TOWARDS UNDERSTANDING THE OVERLAP OF SELECTED THREATS AND IMPORTANT MARINE MAMMAL AREAS (IMMAs) ACROSS THE MEDITERRANEAN SEA

Saturday 7th April 2018, La Spezia, Italy

WORKSHOP REPORT

I - INTRODUCTION

A workshop entitled "Towards understanding the overlap of selected threats and Important Marine Mammal Areas (IMMAs) across the Mediterranean Sea" was held on Saturday, 7th April 2018, in La Spezia, Italy, within the framework of the 32nd Conference of the European Cetacean Society. The workshop was organized jointly by the IUCN Joint SSC/WCPA Marine Mammal Protected Areas Task Force (the "Task Force") and by the Agreement on Conservation of Cetaceans of the Black Sea, Mediterranean Sea and contiguous Atlantic area (ACCOBAMS).

The workshop was partially supported by ACCOBAMS through a Voluntary Contribution from the Principality of Monaco and by the Regional Activity Centre for Specially Protected Areas (SPA/RAC - MAP-UNEP).

The agenda of the workshop is presented in Annex 1 of this report.

Fifty-five attendees from 20 different Countries participated in the workshop. The list of participants can be found in Annex 2 of this report.

The workshop provided the opportunity to support the ongoing ACCOBAMS effort to map specific threats to cetaceans in the ACCOBAMS area by overlaying the Mediterranean IMMAs with the available area-explicit information on shipping and seismic surveys, thereby giving preliminary indications of new Cetacean Critical Habitats (CCH) in the ACCOBAMS area and **facilitating the implementation of conservation actions at the regional level**.

II – IMMAs AND CCH BACKGROUND

IMMAs are a place-based conservation tool implemented by the Task Force, identifying **discrete portions of habitat, important to marine mammal species, that have the potential to be delineated and managed for conservation**. The identification of IMMAs is an evidence-driven, purely biocentric process based on the application of scientific criteria and on the best available science, and is subjected to peer review. In October 2017, the 12th Conference of Parties to the Convention on Migratory Species of Wild Animals (CMS CoP) approved Resolution 12.13 making IMMAs a formal part of the mandate of the CMS agreement and inviting all the Parties to help identify and implement IMMAs.

A **joint workshop on the Identification of IMMAs in the Mediterranean Sea,** organized by the Task Force in collaboration with ACCOBAMS and the Tethys Research Institute, was held in Chania, Greece, 24-28 October 2016. During the workshop, experts discussed the 72 Areas of Interest (AoI) which had been submitted for consideration as candidate IMMAs. The workshop participants identified 41 candidate IMMAs (cIMMAs) throughout the region for ten species of marine mammals (*Physeter macrocephalus, Delphinus delphis, Tursiops truncatus, Ziphius cavirostris, Balaenoptera physalus, Monachus monachus, Grampus griseus, Orcinus orca, Globicephala melas* and *Phocoena phocoena relicta*). In addition, they also identified a further list of 35 AoI in the region, which will form the basis of new recommendations for future assessments of IMMA status.

Based on the IMMA selection criteria, an independent review panel confirmed a list of 26 IMMAs, 5 cIMMAs and 36 AoI, for a total of 67 areas of potential value for marine mammals the Mediterranean Sea. IMMA and AoI information including boundaries and background information are available as part of a dedicated e-Atlas at: https://www.marinemammalhabitat.org/imma-eatlas.

The biocentric IMMA identification process employs only aspects related to biology and ecology of marine mammals, and therefore does not include the incorporation of threat information. Any management implementation (e.g., spatial planning, regulatory designation) must come at a later stage, as in the case of this dedicated workshop. The current mechanism for using IMMAs to inform management is envisioned through the work of Regional Task Force groups, whose core make-up comes from key experts who participated in the regional workshop that identified the cIMMAs. It is envisaged that such regional groups are responsible for engaging with the relevant local, or in some cases international, management bodies for those IMMAs that might require management of particular threats. It was noted that, in addition to their potential relevance to ship strikes (e.g., through voyage planning or speed reduction), managers might consider using IMMAs in co-occurrence analyses with fishing, noise (e.g., soundscape) or other spatial threats.

The workshop considered that the output from this meeting could have been of interest, *inter alia*, for the work of two organisations: the International Whaling Commission (IWC), and ACCOBAMS.

The IMMA process may be of value to the work of the IWC Scientific Committee in several ways, but most immediately in assisting in the identification of potential 'high risk' areas for ship strikes, with the view of continuing efforts of identifying those IMMAs, which should be taken forward to the International Maritime Organisation (IMO), starting with IMMAs in the Mediterranean Sea.

Concerning ACCOBAMS, according to the Agreement's Conservation Plan (Annex 2 of the Agreement), Parties shall endeavour to establish and manage specially protected areas corresponding to the areas that serve as habitat of cetaceans.

To assist in the meeting of ACCOBAMS objectives, Resolution 3.22 was adopted in 2007 on the need for criteria for the selection of protected areas in the region. The concept of "Critical habitat" is commonly referred to in the context of MPAs, whereby there are numerous suggestions and definitions for this (e.g., breeding areas, feeding areas, migratory corridors, etc.). However, in the context of cetacean conservation and management in the Mediterranean, it **is important to incorporate the concept of Cetacean Critical Habitat** (CCH), with **actual and/or potential threats at the population level,** which may be appropriate for consideration as an MPA or network of MPAs. Thus, the definition of what comprises "critical habitat" and suitable candidates for MPAs can be best addressed on a case-by-case basis in the light of the available scientific knowledge. The spatial modelling approach is a powerful tool in this regard.

Criteria to identify sites containing ACCOBAMS CCH may include:

- areas used by cetaceans for feeding, breeding, calving, nursing and social behaviour;
- migration routes and corridors and related resting areas;
- areas where there are seasonal concentrations of cetacean species;
- areas of importance to cetacean prey;
- natural processes that support continued productivity of cetacean foraging species (upwellings, fronts, etc.);
- topographic structures favourable for enhancing foraging opportunities for cetacean species (canyons, seamounts).

These criteria can be applied for the identification of sites containing CCH, in need of protection, due to the occurrence of significant interactions between cetaceans and human activities, where:

- **conflicts between cetaceans and fishing activities** have been reported (mainly **depredation** when cetaceans are stealing preys in the fishing gear);
- significant or frequent **bycatch** of cetaceans is reported;
- intensive **whale watching** or other marine tourism activities occur (**harassment**);
- **navigation** presents a potential threat to cetaceans (in terms of **ship strike**);
- **military exercises** are known to routinely occur;
- **seismic activities** are known to occur.

22 CCH were adopted in 2010 by ACCOBAMS Parties: 18 in the Mediterranean Sea and 4 in the Black Sea.

This combined approach (IMMAs and CCH with its ongoing threat-based management approach) will help Parties in implementing relevant conservation measures such as:

- creation of new specific MPAs,
- extension of existing neighbouring MPAs,
- implementation of other relevant conservation tools through the following:
    - if areas containing CCH are connected in a coherent regional network, it might be useful to create appropriate management tools such as corridors;
    - if cetacean species are present only seasonally, specific seasonal measures could be implemented;
    - considering the species present and the type of anthropogenic activities implemented in some CCH, specific management tools could be implemented such as IMO recommendations, Particularly Sensitive Sea Areas (PSSA) in areas with an extensive maritime traffic; Fisheries Restrictive Areas in areas with problematic interactions with fisheries.

III – CASE STUDY AREAS

Workshop participants recognized that this was a preliminary exercise mainly to show the applicability of IMMAs to address specific place-based threats to marine mammals, and that more detailed *ad hoc* efforts should be undertaken regionally by the competent management bodies to derive from such analyses appropriate mitigation actions.

By way of example, three case study areas containing IMMAs — the Alborán Sea, the Northwest Mediterranean and the Strait of Sicily – were discussed during the workshop, where the overlap between IMMAs and ship traffic (suggesting the potential of ship strikes) and seismic survey blocks (with the potential of impacting noise production) appeared to be of special concern for marine mammals, and for fin, sperm and Cuvier's beaked whales in particular.

The workshop suggested that the overlay between marine mammal habitat and pressures deriving from shipping and noise – possibly starting from the above listed case study areas – should be addressed in greater detail by the Task Force's regional expert working group and by the ACCOBAMS Scientific Committee, in order to recommend relevant conservation and mitigation measures.

The overlay of shipping traffic (exemplified by cargo vessel traffic in Fig. 1) with IMMAs (as shown in Fig. 2) underscores the existence of several potential "problem" areas in the Mediterranean: e.g., the Alborán Sea, the western Ligurian Sea, portions of the eastern Tyrrhenian Sea, the Strait of Sicily, the northern Adriatic, the Hellenic Trench and portions of the Aegean Sea.

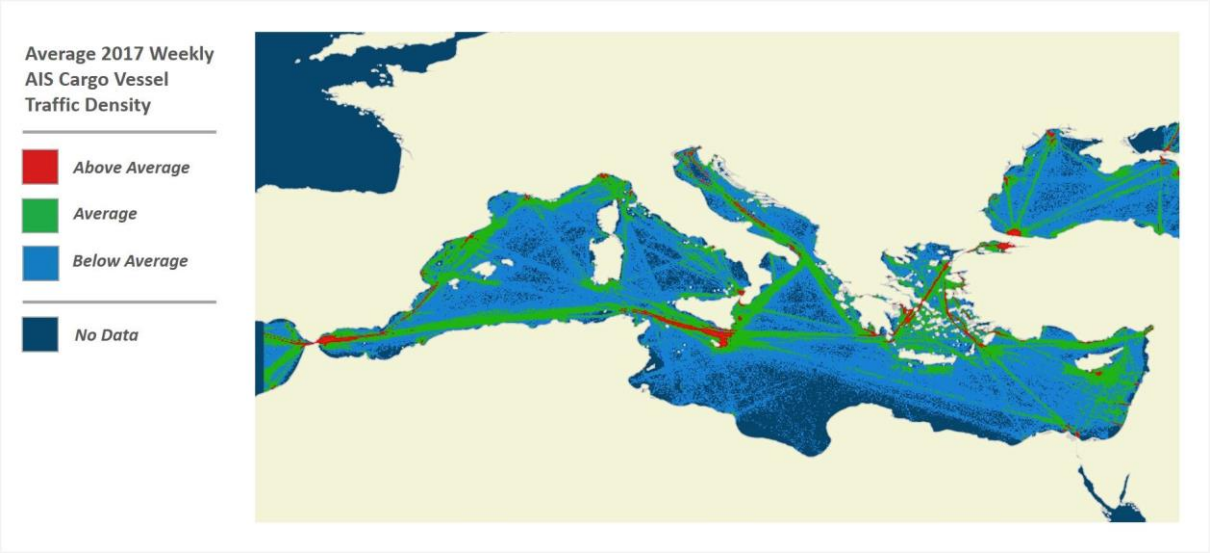

Figure 1 – Map of AIS traffic density of mean annual cargo vessels within the Mediterranean Sea for the year 2017 (provided under license by SINAY).

Figure 2 – Map of AIS traffic density of mean annual cargo vessels for the year 2017 – summarized by IMMA areas identified within the Mediterranean Sea (provided under license by SINAY).

A similar exercise was performed by overlaying seismic survey concession blocks with IMMAs (with a special attention for IMMAs identified for fin, sperm and Cuvier's beaked whales). Overlays are not graphically represented here due to the difficulty of deriving meaningful pressure information from mere concession blocks, where the relationship with actual noise production and propagation is conditioned by a variety of administrative as well as environmental conditions that are unforeseeable at the moment.

IV – RECOMMENDATIONS BY THE WORKSHOP

A list of recommendations was compiled for ways in which IMMAs and CCH in the ACCOBAMS Area could be sent forward to policy makers to provide helpful direction for action. In addition, further

advice and information was gathered towards the creation of a scientifically robust "risk layer" for whales, dolphins and other marine mammals that are frequently impacted by ship strikes and noise, based upon the existing IMMA network for the Mediterranean.

An important caution was emphasized by participants, that outside the IMMAs there might be similar or indeed other problems and pressures on marine mammals. There must be attention to marine mammal conservation throughout the Mediterranean, although within IMMAs and CCH special "place-based" measures and attention should be implemented.

IV - 1. Recommendations related to the overlapping of IMMAs with marine traffic

a - Traffic information

- Only cargo and passenger vessel traffic was selected for the sake of this workshop's exemplification of the overlap between vessel pressure and marine mammal habitat. Other relevant data should be added to the overlapping of IMMAs with information regarding marine traffic, such as:
    - robust ship strike data;
    - details of vessels: speed, size and age of the vessels, to estimate amount of noise generated;
    - military and ocean racing sailing yachts, as well as other leisure craft.
- Information regarding size/vessel/speed metrics should be considered for combined/different traffic types and likelihood of ship strike/negative interactions.
- Different types of traffic should be merged into a single traffic layer.
- Consider that for some types of traffic (e.g., passenger vessels) there is a strong seasonal gradient, showing an increasing number of transits in the summer months – to be kept into consideration when addressing risk.

b – Species and pressures information

- Information regarding connection of animal behaviour/seasonality/key lifecycle use (based on IMMA Criteria) to the frequency or likelihood of ship strikes/negative interaction with traffic should be taken into consideration.
- Different spatial gradients of traffic levels in large IMMAs should be considered where traffic may have different impacts/pressures and may follow local concentrations.
- Species-specific and sub-regional follow-up groups should be created to assess the overall (detailed) activities within IMMAs in a specific sub-region.

c – Next steps: Conservation and management issues

- The exercise of superimposing the IMMAs to vessel based threats in European waters should be performed in cooperation with national marine reporting units under the Marine Strategy Framework Directive (MSFD).
- Dynamic and/or adaptive management should be considered as well for management tools resulting from any further consideration of IMMA information and spatially explicit mapping of threats.
- Collaboration with IMO should be strengthened in order to assess the opportunity of establishing IMO management measures (e.g., TSS and PSSAs) in some relevant IMMAs.

- All IMMAs but also the wider group of cIMMAs and AoI should be considered against traffic, providing a likely holistic vision of the potential extent of ship-strike/collision risk to marine mammals within the Mediterranean.

IV - 2. Recommendations related to the overlapping of IMMAs with seismic surveys

a – Noise information

- Use real-time AIS data to track seismic surveys vessels (assess the extent of activity).
- More details regarding vessels would be useful, especially in terms of source sound level to estimate the amount of noise generated.

b – Species and pressures information

- Create species-specific and sub-regional follow-up groups to assess the overall (detailed) activities within IMMAs in a specific sub-region.
- Overlap, wherever possible, theoretical noise propagation maps on IMMAs (desk-based study), at least for specific frequencies (e.g. 63, 125, 500 Hz) taking advantage, as far as possible, of the monitoring and assessment frameworks established under the MSFD.

c - Next steps: Conservation and management issues

- The exercise of superimposing the IMMAs with seismic surveys in European waters should be done with national marine reporting units under the MSFD.
- Comparisons between IMMAs and information from the ACCOBAMS noise register should be made (operational noise register – end of 2018).
- Reference must be made to CMS Resolution 12.14, “Adverse impacts of anthropogenic noise on cetaceans and other migratory species”, adopted in Manila in 2017, including the “CMS Family guidelines on environmental impact assessment of marine noise-generating activities”.
- Communication on IMMAs should be improved as a scientific background for EcAp and MFSD, including marine spatial planning (and other governmental authorities).
- In addition to IMMAs the wider group of cIMMAs and AoI should be considered against noise.

ANNEX 1 – AGENDA

9:00	Registration	
9:30	Opening of Workshop. Introductions. Goal and objectives.	*Giuseppe Notarbartolo di Sciara, IUCN Task Force*
9:40	Background on the IUCN Task Force and the IMMAs	*Michael J. Tetley, IUCN Task Force*
10:00	Background on the ACCOBAMS Cetacean Critical Habitat	*Maÿlis Salivas, Léa David, ACCOBAMS*
10:15	Maritime traffic in the Mediterranean	*WWF*
10:30	Seismic surveys in the Mediterranean	*Alessio Maglio, Fabrizio Borsani*
10:45	**Coffee break**	
11:15	Discussion on the overview of Maritime Traffic in the Mediterranean Sea and the distribution of the IMMA Network, including candidate IMMAs and Areas of Interest for marine mammals.	*Panel Discussion*
12:15	Recommendations on best practices for the future examination of areas of overlap between Maritime Traffic and the IMMA Network.	*Plenary Session*
13:00	**Lunch Break**	
14:30	Discussion on the overview of Seismic Survey Activity in the Mediterranean Sea and the distribution of the IMMA Network, including candidate IMMAs and Areas of Interest for marine mammals.	*Panel Discussion*
15:30	Recommendations on best practices for the future examination of areas of overlap between Seismic Survey Activities and the IMMA Network.	*Plenary Session*
16:15	**Coffee break**	
16:30	Discussion of Draft Report	*Plenary Session*
17:00	Closure of workshop	

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