



Recommendations for mitigating the impact of underwater noise on marine biodiversity in the south eastern European waters in the Mediterranean Sea

An important workshop on 'Mitigating the impact of underwater noise on marine biodiversity with specific focus on seismic surveys in the south eastern European waters in the Mediterranean Sea' took place November 22-23, 2017 in Split, Croatia. The workshop participants discussed the complexity of underwater noise management and mitigation, and developed a series of sixteen priority Recommendations to improve the conservation and protection of marine wildlife in south eastern European waters from the threat of marine noise pollution.

The workshop was attended by 65 participants from 15 countries (see Annex 1), representing various stakeholder groups. They ranged from governmental institutions, such as ministries, nature protection, conservation, and energy agencies, to international organizations, including multilateral, regional, environmental agreements and regional fisheries bodies, to scientists and civil society organisations. All participants attended in their private or observer capacity and, while their participation was welcomed, it was understood that the recommendations stemming from the workshop should not be regarded as entailing any legal or policy expectations on their organisations.

The following 16 Recommendations represent the agreed outcomes of the workshop.

Government regulators, industry and stakeholders are urged to, as appropriate:

Recommendation 1: A Precautionary Approach

Apply a precautionary approach (for instance, incorporating into national legislation, strategies) to future activities that have the potential or are known to have harmful effects on the marine environment,

Recommendation 2: UN Open-ended Informal Consultative Process on the Oceans and the Law of the Sea

Ensure, to the maximum extent possible, that the 19th Meeting of the UN Open-ended Informal Consultative Process on the Oceans and the Law of the Sea (ICP or UNICPOLOS) in June 2018 addresses the various sources of ocean noise pollution, and provides guidance as well as a clear plan for mitigation actions that can be taken by all involved stakeholders.

Recommendation 3: Noise Budget

Explore the concept of a noise budget/threshold for the south eastern European waters in the Mediterranean Sea, in line with the threshold values required under the Marine Strategy Framework Directive (MSFD).

Recommendation 4: Cumulative Impacts

Address the cumulative impacts of all activities in the ocean, including climate change, through multi-sectoral strategies for countries' energy, environmental and blue economy policies, especially through the Maritime Spatial Plans to be developed by the EU Member States by 2021¹.

¹ Directive 2014/89/EU of the European parliament and of the council of 23 July 2014 establishing a framework for maritime spatial planning



Recommendation 5: Strategic Environmental Assessments (SEAs) and Environmental Impact Assessments (EIAs)

Make full use of national multi-sectoral Strategic Environmental Assessments (SEAs) conducted by governments, before any areas are opened for licensing applications to the oil and gas industry.

SEAs and Environmental Impact Assessments (EIAs), which are the assessments specific to proposed activities, should take into account all available information on the potential impact on species, habitats and other marine users (for instance, including the presence of marine mammal habitat as indicated by the identification of scientific advice, such as Important Marine Mammal Areas), as well as legislative and non-legislative commitments that are in place (including, the EU Habitats Directive and MSFD, for example), and should include the opportunity for meaningful and comprehensive public comment.

The information contained in SEAs and EIAs, as well as all collected data should be transparent and available to all stakeholders (for instance, tourism, fisheries), including civil society, in accordance with applicable regulations. Information about past, present and planned noise-generating activities should be submitted to national noise registries and remain publicly accessible, in perpetuity.

Recommendation 6: The CMS Noise EIA Guidelines

Transpose the *Convention on Migratory Species (CMS) on Environmental Impact Assessment for Marine Noise-generating Activities*² (CMS Noise EIA Guidelines) into national legislation or species management plans, bearing in mind the context of the national legal structures, and use the CMS Noise EIA Guidelines as a standardized format to detail what is expected of applicants and assessment milestones. The CMS Noise EIA Guidelines should be adapted and improved according to national expert advice, and with multi-sectoral involvement. If countries don't have a legal basis to adopt guidelines, prescribing the development of such guidelines can be a useful tool.

Recommendation 7: Limiting Number and Time Frames of Seismic Surveys

Limit the number and time frames for seismic surveys to avoid the seasonal presence of vulnerable species and the duplication of surveys. States should make full use of the Convention on Environmental Impact Assessment in a Transboundary Context (ESPOO mechanisms) for transboundary consultations. A transparent overview of planned seismic activities should be promoted (for example, by making full use of the MSFD noise registry), to avoid duplication of seismic surveys, and improve transboundary consultation.

Recommendation 8: Best-available Quieting Technologies

Promote the development and mandate the use of best-available quieting technologies, such as *Marine Vibroseis*, by means of regulatory pressure and requiring operators to demonstrate they are not using sources that are more powerful than necessary and at unnecessary frequencies. This should be a component of each EIA and apply throughout the survey. What is considered necessary should be subject to independent review, as detailed in the CMS Noise EIA Guidelines.

Recommendation 9: Previous, Simultaneous, On-going, and Planned Activities

Take into account previous, simultaneous, on-going, and planned activities in the same or adjoining areas to consider potential cumulative or synergistic impacts, and assess the effectiveness of mitigation measures and monitoring activities for operational reviews prior, during and post-operation, ensuring monitoring results are publicly accessible, as detailed in the CMS Noise EIA Guidelines.

² <http://www.cms.int/en/document/adverse-impacts-anthropogenic-noise-cetaceans-and-other-migratory-species-0>



Recommendation 10: Review of SEAs and EIAs

Ensure adequate review of SEAs and EIAs, to maintain a transparent separation of science and politics, and avoid conflicts of commercial interest. This principle is detailed within the CMS Noise EIA Guidelines and supports the provisions in EU Directive 2011/92/EU as amended by 2014/52/EU³. Adequate time needs to be scheduled for all stages of the assessment, including the review process and comprehensive public consultation.

Recommendation 11: Spatial and Area Based Management

Develop and update integrated maps showing all IMMAs and marine protected areas as identified by competent bodies and organizations (for instance, national authorities, ACCOBAMS, CBD, GFCM, UNEP-MAP, NATURA 2000, IMMAs, EBSAs, and others) to facilitate spatial and area based management, and to ensure all species and habitats of conservation concern identified by these bodies have equal and appropriate recognition according to their conservation goals.

Recommendation 12: Subsidies

Remove subsidies for the oil and gas industry and spend public money in line with the objectives of the 2015 Paris Agreement on Climate Change.

Recommendation 13: Monitoring Survey Areas

Ensure the data on the occurrence and distribution of noise-sensitive species required for strategic maritime spatial planning is provided through inventories (for example, Areas of Interest for Important Marine Mammal Areas, Ecologically or Biologically Significant Marine Areas (EBSAs), and GFCM Fisheries Restricted Areas) to prioritise where to focus effort, and monitor survey areas where there is a lack of knowledge about the occurrence and distribution of noise-sensitive species and habitats.

Recommendation 14: Best Available Technology and Best Environmental Practice

Prepare a global report on the Best Available Technology (BAT) and Best Environmental Practice (BEP) for the mitigation of underwater anthropogenic noise, and make available to all government agencies, interested stakeholders and civil society in the regions in question, as a supplement to the CMS Noise EIA Guidelines.

Recommendation 15: Knowledge Transfer

Knowledge exchange and information-sharing should take place at the national level (multi-sectoral involvement) and regional level (between different countries in the region), and through an open-access independent scientific network focused on sharing data and monitoring ocean noise in the Mediterranean. The NETCCOBAMS⁴ platform developed by ACCOBAMS could be used as a tool for this.

Recommendation 16: Training and Capacity

Address the lack of training and capacity (for instance Marine Mammal Observers (MMOs), Passive Acoustic Monitoring, etc.) in the region, by making use of existing initiatives, such as the ACCOBAMS's accreditation system for high-quality MMOs, to significantly raise awareness and build support for reducing noise in the marine environment.

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The 2-day workshop was organised and hosted by OceanCare and NRDC, international nature conservation organisations, and was technically and financially supported by the Deutsche Bundesstiftung Umwelt (DBU).

³ <http://eur-lex.europa.eu/legal-content/EN/TXT/?uri=celex%3A32014L0052>

⁴ <http://www.netccobams.com/>

ANNEX 1: Underwater Noise Workshop Participants

Last Name	First Name	Position/Institution	Country
Alexiadou	Paraskevi	Pelagos Cetacean Research Institute	Greece
Ameri	Michele	UN Division for Ocean Affairs and the Law of the Sea	Italy
Bataković	Milena	Agency for Environmental and Nature Protection	Montenegro
Bernal	Miguel	General Fisheries Commission for the Med. of the FAO (GFCM)	Spain
Bravo	Carlos	Alianza Mar Blava	Spain
Carić	Dr Hrvoje	Institute of tourism	Croatia
Carpentieri	Serena	Legambiente Onlus	Italy
Čižmek	Hrvoje	Marine Explorers Society 20000 leagues	Croatia
Čović	Radosav	Hydrocarbons Administration of Montenegro	Montenegro
D'Amato	Leonora	Environment and Resources Authority	Malta
Dinkelmeyer	Andreas	International Fund for Animal Welfare (IFAW)	Germany
Dobričić	David	Croatian Hydrocarbon Agency	Croatia
Domel	Claudia	Deutsche Bundesstiftung Umwelt (DBU)	Germany
Đurović	Mirko	Director of the Institute of Marine Biology	Montenegro
ElHaweet	Alaa Eldin	Arab Academy for Science, Technology & Maritime Transport (Egypt)	Egypt
Entrup	Nicolas	OceanCare/NRDC	Austria
Ferri	Nicola	General Fisheries Commission for the Med. of the FAO (GFCM)	Italy
Frey	Silvia	OceanCare	Switzerland
Frisch-Nwakanma	Heidrun	UNEP/CMS Secretariat	Germany
Holcer	Draško	Blue World Institute	Croatia
Janković-Mišnić	Jasmina	Environmental Protection Agency Montenegro	Montenegro
Jelenić	Ivana	Ministry of Environment and Energy	Croatia
Jelić	Katja	Croatian Agency for the Environment and Nature	Croatia

Last Name	First Name	Position/Institution	Country
Jeremić	Jasna	Croatian Agency for Environment and Nature	Croatia
Kandić	Milica	Green Home	
Knežević	Jelena	UN Environment/Mediterranean Action Plan	Montenegro
Kramer	Brigitte	Freelance journalist (Germany)	Germany
Kruss	Aleksandra	CNR Marine Institute Venice, Italy	Poland
Leaper	Russell	International Fund for Animal Welfare (IFAW)	United Kingdom
Lüber	Sigrid	OceanCare	Switzerland
Mackelworth	Peter	Blue World Institute	United Kingdom
Madricardo	Dr Fantina	Consiglio Nazionale delle Ricerche - Istituto di Scienze Marine	Italy
Maglio	Alessio	SINAY	Italy
Matea	Spika	Udruga Sunce	Croatia
Mateja	Gazic	Ministry of environment protection	Croatia
Medenica	Nikola	Environmental protection Agency (EPA) of Montenegro	Montenegro
Micallef	Tamara	Environment and Resources Authority	Malta
Michaelides	Savvas	Department of Fisheries and Marine Research, Cyprus	Cyprus
Müller	Johannes	OceanCare/NRDC	Germany
Nenadović	Tina	Gardline Geosurvey Ltd. Marine Wildlife and Environmental Dpt.	Croatia
Nikolić	Vedran	European Commission, DG Environment	Croatia
Notarbartolo di Sciara	Giuseppe	Tethys Research Institute	Italy
Panigada	Simone	ACCOBAMS	Italy
Panou	Aliki	Archipelagos - environment and development	Greece
Pavan	Gianni	University of Pavia	Italy
Pilikou	Maria	Legal Advisor - International Law of the Sea	Cyprus
Radojčić	Dušica	Association Green Istria	Croatia

Last Name	First Name	Position/Institution	Country
Radonjić	Dina Skarep	Hydrocarbons Administration of Montenegro	Serbia
Radović	Ilija	Environmental protection Agency (EPA) of Montenegro	Montenegro
Raičević	Nikola	Environmental Protection Agency (EPA) Montenegro	Montenegro
Rako Gospić	Nikolina	Blue World Institute	Croatia
Risch	Denise	Scottish Association for Marine Science	Germany
Ritter	Fabian	Whale and Dolphin Conservation (WDC)	Germany
Schneider	Daniela	Croatian Agency for Environment and Nature	Croatia
Sekovski	Ivan	Priority Actions Programme / Regional Activity Centre (PAP/RAC)	Croatia
Sijan	Milena	Moderation	Croatia
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Širović	Dr. Ana	Scripps Institution of Oceanography	Croatia/USA
Štrbenac	Ana	Stenella consulting d.o.o.	Croatia
Summer	Lisinka	OceanCare	Austria
Tomac	Luka	Zelena akcija / FoE Croatia	Croatia
Tomić	Zoran	Greenpeace CEE in Croatia	Croatia
Vaniček	Dr Vlatka	Director of Sector of Environmental Protection	Croatia
Varda	Dušan	Mediterranean Center for Environmental Monitoring - MedCEM	Serbia
Weilgart	Linda S.	Dalhousie University, Department of Biology	USA and Germany