

Agenda Item 5.5.1

Implementation of the ASCOBANS Triennial  
Work Plan (2007-2009)

Review of New Information on Pollution,  
Underwater Sound and Disturbance

Anthropogenic noise

**Document 47**

**Noise Pollution**

**Action Requested**

- Take note of the information submitted
- Comment
- Provide guidance on collaboration between the ASCOBANS and ACCOBAMS Noise Working Groups

Submitted by

ACCOBAMS



IN THE INTERESTS OF ECONOMY, DELEGATES ARE KINDLY REMINDED TO BRING THEIR OWN  
COPIES OF DOCUMENTS TO THE MEETING





## Noise pollution<sup>1</sup>

In the ACCOBAMS area, marine life is threatened by habitat degradation due to intense human activities such as fishery, ship traffic, pollution, and coastal development. In addition to being affected by chemical pollution, cetaceans are affected by noise pollution.

At present, noise is a ubiquitous form of marine pollution, especially in areas of heavy maritime traffic and developed coasts. Intense underwater noise is generated by airguns widely used for geophysical explorations for the oil and gas industry as well as for academic and administrative purposes, by high power sonar, either military or civil, by ship traffic, by shoreline and offshore construction works, and by a series of other commercial, military and industrial sources. The knowledge that man-made noise can affect marine mammals and the need for a regulatory system to mitigate such effects has increased over the past few years, mainly within the context of military sonar and seismic surveys.

From 1950 to 2000, low frequency underwater noise has doubled every 10 years. This increase is related to the number of ships which has tripled. In addition, recent evidence was provided that by modifying the chemistry of seawater climate change is likely to extend the distance at which sounds travels in the oceans, thus compounding any negative effect on cetaceans which already exists. Several scientific studies have demonstrated the change in cetaceans' behaviour. A relationship between underwater noise and incidental catches and/or ship strikes has also been established as underwater noise disturbs cetaceans' echolocation.

The underwater noise is a transboundary pollutant and currently there is no specific law to control its impact.

Although we know that anthropogenic sound in the ocean is a serious threat, we do not have sufficient information at this time to understand the full extent of the problem. One of the biggest challenges faced in regulating the effects of noise is our ignorance of the characteristics and levels of sound exposures that may pose risks to marine mammals. Given the current state of our knowledge we must therefore take a precautionary approach in the regulation of noise.

We must also expand our efforts to protect and preserve marine mammals by instituting and using effective mitigation measures to keep marine mammals at a distance from noise sources that have the potential to harm or kill them.

Acoustic impacts on the marine environment need to be addressed through a comprehensive and transparent management and regulatory system. This should address chronic and acute anthropogenic noise, long-term and short-term effects, cumulative and synergistic effects, and impacts on individuals and populations.

Only through a combined approach based on precaution, mitigation, and research, we can assure that these very special natural values will be here for the enjoyment of future generations.

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<sup>1</sup> Text issued from the **draft Guidelines to address the issue of the impact of anthropogenic noise on marine mammals in the ACCOBAMS area** prepared for the ACCOBAMS Permanent Secretariat by Dr Gianni Pavan and was adopted by the ACCOBAMS Scientific Committee.

Designated agencies should identify and implement mitigation measures that are effective for noise-producing activities as a part of research programs that includes systematic study of the effectiveness of various mitigation and conservation tools.

In addition, management should be extended to unaddressed sources and activities that have the potential of producing adverse effects (including, but not limited to, commercial shipping, recreational watercraft use, whale watching, and the development and use of acoustic harassment devices).

In the absence of specific laws, and given that underwater noise is a transboundary pollutant, in the Mediterranean waters the EU Habitat Directive is probably the best framework for developing a permit system that complies with the opinions expressed by international organizations (ACCOBAMS Recommendation 2.7 and ACCOBAMS Resolution 2.16, the recommendations of the 56° and 58° IWC meetings (held in 2004 and in 2006), and the European Parliament Motion B6-0089/04). Furthermore, the recent EU Marine Strategy Framework Directive specifically mentions the problem of noise pollution and provides a legal framework for addressing this issue.

The European Union Habitat Directive states that it is not permissible to deliberately disturb in the wild, any creature which is enlisted in Annex IV (a), where all Cetaceans (and several other marine mammals) are listed. In addition to species protection, the Habitats Directive also makes provision for the site-based protection of a range of marine mammal species (listed in Annex II), including bottlenose dolphins and harbour porpoises and all species of seal. To achieve this, Special Areas of Conservation (SAC), as well as Marine Protected Areas (MPA) should be proposed and designated as key tools for marine mammals' protection.

It is important to act in a precautionary way and give these animals, together with marine turtles and other zoological groups, protection against noise.

To create the basis for developing a permits system, it is necessary to promote an interdisciplinary and international approach based on the following actions:

- Create a suitable legislative framework where underwater noise is considered a real threat to marine life
- Develop international/worldwide databases on activities that may have an acoustic impact on marine mammals and/or on their habitat
- Review and evaluate available information on the impacts of human-generated sound on marine mammals taking into account all the features that may make an acoustic event a threat
- Identify research needs and make recommendations concerning priorities for research in critical areas to resolve uncertainties or disagreements
- Promote the involvement of stakeholders to find agreements on possible solutions, including voluntary implementation of risk reduction and mitigation procedures
- Create an Agency to manage a permit system aimed at avoiding or mitigating any possible adverse effect, either in the short or long term, of anthropogenic sounds on marine mammals and on other components of the marine environment

In this process it is important to involve all the subjects working in the sea environment to create a broad awareness of the acoustic pollution problem and of all the procedures and actions that can be adopted to mitigate negative effects.

In this context, the creation of Special Areas of Conservation (SACs) and Marine Protected Areas (MPAs) that take noise pollution into account should ensure protection of areas of critical and productive habitats, and particularly of vulnerable and endangered species.

The designation of SACs and MPAs can be used to protect marine mammals and their habitats from environmental stressors including the cumulative and synergistic effects of noise. In these areas, noise levels should not be allowed to exceed ambient levels of more than a given value, including the contributions from sources that are located outside of the MPA but whose noise propagates into MPA boundaries. This would require additional research to establish baseline noise data and evaluate thresholds for noise levels that can be considered acceptable; i.e. can be tolerated without any significant negative effect.

During their last meeting (October 2007), the ACCOBAMS Contracting Parties have adopted Resolution 3.10 (Annex 1) on the appropriate tools for assessing the impacts of underwater noise on cetaceans in order to establish mitigation measures to reduce these impacts and a Set of Guidelines which will guide Governments in the application of such measures.

A Working Group; composed by France, Italy, Spain and paired with the Ospar Convention, the WDCCS and the NRDC, is currently developing the Guidelines which will be presented to ACCOBAMS Contracting Parties by the end of 2010 for adoption.

The impact of anthropogenic noise is among the ASCOBANS priorities. In this spirit and in order to strengthen the collaboration between the Sister Organisations, it might be very helpful to have a common participation to the works of the Agreements Working Groups and if opportune the creation of a joint working group could be considered.

**ANNEX 1  
RESOLUTION 3.10**

**GUIDELINES TO ADDRESS THE IMPACT OF ANTHROPOGENIC NOISE  
ON MARINE MAMMALS IN THE ACCOBAMS AREA**

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*The Meeting of the Parties to the Agreement on the Conservation of Cetaceans of the Black Sea, Mediterranean Sea and Contiguous Atlantic Area:*

*Recognizing* that anthropogenic ocean noise is a form of pollution, caused by the introduction of energy into the marine environment, that can have adverse effects on marine life, ranging from disturbance to injury and death;

*Aware* that some types of anthropogenic noise can travel hundreds or even thousands of kilometres underwater and is not restricted by national boundaries;

*Concerned* that, over the last century, noise levels in the world's oceans generally, and in the Agreement area in particular, have increased as a result of human activities such as, but not exclusively, commercial shipping, oceanographic and geophysical research, military testing and training, fishing activities, shoreline development, oil and gas exploration and aquaculture;

*Recalling* that according to Art. 236 of the United Nations Convention on the Law of the Sea, the Convention's provisions regarding the protection and preservation of the marine environment do not apply to warship, naval auxiliary, other vessels or aircraft owned or operated by a State and used, for the time being, only on government non-commercial service. However, each State shall ensure, by the adoption of appropriate measures not impairing operations or operational capabilities of such vessels or aircraft owned or operated by it, that such vessels or aircraft act in a manner consistent, so far as is reasonable and practicable, with the said Convention.

*Conscious* that the Scientific Committee recommends that Parties and non-Parties carefully consider and act upon the recommendations and guidelines developed and endorsed by the Scientific Committee in order to address the issue of the impact of anthropogenic noise on marine mammals in the ACCOBAMS area ;

*Aware* of the work on noise undertaken by *inter alia* the International Whaling Commission Scientific Committee, the European Union, the OSPAR Convention for the Protection of the Marine Environment of the North-East Atlantic, the NATO Undersea Research Center (NURC), the Agreement on the Conservation of Small Cetaceans of the Baltic and North Seas, the United States Marine Mammal Commission, the United States National Marine Fisheries Service and other governmental and nongovernmental organizations;

*Recalling* that

- Article II requires the Parties to apply conservation, research and management measures to the assessment and management of human–cetacean interactions, on the basis of the precautionary principle;
- the Conservation Plan, which is a full part of the Agreement, requires the Parties to:
  - (a) carry out impact assessments to provide a basis for allowing or prohibiting the continuation or the development of activities that might affect cetaceans or their habitats in the Agreement area and to establish the conditions under which such activities may be conducted; and
  - (b) regulate the discharge at sea of pollutants believed to have adverse effects on cetaceans, and to adopt within the framework of other appropriate legal instruments stricter standards for such pollutants;

*Recalling* also Resolution 2.16 on Assessment and impact assessment of man-made noise; Resolution 2.8 on Framework guidelines on the granting of exceptions for the purpose of non-lethal in situ research; Resolution 2.14 on Protected Areas and Cetacean Conservation; CMS (Bonn Convention) Resolution 8.22 of 2005 Adverse Human Induced Impacts on Cetaceans;

*Taking note* of the work done by the ACCOBAMS Scientific Committee;

*Aware* that further work is needed to finalise this particular issue:

1. *Urges* Parties to act in accordance with the following principles as soon as possible:

- a) Noise should be considered a potentially significant threat to marine mammals and other marine wildlife; this threat can range from continuous noise (e.g. disturbance, masking, site avoidance) with long-term effects to acute exposure with potential short-term harmful and even lethal effects;
- b) Particular attention should be given to the management of habitats that host sensitive species, such as beaked whales;
- c) Priority should be assigned to high-quality research to map the range of doses of noise to which animals are exposed and to define the exposure doses that might affect the welfare and survival of marine mammals. Specific research is also required to characterize human activities that produce or might produce underwater noise;
- d) Consideration of the effects of underwater noise should be included in Environmental Impact Assessments and in the consequent design of mitigation procedures for any activity that might introduce noise underwater;
- e) Underwater noise levels should be considered a quality parameter in assessments of habitats, zoning and managing in specially protected areas of Mediterranean interest (SPAMI) under the Protocol concerning Specially Protected Areas and Biological Diversity of the Mediterranean to the Barcelona Convention on the Protection of the Marine Environment and the Coastal Region of the Mediterranean (hereinafter SPA & Biodiv. Protocol) and other marine protected areas and in other issues related to marine life. This parameter should be considered a priority for the protection of critical habitats and where noise might affect essential behaviour (e.g. feeding, reproduction, nursing);
- f) Underwater noise should be reduced; specific guidelines will be required to set limits to the noise irradiated underwater by ships and motorboats, whatever their function, and by any other noise-producing activity. Especially high priority should be accorded to high-power sources and both offshore and coastal construction works.

2. *Encourages* Parties to sponsor research in the ACCOBAMS area to detect and localize beaked whales by passive methods.

3. *Being aware* that controlled exposure experiments on beaked whales can carry significant levels of risk, Parties contemplating such activities in the ACCOBAMS area should inform the ACCOBAMS Scientific Committee in advance of any commitment of resources and should permit them only when stringent criteria are met, including: (1) the exhaustion of all possible alternatives, such as the opportunistic study of beaked whales in established acoustic ranges; (2) the availability of monitoring methods with a high probability of detecting both target and non-target animals in real time, across the area of potential exposure; and (3) an experimental design that is sufficient to satisfy clear, specific management objectives and is part of a long-term study of population status and health;

4. *Further encourages* Parties to develop quieter and environmentally safer acoustic techniques and to use the best available control techniques and other mitigation measures to reduce the effect of man-made noise sources in the Agreement area;

5. *Urges* Parties and the management authorities of marine protected areas in the ACCOBAMS area to include consideration of high-power noise sources in their management plans;

6. *Further urges Parties* and the management authorities of marine protected areas in the ACCOBAMS area to work with the International Maritime Organization (IMO) in order to minimize exposure of cetaceans in these areas;

7. *Encourages Parties* that are also Parties to the SPA & Biodiv. Protocol to adopt the ocean noise management measures recommended in this Resolution when implementing their obligations under the Protocol to conserve biological diversity (Article 3), to adopt protection and management measures in specially protected areas and specially protected areas of Mediterranean interest (Articles 6 and 7), to protect and conserve threatened and endangered species (Articles 11 and 12), to adopt guidelines for the establishment and management of specially protected areas (Article 16), and to conduct environmental assessments in the planning of projects and activities that could significantly affect protected areas and species and their habitats (Article 17);

8. *Invites* the Secretariat and Scientific Committee to encourage, in coordination with RAC/SPA, the Meeting of the Parties to the SPA & Biodiv. Protocol to take actions consistent with this Resolution when considering the efficacy of measures adopted for the management and protection of areas and species and when examining the need for additional measures, as requested under Article 26 of the SPA & Biodiv. Protocol.

9. *Further invites* the Secretariat to coordinate efforts on this issue with other international bodies, in particular, the Secretariat of the Barcelona Convention on the Protection of the Marine Environment and the Coastal Region of the Mediterranean, the Commission on the Protection of the Black Sea Against Pollution and the Secretariat of the OSPAR Convention for the Protection of the Marine Environment of the North-East Atlantic;

10. *Urges* Parties and intergovernmental organizations to inform the Secretariat on current and reasonably foreseeable noise-producing activities occurring under their jurisdiction within the ACCOBAMS area, so far as is reasonable and practicable;

11. *Calls upon* Parties to request information on the possible impact of anthropogenic noise on marine mammals in existing procedures relating to EIA and where necessary, to develop specific measures, by the competent national authorities, for activities which produce anthropogenic noise having an impact on marine mammals.

12. *Invites* Parties to implement mitigation and monitoring measures for noise producing activities within the ACCOBAMS Area, including, avoiding key marine mammals habitats, areas of high marine mammals density and marine protected areas, and defining appropriate buffer zones around them; establish safe, precautionary and scientifically-based exclusion zones around the noise source; effectively monitoring for marine mammals in the vicinity of the source; and managing activities in the light of cumulative, seasonal, and historical impacts from multiple sources;

13. *Decides* to establish a Correspondence Working Group by the Secretariat, that will associate Parties, ACCOBAMS Partners and experts, to address anthropogenic noise deriving from activities such as seismic surveys and airgun uses, coastal and offshore construction works, the construction, the operation and the decommissioning of offshore platforms, playback and controlled exposure experiments, whale watching, blasting of residual war weapons, underwater acoustic devices, military sonar, civil high power sonar operations and shipping activities, in order to develop appropriate tools to assess the impact of anthropogenic noise on cetaceans and to further elaborate measures to mitigate such impacts.

14. *Mandates* the Executive Secretary to convene the Working Group, which shall report to the next Meeting of the Parties.

15. *Invites* Parties to report to the next Meeting of Parties about progress made on implementing this Resolution.