

# Intergovernmental Decisions and Academic Bibliography relating to Marine Species and Anthropogenic Underwater Noise

**Summary up to June 2018**  
By OceanCare

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### CONVENTION ON BIOLOGICAL DIVERSITY

#### UNEP/CBD/COP/Decision XII/23 – *Marine and coastal biodiversity: Impacts on marine and coastal biodiversity of anthropogenic underwater noise*

October 2014

Decision XII/23 encouraged Parties “... to take appropriate measures... to avoid, minimize and mitigate the potential significant adverse impacts of anthropogenic underwater noise on marine and coastal biodiversity”.

Decision XII/23 specifically urges:

- (a) Defining and differentiating types or intensities of underwater noise where there are adverse impacts, and characterizing noise by source;
- (b) Conducting further research on the remaining significant knowledge gaps [including: knowledge relating to fishes, invertebrates, turtles and birds, and additional knowledge gaps relating to the characteristics of major sound sources, trends in the prevalence and magnitude, as well as the intensity and spatial distribution of underwater noise and the potential impacts of underwater noise on ecosystems and animal populations, including implications of cumulative and synergistic impacts of multiple sources of noise];
- (c) Developing and transferring quieter technologies, and applying the best available practice in all relevant activities;
- (d) Including areas that are affected by different levels of sound when mapping the spatial and temporal distribution of sound;
- (e) Combining acoustic mapping with habitat mapping of sound-sensitive species with regard to spatial risk assessments in order to identify areas where those species may be exposed to noise impacts;
- (f) Mitigating and managing anthropogenic underwater noise through the use of spatio-temporal management of activities, relying on sufficiently detailed temporal and spatial knowledge of species or population distribution patterns combined with the ability to avoid generating noise in the area at those times;
- (g) Conducting impact assessments, where appropriate, for activities that may have significant adverse impacts on noise-sensitive species, and carrying out monitoring, where appropriate;
- (h) Including noise considerations in the establishment and development of management plans for marine protected areas within national jurisdiction and other relevant plans, as appropriate;
- (i) Considering thresholds as a tool to protect sound-sensitive species, taking into account their locations during critical life cycle stages as well as relevant results of research and additional information;
- (j) Standardizing metrics and sound measurements so that there are similar measures and approaches for all sounds and in all places;
- (k) Building capacity in developing regions where the awareness and scientific capacity to address this issue has yet to be strengthened;
- (l) Engaging industry and other relevant sectors, including the naval and mining sectors, when developing guidelines in order to increase their ownership and participation in the implementation of the guidelines;
- (m) Encouraging collaboration and communication among relevant international bodies to enhance synergies in addressing this issue;
- (n) Linking relevant information on the adverse impacts of underwater noise on sound-sensitive species when harmonizing different processes related to marine spatial planning and area-based management.”

**UNEP/CBD/COP/Decision XI/18 – *Marine and coastal biodiversity: Impacts of anthropogenic underwater noise on marine and coastal biodiversity***

October 2012

DEC/XI/18 specifically:

17. Notes that anthropogenic noise may have both short-and long-term negative consequences for marine animals and other biota in the marine environment, that this issue is predicted to increase in significance, and that uncontrolled increases in anthropogenic noise could add further stress to oceanic biota;

18. Encourages Parties, other Governments and relevant organizations, according to their priorities, to:

(b) Promote awareness of the issue among relevant stakeholders, both nationally and regionally;

(c) Take measures, as appropriate, to minimize the significant adverse impacts of anthropogenic underwater noise on marine biodiversity, including the full range of best available technologies and best environmental practices where appropriate and needed, drawing upon existing guidance; and

(d) Develop indicators and explore frameworks for monitoring underwater noise for the conservation and sustainable use of marine biodiversity, and report on progress to a meeting of the Subsidiary Body prior to the twelfth meeting of the Conference of the Parties;

20. Noting the gaps and limitations in existing guidance, including the need to update it in the light of improving scientific knowledge, and recognizing a range of complementary initiatives under way, requests the Executive Secretary to collaborate with Parties, other Governments, and competent organizations, including the International Maritime Organization, the Convention on Migratory Species, the International Whaling Commission, indigenous and local communities and other relevant stakeholders, to organize, subject to availability of financial resources, an expert workshop with a view to improving and sharing knowledge on underwater noise and its impacts on marine and coastal biodiversity, and to develop practical guidance and toolkits to minimize and mitigate the significant adverse impacts of anthropogenic underwater noise on marine and coastal biodiversity, including marine mammals, in order to assist Parties and other Governments in applying management measures, as appropriate, and also requests the Executive Secretary to make the report of the workshop available for consideration by a meeting of the Subsidiary Body prior to the twelfth meeting of the Conference of the Parties. The workshop should cover issues such as the development of acoustic mapping of areas of interest, among other things;

Both CBD Decisions build on the important scientific synthesis on the impacts of underwater noise on marine and coastal biodiversity and habitats (UNEP/CBD/SBSTTA/16/INF/12) that was prepared for the sixteenth meeting of the Subsidiary Body on Scientific, Technical and Technological Advice (UNEP/CBD/SBSTTA/16/6)

## **CONVENTION ON MIGRATORY SPECIES**

**UNEP/CMS/Resolution 12.14 – *Adverse Impacts of Anthropogenic Noise on Cetaceans and Other Migratory Species***

October 2017

CMS Parties at COP12 in October 2017 through [Resolution 12.14](#) endorsed the CMS Family Guidelines on Environmental Impact Assessments for Marine Noise-generating Activities -, which detail the requirements for EIAs that allow managers to make informed decisions. They cover the most important sources of both continuous and impulsive noise, and are designed as a tool for Governments wishing to improve their ability to assess, regulate and address the impacts of underwater noise on marine life.

The Guidelines are accompanied by detailed Technical Support Information ([CMS/COP12/Inf.11](#)), which explains in a policy- and decision-maker friendly way how underwater noise works, how it affects marine life, and what the specific vulnerability of different groups of species is – both migratory species and their prey.

**UNEP/CMS/Resolution 10.24 – *Further steps to abate underwater noise pollution for the protection of cetaceans and other migratory species***

November 2011

Resolution 10.24 confirms the need for international, national and regional limitation of harmful underwater noise through management (including, where necessary, regulation), and that Resolution 9.19 remains a key instrument in this regard;

Resolution 10.24 specifically:

*Strongly urges* Parties to prevent adverse effects on cetaceans and on other migratory marine species by restricting the emission of underwater noise, understood as keeping it to the lowest necessary level with particular priority given to situations where the impacts on cetaceans are known to be heavy; and where noise cannot be avoided, urges Parties to develop an appropriate regulatory framework or implement relevant measures to ensure a reduction or mitigation of man-made underwater noise;

*Urges* Parties to ensure that Environmental Impact Assessments take full account of the effects of activities on cetaceans and to consider potential impacts on marine biota and their migration routes and consider a more holistic ecological approach already at a strategic planning stage;

*Recommends* that Parties apply Best Available Techniques (BAT) and Best Environmental Practice (BEP) including, where appropriate, clean technology, in their efforts to reduce or mitigate marine noise pollution; and further recommends that Parties use, as appropriate, noise reduction techniques for offshore activities such as: air-filled coffer dams, bubble curtains or hydro-sound dampers, or different foundation types (such as floating platforms, gravity foundations or pile drilling instead of pile driving);

*Encourages* Parties to integrate the issue of anthropogenic noise into the management plans of marine protected areas (MPAs) where appropriate, in accordance with international law, including UNCLOS;

*Invites* the private sector to assist in developing mitigation measures and/or alternative techniques and technologies for coastal, offshore and maritime activities in order to minimize noise pollution of the marine environment to the highest extent possible.

**UNEP/CMS/Resolution 9.19 – *Adverse Anthropogenic Marine/Ocean Noise Impacts on Cetaceans and Other Biota***

December 2008

Resolution 9.19 urges CMS Parties and invites non-Parties to conduct Environmental Impact Assessments and to control the impact of emission of man-made noise pollution in habitat of vulnerable species and in areas where marine mammals or other endangered species may be concentrated. All governments are urged to adopt mitigation measures on the use of high intensity active naval sonars and to prevent impacts from the use of such sonars, especially in areas known or suspected to be important habitat to species particularly sensitive to active sonars (e.g. beaked whales).

Resolution 9.19 specifically:

5. Encourages Parties to facilitate:

- studies on the extent and potential impact on the marine environment of high intensity active naval sonars and seismic surveys in the marine environment; and the extent of noise inputs into the marine environment from shipping and to provide an assessment, on the basis of information to be provided by the Parties, of the impact of current practices

## **Agreement on the Conservation of Cetaceans in the Black Sea, Mediterranean Sea and contiguous Atlantic area (ACCOBAMS)**

### **ACCOBAMS Resolution 6.17 – *Anthropogenic Noise***

November 2016

Resolution 6.17

3. *Calls* on the Parties to undertake Strategic Impact Assessments (SIA), Environmental Impact Assessments (EIA) and other relevant assessments such as Appropriate Assessments (AA) under the EU Habitat Directive prior to plans, programmes and projects that may affect cetaceans and especially those involving impulsive noise, noting that, as a minimum standard, such assessments should:

- provide adequate information on baseline biological and environmental information to describe the area being impacted;
- fully characterise operations and their acoustic components – this should include professional modelling of the sound propagation features and the spatial region that will experience anthropogenic noise above natural ambient sound levels;
- assess the impact on cetaceans within this area and consider the potential cumulative effects from other anthropogenic activities;
- describe how the impacts are proposed to be mitigated and effectiveness monitored before, during and after the operation; and
- provide an objective consideration of the risk posed by the proposed activity against alternatives;

### **ACCOBAMS Resolution 5.15 – *Addressing the Impact of Anthropogenic Noise***

November 2014

Resolution 5.15 specifically:

*Urges* relevant national and international bodies to develop norms and standards that define methodologies and protocols to measure noise and evaluate the impact of noise on marine life;  
*Urges* relevant national and international bodies to require the application of best practice to eliminate or reduce anthropogenic noise;

5. *Calls* on the Parties to consider in their national legislation the requirements of mitigation protocols articulated in ACCOBAMS Res.4.17 and in CMS Resolution 10.24, in particular by:

- seeking to ensure that Environment Impact Assessments (EIAs) take full account of the effects of activities on cetaceans;
- implementing the recommended use of Best Available Techniques (BAT) and Best Environmental Practice (BEP) in their efforts to reduce or mitigate marine noise pollution;
- integrating the issue of anthropogenic noise into the management plans of marine protected areas;

### **ACCOBAMS Resolution 5.13 – *Conservation of Cuvier's beaked whales in the Mediterranean***

November 2014

Resolution 5.13 states that:

- the production of intense underwater noise [including military sonar] in areas identified as Cuvier's beaked whale habitat carries environmental implications and responsibilities;
- the locations of mass strandings ( $\geq 2$ ) of Cuvier's beaked whales in the Mediterranean are important additional indicators of areas of enhanced risk for such species; and
- beaked whales should not be exposed to noise where received levels exceed a certain level and that a precautionary buffer around the preferred habitats mentioned should be applied to ensure that the noise threshold is not exceeded

Resolution 5.13 specially calls on Parties to:

- a) fully comply with Resolution 4.17 and report on its application to the Secretariat;

- b) inform the Secretariat and Scientific Committee of any atypical stranding events and to which degree the measures included in Resolution 4.17 were adhered to;
- c) include in mitigation requirements dedicated surveys and monitoring efforts of all potential beaked whale habitats with buffer zones around planned noise activities; and
- d) consider effective mitigation requirements in national regulations (as outlined in paragraphs 5 and 6 of Resolution 5.15).

**ACCOBAMS Resolution 4.17 – Guidelines to address the impact of anthropogenic noise on cetaceans in the ACCOBAMS area**

November 2010

Resolution 4.17 specifically:

4. *Encourages* Parties:

- to address fully the issue of anthropogenic noise in the marine environment, including cumulative effects, in the light of the best scientific information available and taking into consideration the applicable legislation of the Parties, particularly as regards the need for thorough environmental impact assessments being undertaken before granting approval to proposed noise-producing activities;
- to integrate the issue of anthropogenic noise in management plans for marine protected areas;
- to avoid or minimize producing noise in marine protected areas, as well as in particular in areas containing critical habitat of cetaceans likely to be affected by man-made sound;

5. *Strongly* requests Parties to emphasize the need for a precautionary approach and to envisage the appropriate mitigation measures, including a provision for expert review by specialists and a provision for the action to be taken if unusual events, such as atypical mass strandings, occur;

Resolution 4.17 determines that impact assessment should include modelling of the generated sound field in relation with oceanographic features (depth/temperature profile, sound channels, water depth, seafloor characteristics) to assess the area possibly affected by relevant impacts; determination of safe/harmful exposure levels for various species, age classes, contexts, etc.; and mitigation that includes monitoring and reporting protocols to provide information on the implemented procedures, on their effectiveness, and to provide datasets to be used for improving existing cetacean databases. Specifically for military sonar operations the ACCOBAMS Noise Guidelines also call for:

- sonar surveys should be planned and designed to avoid key cetacean habitat and areas of cetacean density and limit impacts;
- continuous visual and passive acoustic monitoring (PAM) with a specialized team of cetaceans observers and bio-acousticians to ensure that cetaceans are not in the ‘exclusion zone’ before turning on the acoustic sources and while sources are active;
- extra mitigation measures should be applied in deep water areas if beaked whales have been seen diving on the vessel trackline or if habitats suitable for beaked whales are approached: in such cases, the watch should be prolonged to 120 minutes to increase the probability that deep-diving species are detected (e.g. Cuvier’s beaked whales); and that
- ideally, sonar exercises should not be done in areas that beaked whales are known to inhabit.

**Agreement on the Conservation of Small Cetaceans of the Baltic and North Seas (ASCOBANS)**

**ASCOBANS Resolution 5.4 – Adverse Effects of Sound, Vessels and other Forms of Disturbance on Small Cetaceans**

September 2006

Resolution 5.4 urges governments to develop, with military and other relevant authorities, effective mitigation measures including environmental impact assessments and relevant standing orders to reduce disturbance of, and potential physical damage to, small cetaceans; and to develop and

implement procedures to assess the effectiveness of any guidelines or management measures introduced.

**North Atlantic Treaty Organization (NATO) Centre for Maritime Research and Experimentation (CMRE)**

2009

The NATO CMRE has developed the NATO Undersea Research Centre (NURC) *Marine Mammal Risk Mitigation Rules and Procedures* (NURC-Mammal Rules) specifically to limit the risk of mass strandings and other impacts on Cuvier's beaked whales related to CMRE activities in the Mediterranean.

The NURC-Mammal Rules state, *inter alia*, that “CMRE’s precautionary policy is therefore to reduce the temporal and spatial interactions of sounds and beaked whales” and that “the risk mitigation of CMRE focuses on avoiding the habitat of beaked whales”

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