrictions, the practical session had to be postponed to March 2022. During the different lessons, several subjects were explained, such as anatomy and gross pathology of cetaceans; procedures on dissection and sampling; main diseases; logistics, safety and carcass disposal. Some of the lessons were based on real cases used for showing the participants, via zoom or similar platforms, how to execute postmortem investigations on stranded animals. On such real cases, diagnostic frameworks for specific human related mortalities were also explained according to the multi-tiered approach including in the document on best practices, as the one proposed by LIFE DELFI on fishery interaction assessment (https://lifedelfi.eu/wp-content/uploads/2021/04/A3_Fishery-interaction-framework.pdf). During the training, relevant items included in Best Practice documents were also included.

45. He added that this ongoing experience and difficulties related to COVID-19 pandemics, but also the experience from similar initiatives, as the International Whaling Commission Stranding Expert Panel, demonstrated the relevance of using tools for remote training and assistance, as virtual and assisted reality would not only support training but also local scientists during their work on the field, as a sort of mentorship program.

46. The ASCOBANS representative explained that the recent ASCOBANS Advisory Committee meeting (8-11 November 2021) agreed that a virtual brainstorming meeting should be organised regarding a strandings and necropsy database. Invitees would include ACCOBAMS, IWC, and HELCOM representatives, as well as data users, database experts, strandings and necropsy experts. The workshop would aim to, *inter alia*, discuss and scope the scientific, social, and administrative drivers for the creation of an online database of marine strandings; review of existing or planned databases containing marine strandings data; identify common and diverging requirements/specifications of the stakeholders present.

47. Scientific Committee participants commended both initiatives and highlighted the importance of Cetacean Stranding Networks (CSNs) as a complementary source of collecting data on cetacean mortality.

Conclusion 6.
The Scientific Committee adopted the **Recommendation 14.4** on Cetacean Stranding Networks (CSNs) as shown in Annex III to this report.

3.3 Reduce human pressures on cetaceans

3.3.1 Interactions with fisheries / aquaculture

48. The ACCOBAMS Secretariat presented an update of the MedBycatch project "Understanding Mediterranean multi-taxa bycatch of vulnerable species and testing mitigation – a collaborative approach". Bycatch monitoring continues in Morocco, Tunisia and Turkey within the second phase of the project, following a multitaxon approach with on-board observers and port questionnaires (as per the GFCM Methodology for data collection developed during Phase 1). Results of Phase 1 monitoring are used to revise the monitoring strategy in each country and to determine the mitigation measures to be tested in 2022. The implementation of MedBycatch was extended to Croatia and Italy through Phase 2 project. Several activities related to communication and advocacy are led by local partners in the countries.

49. The Task Manager on Interactions with Fisheries, Joan Gonzalvo, introduced ACCOBAMS-SC14/2021/Doc19 on the review of available data on cetacean bycatch in national stranding databases that he had prepared in collaboration with Souad Lamouti (Vice-Task Manager on Interactions with Fisheries). He indicated that a questionnaire had been developed and shared with the experts dealing with cetacean strandings in ACCOBAMS area for their respective countries. The questionnaire was distributed to 24 countries and, at least, 18 compiled questionnaires had been received. The current situation of cetacean stranding monitoring varies significantly among countries. Some have well-established official national CSNs and keep databases encompassing either all or part of their coast, while others are highly depending on the enthusiasm of a few individuals working largely independently with quite limited resources. For a large majority of strandings (67%) corresponding to near 3,000 strandings reported during the five years period prior to this review, it was not possible to establish the precise cause of death. The remaining 33% were somehow related to fisheries, since they had been recorded as caused by bycatch, fishery interactions, or as result of intentional injuries. That large number of cases in which the cause of death was not identified indicates that there is still, at least in many cases, large room for improvement.

50. Following this presentation, participants discussed the interest of stranding data in assessing bycatch mortality, and the use of carcass drifting models was highlighted. The meeting was informed that a study will be carried out in France in order to test the model used to assess bycatch in the Bay of Biscay in the Atlantic French coast.

51. Black Sea experts, Pavel Gol'din and Dimitar Popov, introduced ACCOBAMS-SC14/2021/Doc20 on cetacean bycatch that remains a major mortality factor for Black Sea harbour porpoise. Regarding studies carried out in Bulgaria, Romania, Turkey and Ukraine in 2019-21 data were collected from onboard observations (focused on turbot catches), complemented by questionnaire surveys and the examination of stranded carcasses. Total annual bycatch of harbour porpoises in the Black Sea was roughly estimated between 11,826 and 16,200 individuals, concurring with previous studies. Therefore, given the new data on population abundance, strandings take at least 4.7% of total population, one of the highest worldwide levels, and poses a significant threat to this subspecies. In the 2019-2021 period, onboard monitoring was organized in Bulgaria to assess bycatch rate of cetaceans in bottom gillnets for turbot, and pingers were tested as a mitigation measure. The following devices

were used: Future Oceans – 10 kHz, 132 dB NETGUARD; Future Oceans – 70 kHz, 145 dB NETGUARD and Porpoise Alerting Devices (PAL) – 10 kHz, 132 dB by F3: Maritime Technology (Germany). PALs spaced at 140 m have shown 77.6% reduction of bycatch during trials in 2020 and 2021.

52. The Co-Chair of the ACCOBAMS-ASCOBANS Joint Bycatch Working Group (JBWG), Mrs. Ayaka Ozturk, introduced the Recommendations issued by the 1st Meeting of the ACCOBAMS/ASCOBANS Joint Bycatch Working Group as reflected in document ACCOBAMS-SC14/2021/Inf10. She recalled the ACCOBAMS/ASCOBANS Joint Bycatch Working Group (JBWG) had been established in 2019. Initially planned to be held in France in 2020, the first JBWG meeting was held online from 10 to 12 February 2021. The meeting was attended by more than 150 participants, including JBWG members and other interested scientists, managers, decision-makers and representatives from the fishery sector in Europe, and in the Mediterranean and Black Sea. Participants shared their experiences in monitoring and mitigating cetacean bycatch in different areas and different fishing gears. As a result of the workshop, 24 recommendations (5 general, 10 on monitoring, 9 on mitigation) were elaborated and presented. The collection of accurate data for bycatch estimation, as well as the development of appropriate mitigation measures, and multi-stakeholder approach to the bycatch problem were stressed regardless of the area and the métier in question. In particular, the workshop highlighted Black Sea harbour porpoises bycatch alarming levels in turbot fisheries as an urgent matter to be tackled.

53. The Chair of the Scientific Committee commended the studies and activities presented by the different experts. Pointing out the alarming rate of Black Sea harbour porpoise bycatch, he proposed to the Scientific Committee members that a strong recommendation be adopted on this issue.

Conclusion 7.
The Scientific Committee adopted **Recommendation 14.5** on Bycatch, as shown in Annex III to this report.

54. The ACCOBAMS Secretariat presented an update on MAVA funded Depredation project "*Mitigating dolphin depredation in Mediterranean fisheries – Joining efforts to strengthen cetacean conservation and sustainable fisherie***s**", which is being implemented by ACCOBAMS with GFCM, LIFE and SPA-RAC in continuation of the Phase 1 of the project. Previous activities on monitoring depredation and dolphin populations in Morocco and Tunisia are pursued during the second phase of the project. Additional onsite activities are being implemented since early 2021 with project partners in Sicily, Malta and Spain. This project's last year will focus on testing mitigation measures in all sites with the aim of developing technical and management recommendations to reduce the impact of depredation. Several activities are also dedicated to scaling up and replication of the effort. This includes the online Exchange workshop on dolphin depredation in Mediterranean Fisheries conducted in November 2019, whose recommendations are presented in ACCOBAMS-SC14/2021/inf09. Additional activities include: a second exchange workshop planned for mid-2022; dissemination of information on the depredation issue and technical documentation; communication material (movie); and a study on the state of depredation in Mediterranean fisheries, which will complement the ongoing study on depredation methodology.

55. The GFCM Representative, Dr Paolo Carpentieri, presented the update of the study aimed at developing a standardized methodology for data collection on depredation in Mediterranean fisheries and at harmonizing data reporting. Previous effort on the depredation issue demonstrated that there were important knowledge gaps on the actual extent of depredation, and that the absence of a standardized protocol affected data reliability and prevented quantitative comparisons among studies, areas and temporal scales, as well as testing potential methods and possible mitigation tools.

56. The main objectives of the protocol and methodology developed by Dr. Carpentieri are (i) to facilitate and to improve the collection of data on depredation, in a harmonized way; (ii) to increase comparability between existing programmes; (iii) to allow comparison of results between similar fisheries; (iv) to provide an assessment on the depredation impact at regional/sub-regional scale and country level. Finally, it could represent a valuable tool to define areas and gears more susceptible to dolphin depredation in order to take further actions towards the sustainability of Mediterranean and Black Sea fisheries and preserving dolphin populations.

3.3.2 Anthropogenic underwater noise

57. Alessio Maglio presented the following documents: the Work Plan (version: November 2020) for the Joint Noise Working Group of CMS, ACCOBAMS and ASCOBANS (SC14/2021/Inf1), the Methodology of risk assessment for noise areas (ACCOBAMS-SC14/2021/Doc23), and the activity report regarding QUIETMED2 project (SC14/2021/Inf12).

58. He informed the Meeting about the re-election of the two co-chairs of the JNWG in December 2020, and on the new Terms of Reference drafted in December 2020. The new ToRs provide for the creation of a new Industrial Advisory Group (IAG) within the JNWG and new rules for formulating the advice requested by different parties to the JNWG. He also described the activities carried out in the last couple of years by JNWG, in particular i) the Review of the report on Best Available Technology (BAT) and Best Environmental Practice (BEP) for Three Noise Sources: Shipping, Seismic Airgun Surveys, and Pile Driving (as per CMS COP Decision 13.59) which was started in March-May 2021, and on which the advice from IAG was now expected; ii) the activities developed during EU-funded project Quietmed2; iii) the advice requested to members of the group within the scope of the NETCCOBAMS implementation. Planned work for the near future was also presented.

59. The ASCOBANS representative explained that the 26th Meeting of the Advisory Committee of ASCOBANS (AC26) requested the Joint Noise Working Group to develop guidelines for mitigation of explosions and environmentally sound removal of unexploded ordnance from the sea. AC26 also asked the Secretariat to seek advice from JNWG on how to improve monitoring and mitigation of underwater noise; to reduce cumulative impacts on small cetaceans; and to provide guidance on monitoring and mitigating of continuous and impulsive noise impacts, noting the recommendations included in ASCOBANS/AC23/Inf.5.1.1a.

60. With regard to the Methodology of risk assessment for noise areas as implemented in NETCCOBAMS, Alessio Maglio described the process that led to the drafting of the methodology which involved experts on noise and modelling by Sinay, as well as members of the Scientific Committee and JNWG. Then, the methodology itself was presented. The attention of the meeting was drawn to the fact that it was based on the risk management framework standardised under ISO 31000:2018, and that the computation of acoustic risk maps was based on the combination of data on cetacean distribution and shipping noise. Finally, the Quietmed2 project main results were described: the new version of the Noise Register tool, the methodology to find thresholds for GES assessment related to Noise was developed, the increased engagement of Contracting Parties for the implementation of initiatives at national level. It was highlighted that at the end of QUIETMED-2 (2020), the Noise Register included data from 3 Countries: France, Malta, Lebanon.

61. OceanCare presented the Draft Noise Hotspots Report II (ACCOBAMS-SC14/2021/Doc21). He explained that without considering mitigation measures deployed, the document provided an important update of seismic

surveying activity for oil and gas exploration and coastal work in the Mediterranean Sea from 2016 up until 2020/2021. He noted that while the Draft Report provided helpful insights into where noise-generating activities had taken place, it was recognised that additional information was needed to generate a more complete overview of noise hotspots. It was also emphasised that there is an inherent need to engage stakeholders from all relevant areas and that non-impulsive noise sources, such as commercial shipping, had not been reviewed and should be considered in future endeavours.

62. IOGP highlighted the lack of information regarding seismic activities and informed that seismic operations are widely communicated to Port Authorities, fisheries associations and local newspapers, as the areas are access forbidden in order to avoid collision between ships and vessels. He added that simply targeting oil & gas activities alone does not provide a comprehensive basis for mapping all the other seismic operations. There needs to be wider recognition of the broader range of applications such as CCS facility characterization and monitoring, and 'shallow seismic' techniques for wind farm developments. Finally, he emphasized that there is no mention of the technological and methodological developments which limit the bandwidth and peak pressure of sound output. Literature can be provided on all of the latest developments.

63. OceanCare presented the "Quiet Waters for Whales and Dolphins" report, the one-time opportunity to avoid, reduce and mitigate noise-generating activities in the Mediterranean Cetacean Migration Corridor (ACCOBAMS-SC14/2021/**Inf13**). He informed the document's objective was to support the development of a Management Plan for the Mediterranean Cetacean Migration Corridor, with a particular focus on avoidance, reduction and mitigation measures for noise-generating activities. The report includes a proposal for setting up a management body, given that it is important that Spain considers putting conservation measures in place which reflect upon the latest science on the habitat usage of fin whales and sperm whales, as both species have important habitats including areas outside the MPA area.

64. The leader of the HQMMO/PAM ACCOBAMS group presented a progress report on their work, including trainings for certification (ACCOBAMS-SC14/2021/**Doc25**). A process of feedback and improvements of the whole certification is ongoing through a program of work. New members from IOGP and IAGC were welcomed to the working group.

65. The Meeting commended the studies, reports and activities presented by the different experts/representatives.

Conclusion 8.
The Scientific Committee adopted **Recommendation 14.6** on Noise, as shown in Annex III to this report.

3.3.3 Ship strikes

66. The Chair of the Scientific Committee presented ACCOBAMS-SC14/2021/**Doc26** with a summary of the ongoing effort on mitigating ship strikes in the Mediterranean. He introduced the joint effort with the IWC ship strike working group and mentioned the 10-years strategy currently under development by the IWC Conservation Committee. The document also presents a list of high-risk areas in the Mediterranean Sea, where mitigation measures should be implemented as a matter of urgency. The IMMA process and the use of IMMAs to help in selecting high risk areas was also discussed, and an update on the ongoing effort to establish a PSSA in the North-Western Med and a TSS off the Hellenic Trench was presented and endorsed by the Scientific Committee.

67. A presentation provided by Antonella Arcangelli on Life CONCEPTU MARIS «CONservation of CEtaceans and Pelagic sea TUrtles in Med: Managing Actions for their Recovery In Sustainability» project was done by CIMA Research Foundation's representative. She informed the project will start in 2022 and come to an end in 2026 following an approach based on best practice implementation of the international Fixed Line Transect MED monitoring Network, which constantly surveys cetacean and marine turtle species from ferries, as well as maritime traffic and marine litter, including new monitoring methodologies as eDNA, stable isotope, multi-scale sensors for real-time environmental data collection, remote sensing and model-based products. The objective is to harmonize a multidisciplinary approach and optimise efforts and resources in the EU for the long-term surveillance and identification of priority mitigation actions.

68. A specific recommendation for ship strikes was prepared and discussed by the Scientific Committee.

Conclusion 9.
The Scientific Committee adopted **Recommendation 14.7** on Ship Strikes, as shown in Annex III to this report.

3.3.4 Cetacean watching

69. The Chair of the Whale Watching Working Group (WWWG), Marina Sequeira, presented a Report on their work as reflected in ACCOBAMS-SC14/2021/Doc27. She highlighted activities carried out in 2020-2021 aimed at testing the data collection system and at assessing the impacts of whale watching activities in the ACCOBAMS area. She explained that the WWWG discussed and updated the proposal for data collection from commercial whale watching vessels that was submitted to the SC in 2014, as well as the list of species that was reviewed according to the geographical area considered. Unfortunately, and with the exception of a small number of French and Italian companies, the COVID-19 pandemic did not allow for the data collection form to be tested across a wider area as planned. Tests run in both countries showed that trained and dedicated crew members can be a good choice for regular data collection by whale watching companies. In Italy, data collection was performed by using IlogWhales app developed within the framework of EcoSTRIM project. The tracking quality was excellent and globally the success percentage was very good. The WWWG Chair also described activities carried out to support the expert recruited to develop the study aimed at identifying hotspots of WW activities in the ACCOBAMS area, and to revise the Guidelines for monitoring programs aimed at maximizing the chance of detecting potential adverse impacts of whale watching activities posed to individual cetaceans and populations.

70. Gianna Minton, ACCOBAMS Expert, introduced ACCOBAMS-SC14/2021/Doc28 that provides a progress summary of the project aimed at identifying whale watching hotspots in the ACCOBAMS area. The study aims at mapping potential pressures on cetacean populations that are targeted for whale watching activities throughout the ACCOBAMS area and is being conducted in two phases. During Phase I, volunteer data compilers from each of 26 ACCOBAMS range countries were asked to provide metadata on the estimated number of commercial whale watching operators in their country, alongside with the number of ports or harbors from which commercial whale watching takes place, and whether or not legal frameworks are in place to regulate whale watching activity. 23 responses were received, providing a broad overview of the scope and nature of cetacean watching activities in the region. During phase II, countries that had reported some level of commercial whale watching activity were asked to provide detailed information on location, nature, frequency and duration of tours. This data is being compiled, analyzed and mapped so to provide visual and quantitative depictions of comparable measures of the

potential pressure that cetacean watching may exert on local cetacean populations. Data collection will be completed end of November 2021, a full draft report is to be completed by mid-January 2022 and presented to the SC for review mid-February.

71. Gianna Minton further introduced ACCOBAMS-SC14/2021/Doc29 on 'Draft guidelines for the management of cetacean watching activities in the ACCOBAMS area'. Technically, the document is an update to ACCOBAMS-MOP6/2016/Doc37/Annex12/Res6.20, Annex 3. Although it is entitled 'Proposed guidelines for monitoring programs aimed at maximizing the chance of detecting potential adverse impacts of whale watching activities on individual cetaceans an on populations', the Whale Watching Working Group and ACCOBAMS Secretariat agreed that a more general document also containing management advice was required, and not just research aspects to detect impacts. As such, ACCOBAMS-SC14/2021/Doc29 includes background, strategies and tools, as well as recommendations related to nine broad areas which are relevant to regulate and manage cetacean watching:
    - Measures to assess target populations and the potential impacts of tourism, including the concept of 'carrying capacity'
    - Monitoring and adaptive management
    - Development of effective management teams (stakeholder involvement)
    - Licensing or certification measures
    - Measures to regulate approaches, frequency, length and type of exposure in encounters with cetaceans
    - Monitoring and Enforcement
    - Time/Area closures to provide additional protection
    - Promoting education and awareness raising
    - Whale watching as a platform of opportunity for scientific data collection.

72. The representative of the CIMA Foundation, Aurélie Moulins, informed on the EcoSTRIM project activities in support of the implementation of the High-Quality Whale-Watching® Certificate in Italy, in particular in Liguria, Tuscany and Sardinia. The project's outputs include:
    - maps of commercial whale-watching operators in Liguria, Tuscany and Sardinia;
    - training of whale-watching operators (face-to-face and online) to disseminate best practices;
    - the «kit High Quality Whale-Watching®» with the "whale-risk" flag and a game of cards (https://www.liguria nseatrails.com/whale-risk) intended to raising awareness on cetacean conservation needs among young public;
    - promotion of the High-Quality Whale-Watching® Certificate though a dedicated webpage, informative *totems* distributed to Ligurian coastal cities and a video of certified operators (https://www.liguria nseatrails.com);
    - development of smartphone IlogWhales app based on ACCOBAMS form, available on https://play.google.com , in order to support cetacean data collection;
    - compliance audit of High-Quality Whale-Watching® certified compagnies;
    - a new regional professional qualification for certified guided marine tours.

73. The Chair of the Scientific Committee commended studies and activities presented by the different experts and proposed to the Scientific Committee members that a recommendation be adopted on this subject.

Conclusion 10.
The Scientific Committee adopted **Recommendation 14.8** on commercial whale watching activities as shown in Annex III to this report.

3.3.5 Marine debris & Chemical and biological pollution

74. Marine Litter and Chemical Pollution Task Manager, Cristina Fossi, introduced documents she had jointly developed with Cristina Panti.

75. She firstly introduced the ongoing study on interaction hotspots between cetaceans and marine litter in the ACCOBAMS Area as in ACCOBAMS-SC14/2021/Doc30. The document describes interactions between cetaceans and marine litter (ML) in the ACCOBAMS area, identifying hotspots and risk areas. It has been drafted considering both peer-reviewed papers, reports of projects and grey literature. The document reviews the global dimension of marine litter, and then it focuses on the Mediterranean Sea and contiguous areas, as well as the sources and driving forces of ML distribution in the ACCOBAMS area. The chapter on interaction of marine litter and cetaceans is the most relevant one. The bibliographical research on ML distribution models in the ACCOBAMS area (in total 25 documents) reveals that most studies consider the Mediterranean as a whole, while very few studies focus on the Black Sea in particular. Regarding the bibliographical research on ML interaction with cetaceans (including both ingestion and entanglement), from the 10 peer-reviewed papers available for the ACCOBAMS area, sperm whale appears to be both the most studied and the most affected species. An important section of this report concerns synergies between the ASI initiative and the Med-Interreg project Plastic Busters MPAs, and other initiatives. A risk assessment methodology will be used to define the Cetaceans risk assessment, related to hotspot ML areas (in the Pelagos Sanctuary as a key study area) using ASI data in a collaborative endeavor between UNISI, IFREMER and LaMMA Consortium. An inventory of available projects, both finished and ongoing, will also help identifying research needs, as well as current research actions in this field.

76. Cristina Fossi offered a bibliographic review under preparation on the impact of chemical pollution on cetaceans, including the identification of *ad hoc* research projects aimed at assessing chemical pollution on cetaceans in the ACCOBAMS Area, as reflected in ACCOBAMS-SC14/2021/Doc31. Globally, as apex predators with long life spans, cetaceans are particularly sensitive to contaminants, in particular heavy metals, PCBs, PBDEs, DDTs, and emerging pollutants such as Plastic Additives. Bibliographic research on published studies on chemical pollution impacts on cetaceans in the ACCOBAMS area has been performed in order to identify species investigated, main classes of contaminants, and levels identified both in tissues of stranded organisms and skin biopsies. About 60 papers were identified as analyzing the contaminants load and interaction with cetacean species in the Mediterranean area (from early 1970' up to 2021), and revealed that the striped dolphin is the most investigated species, and that PCBs are the most measured contaminants so far. For each class of contaminant of concern in the ACCOBAMS area the following information is highlighted: the most affected species, concentration levels, areas of concern, known effects (if studies available) and main knowledge gaps. Identification of *ad hoc* research projects aimed at assessing chemical pollution on cetaceans in the ACCOBAMS area has also been performed, pointing out the reduced number of *ad hoc* projects on this topic in the area.

77. The SPA/RAC Representative, Lobna Ben Nakhla, requested that both studies results be shared with MED POL – the UNEP/MAP Programme for the Assessment and Control of Marine Pollution in the Mediterranean - for its consideration, in particular to complement the work carried out in the definition of IMAP Candidate Indicator 24

"Trends in the amount of litter ingested by or entangling marine organisms focusing on selected mammals, marine birds, and marine turtles".

78. Cristina Fossi presented draft best practices Guidelines to assess chemical pollution impact on cetaceans to measure chemical contamination levels on cetaceans (ACCOBAMS-SC14/2021/Doc32). The document further provides protocols to measure chemical contamination of cetaceans in ACCOBAMS area. A common protocol for samples collection and preparation for toxicological analyses need to be implemented and harmonized. Chemical analysis and biomarker investigations may be carried out on two types of samples: stranded organisms and skin biopsies obtained through remote sampling. Concerning stranded organisms, relevant information has been integrated from the Joint ACCOBAMS and ASCOBANS document "Best practice on cetacean postmortem investigation and tissue sampling" (Lonneke L. IJsseldijk, Andrew C. Brownlow, Sandro Mazzariol, 2019). Standardized protocols for the examination of free-ranging organisms relevant information has been integrated by the "Marine Mammals Ecotoxicology" book edited by Fossi and Panti (2018). A scheme and workflow description will be shared amongst ACCOBAMS Parties in order to provide a useful toolkit both for sampling and the different ecotoxicological analysis.

79. Ayaka Ozturk pointed out that the Black Sea was largely missing from studies on chemical pollution in cetaceans, and that in recent years this area has not been given enough attention. Because previous work was carried out more than 20 years ago, back in the 1990s, she highlighted existing threats in the region and advised that new studies should be launched in the Black Sea in order to assess chemical pollution impacts, also through comparing historical data. She further proposed that Mediterranean and Black Sea scientists cooperate on such projects.

80. Greg Donovan recalled that the IWC Scientific Committee has developed two valuable tools related to chemical pollution and cetaceans. The first on the Effects of Pollutants on Cetacean Populations (SPoC) Model[3], a web application allowing users to explore those potential effects through simulating the effect of polychlorinated biphenyls (PCBs) on potential population growth through (a) maternal PCBs, and likelihood of calf survival, and (b) on immune function and host resistance. The second tool is a Contaminant Mapping Tool[4] that displays published data on concentration of persistent organic pollutants (POPs) and mercury in cetacean tissues, on a global scale. It allows researchers to explore visually concentrations trends of commonly monitored contaminants over time. However, the database needs to be updated with studies published over the last ~3 years, which is expected to occur soon.

Conclusion 11.
The Scientific Committee adopted **Recommendation 14.9** on Marine Litter and chemical pollution as shown in Annex III to this report.

3.3.6 Climate change

81. The Vice-chair was invited to present a study regarding climate change impacts on cetaceans in the North-Western Mediterranean Sea and monitoring recommendations (ACCOBAMS-SC14/2021/**Doc33**). She presented a bibliographic review on climate change focusing on impacts posed to cetaceans. Case studies on cetacean abundance and distribution changes in the ACCOBAMS area were presented. It was stressed that any analysis of

[3] http://www.smru.st-andrews.ac.uk/IWC_PCB_Cet_Pop_Model
[4] http://www.smru.st-andrews.ac.uk/IWC_Contaminant_Explorer/

this topic would require long-term monitoring datasets and would thus benefit from continued data collection on specific areas, where impacts exist or have existed and where changes on cetacean distribution or abundance have already occurred.

82. Scientific Committee Members from Black Sea region stressed that the effect of climate change on cetaceans in the Black Sea is hard to assess due to the lack of historical data on cetacean distribution and abundance. But as a semi-closed sea, it can be considered important to investigate the relationship between cetaceans and climate change. In the Eastern Med, the temperature rise is more serious, with the invasion of many alien species that may alter the composition of prey species.

3.3.7 Captivity related issues

83. The Chair of the Working Group on captivity related issues presented a document on Potential Semi-Enclosed Facilities in the ACCOBAMS Area (ACCOBAMS-SC14/2021/**Doc34)**. He explained that the document aimed at contributing to the development of international standards for cetacean holding facilities and the creation of semi-enclosed marine facilities for cetaceans, referred as "*refuges"*. He suggested the creation of an Advisory Committee, to be supported by ACCOBAMS, as appropriate, which would be composed of experts in different knowledge fields, like ecology and behaviour of odontocetes, odontocete husbandry, veterinary medicine focused on marine mammals, strandings, rescue, captive rehabilitation, release techniques and procedures, public education and awareness raising, *inter alia*.

84. As an ACCOBAMS expert on strandings, Sandro Mazzariol pointed out that a Dolphin Refuge may be a valid option not only for dolphins currently in *dolphinaria* but also for stranded dolphins in need of prolonged rehabilitation.

Conclusion 12.
The Scientific Committee welcomed the creation of an Advisory Committee supported by ACCOBAMS. It advised the Secretariat to assist the Chair of the Working Group on captivity related issues in contacting all NFPs that did not respond to produce a list of cetaceans held in captivity in the ACCOBAMS area.

3.4 Enhance effective conservation of Cetaceans Critical Habitats

85. The Task Manager on Marine Protected Areas presented ACCOBAMS-SC14/2021/**Doc35,** describing the designation of new Cetacean Critical Habitats and case studies on (i) large cetacean species *versus* large commercial vessels, on one hand, and (ii) small delphinids *versus* fishery activities, on the other.

86. She added that a workshop will be held in March 2022 in order to enable the development of a final approach, an updated process and criteria for proposing areas as CCH to the Parties

Conclusion 13.
The Scientific Committee agreed on the added value of such workshop and requested the Task Manager to circulate the relevant ToRs to all Scientific Committee Members before the finalization of the report.
ToRs for the proposed workshop appear in Annex V to this report.

87. The Scientific Committee acknowledged the ongoing process for the development of maps of Cetacean Critical Habitat within the ACCOBAMS area since it facilitates the development of adequate conservation and management measures in the region.

Conclusion 14.
The Scientific Committee **encouraged** the continuation of the process within the Scientific Committee towards developing representative maps of favourable habitat by species, taking into account information provided by IMMAs and anthropogenic pressure maps, as well as the information provided by ongoing projects in ACCOBAMS area, in order to define new CCHs.

They encouraged the Task Manager to:

- update document ACCOBAMS-MOP6/2016/**Doc35** (Evaluation of the effectiveness of place-based conservation for cetaceans in the ACCOBAMS Area a handbook) before MOP8
- consider proposing a draft Resolution on CCH to be presented at MOP8.

4. COMMUNICATION

4.1 ACCOBAMS Communication strategy

88. The Executive Secretary presented ACCOBAMS-SC14/2021/Inf14 on the state of play regarding the development of a Communication Strategy, which had been considered crucial to strengthening the ACCOBAMS communication means and outreach, with the main purpose of improving ACCOBAMS visibility as a successful regional cooperation mechanism.

89. The ACCOBAMS Secretariat recruited a Consultant (FCB Lisboa) to develop a draft Communication Strategy to be submitted for adoption at the next MOP, planned for November 2022 in Malta, and a step-by-step approach had started with the examination of current communication tools used by ACCOBAMS. The outcome is reflected in the document in the form of a Diagnostic Report - an overview of ACCOBAMS current communication activity – which also highlights areas where an intervention is advised. This document had been previously presented to the meeting of National Representatives, July 2021.

90. The diagnostic phase was followed by the creation of a Communication Steering Group aimed at liaising with both the Secretariat and FCB, and to provide guidance on the drafting of the Communication Strategy. The Communication Steering Group encompasses ACCOBAMS Secretariat, as well as the CMS Secretariat, the sub-regional coordinating units - SPA/RAC and Black Sea Commission Secretariat – and national representatives appointed by a few ACCOBAMS countries that have expressed interest in joining the Group, Algeria, Italy, Lebanon, Morocco and Syria.

91. She further informed that a first draft Communication Strategy elaborated by FCB had been shared with the Communication Steering Group in view of receiving initial inputs prior to a first discussion which was planned for early December 2021. A revised draft is to be submitted to the Bureau meeting in January 2022. A draft Strategy will be presented at the Extended Bureau meeting planned for April 2022, in the run-up to its adoption by the MOP in November 2022, with all ACCOBAMS constituents being given the opportunity to provide contributions to the process.

92. The meeting (i) appreciated the work accomplished in launching the basis for and the drafting of a Communication Strategy, in particular the assessment on ACCOBAMS communication activity provided by FCB, which seemed very well tailored, and (ii) looked forward to the next steps of the process, as presented by the Executive Secretary.

4.2 NETCCOBAMS

93. Sinay representative presented the development of NETCCOBAMS as described in the progress report (ACCOBAMS/SC14/2021/Doc36). He indicated that thanks to a Voluntary Contribution from Italy, the ACCOBAMS Secretariat started the implementation of a "cetacean digital platform" aimed at (i) facilitating the visualization of important areas for cetacean conservation, (ii) reinforcing exchanges and collaboration of all actors in cetacean conservation and (iii) assisting Parties in taking appropriate management and conservation measures. The platform has been developed since early 2020 by (i) updating and improving the previous versions of the NETCCOBAMS tool and (ii) tackling the needs expressed by the Secretariat to experiment best available science and new technologies to collect, analyse, and model data on cetaceans, as well as on acoustic risk areas, in order to support the threat-based management approach and implement all relevant conservation measures promoted by ACCOBAMS.

94. He showed that the currently implemented methodology allows calculating the extent of areas where acoustic disturbance may occur, and especially that these coverage indicators are meant to be used by environmental managers and decision-makers. At the end of the presentation an overview of the next planned releases was described. These include the new website which will include access to the currently available platform as well as further modules on research and monitoring projects and national reporting.

95. Based on indicators presented, he proposed a vision for future developments, which could include features such as i) the possibility to select a zone within the Agreement area where study the effect of concrete measures like speed and traffic limitations to reduce noise levels; ii) the possibility to extend analyses to further topics such as ship strikes and bycatch.

96. The meeting commended the work accomplished in the development of NETCCOBAMS and recommended that it is properly linked with relevant platforms. Considering that NETCOBAMS is expected to become the main ACCOBAMS official information portal, the Scientific Committee (i) stressed the importance of having a validation process to include sound scientific information in NETCCOBAMS and (ii) decided to create a NETCCOBAMS Working Group, whose Terms of Reference should be reflected in a specific recommendation.

Conclusion 15.
The Scientific Committee adopted **Recommendation 14.10** on NETCCOBAMS, and ToR for a NETCCOBAMS Working Group, as shown in Annex III to this report.

4.3 Citizen science

97. The Chair of the Scientific Committee presented the document ACCOBAMS-SC14/2021/**Doc37** with a non-exhaustive list of Citizen Science activities in the ACCOBAMS Area. A list of scientific papers, with data arising from citizen

science projects/apps, was also presented. The goal of this agenda item was to discuss the likely value of data arising from these online platforms and apps, which have a great potential in providing data coming from less studied areas or on rare species. The possibility of validating each sighting/report was also discussed and considered an essential component of the whole process.

98. Recognizing that citizen science allows people with diverse motivation and abilities to participate in research and conservation where scientific effort is limited, the Scientific Committee drafted a specific Recommendation.

Conclusion 16.
The Scientific Committee adopted **Recommendation 14.11** on Citizen science, as shown in Annex III to this report.

5. INSTITUTIONAL ISSUES

5.1 Cooperation with other organizations

5.1.1 Collaboration with Sub Regional Coordination Units

99. The Chair of the Scientific Committee invited representatives of the Mediterranean Sub Regional Coordination Unit (SPA/RAC) and of the Black Sea Sub Regional Coordination Unit (Black Sea Commission Permanent Secretariat) to inform the meeting about relevant activities undertaken by their respective organisations in relation to conservation of cetaceans.

100. SPA/RAC representative, Lobna BENNAKHLA, informed the meeting that the collaboration between ACCOBAMS and SPA/RAC was guided by their Joint Working Program for 2020-2022. In particular she presented activities carried out within the following projects:
    - MAVA funded depredation, Species and the MEDbycatch projects addressing the impacts of the interactions occurring between cetacean species and fishing activities;
    - EU funded projects QUIETMED 2 achieved in Feb 2021 and the ongoing QUIETSEA that included capacity building events, training sessions and networking activities in relation to anthropogenic noise impacts on cetaceans.
    - Collaboration between SPA/RAC and ACCOBAMS also included the organization of a training on setting up and reinforcing national stranding networks (with all national institutions concerned) and the organization of the Fifth conference for the conservation of cetaceans in Southern Mediterranean countries held online from 13 to 15 April 2021.

101. She also informed the meeting that (i) ACCOBAMS was represented in the Ad hoc Group of Experts on Marine Protected Areas in the Mediterranean (AGEM) established by SPA/RAC and the Advisory Committee of the SPA/BIO post 2020 and (ii) that the Secretariat of ACCOBAMS contributed to the assessment and updating of the Mediterranean Action Plan for the conservation of cetaceans. The Draft updated Action Plan (Doc inf 08) will be submitted for adoption by Barcelona Convention Contracting Parties at their COP22 in Antalya, Turkey, 7 to 10 December 2021.

102. Concerning cetacean monitoring programmes being promoted in the framework of the Integrated Monitoring Programme of the EcAp process under Barcelona Convention, the SPA/RAC representative informed the meeting that the activities of EU funded EcAp Med III project (2021-2022) included support to countries (Algeria, Egypt,

Israel, Lebanon, Libya, Morocco and Tunisia) to undertake monitoring in relation to cetaceans in at least one low-anthropogenic pressure area (e.g. marine protected area/SPAMI) and one high-pressure area. The project activities were expected to include (i) Implementation of field monitoring activities and data collection, (ii) data reporting into the IMAP Info System, (iii) Elaboration of national assessment factsheets and (iv) elaboration of the 2023 Mediterranean Quality Status Report (2023 MED QSR). For these activities, results generated by ACCOBAMS Survey Initiative will be used to define baseline value for the cetacean common indicators.

103. Irina Makarenko, from the Black Sea Commission' Permanent Secretariat (BSC PS), representing the ACCOBAMS Black Sea Sub Regional Coordination Unit, informed that BSC PS was taking steps to promote regional cooperation on conservation of cetaceans by establishing partnerships and joint initiatives with ACCOBAMS and other relevant partners (GFCM, CBD Convention, EC etc.). She added that BSC Permanent Secretariat planned to organize a Workshop on Cetaceans during the upcoming meeting of CBD and FOMLR AGs (whenever the meetings are scheduled by the Black Sea Commission). She informed that joint initiatives were ongoing, especially with GFCM, CBD Convention (EBSA sites for the Black Sea were endorsed), EC (on projects, ocean governance, MSFD directive), UN-Environment (on SDG 14), as well as under Regular Process and preparation of World Ocean Assessment II report.

104. She informed the participants that BSC PS appreciated the level of cooperation and assistance from ACCOBAMS and other relevant partners, and was looking forward to continuing this important collaboration (i.e., sustainability and dissemination of Black Sea Cetaceans Survey results and CENOBS Project, Project on cetacean by-catch; Cetacean conservation modules in Black Sea universities; marine litter; underwater noise etc.). Regarding the Black Sea Cetaceans Survey held in summer 2019, she appreciated and thanked the ACCOBAMS Secretariat for developing collaboration with Russian scientific organizations in order to conduct the cetacean survey in Russian waters during the summer 2019, as well as to liaise with UNDP/EC project EMBLAS+ and ANEMONE Project to coordinate efforts.

105. She added that support and expertise on drafting and improving relevant documents were needed (in particular to update the Conservation Plan for Cetaceans, new draft of BSIMAP 2022-2027, short format of BSC annual reporting, dedicated Chapter on Cetaceans in the next State of Environment Report 2015-2022.

106. To conclude, the representative of the BSC PS emphasized that BSCPS was ready to contribute to other relevant ACCOBAMS activities, in particular in implementing the project on MSFD implementation for cetaceans, in assisting dissemination and sustainability of CENOBS Project results and preparation of data on cetaceans for the Black Sea Red Data Book.

5.1.2 Collaboration with ACCOBAMS Partners

107. The Meeting acknowledged that ACCOBAMS Partners play a significant role in the conservation of cetaceans in the Agreement area and in the implementation of ACCOBAMS through encouraging actions to achieve the Agreement's objectives.

108. ACCOBAMS Partners are expected to communicate and share information with the ACCOBAMS Secretariat on a regular basis. In addition, before each Meeting of the Parties, ACCOBAMS Partners are expected to report on the implementation of their activities and on the use of the ACCOBAMS Partner logo. However, over the years, the rate of reporting from ACCOBAMS Partners varied. It was noted that some Partners' emails were no longer in

service.

109. In order to tackle those issues and reinforce the relationship with Partners, the Scientific Committee made several suggestions to the ACCOBAMS Secretariat :1/ to update the list of contacts of ACCOBAMS Partners; 2/ to contact ACCOBAMS Partners that have not reported on their activities to assess their willingness to continue their collaboration with ACCOBAMS; 3/ use the NETCCOBAMS hub as a platform to enforce their involvement and provide them the possibility to report online.

Conclusion 17.

Referring to discussions held under this agenda item, the Scientific Committee recommended that the Secretariat:
- update the list of contacts of ACCOBAMS Partners;
- contact ACCOBAMS Partners that have not reported on their activities to assess their willingness to pursue their collaboration with ACCOBAMS;
- use the NETCCOBAMS hub as a platform to enforce their involvement and provide them the possibility to report online.

5.1.3 Collaboration with other Organizations

110. Jenny Renell, the CMS and ASCOBANS Representative, provided updates on recent developments of both Agreements in relation to cetaceans. Two studies were commissioned at CMS level for (i) developing best practice guidelines on in-water interactions with marine wildlife and (ii) a review of implementation of the Global Programme of Work for Cetaceans. Renell pointed out that the ASCOBANS 9th MoP led to the adoption of 11 resolutions. Delegates also adopted a joint ACCOBAMS-ASCOBANS protocol Best Practice on Cetacean Post-mortem Investigation and Tissue Sampling, and approved amendments to existing resolutions, in relation to bycatch, underwater noise, stranding response, and the conservation of the Common Dolphin[5]. ACCOBAMS was invited to support the implementation of the ASCOBANS Common Dolphin Species Action Plan. Renell also highlighted that the 26th Meeting of the Advisory Committee recently agreed on several Action Points and Recommendations, including on underwater noise, ocean energy, unexploded ordnance, marine spatial planning, beaked whales, and bottlenose dolphins. Renell indicated that members from Portugal and Spain would be welcomed in the Intersessional Working Groups dedicated to work on the development of proposals for listing the Baltic and Iberian harbour porpoise on CMS, for submission to EU for further consultation. Several projects also received funding for activities related to the use of alternative fishing practices, harbour porpoise mapping and status, workshops on small cetacean conservation objectives in relation to anthropogenic removals, management of MPAs and coordination of the ASCOBANS species action plans for harbour porpoises and the common dolphin.

111. Costanza Favilli, Executive Secretary of Pelagos Agreement, explained that their next Management Plan, Action Plan and Working Program (2022-2023), to be approved on 15-16 December 2021, was taking into account the collaboration with ACCOBAMS. She reminded that at the occasion of the last Technical and Scientific Committee, the ACCOBAMS Secretariat expressed its willingness to collaborate on several topics, such as on communication on supporting HQWW Certification, to participate in new working groups of Pelagos Agreement and fisheries. In accordance with the provisions of the MoU signed between the two Agreements, both Secretariats will discuss at the beginning of 2022 their common commitments and activities, as well as their implementation methods.

112. Paolo Carpentieri, GFCM Representative, praised the long and good collaboration established between

[5] UNEP/ASCOBANS/Res.8.4(Rev.MOP9)

ACCOBAMS and GFCM Secretariats, in particular regarding mitigation of adverse impacts due to unwanted interactions between cetaceans and fishing activities in the Mediterranean and Black Sea. He recalled the most recent and fruitful cooperation through MedBycatch and Depredation projects. He also informed of the new Recommendation on conservation and mitigation of fisheries impact on cetacean species, which was adopted at the 44th Session of the GFCM. Following this Recommendation which also recalls the Agreement between ACCOBAMS and GFCM, new projects dedicated to mitigation of both depredation and incidental bycatch should be jointly implemented in high-risk areas.

113. Iain Staniland, IWC Representative, reminded the strong, long-standing collaboration between IWC and ACCOBAMS Secretariats and the many members working across both ACCOBAMS and IWC scientific committees. Both organisations share interests in many issues including matters related to population assessment, ship strikes, bycatch, whale watching, noise, chemical pollution and CMPs. At IWC/SC/68C it was noted that ACCOBAMS had adopted IWC guidelines for their CMPs. The IWC Scientific committee reiterated the need for Mediterranean sperm whales to be treated as a priority population for the purpose of CMP process development and welcomed progress made in developing a CMP for Mediterranean fin whales. The IWC Scientific committee encouraged the presentation of this CMP to its next meeting IWC/SC/68D. A final example of the excellent work ACCOBAMS is doing was reported at IWC/SC/68C through the ACCOBAMS' voluntary 'High Quality Whale Watching' certification programme, which was offered as a model programme to be applied in French territories. The IWC looks forward to continuing close collaboration between both organisations as ACCOBAMS turned 25 years old and IWC marks its 75th anniversary.

114. Joan Gonzalvo, Chair of the European Cetacean Society, recalled the upcoming 33rd annual European Cetacean Society conference, which will take place in Ashdod, on the Mediterranean coast of Israel from 5-7 April 2022 (3-4 April dedicated to workshops). This will be the first hybrid event in the history of the ECS, and the first to be held outside European borders. This year's conference is "*Marine mammal research and conservation effort - Are we on the right path?". R*egistration is open and deadlines for Workshop submission and Abstract submission are 20th December 2021 and 1st January 2022, respectively. The ECS conference has historically provided a good opportunity to facilitate discussion and provide opportunities for meetings and workshops relevant to ACCOBAMS research and conservation goals.

115. ACCOBAMS Secretariat shared a written statement provided by MedPan to the meeting. In its statement MedPan emphasised that for the new MedPAN Strategy (2019-2023 & beyond), mobile species have been identified as a key matter and ACCOBAMS expertise had been particularly welcomed. The long-term successful partnership could be reflected through many common actions over the past years. ACCOBAMS joined the mobile species Working Group set up in 2019 by MedPAN, so to share expertise on marine mammals, and also supported the development of training mechanisms for MPA managers in 2020. A video of the October 2020 training was now available thanks to ACCOBAMS, which is also an associated partner of the Interreg-Med project 'MPA Networks' (2019-2022) coordinated by MedPAN, for pilot actions related to marine mammals and MPA management. Recently, ACCOBAMS and MedPAN worked together on a common session at the Mediterranean Pavilion during the IUCN Congress and through the participation of ACCOBAMS in the Mediterranean MPA Forum Steering Committee. Finally, results of the 2020 Mediterranean MPA status that is being prepared by MedPAN and SPA/RAC will provide an overview of conservation measures implementation for marine mammals in Mediterranean MPA. Those results are to be released early 2022 and may contribute to the ongoing CCH process led by ACCOBAMS.

5.1.4 Proposal for amending the procedure for projects submitted for institutional support

116. ACCOBAMS Secretariat introduced ACCOBAMS-SC14/2021/Doc38 on the "Proposal for amending the procedure for the projects submitted for institutional support" and recalled that in 2007 ACCOBAMS Parties adopted Resolution 3.6 on the project submission procedure. This Resolution provided a procedure for submitting projects to the Secretariat for endorsement (i.e., institutional support) or financial support. While the project submission procedure for financial support was amended by 2013 Resolution 5.5 and replaced by 2019 Resolution 7.8 on the "Procedure for the ACCOBAMS calls for proposals for projects to be funded under the Supplementary Conservation grants Fund", the procedure for submission of projects for institutional support remained as provided in Resolution 3.6. This procedure is of difficult application in practice and during MOP7 Parties mandated the Secretariat to prepare an update proposal in collaboration with the Scientific Committee, to be presented to MOP8 (paragraph 122 of MOP7 report).

117. The Scientific Committee reviewed the draft procedure contained in document ACCOBAMS-SC14/2021/**Doc38** and proposed some changes.

118. The Secretariat took note of comments and modification proposals and will present a revised version to the Bureau meeting planned for January 2022 in view of finalizing a subsequent proposal for MOP8 in November 2022.

5.2 ACCOBAMS projects funded under the Supplementary Conservation Fund

5.2.1 Report on projects funded by the 2018 ACCOBAMS call for proposal

119. The Chair of the Scientific Committee invited the coordinators of the three selected projects for funding through the 2018 ACCOBAMS call for proposals to present a progress overview on their projects.

120. Souad Lamouti presented the project "Establishment of a new operational network for the monitoring of cetacean stranding along the Algerian coast" coordinated by CNRDPA. She explained that different Algerian institutions had been collecting data on stranding events for several years, but collected information and coverage were still insufficient. That's why a formally recognized operational network have to be set up through collaboration between various stakeholders in order to better organize and bank data collection in a standardized and centralized manner by pooling efforts. She pointed out that a great work of awareness and consultation needed to be carried out to organize and ascertain the role of the various actors. Scientists (biologists and veterinarians) would need training and assistance (face-to-face and virtually) on necropsy and tissue sampling methods. She explained that the Memorandum between CNRDPA and ACCOBAMS Secretariat had been signed last April but due to the COVID situation, capacity building and awareness raising were still pending.

121. Dimitar Popov presented the project "Monitoring and mitigation of cetaceans' bycatch in Bulgarian waters" coordinated by Green Balkans NGO. Bycatch in fishing gear is a globally identified threat for cetaceans, and the Black Sea is no exception. Monitoring by independent observers was carried out during a couple of years to assess bycatch levels and mitigation measures effect in the form of acoustic deterrent devices (pingers). 243.88 km of bottom gillnets for turbot were checked. 78 bycaught cetaceans were recorded - 72 harbour porpoises, 3 bottlenose dolphins and 3 common dolphins - with higher levels in summer (59) as compared to Spring (19). Two types of pingers were tested - Future Oceans and PALs, the latter showing overall statistically significant decrease of bycatch level, with 77.6%. 33 stomach samples (2 bottlenose dolphins and 31 harbour porpoises) have been

collected to study plastics existence and take random tissues samples for histopathological study.

122. Pavel Gol'din presented the project "Establishing the bank of cetacean tissue samples in Ukraine" coordinated by the I.I. Schmalhausen Institute of Zoology. The Ukrainian Tissue Sample Bank (UTSB), National Bank of Cetacean Samples was established in the frame of this project. A low temperature freezing camera Arctiko ULUF 750-2M is the main facility for the bank enabling safe long-term storage of numerous samples. Good practices for sample sharing are introduced. Cooperative agreements with Ukrainian institutions on sample treatment are signed, and new samples are obtained and stored from stranded animals under these agreements, in addition to systematized old archive samples. Now the tissue bank contains samples from nine cetacean species, including all three Black Sea species, and is seeking further cooperation with other facilities.

123. The Chair of the Scientific Committee congratulated all three coordinators for their activities and encouraged them to keep up the good work.

5.2.2 Priority themes for launching the 2022 call for proposals

124. The ACCOBAMS Secretariat informed the Scientific Committee that a new ACCOBAMS call for proposals should be launched beginning 2022 to support three projects thanks to voluntary contributions from Italy (whose support is targeted to activities related to impacts of marine litter on cetaceans and on interactions with fisheries) and Monaco. This proposal will be presented at the next Bureau Meeting in January 2022 for approval.

Conclusion 18.

Referring to discussions held under previous agenda items, the Scientific Committee recommended the following topics to be considered for the next Call for proposals, including capacity-building activities to support project implementation, if need be:

- Support marine litter monitoring activities during necropsies following ACCOBAMS/ASCOBANS Best Practices on cetacean *post-mortem* investigation and tissue sampling, including the establishment/reinforcement of national stranding networks, where needed;
- Improve knowledge on cetacean abundance and/or distribution in areas under-studied, including through - but not limited to - the use of platforms of opportunity;
- Support the assessment and mitigation of interactions with fisheries in areas not yet covered by MAVA funded projects on interactions with fisheries[6].

6. WORKING PROGRAMME OF THE SCIENTIFIC COMMITTEE FOR THE TRIENNIUM 2023-2025

125. The Chair presented the proposed conservation actions for the 2023-2025 Work Programme, taking into account national priorities identified during the Fifth Meeting of ACCOBAMS National Representatives (online, 12th to 15th July 2021).

126. The Secretariat added that proposed actions and means of implementation would be used to draft the new ACCOBAMS Work Programme for 2023-2025.

[6] This third priority has been included after the SC14 meeting in consultation with the Chair and Vice-Chair taking into consideration the priorities of the Italian voluntary contribution.

127. Scientific Committee Members provided their comments on conservation actions and means of implementation of the draft Work Programme for 2023-2025.

Conclusion 19.
The Scientific Committee will further work with the Secretariat on the draft 2023-2025 Work Programme as shown in Annex VI to this report.

7. ANY OTHER BUSINESS

128. The issue of the need of assistance to prepare and publish peer-reviewed papers was raised under this agenda item. Several researchers, in particular from south Mediterranean countries, encounter difficulties in publishing results and data from their projects. Support could be needed for dedicated analysis, but also for ensuring English proof-reading or scientific review.

129. The Secretariat recalled that this activity is not included in the ACCOBAMS Program of Work for the triennium 2020-2022.

Conclusion 20.
The Scientific Committee invited the Secretariat to look into options to facilitate preparation of manuscripts, for example through professional proof-reading or mobilization of a network of experts.

8. ADOPTION OF RECOMMENDATIONS AND CONCLUSIONS

Conclusion 21.
The Scientific Committee adopted 11 recommendations annexed (Annex III) to the report:

- RECOMMENDATION 14.1 - ACCOBAMS LONG-TERM MONITORING PROGRAMME (LTMP)
- RECOMMENDATION 14.2 - IUCN RED LIST
- RECOMMENDATION 14.3 - CONSERVATION MANAGEMENT PLANS (CMPs)
- RECOMMENDATION 14.4 - CETACEAN STRANDING NETWORKS (CSNS)
- RECOMMENDATION 14.5 - BYCATCH
- RECOMMENDATION 14.6 - NOISE
- RECOMMENDATION 14.7 - SHIP STRIKES
- RECOMMENDATIONS 14.8 - COMMERCIAL WHALE WATCHING ACTIVITIES
- RECOMMENDATION 14.9 - MARINE LITTER AND CHEMICAL POLLUTION
- RECOMMENDATION 14.10 - NETCCOBAMS
- RECOMMENDATION 14.11 - CITIZEN SCIENCE

9. CLOSURE OF THE MEETING

130. After the customary exchange of courtesies, the Chair closed the Meeting at 17:30 p.m. on Friday 26th of November 2021

ANNEXES

ANNEX 1 - LIST OF PARTICIPANTS

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ANNEX 2 - PROVISIONAL AGENDA

1. OPENING OF THE MEETING

2. ADOPTION OF THE AGENDA

3. CONSERVATION ACTIONS

3.1 Report by Regional Representatives

3.2 Improve knowledge about state of cetaceans

3.2.1 ASI technical workshop outcome

3.2.2 Cetacean population estimates and distribution

3.2.3 Population Structure

3.2.4 Monitoring cetaceans' status

- *IUCN status of cetacean species in the ACCOBAMS Area*
- *Conservation Management Plans*
- *National Action Plans*

3.2.5 Functional stranding networks and response to emergency situations

3.3 Reduce human pressures on cetaceans

3.3.1 Interactions with fisheries / aquaculture

3.3.2 Anthropogenic underwater noise

3.3.3 Ship strikes

3.3.4 Cetacean watching

3.3.5 Marine debris & Chemical and biological pollution

3.3.6 Climate change

3.3.7 Captivity related issues

3.4 Enhance effective conservation of Cetaceans Critical Habitats

4. COMMUNICATION

4.1 Communication strategy

4.2 NETCCOBAMS

4.3 Citizen science

5. INSTITUTIONAL ISSUES

5.1 Cooperation with other organizations

5.1.1 Collaboration with Sub Regional Coordination Units

5.1.2 Collaboration with ACCOBAMS Partners

5.1.3 Collaboration with other Organizations

5.1.4 Proposal for amending the procedure for the projects submitted for institutional support

5.2 ACCOBAMS projects funded under the SCF

5.2.1 Report on projects funded by the 2018 ACCOBAMS call for proposal

5.2.2 Priority themes for launching the 2022 call for proposals

6. WORKING PROGRAMME OF THE SCIENTIFIC COMMITTEE FOR THE TRIENNIUM 2023-2025

7. ANY OTHER BUSINESS

8. ADOPTION OF RECOMMENDATIONS AND CONCLUSIONS

9. CLOSURE OF THE MEETING

ANNEX 3 - RECOMMENDATIONS

RECOMMENDATION 14.1 - THE ACCOBAMS LONG-TERM MONITORING PROGRAMME (LTMP)

1. Recognising the great success of the ASI (and CeNoBS) projects in providing baseline abundance summer estimates for cetaceans in the ACCOBAMS region, the Scientific Committee **recommends** that the Parties endorse and fully commit to facilitating the implementation of the ACCOBAMS Long-Term Monitoring Programme (LTMP – see ACCOBAMS-SC14/2021/**Doc09**), that focuses primarily upon obtaining robust estimates of cetacean abundance and distribution (and identifying changes in these over time), as well as some other megafauna and human activities, in the context of providing advice on achievement of conservation and management objectives.

2. This programme 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. These may include the Barcelona Convention Ecosystem Approach/Integrated Monitoring and Assessment Programme (EcAp/IMAP), the EU Marine Strategy Framework Directive and the EU Habitats Directive. Given this fundamental importance of the LTMP, the Scientific Committee **recommends** that the Parties and the Secretariat begin immediately to establish a funding model/strategy for the LTMP (see discussion in ACCOBAMS-SC14/2021/**Doc10**).

3. The LTMP comprises several components (and see Fig. 1 at end) that will require development and updating over time by the Scientific Committee and/or the Permanent Secretariat. The Scientific Committee **recommends** the LTMP and its components below to the Parties and highlights the need for the Secretariat, in co-operation with the Scientific Committee, to review, consolidate and update the LTMP overview document (ACCOBAMS-SC14/2021/**Doc09**) at regular intervals, as well as each of its components.

COMPONENT 1. Development and implementation of a simulation framework to examine the performance of different future survey strategies (synoptic, regional/national)

4. The Scientific Committee **agrees** that it should work as expeditiously as possible with relevant modelling experts to develop a simulation framework to examine the ability of different survey strategies (including frequency and geographical extent) to obtain robust abundance estimates and detect trends (in abundance and distribution) and determine whether ACCOBAMS conservation objectives are being met. This framework should also be used to examine how and where vessels of opportunity (e.g., ferries – ACCOBAMS-SC14/2021/**Doc12**) and multidisciplinary surveys (see ACCOBAMS-SC14/2021/**Doc11**) can contribute to the LTMP. Ultimately, it will enable both the synoptic and regional/national based components of the LTMP (see Component 4) to be as effective and cost efficient as possible. The results of this work will also be valuable as input to any quantitative ACCOBAMS Risk Assessment framework that might be developed (e.g., by contributing to the simulation of feedback procedures to evaluate mitigation approaches).

COMPONENT 2. Undertaking periodic (preferably every six years, see Component 1) synoptic basin-wide surveys in the Mediterranean and Black Seas (cf the ASI) with a focus on abundance and trends

5. The Scientific Committee **agrees** that it should review, and update as necessary, the field and analytical protocols for basin-wide cetacean surveys (also including selected marine megafauna and human activity data) and to consider new developments of technology, survey design and methods to analyse data. It is recognised that this review is directly relevant to protocols for regional/national data collection and analyses (see Component 4). Especially in light of the experience gained during the ASI, the review will include consideration of:

(a) national and other management needs (e.g., reporting and data organisation for other commitments, Risk Assessments, etc.) when designing strata to obtain abundance estimates;

(b) survey design, methods and analytical approaches that may better account for different habitat preferences/availability by species (e.g., coastal habitat for species such as bottlenose dolphins, acoustic methods for deep divers such as sperm and beaked whales);

(c) increased coverage in some regions (e.g., eastern Mediterranean) and consideration of ways to try to account for areas that might not be able to be covered for political/safety reasons (including consideration of use of vessels of opportunity and multidisciplinary surveys - ACCOBAMS-SC14/2021/**Doc11** and ACCOBAMS-SC14/2021/**Doc12**);

(d) field and analytical approaches that correct for availability and perception bias;

(e) improved training protocols/methods *inter alia* on species identification/school size (e.g., use of high speed/resolution cameras), general survey procedures and protocols, including the collection of selected data on other megafauna and selected human activities;

(f) appropriate incorporation of ship-based surveys, including acoustic and biopsy sampling components, that take into account *inter alia* identified needs in CMPs; and

(g) regular review of the use of new technology/AI data processing (e.g., unmanned vehicles such as drones - see ACCOBAMS-SC14/2021/**Doc13**) in the context of the LTMP whilst ensuring that long-term comparability of datasets is maintained.

COMPONENT 3. Development of an implementation protocol to address logistic, bureaucratic and funding issues surrounding regular basin-wide surveys

6. The logistical and other issues surrounding the implementation of ASI posed as much of a challenge to its success as the scientific issues and this is likely to be the case in the future. To minimise this, the Scientific Committee **recommends** that in cooperation with the Scientific Committee as needed, the Secretariat creates and regularly updates a protocol for administrative/logistic/bureaucratic activities related to undertaking basin-wide synoptic surveys based upon the experience gained from ASI**.** This will include preparing a long-term plan for ultimate approval by the Parties that will include a roadmap (e.g., see ACCOBAMS-SC14/2021/**Doc10**) and agreed procedures for:

(a) designating active and knowledgeable national officers/representatives to ensure that national administrative procedures are followed to facilitate *inter alia* obtaining necessary permits (e.g., research, aviation and ship permits, visas, insurance);

(b) maintaining a current list of information on any restrictions that might affect the survey design and logistics (e.g., areas, equipment and personnel);

(c) sharing the draft survey design (at least one year ahead of the surveys) with pilots and relevant national authorities to discuss possible improvements, difficulties and ways to overcome those difficulties;

(d) identifying appropriate research platforms (e.g., certification, insurance, endurance and visibility, crew with offshore experience and, for pilots, experience with flying at low altitudes, willingness to take part in the survey); and

(e) strategies for obtaining funding (see ACCOBAMS-SC14/2021/**Doc10**).

COMPONENT 4. Facilitating synergies of regional and national programmes with ASI (including methods, timing and frequency)

7. The Scientific Committee will integrate information from Components 1 and 2 to assist in updating advice on methods and protocols for smaller-scale regional and national existing and new programmes for the monitoring

of abundance, distribution and trends, in the light of information that will be received from periodic basin-wide summer synoptic surveys.

8. The Scientific Committee **recommends** that Parties ensure that the relevant authorities share plans for their long-term national/sub regional cetacean monitoring programmes (including ongoing activities under the HD, MSFD and EcAp/IMAP) to facilitate synergy where possible and to ensure that that they use consistent methods endorsed by the Scientific Committee, wherever possible. They should ask the national co-ordinators to provide information on the design of such programmes (the Committee is willing to provide advice) and report their results to the Scientific Committee. The Committee will also assist in identifying synergies and potential collaborations in existing or proposed programmes.

9. In this regard, the Scientific Committee highlights the importance of (and its willingness to assist in) the following:

(a) investigating (in conjunction with Component 1) the use of vessels of opportunity and/or multidisciplinary cruises, as well as dedicated surveys, to provide information on:

- areas that may not be able to be surveyed in basin-wide surveys and for which few data even on presence absence, are available
- non-summer occurrence and
- 'local' trends in abundance/distribution; and
- areas where those platforms are already used for the collection of data on cetaceans and their habitat components;

(b) undertaking pilot studies when new techniques or vessels of opportunity are considered; and

(c) further consideration of the use of passive and active acoustic monitoring for specific areas and species e.g., sperm and Cuvier's beaked whales, in line with the ongoing monitoring plans, such as those under the MSFD and EcAp/IMAP, including the Eastern Basin.

COMPONENT 5. Data archiving, use and sharing

10. The Scientific Committee **stresses** the great long-term value of the ASI dataset and future data collected under the LTMP to ACCOBAMS and wider conservation efforts. Given the importance of properly archiving the data collected under ASI and the LTMP, and making its availability widespread for the benefit of the conservation science community, the Scientific Committee **recommends** that (in conjunction with the Scientific Committee) the Parties and the Secretariat:

(a) work to optimize data archiving and sharing, including ensuring the interoperability of ASI Data Sets with other relevant databases (e.g., NETCCOBAMS, EMODnet, IMAP Info System) and organisations for data exchange;

(b) ensure that the protocol for obtaining access to the ASI (and future) data includes a component that states that the outputs of any analyses using ASI (and future) data are made available to ACCOBAMS (with appropriate publication safeguards) so that

- the outputs can be used by the Scientific Committee to contribute to its ability to give the best scientific advice and

- the Secretariat can monitor the use and influence of the knowledge base to assist in illustrating the broader value of the ASI and to assist in improving the undertaking and data collection on future surveys as part of the ACCOBAMS LTMP;

(c) the Parties and the Secretariat work to identify ways to foster co-operation and partnerships between experts throughout the Agreement's range, including:

- increasing the visibility of ASI (and future) datasets and related results, encourage the widest use possible of existing analyses to contribute towards decision making on conservation matters (e.g., the PSSA proposal in the north-western Mediterranean Sea), as well as to encourage further analyses of ASI (and future) data to meet conservation and management needs at the cetacean and ecosystem level,
- provision of sufficient resources to make best use of ASI data throughout the ACCOBAMS area e.g., through financial support for mentorship schemes, training and joint publications,
- encouraging larger future participation in LTMP research and conservation activities, development of joint actions and working relationships between specialists and Parties' administrations in the context of the broad LTMP programme.

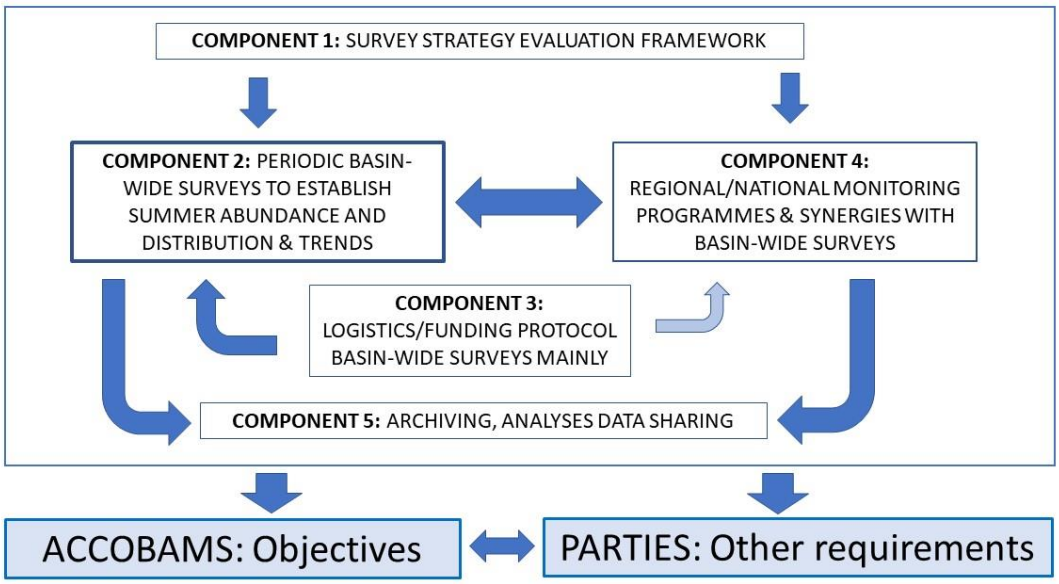

Fig.1 Schematic of the links amongst the five components of the LTMP

RECOMMENDATION 14.2 - IUCN RED LIST

1- The IUCN Red List[7] provides a simple way of classifying the status of species (or in some cases what it terms as 'sub-populations' or occasionally smaller units) into one of nine categories: Not Evaluated, Data Deficient, Least Concern, Near Threatened, Vulnerable, Endangered, Critically Endangered, Extinct in the Wild and Extinct.

2- All cetaceans regularly present within the Mediterranean and Black Seas have now been assessed or re-assessed since 2018 – those assessed in 2021 have been published on the Red List website in December 2021. Thus, the Scientific Committee has completed the work assigned to it in Resolution 6.15. This ambitious task was greatly assisted by the data from the ACCOBAMS Survey Initiative, as well as other data collected since the previous assessments in 2008-2011. A summary is provided below and in Table 1.

A. Conservation status improved since the last assessment

3- The status of two species in the Mediterranean Sea (the striped and common bottlenose dolphins) has improved from Vulnerable to Least Concern.

B. Conservation status remained unchanged

4- The status of the three Black Sea species[8] has remained the same (Vulnerable for the Black Sea common dolphin and Endangered for the Black Sea bottlenose dolphin and the Black Sea harbour porpoise), as has the status of Mediterranean sperm whales (Endangered) and Mediterranean common dolphins (Endangered), although for the latter the Alborán Sea is now excluded, and the subpopulation is called the inner Mediterranean.

C. Conservation status worsened

5- The status of the Mediterranean fin whale has worsened from Vulnerable to Endangered.

D. Conservation status assessed for the first time (including those that were originally Data Deficient)

6- Mediterranean rough-toothed dolphins have been assessed as Near Threatened. Mediterranean Cuvier's beaked whales were assessed in 2018 as Vulnerable – in 2006 they had been classified as Data Deficient. Risso's dolphins, assessed as Data Deficient in 2012, have now been assessed as Endangered.

7- In terms of smaller units, Mediterranean long-finned pilot whales are now considered two units - inner Mediterranean long-finned pilot whales are Endangered whilst those in the Strait of Gibraltar are Critically Endangered. Four smaller local units of other species have also been agreed and assessed: Gulf of Corinth common dolphins – Critically Endangered; Gulf of Ambracia common bottlenose dolphins - Critically Endangered; Gulf of Corinth striped dolphins – Endangered (in review); Strait of Gibraltar killer whales – Critically Endangered.

8- The Scientific Committee draws attention to the fact that throughout the Agreement Area, only two 'sub-populations' are considered of Least Concern. Despite the good work undertaken over the last 25 years, this highlights that considerably more work and efforts are needed for ACCOBAMS and its Parties to meet its conservation objectives. The Committee notes that there are four draft CMPs that are close to completion (see Recommendation 14.3 on CMP). It recommends that the draft CMP for common dolphins pays special attention to the Gulf of Corinth animals that have been newly designated 'Critically Endangered.

[7] https://www.iucnredlist.org/

[8] At present these classifications are provisional as the assessments are under review by IUCN

9- The Scientific Committee **reiterates** that numerous conservation measures have been developed and recommended by the Scientific Committee over the years and many of them have been endorsed and adopted by the Parties in different Resolutions. Therefore, the priority objective **remains** for Parties to implement, comply with, and enforce these conservation actions towards a favourable conservation status of the species within the Agreement Area. Furthermore, Non-Party Range States are encouraged to make use of the recommended conservation actions developed within the ACCOBAMS framework.

10- The Committee **strongly urges Parties and Non-Parties** to pay particular attention to those 'sub-populations' that have been assessed as Critically Endangered (all small local units) and Endangered and to take appropriate conservation actions. As well as strongly supporting and implementing conservation actions in the relevant draft CMPs, many of the Critically Endangered and Endangered sub-populations do not yet have CMPs and it is not appropriate to wait until these can be developed before actions are taken.

Table 1- Summary of the 2018-21 assessments of cetaceans in the ACCOBAMS region.

Red List Classification
Critically Endangered
Common dolphins in the Gulf of Corinth
Common dolphins in the Gulf of Ambracia
Killer whales in the Strait of Gibraltar
Long-finned pilot whales in the Strait of Gibraltar
Endangered
Black Sea Bottlenose dolphins
Common dolphins in the inner Mediterranean
Fin whales in the Mediterranean
Black Sea Harbour porpoise
Long-finned pilot whales in the inner Mediterranean
Risso's dolphins in the Mediterranean
Sperm whales in the Mediterranean
Striped dolphins in the Gulf of Corinth
Vulnerable
Black Sea Common dolphin
Cuvier's beaked whales in the Mediterranean
Least concerned
Bottlenose dolphins in the Mediterranean
Striped dolphins in the Mediterranean

RECOMMENDATION 14.3 - CONSERVATION MANAGEMENT PLANS (CMPs)

1- In accordance with ACCOBAMS Resolution 6.2.1, the Scientific Committee has devoted significant effort during the past triennium (2020-2022) to develop draft CMPs for Mediterranean fin whales, Risso's dolphins, common dolphins and bottlenose dolphins. Despite delays due to Covid-19, the drafts will be completed from the perspective of the Scientific Committee at a workshop in March 2022.

Some of the key components of CMPs include:

(a) support of national authorities;
(b) involvement of stakeholders;
(c) recognition that conservation management plans complement existing measures without replacing them;
(d) overview of present status of species;
(e) clear and achievable objectives;
(f) practical and prioritized mitigation and other actions;
(g) regular monitoring and reporting;
(h) clear governance structures to co-ordinate the engagement of key stakeholders.

2- The Committee **highlights** the importance of full-time CMP coordinators acting under the guidance of CMP Steering Groups that represent key stakeholders. The need for stakeholder workshops to finalise each CMP is an essential part of the process since reaching agreement amongst the primary stakeholders is key to the effectiveness of CMPs and the successful implementation of the actions.

3- The Scientific Committee recommends that Parties support the holding of such workshops, if possible before the 2022 MOP or soon after that. Participation should include relevant IGOs, especially the IWC who developed the CMP approach, local and national authorities, industry and NGOs.

4- The Scientific Committee recognises that whilst ideally there would be CMPs for all species and coherent units of the ACCOBAMS regions, priorities must be set. The Committee draws attention to recent IUCN Red List assessments in this context (Recommendation 14.2 on IUCN Red List). Based upon this, the Committee recommends that the Parties consider the following as species/populations that would benefit from CMPs for the coming triennium and recommends that the relevant range states consider proposing them through ACCOBAMS for the CMP process:

(a) *Mediterranean sperm whales*

- These are considered as 'Endangered' in the Red List and the IWC Scientific Committee has recommended in 2020 and 2021 that these be treated as a 'priority population' for the purpose of the CMP development process. In addition to ship strikes, anthropogenic noise, and bycatch, it has been noted that sperm whales may be also particularly vulnerable to marine litter. The range states include Albania; Algeria; Cyprus; Egypt; France; Greece; Italy; Libya; Malta; Monaco; Morocco; Spain; Tunisia; Turkey.

(b) *Mediterranean Cuvier's beaked whales*

- These are considered as 'Vulnerable' in the Red List and threats include anthropogenic noise, habitat degradation, chemical pollution, bycatch and ingestion of marine litter. The range states include Albania; Algeria; Croatia; Cyprus; France; Greece; Israel; Italy; Monaco; Montenegro; Morocco, Spain; and Turkey.

(c) *Black Sea cetaceans*

- Harbour porpoises and bottlenose dolphins in the Black Sea are listed as 'Endangered' in the IUCN Red List, and common dolphins are considered as 'Vulnerable'. The Black Sea Commission (Sub-Regional Coordination Unit) recommended in 2021 to develop the updated Conservation Plan for Black Sea Cetaceans, as separate Conservation Plans for each of the three species. The threats include bycatch (particularly for the harbour porpoise), habitat degradation (including prey depletion), illegal takes of bottlenose dolphin from the wild to captivity and consequences of bio-invasions by alien species. The range states include Bulgaria, Georgia, Romania, Russia, Turkey and Ukraine.

5- The Committee noted that the 2020-2022 ACCOBAMS Programme of Work (Resolution 7.6) also emphasised the need for improved data collection related to cetacean population genetics in the ACCOBAMS Area (and see discussion under Item 3.2.3). Where needed, draft CMPs can incorporate actions involving such data collection (including areas and methods), as well as incorporating the actions considered by the health monitoring network proposed under item 3.3.5.

RECOMMENDATION 14.4 - CETACEAN STRANDING NETWORKS (CSNS)

1. Cetacean Stranding Networks (CSNs) are recognized as an important source of complementing data on cetacean mortality, including bycatch events. CSNs vary widely based on the scientific requirements, political drivers, resources, infrastructure and personnel experience. A tiered approach to carcass triage allows investigations to be conducted at different levels, depending on the resources, facilities or experience of the stranding network and offers a framework for data collection and interpretation appropriate and optimized to the resources available. In a large number of cases analysed by the existing CSNs the cause of death could not be identified, which indicates that there is still room for expertise improvement.

2. The need for appropriate training and adequate funding are frequently reported as one of the main causes preventing the optimal functioning of a CSN. The use of new technologies increases the possibility of remote training, support and advice in case of cetacean strandings by using virtual reality and tele-necropsy. The Scientific Committee recommends that these approaches and technologies are tested in order to implement a continuous training programme, connecting experts with local scientists dealing with cetacean strandings, to ensure a standardized approach to post-mortem investigations, data collection, tissue sampling, and analyses.

3. The Scientific Committee also encourages further study using post-mortem investigations on stranded animals by using dedicated diagnostic framework to assess bycatch mortality, such as the use of carcass drifting models.

4. The Scientific Committee stresses the need for improvement of data collection on cetacean population genetics and pathology and recommends capacity building effort in developing tissue banks and encourages further collaboration at a regional level between tissue banks to facilitate the exchanges of tissue samples for joint analyses.

RECOMMENDATION 14.5 - BYCATCH

1. The Scientific Committee **strongly reiterates** that bycatch in fishing gear is a widespread and significant threat to cetaceans across the Agreement Area, although robust estimates are lacking for most areas and the region as a whole. It is essential that an improved understanding of bycatch levels is developed as soon as possible. Together with the results of ASI, this will allow a better determination of bycatch rates and thus help determine the levels of bycatch reduction necessary to allow ACCOBAMS conservation objectives to be met.

2. Despite the need for better estimates, the Scientific Committee **urges** that mitigation efforts are intensified immediately throughout the region and especially in areas/populations identified as Critically Endangered or Endangered in the IUCN Red List (See Recommendation 14.2 on IUCN Red List).

3. The Scientific Committee **recognizes** that Cetaceans Stranding Networks (CSNs) are an important source of data to determine cetacean causes of death, including bycatch events. It **takes note** of the results of the review of available data on cetacean bycatch in stranding databases from the ACCOBAMS Area and **invites** the Secretariat to share these results with Parties and relevant organizations. It also **encourages** further studies investigating the use of stranding data to assess bycatch mortality, such as the use of carcass drifting models, whilst recognising that analyses of strandings data almost always underestimate bycatch to an unknown degree.

4. Mortality caused by ingestion of fishing gear related to depredation is also a cause of concern and studies on behaviour of animals during interactions with fisheries are important in the development of effective mitigation measures.

5. The Scientific Committee **endorses** the recommendations (https://accobams.org/wp-content/uploads/2021/09/SC14.Inf10_JBWG1-Recommendations.pdf) on monitoring and mitigation from the first Meeting of the ACCOBAMS-ASCOBANS Joint Bycatch Working Group organized in February 2021 and **urges** Parties to implement them as soon as possible.

The Black Sea

6. The Scientific Committee **expresses great concern** over the bycatch problem in the Black Sea. The results of the CeNoBS project (https://www.cenobs.eu/content/deliverables), including the aerial survey and the pilot study on bycatch in turbot nets, as well as those of other recent local surveys have, even under conservative assumptions, highlighted the significant link between turbot fishery bycatch and high seasonal mortality of harbour porpoises in the Black Sea, which threatens the viability of this subspecies. The Committee, therefore, **strongly recommends** that the relevant authorities implement as a matter of urgency continuous actions to develop and apply measures to reduce bycatch levels, improve mandatory monitoring schemes (e.g., those run under the EU Data Collection Framework) and make available official fishing effort data of turbot fishery.

7. In addition, the mandatory monitoring schemes and availability of reliable fishing effort referred to above will allow robust estimates of the fleet size and the total length of nets involved, enabling the refinement of estimates of total bycatch in the Black Sea. Cooperation with fishers and fisheries controlling authorities for enhancing the bycatch reporting will be crucial in this effort, as well as the overall bycatch monitoring by on-board observers, questionnaires to fishers and/or by other available technical means, such as Remote Electronic Monitoring (REM).

8. The Committee **stresses** that strong enforcement of existing laws and regulations is needed in the region to minimize IUU fishing.

9. Retrieval of bycaught animals from vessels should be encouraged by the relevant authorities in order to obtain biological data, including tissue samples, for a wide range of analyses to understand the status and demographic characteristics of the affected populations.

10. The Committee **encourages** further testing and development of bycatch mitigation measures in the Black Sea, accounting for specific local features (e.g., assessment of effectiveness of pingers specifically for the Black Sea porpoises). Without delaying the implementation of immediate mitigation actions (including the use of pingers which have been proven to be effective elsewhere for harbour porpoises), the potential long term negative effects of pingers, such as habituation and habitat exclusion, should be carefully considered, and an ecological and economical cost/benefit analysis should be carried out. Other potential mitigation measures should also be identified and tested in collaboration with fishers; spatio-temporal closure of fishing should be considered where other mitigation measures are not possible.

11. In conclusion, the Committee **urges** the ACCOBAMS Parties in the Black Sea to facilitate the creation of an Emergency Task Force with the full participation of the European Commission, ACCOBAMS Secretariat and the SC, GFCM and the Secretariat of the Black Sea Commission to identify and implement the best fishery management measures.

The Mediterranean Sea

12. The situation in the Mediterranean Sea also remains a cause for concern. The Scientific Committee **reiterates its concern** that the use of illegal driftnets for large pelagic species continue to cause mortality of several species of cetacean (in particular the Endangered sperm whale) and **recommends** that existing legislation related to the ban of such fishing gear be fully enforced by the Parties in the Mediterranean Sea.

13. The Scientific Committee **highlights** the need for urgent consideration of the upcoming (expected by mid-2022) results from the MedBycatch project that has been implemented in 5 Mediterranean countries since 2017 and includes more than 2 years multi-taxa (including cetacean) bycatch data collection and science-based bycatch mitigation trials. The MedBycatch has shown the value of onboard and questionnaire observer programmes to widely collect bycatch data, define the main bycatch interactions sources and help decision makers and scientists to design science-based multi-taxa bycatch mitigation measures including gear modification, spatio-temporal measures, and legal instruments.

14. The Scientific Committee also noted that to date, few models of pingers have been tested in Tunisia in the context of the MAVA Depredation project and **stresses** that more research is needed on the effectiveness of this mitigation tool in both the short- and the long-term basis.

15. Overall, the Scientific Committee **recommends** the continuation of such studies in the Mediterranean to monitor and assess bycatch and depredation to ensure that mitigation measures are working.

RECOMMENDATION 14.6 - NOISE

The Scientific Committee **reiterates** that anthropogenic noise pollution remains of significant concern within the ACCOBAMS region and **highlights** that the Black Sea has been poorly investigated in terms of underwater noise monitoring despite an increasing number of activities that produce underwater noise and the presence of acoustically sensitive resident species.

The Scientific Committee therefore:

1. **recognises** that the NETCCOBAMS online platform provides new information about the propagation of shipping noise in context to cetacean habitats - it uses the best available science on cetacean distribution and continuous anthropogenic noise propagation to determine areas of risk of adverse effects caused by such anthropogenic pressure;

2. **recognises** that the risk areas generated by ship noise are widely spread in respect to cetacean habitats and that this represents a major concern for cetacean conservation - these risk areas should be taken into account also in designing mitigation measures for ship strikes with large cetaceans to ensure that such measures do not increase noise on areas already at risk for deep divers;

3. **reiterates** the importance of stakeholder engagement in developing and implementing mitigation measures;

4. **expresses** concern over findings by the European Environment Agency (EEA) and the European Maritime Safety Agency (EMSA) in their 2021 European Maritime Transport Environmental Report (EMTER) that underwater noise levels have doubled within EU waters between 2014 and 2019;

5. **takes note** of the Draft Noise Hotspots Report II (ACCOBAMS-SC14/2021/**Doc21**) and recognises the need for additional data on impulsive noise generating activities to generate a more complete dataset;

6. **acknowledges** the work done to develop the methodology for computing the draft acoustic risk maps (ACCOBAMS-SC14/2021/**Doc23**) presented during the meeting which will provide, when completed, new insight on the extent of disturbance to cetaceans, and that such methodology is relevant for the CCH process;

7. **urges** Parties to avoid the introduction of potentially harmful impulsive noise, such as those produced by airguns, sparkers, active sonars within areas of importance for cetaceans such as the Pelagos Sanctuary, marine protected areas and IMMAs;

8. **asks** the Secretariat in conjunction with the Scientific Committee to:
   - **(a)** disseminate, when completed, the information on the NETCCOBAMS online platform on acoustic risk areas (see Recommendation 14.10 on NETCCOBAMS),
   - **(b)** remind the relevant stakeholders to implement Annex 1 “Action Plan resulting from the ACCOBAMS Workshop on sonars and cetacean interactions” of Resolution 7.13 on Anthropogenic Underwater Noise and approach the ASCOBANS Secretariat to explore the potential for joint outreach efforts to national navies and NATO to mitigate noise from military activities,
   - **(c)** develop joint projects/initiatives for simulating mitigation measures, such as speed reductions, and related benefits, with the aim of reducing the impact of noise on cetacean habitats.

9. **encourages** Parties to

(a) improve enhanced training of regulators on the appropriate application of the CMS Environmental Impact Assessments (EIAs) and ACCOBAMS Noise Guidelines prior to the approval of projects, including informing them of the willingness of the CMS and ACCOBAMS Secretariats to provide advice;

(b) engage in the ongoing process of "review of the 2014 IMO Guidelines for the reduction of underwater noise from commercial shipping to address adverse impacts on marine life (circular MEPC.1/Circ.833) (2014 Guidelines) and identification of next steps" and promote the evolution of the Guidelines status to foster improvement of their uptake by IMO Parties;

(c) promote the application of vessel speed reductions (e.g., slow steaming) as an operational measure that results in multi-environmental benefits, including the reduction of underwater noise and GHG emissions, as well as the risk of ships strikes, and to promote such measures in the context of the proposal of PSSA in the North-western Mediterranean;

(d) take note that the issue of underwater noise pollution from ships can only effectively be addressed through IMO measures and international cooperation, and that applying mandatory measures keeps a level playing field for the private sector;

(e) invite Port authorities to develop incentive programmes to encourage the monitoring of and reduction in underwater noise emissions, and to report regularly all activities generating noise to improve the mapping for Noise Hotspots Report (SC14.Doc21);

(f) engage in trials measuring the impact of speed reduction and other operational measures reducing underwater noise in their waters;

(g) mandate national responsible institutions to feed data on impulsive noise generating sources from the entire ACCOBAMS Area into the existing International Noise Registry managed by ACCOBAMS;

(h) mandate national responsible institutions to provide the necessary data to update risk maps and generate maps for the Black Sea by considering relevant target species, especially recalling Resolution 7.13 which foresees that noise hotspot maps shall be developed for the Black Sea, reflecting impulsive and continuous noise generating activities.

10. **asks** the JNWG:

(a) to provide final comments and inputs on the CMS document on Best Available Technology (BAT) and Best Environmental Practice (BET) for three noise sources: shipping, seismic airgun surveys, and pile driving[9];

(b) to produce a study on the effects of underwater noise generated by the foreseeable increase of wind farms in the ACCOBAMS area, addressing all the phases of wind farm from siting surveys to decommissioning

(c) to review the Draft Noise Hotspots Report II (ACCOBAMS-SC14/2021/**Doc21**) and to provide much needed additional information, including information about military exercises using active sonars, , and in particular to ask the Industrial Advisory Group to provide any relevant information about impulsive noise-generating activities in the Agreement Area since 2016;

(d) to examine the noise models available in NETCCOBAMS (see Recommendation 14.10 on NETCCOBAMS), also considering recent developments from EU MSFD-D11C2, in order to compare such noise model with available *in situ* anthropogenic noise recordings made in different points throughout the ACCOBAMS area, and taking account the different sensitivities of different cetacean species.

[9] https://www.cms.int/sites/default/files/document/cms_cop13_inf.9_noise-bat-bep_e.pdf

RECOMMENDATION 14.7 - SHIP STRIKES

1- ACCOBAMS and the International Whaling Commission (IWC) have long recognized the problem of ship strikes, particularly of large whales such as fin and sperm whales and have been working together to develop a better understanding of the issue and to develop effective mitigation measures, *inter alia*, within the ACCOBAMS area. These concerns span the issues of conservation, animal welfare and human safety.

2- The Scientific Committee **recommends** that the ACCOBAMS Ship Strikes WG liaise with riparian nations and others to keep obtaining information concerning both cetaceans and vessel traffic, that will enable it to better identify areas for cetaceans (especially fin and sperm whales) where they are (or are potentially) susceptible to ship strikes (based upon models of risk that incorporate information on whale and vessel distribution and predictions of collision rates).

This shall be achieved by:

(a) reporting and mapping of vessel movements and shipping density at appropriate geographical scales, including estimates from vessels not required to transmit AIS signals;

(b) collaboration with maritime companies and vessel operators, involving both bottom-up (i.e. awareness, involvement) and top-down (i.e., regulatory) approaches;

(c) mapping the temporal and geographic distribution and abundance of cetaceans in relation to similar information on vessel traffic to identify potential higher risk areas;

(d) estimation of numbers of ship strikes including data:

- from stranding networks (including detailed necropsies);
- from photo-identification studies (photographs may contain evidence of non-lethal encounters with vessels);
- collected by the IWC ship strike database;
- during campaigns at sea

(e) modelling exercises to assess the level of risk and potential conservation implications.

3- The work carried out by the SC and WG shall lead to the creation of a Mediterranean network, including ACCOBAMS Range States, ACCOBAMS Partners, the IWC, different research institutes, and concerned shipping companies to contribute to the central database on ship strikes developed by the IWC (https://iwc.int/ship-strikes), to facilitate information exchange and data sharing.

4- Key components of the work of the IWC and ACCOBAMS involve better communication with stakeholders (e.g., shipping companies), direct involvement of shipping in mitigation initiatives, and increased reporting of collision incidents via regional initiatives and especially the global ship strikes database. This will lead to an increased effort in this regard within the ACCOBAMS area.

Such efforts shall include:

(a) promotion of the issue and the importance of reporting via a number of fora, including specialist marine press;

(b) further evaluation and dissemination of information on mitigation approaches;

(c) foster the development of incentive systems to shipping companies adopting suggested mitigation measures;

(d) additional co-operation with the International Maritime Organization (IMO) (and its MEPC) both via IWC and CMS agreements, but also through initiatives with member states (the most appropriate mechanism for IMO action);

(e) improve the cooperation with the Pelagos Agreement in regard to the organisation and implementation of any initiative carried within the Pelagos Agreement Area;

(f) improved protocols for the identification of ship strikes via necropsies;

(g) investigation of incidences with regard to the nature of ship strike injuries within photo-identification studies (e.g., ship strikes project funded by the Pelagos Agreement);

(h) encourage studies that improve access to the temporal and spatial distribution of shipping, particularly vessels that do not transmit AIS information;

(i) encourage studies that improve our understanding of the temporal and spatial distribution of cetaceans within the region, including telemetry studies;

(j) encourage studies to develop and evaluate mitigation measures, incorporating inter alia results from (g) and (h) above, recognizing that appropriate measures will need to be specific to an area but that changes to shipping may also impact on other areas;

(k) capitalize results from ongoing and further projects addressing ship strikes (e.g., Sicomar plus and Life conceptu maris, with maps, collision risk assessment, webGIS implemented with AIS data and collaboration with shipping companies).

5- The SC **recognizes** the following High-Risk Areas, where ship strikes are common in the ACCOBAMS Region, and **recommends** that mitigation measures are implemented as a matter of urgency:

1. *Strait of Gibraltar - fin and sperm whales*
2. *Balearic Islands - fin and sperm whales*
3. *Balearic Basin and Catalan Coast – fin and sperm whales*
4. *Eastern Alborán Sea - fin and sperm whales*
5. *Pelagos Sanctuary - fin and sperm whales*
6. *Hellenic Trench, Greece - sperm whales*

6- Mitigation measures for ship strikes with fin whales have been discussed during dedicated IWC-ACCOBAMS workshops (Beaulieu sur Mer, 2010; Panama, 2014; Messinia, 2019), during which different recommendations were discussed and suggested. Measures that separate whales from vessels (or at least minimise co-occurrence) in space and time to the extent possible are the most effective, where this is possible (e.g., routing schemes). **Where routing to keep whales and vessels apart is not possible, the only demonstrated measure to reduce fatal collisions with most large whales is to reduce speed.**

7- The SC **encourages** researchers, scientific institutions and partner organizations, engaged in the development of real time cetacean localization projects, which are designed to be complementary tools in avoiding ship strikes, to share and report their findings. The SC **encourages** that the developed real-time systems are integrated to strengthen their efficiency.

8- Emphasis should also be placed on the **collection and reporting of data to the IWC** Global Ship Strikes Database which will both: (i) facilitate the proper evaluation, prioritisation and monitoring of ship strikes as a threat to various populations and regions; and (ii) assist in the development of mitigation measures.

9- The latest IWC-IUCN-ACCOBAMS workshop (Messinia, 2019) **recommends** that the following steps are undertaken as part of a process to identify High Risk Areas for Ship Strikes based on IMMAs:

(a) Traffic information (e.g., types of vessels, size, speed, flag, etc.): plotting major ship routes to see if they cross IMMAs which host significant or high-density populations of species that are threatened and/or vulnerable to ship strikes.

(b) Species information (e.g., relative abundance, status, animal behaviour/seasonality/key lifecycle use in and within IMMAs).

(c) Management and mitigation.

10- The SC **recommends** that the Parties further develop and support the process for the designation of a Particularly Sensitive Sea Area (PSSA) by IMO at a scale that includes the North-West Mediterranean Sea, Slope and Canyon IMMA, plus the Eastern portion off the eastern border of the Pelagos Sanctuary and the Spanish corridor, to take into account whale population movements and distribution. Zoning within the area with ship strike mitigation tools (e.g., speed reduction and routing measures) could be proposed as part of Associated Protective Measures within the PSSA. The proposal should take into account the model on acoustic noise (based on AIS data) and risks for sperm whales and Cuvier's beaked whales in order to avoid designation of measures increasing the Cuvier's beaked whale's acoustic risk.

11- Co-operation with IMO, other IGOs, national authorities, the shipping industry, port authorities and the whale watching industry is essential if effective mitigation is to occur. For example, through the CCH process, launched by ACCOBAMS, overlapping ongoing and known human threats and Important Marine Mammal Areas (IMMAs). The Scientific Committee **recommends** that the Parties ask the Secretariat to increase communication with the relevant stakeholders and inform them of the willingness of the ACCOBAMS Scientific Committee and Ship Strikes WG to provide advice.

RECOMMENDATIONS 14.8 - COMMERCIAL WHALE WATCHING ACTIVITIES[10]

1. Over the past decade, the presence of a great diversity of cetaceans in the ACCOBAMS region has led to the development of high number of commercial whale watching operators.

2. When conducted responsibly, whale watching activities have the potential to generate income and livelihoods for coastal communities, as well as contribute to public awareness and better understanding on the presence and distribution of whales, dolphins and porpoises and, ultimately, their conservation needs. However, when the industry develops too fast, or operators engage in irresponsible practices, whale watching also has the potential to become a serious source of concern for wild cetacean populations that may already be suffering decreased fitness or population declines from bycatch, habitat degradation, climate change, and other threats.

3. Aware that ACCOBAMS Resolution 4.7 sets forth clear guidelines for commercial cetacean watching in the ACCOBAMS area, and Resolution 6.20, Annex 2, expands this advice by providing a detailed description of the standards associated with the High-Quality Whale Watching (HQWW)© Certificate, and the code of conduct operators must follow to obtain that label;

4. The ACCOBAMS Scientific Committee:

(a) 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.

(b) **Endorses** the new version of the *Guidelines for the Management of Cetacean Watching Activities in the ACCOBAMS area (*ACCOBAMS-SC14/2021/**Doc29)**.

(c) **Agrees** that the proposed data collection form for commercial whale watching vessels included as Annex 4 of Resolution 6.20 needs to be reviewed and updated.

(d) **Recommends** that the Whale Watching Working Group established in 2014 during the ninth meeting of the Scientific Committee continue its work and test the revised common procedure (data collection system) for whale watching activity in the previously identified pilot areas (Ligurian-Provençal Basin, including the Pelagos Sanctuary, Gibraltar Strait, and south Portugal).

(e) **Endorses** the results of the study aimed at identifying hotspots of Whale Watching activities in the ACCOBAMS area (ACCOBAMS-SC14/2021/**Doc28**).

(f) **Encourages** Parties to implement specific legislation (in accordance with ACCOBAMS Guidelines) to mitigate the potential pressure on cetacean populations in the identified whale watching hotspots.

(g) Further **encourages** Parties to promote the objectives of the European Green Deal and in particular the transition to reduce vessels' CO2 emissions and noise, in particular, amongst the whale watching operators.

(h) **Recommends** that the results of the work to be conducted on the hotspots will be used to complement the Cetacean Critical Habitats (CCH) process.

(i) **Recommends** that Parties implement and continue to promote and enhance the status of the **"**High Quality Whale-Watching®" Certificate in collaboration with the Pelagos Agreement and other relevant Intergovernmental Organisations and Multilateral Environmental Agreements within the Agreement Area (e.g., the Barcelona Convention, the Black Sea Commission and the International Whaling Commission).

[10] According to IWC Whale watching is a term that includes all cetaceans – whales, dolphins and porpoises- please refer to Parsons, E.C.M. & Fortuna, Caterina Maria & Ritter, Fabian & Rose, N.A. & Simmonds, Mark & Weinrich, Mason & Williams, R. & Panigada, S. (2006). Glossary of whale watching terms. Journal of Cetacean Research and Management. 8. 249-251

RECOMMENDATION 14.9 - MARINE LITTER AND CHEMICAL POLLUTION

Marine litter

1. Given the particularly high levels of marine litter in all ecological compartments of the ACCOBAMS area (sea-surface, water column, seafloor and coastal shores) and the overlap with distribution and habitat of several cetacean species shown by inter alia the results from the ASI , and given the recognized deleterious effects of marine litter ingestion and entanglement (and toxic effects) on wildlife welfare, biology and ecology, the Scientific Committee **strongly urges** that all competent organisations on pollution issues (e.g., EU, Barcelona Convention, IMO) urgently improve and enforce their management measures regarding land- and ship-related pollution; there is no need to wait for additional information on cetaceans before taking mitigation action

2. In this regard the Scientific Committee also **urges** Parties to:

(a) work towards a global agreement on plastics, targeting both land- and sea-based sources of plastic pollution and the whole life cycle of plastics; and

(b) engage all levels of stakeholders from producers, users to decision-makers to implement actions which can contribute to address plastic litter at source and stop plastics entering the Mediterranean, Black Sea and contiguous areas and to facilitate collaboration among science and policy to tackle marine litter issues.

3. In order to improve our knowledge of marine litter and cetaceans, the Scientific Committee:

(a) **encourages** the undertaking of postmortem investigations according to the best practice guidelines (IJsseldijk, Brownlow, and Mazzariol, 2019, see the Recommendation 14.4 on Cetacean Stranding Networks) and **supports**

- collective scientific efforts on the development of standardized methods to detect the occurrence and effects of marine litter (including microplastics) in cetacean species and
- the use of standardized formats to report results across the ACCOBAMS area in synergy with existing frameworks (e.g., MSFD and IMAP indicators, GESAMP) and relevant MEAs (e.g., the Barcelona Convention, CMS, IWC, etc.) that request periodic reporting from postmortem investigations;

(b) **supports** the identification of hot-spot areas for marine litter accumulation and, through modelling of exposure to plastic ingestion and entanglement, identify the threat to cetacean species occurring in those areas to design targeted mitigation measures; and

(c) **proposes** cetacean species as indicators of marine litter in the ACCOBAMS area, in particular focusing the attention on deep-diving species for macro-litter (e.g., sperm whale and Cuvier's beaked whale) and filter feeders for micro-plastic (fin whale).[1]

Chemical pollution

4. Given the high occurrence and concentrations of legacy and emerging contaminants (OCs, PAHs, PBDEs, PFAS, Heavy metals, plastic additives, PPCPs, etc.) in the Mediterranean Sea and Black Sea and given that the chemical contamination is detrimental for cetacean health since it can induce negative effects on the immune, nervous and reproductive systems of cetaceans, the Scientific Committee **recommends:**

(a) the development of a transboundary health monitoring network for stranded and free-swimming cetaceans in the ACCOBAMS area – this could also facilitate the development of a common database of data on diseases and chemical burdens and cooperation among existing tissue banks to share tissues and data and contribute

[1] Please refer to the Report of the IWC Workshop on Marine Debris: The Way Forward, 3-5 December 2019, La Garriga, Catalonia, Spain (SC/68B/REP/03)

such data for the assessment of the "Favourable Conservation Status" of marine mammals under the EU Habitats Directive and equivalent national/regional legislation;

(b) the development of an inventory of the institutions or laboratories within the ACCOBAMS area that are willing to receive and analyze samples for legacy and emerging pollutants from those institutions which do not have appropriate facilities and expertise;

(c) that existing measures for the mitigation of toxicological contamination in the ACCOBAMS area should be enforced e.g., through full compliance by member states with the Stockholm Convention; and

(d) future attention should focus on the assessment of cumulative effects and multiple stressors (including chemicals, marine litter, climate change, and emerging pathogens) on cetaceans in the ACCOBAMS Areas, including new techniques (such as -omics techniques, epigenetics and lab-on-chip), taking advantage of consideration of recommendations (once available) from the IWC intersessional Workshop on Pollution 2025 cumulative effects and multiple stressors" (1-4 November 2021).

RECOMMENDATION 14.10 - NETCCOBAMS

1- The Scientific Committee **commends** the NETCCOBAMS online Platform (accobams.sinay.fr[12]) to Parties as a source of valuable information on pressures and threats and encourages them to support its further development and improvement. To this end the Scientific Committee **agrees** to establish an expert Working Group including scientists, managers, stakeholders and Parties with the following Terms of Reference for it to guide and provide oversight on:

(a) the selection and incorporation of appropriate validated data and information including conditions of uploading and use[13];

(b) the analytical tools to be used for the various datasets;

(c) appropriate visualisation approaches (including those relevant to CCH) and associated advice to Parties and others on the interpretation of outputs; and

(d) the future development of the NETCCOBAMS online Platform (e.g., to take into account other threats, to facilitate data entry and validation) to assist in the provision of conservation advice on cetaceans and their habitats – some priority should be given to developing a module for AIS data analysis by providing information in a specific selected area using the results of existing projects or online platforms (e.g., type of vessel, density, speed, waiting time, etc.) – Ref to the Recommendation 14.7 on ship strikes.

2- Furthermore, the Scientific Committee **recommends:**

(a) that relevant stakeholders (including ACCOBAMS Partners and industry bodies) should be encouraged by Parties and the Secretariat to submit relevant data and information on cetaceans and anthropogenic activities to NETCCOBAMS (in accord with Working Group advice) to improve the value and application of the online platform in the provision of management advice over time;

(b) that the NETCCOBAMS WG should liaise with the Joint Noise WG regarding (a) the definition of potential quantitative targets in terms of reduction of risk (b) improvements in the robustness of model outputs (incorporating model uncertainty, *in situ* verification at selected sites); and (c) the development of new features including simulated scenarios of noise (and risk) reduction in response to potential mitigation approaches to evaluate their likely effectiveness;

(c) that the NETCCOBAMS WG should liaise with the other WG when the platform will implement other features.

3- Finally, the Scientific Committee requests that the Secretariat disseminates 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.

[12] To create a NETCCOBAMS account, please contact the ACCOBAMS Secretariat.

[13] e.g., validated abundance and/or habitat maps, partner's reports, documentation about the work of ACCOBAMS and its Committees, Parties and Partners.

RECOMMENDATION 14.11 - CITIZEN SCIENCE

Citizen science allows people with diverse motivation and abilities to participate in research and conservation initiatives (e.g., Cetacean Stranding Networks or observation/data collection at sea) where scientific effort is limited due to low budget allocation, reduced staff, limited resources, large area to be covered, etc. It is also a valid tool in facilitating public awareness of cetaceans and habitat conservation.

The ACCOBAMS Scientific Committee:

1. **recognises** that the concept of citizen science and specific citizen science projects can complement the collection of scientific data on cetacean sightings and strandings;

2. **highlights** the increasing value of existing and improving digital technology (websites, mobile apps and social media platforms). This has created a breakthrough in terms of data collection and validation and the Committee **commends** effort to promote their widespread use;

3. **stresses** that the validation of the submitted data by experts is a crucial step to allow such data to be incorporated into quantitative assessments of cetacean distribution and occurrence; and

4. **welcomes and encourages** expert effort towards the standardization of the protocols and methodology for data collection via citizen science, with all appropriate animal welfare and human safety precautions.

ANNEX 4 - TERMS OF REFERENCE FOR AN ACCOBAMS WORKSHOP TO IMPROVE DATA COLLECTION ON CETACEAN POPULATIONS GENETICS IN THE ACCOBAMS AREA

Background

The 2020-2022 ACCOBAMS Program of Work (Resolution 7.6) foresees that the Secretariat and the Scientific Committee should improve data collection on cetacean population genetics in the ACCOBAMS Area, in particular by organizing regional trainings on data collection and analysis.

The following draft ToR for an ACCOBAMS workshop to improve data collection on cetacean population genetics were prepared taking into account:

- the ACCOBAMS Resolution 3.9 "Guidelines for the establishment of a system of tissue banks within the ACCOBAMS area and ethical code" where the Scientific Committee of ACCOBAMS has recognized the need for Institutions dedicated to the preservation of body parts from marine mammals of the Mediterranean and Black Seas. Such Institutions, from now onward identified as Tissue Banks, 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

- the IWC DNA data quality and genetic analyses guidelines:
https://iwc.int/private/downloads/Fiu84d3xhzIh1GQPLCNjDA/dna-guidelines.pdf
Guidelines for genetic data analysis (2018)

Objective of the workshop

The 2020-2022 Working Programme foresees that the Secretariat and the Scientific Committee should improve data collection on cetacean population genetics in the ACCOBAMS Area, by:

- organizing regional trainings on data collection and analysis (Capacity Building)
- establishing Guidelines / Best Practices

A better collaboration between tissue banks is also encouraged in order to facilitate sample exchanges for joint analysis.

In view of this objective, a workshop is proposed to address *inter alia* the following questions:

1. Existing tissue banks in the ACCOBAMS area
2. Priority species or areas where samples should be collected (*i.e.*, no samples currently available) and what could be feasible (strandings, sloughed skin, biopsies, fecal samples…),
3. Updating Resolution 3.9 (GUIDELINES FOR THE ESTABLISHMENT OF A SYSTEM OF TISSUE BANKS WITHIN THE ACCOBAMS AREA AND ETHICAL CODE) : is there a need to produce new Guidelines / Best Practices?
4. How the IWC DNA data quality and genetic analyses guidelines can be useful for the ACCOBAMS experts?
5. What kind of capacity building, regarding Population structure, is needed in the ACCOBAMS Area?
6. The need to identify relevant labs and to establish links with national stranding networks

Workshop composition

Pauline Gauffier (leader)
Léa David
Simone Panigada
Denis Ody
Celine Tardy
Martine Berubé
Ada Natoli
Sandro Mazzariol
Patricia Gonzalbes
Anna Schleimer
Pavel Gol'din
Cristina Panti
Benoît Simon-Bouhet
Florence Caurant
Stefania Gaspari
Hélène Labach
Massimo Rossi
Michael Fontaine
Arda Tonay

Tentative date and place

Online half-day meeting, followed by a 2 days presential workshop, in September 2022, in Monaco.

ANNEX 5 – TERMS OF REFERENCEFOR A WORKSHOP ON CETACEAN CRITICAL HABITATS

Background information

According to the ACCOBAMS Conservation Plan (Annex 2 of the Agreement), Parties shall endeavour to establish and manage specially protected areas corresponding to the areas which serve as habitat of cetaceans. The concept of Cetacean Critical Habitat logically includes a combination of cetacean occurrence and/or favourable habitat and actual and/or potential threats that may result in problems at the population level**.** The ACCOBAMS Scientific Committee had already identified a number of important areas for cetaceans in the region in 2010 e.g., see the Annex to Resolution 4.15, but those need urgently to be updated in the light of new available knowledge. The Resolution has also indicated that an important tool to achieve good conservation status for cetaceans in the region is the creation of a network of effective - with targeted and fully implemented conservation measures - marine protected areas (MPAs). ACCOBAMS is also working on the development of conservation and management actions in the context of Conservation Management Plans (CMPs, SC14.Docs 15-18). Given data at an appropriate geographical and temporal scale are available, spatial mapping (e.g., see progress with NETCCOBAMS, SC14.Doc 36) is an important tool in identifying critical habitats for cetaceans known as CCHs (e.g. see Resolution 6.24) by incorporating data on both cetaceans and potential threats.

Since that Resolution, the Scientific Committee has received progress reports on work to develop updated CCHs (SC14.Doc35) and has also received the results of the ACCOBAMS Survey Initiative and a subsequent workshop examining the management and conservation implications (SC14.Inf03).

Both MOP Resolutions also highlighted the importance of a collaborative approach with other relevant bodies including the Pelagos Sanctuary, GFCM, IUCN-Med, UNEP/MAP through SPA/RAC, Black Sea Commission and in collaboration with MedPAN.

CCH are meant to provide a synoptic view of areas under various threats, actual or potential, within the whole agreement area. Once the CCH 'envelopes' are completed, the next step is to suggest effective conservation measures on a case-by-case basis. This will require a more focussed analysis by appropriate experts in consultation with stakeholders at the appropriate geographic scale.

The CCH process is linked and complementary with several other ACCOBAMS initiatives, including CMPs, ASI recommendations and other large-scale initiatives: e.g., IMMAs, EU Marine Spatial Planning, EBSAs, etc.

This workshop is intended to allow a full review of progress and what work remains for wider circulation, first to the Scientific Committee and ultimately to the Parties.

Objectives of the Expert Workshop

(1) Review the complementarity and synergy of the ongoing work and processes for identifying CCHs in light of:

(a) the work on IMMAs:
(b) the results and implication of the ASI and the subsequent workshop;
(c) the work on NETCCOBAMS;
(d) work on CMPs.

(2) Review and update as necessary the "expert knowledge" GIS database (workshop held in 2017 at the 31st ECS Conference "Inputs to the ACCOBAMS ongoing effort to map human threats on cetaceans in the Mediterranean and Black Seas") on actual or potential threats (distribution and intensity). This will include comparing the results of the "expert knowledge" with existing mapping exercises of both cetacean occurrence (distribution and density) and threats (e.g. NETCCOBAMS) including any seasonal changes.

(3) Examine how to incorporate uncertainty (including consideration of appropriate temporal and geographical scales) into spatial mapping tools including NETCCOBAMS and the need to make uncertainty levels clear to managers and others.

(4) Develop and agree on a final approach, updating process and criteria for proposing areas as CCH to the Parties.

(5) Structure the process (framework, guide, roadmap…) to identify tools for 'adequate' management of areas within CCH.

Steering Group
David (Chair), Panigada, Donovan, Gonzalvo, Secretariat for logistics,

The primary task of the Steering Group (in conjunction with the Secretariat as necessary is to (a) finalise the agenda based upon the above objectives, (b) identify documents needed (existing or requests for new documents), (c) finalise the agenda and identify the participants, ensuring that the required expertise is obtained.

Date of the venue
The workshop will be held in Monaco for two days (**10-11 March 2022**), just after the workshop for the Conservation and Management Plan (CMP) for the common and bottlenose dolphins.

Expertise required
In addition to those familiar with the work undertaken in the CCH process thus far and NETCCOBAMS, the workshop will require people *inter alia* with expertise/knowledge in one or more of: (a) spatial modelling; (b) temporal and spatial cetacean distribution; (c) the IMMA process and results for the Mediterranean; (d) pressures and potential threats (and available data and interpretation) such as shipping, fishing, other 'noisy' activities including seismic surveys; (e) the CMP process in the Mediterranean; (f) representatives of the managers of Pelagos and other marine protected areas within the ACCOBAMS region. It will be helpful to make use of the expertise present at the CMP workshop.

Draft list of participants

- Léa David – leader/organizer (CCH, Vice-chair of the ACCOBAMS SC)
- Simone Panigada (CMPs, IMMAs, ASI, Chair of the ACCOBAMS SC)
- Joan Gonzalvo (CMP Dd leader and Aegean Sea surveys and threats)
- Tilen Genov (IMMAs, Adriatic surveys and threats, spatial modelling)
- Drasko Holcer (Adriatic surveys and threats)
- Greg Donovan (CMPs, cetacean distribution and density, modelling, management)
- Caterina Fortuna (ASI workshop, Adriatic surveys, threats, management)
- Aviad Scheinin (Israel, Eastern Mediterranean threats)
- Pauline Gauffier (Threats, cetacean distribution and modelling, conservation)
- DMAD (Turkey surveys and threats)
- SUBMON (Spanish surveys and threats)
- EDMAKTUB (Spanish surveys and threats)
- WWF (Catherine Piante, Medtrends, Marine Spatial Planning)
- IUCN Med (Mar Otero)

- GFCM representative
- SINAY (noise, Netccobams, A.I.S)
- RAC/SPA (Lobna Ben Nakhla)
- MSPMed & SIMwestmed projects (somebody from Corila)
- Ana Cañadas (spatial modelling of cetaceans including Mediterranean surveys)
- Russel Leaper (threats especially noise and fishing, convenor of relevant IWC SC sub-committee)
- Pelagos representative or other MPA
- TUDAV (bycatch, conservation)
- GREEN BALKAN (bycatch, conservation…)
- …

ANNEX 6 –PRELIMINARY WORK PROGRAMME FOR 2023-2025

MANAGEMENT OF THE AGREEMENT (MA)

MA1	INVOLVEMENT OF KEY STAKEHOLDERS
MA1a	Strengthen involvement of all key stakeholders in ACCOBAMS's operations

Proposed actions for next Triennium	*Means of implementation*
Implement an attractive strategy for organizations at the national level (NGOs, associations, national partners*)* To streamline the role of NFP	Formal collaborations (MoU) with other government bodies, scientific organizations, Universities and relevant NGOs Establishment of national Working Groups or Councils in the framework of National Actions Plan Enforcing the communication between the NFP and SC (Regional reports of the SC, dissemination of the guide on the role of the ACCOBAMS Focal Point) Implementation of CMPs
Strengthen the involvement of national representatives of ACCOBAMS Parties and non-Parties in formulating actions related to cetacean conservation, according to their national priorities	Meetings, events, joint projects, workshops
Increase liaison between scientific partners and National Representatives - increase transparency	Joint workshop with partners / meeting of Partners in order to share expertise/ knowledge/information
Establish coherent synergies with the European (MSFD) and Mediterranean (Barcelona Convention) and Black Sea (**Bucharest Convention)** strategies to avoid duplication of efforts / relevant uses of information / pooling efforts	Joint meetings to coordinate and capitalize synergies Use of a platform such as the NETCCOBAMS platform as sharing/consultation tool Facilitate the reporting by Countries in the framework of other Conventions: Dialogue between regional conventions for standardized reporting Implementation of LTMP
Harmonize monitoring and reporting considering other obligations of countries (MSFD, Barcelona Convention, Bucharest Convention + other regional Agreements such as ASCOBANS and Pelagos)	Standardized protocols agreed at scientific level Specific consultation between Secretariat and National Focal Points

Exchange of information on the results of national and regional projects of other organizations and on their experience feedbacks	Joint projects and programmes Participation in project feedback meetings / publications and scientific papers
Facilitate partnerships between countries on conservation issues for species	Use of a joint platform such as NETCCOBAMS Implementation of CMPs

MA2	ENSURE ADEQUATE FUNDING, IN PARTICULARL FOR CONSERVATION ACTIVITIES
MA2a	Mobilizing and diversifying funding sources

Proposed actions for next Triennium	*Means of implementation*
Diversify funding sources to ensure projects sustainability	Training (including online sessions) for Focal Points, experts and NGOs on projects development and coordination
Explore and examine international funding opportunities for cetacean conservation projects in the framework of partnership with donors	
Inform and train FPs + experts and NGOs on funding opportunities and on the modalities and techniques for applying for national project funding from international donors	
Investigate how to Secure national funds to be able to support projects launched by national organizations (co-funding) in line with ACCOBAMS priorities	

MA3	IMPLEMENTATION OF AND COMPLIANCE WITH ACCOBAMS
MA3a	Improve the level of implementation of and compliance with ACCOBAMS Resolutions as well as the monitoring of its progress

Proposed actions for next Triennium	*Means of implementation*
Carry out a mid-term review to ensure that objectives are achieved and to be able to take action in time if necessary	Update on the implementation of Resolutions by Parties (centralized by the Secretariat) Organization of the National Representatives Meeting with sub-regional meetings Consultation of the Follow up Committee
More involvement of FPs by reminding them of the ACCOBAMS obligations and regularly informing them	Workshops/ meetings/ information note Disseminate the guide on the role of the ACCOBAMS National Focal Point

MA4	ACCOBAMS EXTENSION AREA
MA4a	Ensure implementation of the ACCOBAMS's cetacean conservation standards in the adjacent areas

Proposed actions for next Triennium	Means of implementation
Promote the ratification of the Amendment on the geographical extension of the Agreement area to the Atlantic	Identifying relevant national authorities to be contacted Use of diplomatic channels Organization of trilateral meetings between the National Focal Point, the Secretariat and an ACCOBAMS legal consultant in order to solve problems that can be identified at the national level (ex Portugal fishing gear issue) Explanation note to be provided to all Focal Points (by the Secretariat) Cooperation with ASCOBANS for joint activities in this area

CONSERVATION ACTIONS (CA)	
CA1	**IMPROVE KNOWLEDGE ABOUT THE STATUS OF CETACEANS**
CA 1 a	**Cetacean population estimates and distribution**

Proposed actions for next Triennium	***Means of implementation***
Promote standardization of data collection from scientific surveys such as fisheries programs/WW companies so that datasets complement each other Customize ASI results / results by geographic areas by producing specific maps // outcomes of ASI Promote data collection at regional but also at national levels Encourage publications of national experts in international journal	Handbooks with simple and standardized methods Trainings and Workshops Support from Scientific Committee
Promote the implementation of the Long-Term Monitoring Programme including new technologies reviewed by the Scientific Committee Regularly review « Best Available Technologies »	Development and implementation of a simulation framework to examine the performance of different future survey strategies (synoptic, regional/national) Undertaking periodic (preferably every six years) synoptic basin-wide surveys in the Mediterranean and Black Seas with a focus on abundance and trends Development of an implementation protocol to address logistic, bureaucratic and funding issues surrounding regular basin-wide surveys Facilitating synergies of regional and national programmes with ASI (including methods, timing and frequency) Data archiving, use and sharing Information provided to the Secretariat on National Surveys- then disseminate information in particular to the Regional Representative Dissemination of information on the existing monitoring programmes

	Exchanges and coordination between Parties on regional surveys Surveys jointly carried out to optimize national efforts / programmes and provide regional scale data
Harmonize monitoring and reporting considering other obligations of countries (MSFD, Barcelona Convention, Bucharest Convention + other regional Agreements such as ASCOBANS and Pelagos)	Standardized protocols agreed at scientific level Specific consultation between Secretariat and National Focal Points
Investigate if monitoring projects in line with ACCOBAMS needs / conservation actions priorities are available	Make links with the funding strategy and its implementation
Investigate at national / EU level any possible funds for monitoring needs, in particular for the LTMP	

CA 1 b	Population Structure

Proposed actions for next Triennium	*Means of implementation*
Improve photo ID data collection and dissemination Update and harmonize protocols on data collection for photo ID Share photo ID data	Organization of expert meeting / for best practices guide on how to collect data for comparison Organizing regional experts trainings on analysis on photo ID including AI (Artificial Intelligence)– draft ToR to facilitate exchanges or an harmonized relevant databases Implementation of CMPs Links with Whale-Watching companies as potential photo ID providers
Develop acoustic identification	Trainings on real time detection Implementation of CMPs
Improve data collection on cetacean populations genetic in the ACCOBAMS Area Development of genetical identification (eDNA) of population (particularly for Mediterranean)	Common protocol on data collection on cetacean populations genetic Workshops data collection on cetacean populations genetic Workshop about DNA for marine mammals in the framework of international scientific events or meetings Creating a network to exchange information on sampling Implementation of CMPs
Encourage better collaboration at regional level between tissue banks to facilitate exchanges of samples for joint analysis (Example of the necropsy training)	Use of the NETCCOBAMS Platform Regional network /Working groups / reference persons / Task Force that can work online in order to exchange photos / advices / have scientific explanations even in the field Rely on the Recommendation 14.4 on cetacean stranding networks

CA 1 c	Monitoring cetacean's status

Proposed actions for next Triennium	*Means of implementation*
Facilitate the creation/ development/ revision/ implementation of National or Regional Action Plans for cetaceans	Assistance by experts Implementation of the Mediterranean Action Plan for Cetaceans adopted by Parties to the Barcelona Convention

CA 1 d	**Functional stranding networks and responses to emergency situation**

Proposed actions for next Triennium	*Means of implementation*
Set up /Reinforce official national stranding networks	Dissemination of the study on legal/institutional status of National stranding networks in order to assist experts in the establishment of official national stranding network when relevant Assistance in the preparation of a legislative framework to settle the national coordination network
Encourage collaborations among national networks of Parties Perpetuate mutualization of stranding protocols between Parties	Creation of a regional task force for stranding events including strandings of non-common species taking into account national legislations in order to support national network to deal with non-common events Dissemination of existing national legislative frameworks Dissemination of the procedures on Best Practices on cetacean postmortem investigation and tissue sampling resulted from the harmonization process in ACCOBAMS and ASCOBANS Make these procedures available to national Stranding Networks Supporting and financing of Medaces
Communicate simply and efficiently on uncommon situations in the ACCOBAMS area (Example of killer whales in 2019/2020)	Creation of a task force for the management of uncommon situations, including monitoring of uncommon species in the ACCOBAMS area, taking into account national legislations Dissemination of existing national legislative frameworks

CA2	REDUCE HUMAN PRESSURES ON CETACEANS, IN PARTICULARLY THOSE RELATED TO BYCATCH, HABITAT LOSS AND DEGRADATION (POLLUTION)

CA 2 a	Interactions with fisheries / aquaculture

Proposed actions for next Triennium	*Means of implementation*
Continue to support countries that have adopted technical solutions to mitigate depredation (experiment with reinforced nets in Morocco, more cost effective)	Sharing of experiences with organization of workshops Use of NETCCOBAMS platform Field visits Dissemination of information Assistance of the JBWG
Encourage the use of technical solutions in other countries to develop the generalization	
Assess needs and relevance of compensation measures in case of depredation Monitor depredation and bycatch situations Strengthen collaboration with GFCM on data collection on by-catches	
Encourage measures for improving reporting and data collection	
Develop projects / collaboration with other countries Take advantage of EU funds to mitigate unwanted interactions Use national funds for research	Reinforcement of dialogues with EU (meetings with DG Mare and DG Environment), Barcelona Convention (Ecap III project) and other relevant organizations such as GFCM Rely on the Recommendation 14.5 on bycatch and depredation Assistance of the JBWG

CA 2 b	Anthropogenic underwater noise

Proposed actions for next Triennium	*Means of implementation*
Raising awareness amongst countries and different stakeholders at the ministerial level in order to establish a roadmap Involve different national stakeholders (coordination by National Focal Points) and identify an entity that can centralize information at the national level	Rely on the Recommendation 14.6 on noise (especially on continuous noise related points) Rely on the Recommendation 14.7 on ship strikes (reduce noise in areas where traffic may be concentrated to limit ship strike risks in other areas) Dissemination and exchange of information Awareness / consultation workshop in at national level with different stakeholders, especially at ministerial level, to establish a roadmap Formal letter to Focal Points and support meetings at the national level (technical support from ACCOBAMS) Make links with CMPs Assistance of the JNWG
Agree common minimum requirements for appropriate national legislation and other regulations regarding underwater noise impacts on cetacean	Collaboration with other regional projects on noise issues Review of the ACCOBAMS Guidelines taking into account outcomes from recent projects
Exchange of relevant information with competent authorities before military activities / exercises	Regular information letter from the Secretariat to NATO and to national Navy forces to raise attention of impacts on noise on cetaceans and to propose mitigation measures Workshop/meeting with national Navy forces and NATO members

CA 2 c	Ship strikes

Proposed actions for next Triennium	*Means of implementation*
Develop an internet based interactive map of areas with high risk of ship strikes for crews of relevant ships	Internet based interactive map of areas with high risk of ship strikes for crews of relevant ships
Strengthen cooperation between countries that share marine areas with high risk of collision for cetaceans in order to develop a joint and coherent management for these areas	Follow and assist Parties in the PSSA project process Reinforce collaboration with ongoing / Future projects Build on results of ongoing / Future projects Exchange of information on concrete proposals from countries Information meetings with other organizations where the issue is discussed
Continue to be involved in national or regional projects in order to reduce the risk of collision (FLT network / REPCET system...)	Implementation of national or regional projects in order to reduce the risk of collision

CA 2 d	Cetacean watching

Proposed actions for next Triennium	*Means of implementation*
Update the guidelines for commercial whale watching and send them to the relevant Parties Assist Parties in sharing information to assess the financial feasibility/the costs/the risks/the cost effective/the possible funding sources to implement Whale Watching activities at the national level Establish a national legislative framework	Collaborations between Countries that have implemented HQWW and those that want to implement it and feedback on the implementation of sustainable Whale Watching activities
Promote and facilitate feedback from Whale Watchers at the scientific level	Use of standard Forms to collect data Train / invite operators to collect information on photo ID
Communicate about the HQWW label and the importance of certification	NETCCOBAMS platform Website Dissemination of posters / communication tools on the label and good practices
Develop a guide about the optimal characteristics of whale watching boats and how to develop carrying capacity studies	
Continue the work done on HQWW / implement in new Countries	

CA 2 e	Marine litters

Proposed actions for next Triennium	*Means of implementation*
Combine and enhance available information in order to raise awareness at the national and regional levels Monitor distribution of marine litters	Disseminate information from the ASI report during seminars or any other event to raise awareness. Collaborate with other initiatives and other entities to find solutions NETCCOBAMS platform Disseminate results of necropsies Video spots on social networks to show impacts of marine litter on cetaceans Disseminate the ACCOBAMS/Pelagos/Ramoge video on marine litter
Support laws to ban single use plastics at national or regional level	Update of an ACCOBAMS Resolution
Use this thematic to mobilize national NGOs and the general public (schools, colleges, high schools - children and youth) / citizen sciences	Regular newsletter on ACCOBAMS activities / communication strategy Scientific watch on cetaceans // disseminate information
Propose joint natural history exhibitions on marine biodiversity	Informal contacts with museum Collaboration with museums and share exhibitions with other museums in other countries

CA 2 f	Chemical & biological pollution

Proposed actions for next Triennium	*Means of implementation*
Liaise with relevant other Organizations, such as IWC, to assess the impact of chemical & biological pollution (such as pathogens, invasive species) on cetaceans	Developing international collaboration

CA 2 g	Climate change

Proposed actions for next Triennium	Means of implementation
Strengthen contribution and ensure participation	Liaising with relevant CMS Working Group Participating in Meetings (COP) and side events
Contribute to regional initiatives on climate change	

CA 2 h	Captivity related issues

Proposed actions for next Triennium	Means of implementation
Identify specimens held in captivity in the ACCOBAMS area	Regular update of the overview of specimens held in captivity in the ACCOBAMS area Reinforce collaboration with NFP / NGO/ ACCOBAMS Partners / CITES authorities in each country Rely on the recommendations made in the document on Potential Semi-Enclosed Facilities in the ACCOBAMS Area (ACCOBAMS-SC14/2021/**Doc34**)
Develop a template of genetic passport for different cetacean species kept in captivity	Engage Advisory Committee on Captivity related issues

CA3	ENHANCE EFFECTIVE CONSERVATION OF CETACEANS CRITICAL HABITATS

CA 3 a	Area-based measures for cetacean conservation

Proposed actions for next Triennium	*Means of implementation*
Regularly update Cetacean Critical Habitats (CCH), as appropriate, including by identifying priority areas for action to mitigate the known threats (bycatch…) / area-based management measures	Rely on the recommendations made in the document ACCOBAMS-SC14/2021/Doc35, describing the designation of new Cetacean Critical Habitats and case studies Use NETCCOBAMS platform
Support implementation of relevant measures for adequate management in CCH	Liaise with a network of MPAs
Encourage the development of international collaboration among all Parties to protect CCH	
Raise Parties' awareness on CCHs and on their added value	Disseminate identified CCHs during meetings Online workshop
Collect data on human activities / facilitate access to data / support from Focal Points	Mails / requests to Focal Points through questionnaires

CA4	ENHANCE PUBLIC AWARENESS ABOUT CETACEANS

CA 4 a	Information /Communication / Awareness about cetaceans

Proposed actions for next Triennium	*Means of implementation*
Maintain regular information/ communication about ongoing activities, cooperation and funding possibilities, cetacean conservation scientists and experts operating in the region and other relevant information; facilitate communication among cetacean conservation actors of the ACCOBAMS area, in particular in Southern Mediterranean countries	Collect information available on social networks Create a information platform for the general public Disseminate information materials and tools on cetaceans Encouraging and maintaining events through which ACCOBAMS communicates and raises public awareness on cetacean conservation Give more visibility to ACCOBAMS through the logo Creation of short videos to raise the attention of public on the ACCOBAMS role and propose thematic videos Initiating joint natural history exhibitions and offering expertise and knowledge at ACCOBAMS level Promoting links between culture and conservation (UNESCO/ Ocean decade) Promote the use NETCCOBAMS Promote the use of the HQWW label Disseminate projects tools such as “whale risk”
Develop citizen sciences approaches	Rely on the Recommendation 14.11 on citizen science Overview of initiatives and tools already in place / in order to mutualize efforts in particular at the level of young people Supporting the use of mobile phone apps (and online services) Creating more interactive apps and more in line with today use and include geolocation information Workshop on how to collect data and data exchanges through citizen apps (harmonization)

Introduce in a new Country / Disseminate the ACCOBAMS Teaching Module courses	Introduction of new teaching module in universities dealing with cetacean conservation Translation of the Teaching Module on national languages of ACCOBAMS Parties