

Agenda Item 3.2.1

Review of new Information on Threats to Small  
Cetaceans

Underwater Noise

Report and Recommendations of the  
Working Group

Document 3.2.1

**Report of the Joint  
ACCOBAMS/ASCOBANS Noise  
Working Group**

**Action Requested**

- Take note
- Give guidance

Submitted by

Working Group



**NOTE:  
DELEGATES ARE KINDLY REMINDED  
TO BRING THEIR OWN COPIES OF DOCUMENTS TO THE MEETING**



# Report of the Joint CMS/ACCOBAMS/ASCOBANS Noise Working Group (Joint NWG)

Joint NWG Co-Chairs: Sigrid Lüber and Yanis Souami

In 2011 the Working Group on Noise became a joint ACCOBAMS/ASCOBANS Noise Working Group, and then in 2013 the ASCOBANS Advisory Committee and ACCOBAMS MOP agreed to evolve it further to become a joint CMS/ACCOBAMS/ASCOBANS Noise Working Group reflecting that the CMS Family was addressing this issue with more seriousness. A broadened Terms of Reference for the Joint Noise Working Group was adopted by ASCOBANS and ACCOBAMS, reflecting the natural evolution of this group and the important work that it needs to address on behalf of these bodies: ACCOBAMS, ASCOBANS and CMS. The invitation to join the Working Group was accepted by the CMS Scientific Council in July 2014.

## 2011- November 2013

In the 2011-2013 period, a contact database of industries was created and, after collecting the input from different actors (industries, states, scientists, NGOs and others), a working platform was created in 2012 to exchange documents on noise with the view of preparing a synthesis. A questionnaire was circulated to industries and experts, although the results of this initiative were limited.

A symposium about sound and marine mammal was organised by the French Navy. The French Maritime Cluster (FMC) created an industry working group on noise. Members of this working group reviewed the ACCOBAMS Noise Guidelines and responded to the questionnaire. Meetings were also convened to better understand industry perspective about regulating anthropogenic noise.

The *ACCOBAMS Scientific Committee* (November 2012) was informed of a program of seismic survey work scheduled to take place in the region of the Hellenic Trench including in international waters and reported to be starting in early November. The region constitutes an area of critical habitat for the endangered Mediterranean sperm whale, whose population only numbers a few hundred individuals at best, and which, as a deep diving species, may be strongly affected by the loud noise used in such surveys. The Hellenic Trench is also an important habitat for Cuvier's beaked whale, another particularly vulnerable species, and the bottlenose dolphin, striped dolphin, common dolphin and Risso's dolphin are also found there. This is an area which ACCOBAMS has proposed should be designated as an Area of Special Importance/MPA because of its cetacean populations. Requests for further information about this proposal were not responded to.

During the *ASCOBANS Advisory Committee* (August 2013) an offer from Sigrid Lüber of OceanCare to fill the Co-Chair role for ASCOBANS was tabled, as Karsten Brensing of WDC was not able to continue in his role of Co-Chair. Both the ASCOBANS and ACCOBAMS Parties warmly accepted this offer. During the same meeting funding was secured to host a joint ECS/ASOBANS/ACCOBAMS workshop: *Introducing noise in the marine environment: what are the requirements for an impact assessment for marine mammals?* to be held in the margins of the ECS meeting (which will be held in April 2014).

In mid to late 2013, three documents were developed, through a consultancy, for presentation to ACCOBAMS MOP5 (November 2013):

- Doc22 - Anthropogenic noise and marine mammals: review of the effort in addressing the impact of anthropogenic noise in the ACCOBAMS and ASCOBANS areas;
- Doc23 - Implementation of underwater noise mitigation measures by industries: operational and economic constraints; and
- Doc24 - Methodological guide: Guidance on Underwater Noise Mitigation Measures.

Some comments were received from the Joint NWG on the three documents, but time only permitted these comments being reflected in Doc 22 and 23 before the ACCOBAMS MOP6.

Doc 24 is thought to be a living guide so that it will be periodically reviewed by the Joint NWG and regularly updated, including mitigation for further human activities not addressed in the present version (shipping, recreational craft etc.) and the newest available technologies.

In October, a table of Joint NWG Members, with their expertise and availability commitments, was created and made available for the ACCOBAMS MOP.

#### **December 2013- July 2014**

The table of Joint NWG Members has continued to be maintained and is annexed to this report for information.

In late 2013 the Joint NWG Co-Chairs developed a draft work program for the Joint NWG - drawing on the Terms of Reference for the Joint NWG as well as key subjects, asked for by the Parties, which might be pursued by the Joint NWG. The draft work program was submitted to the ACCOBAMS, ASCOBAMS and CMS Secretariat (January 2014) for their activity prioritisation within the document. The work program will be circulated to Joint NWG member as soon as this is received.

The Joint NWG responded to a request from ACCOBAMS (January 2014) to prepare a contribution for the *CBD Expert Workshop on Underwater Noise and its Impacts on Marine and Coastal Biodiversity* (February 2014). Comments and contributions were received from many members of the Joint NWG, and a process of sign-off was implemented to ensure broad consensus. The document was submitted to CBD in mid February and presented by Yanis Souami during the workshop.

During the CBD-SBSTTA 18 (June 2014 plenary session) Yanis Souami briefly (2 min) presented the JNWG, the work in progress and relevant ACCOBAMS/ASCOBAMS resolutions. There have been many interventions by member states, most of them in favour of taking actions. During a side event, additional information about the JNWG was provided to the Parties which had previously requested further information. A drafting group was formed to draft a resolution on noise. This draft is a good step forward to preserve marine biodiversity from noise. Such draft will be discussed at the Next CBD COP in November 2014 and will hopefully be adopted.

The Joint NWG responded to a request from ACCOBAMS (also in January 2014) to develop an appropriate ACCOBAMS contribution to the *Correspondence Group on Mediterranean Good Environmental Status and Targets (COR-GEST) meeting* (February 2014). The Joint NWG felt it has not had sufficient time to prepare a comprehensive contribution to this important process. As an initial step, a number of members of the Joint NWG who are also involved in the Technical Subgroup on Underwater Noise (TSG Noise) provided information developed by the TSG for the European Marine Strategy Framework Directive - Good Environmental Status (MSFD-GES) process. In order to prepare a more complete contribution that is relevant to the whole of the ACCOBAMS region (that includes EU and non-EU Members) the Joint NWG requested:

- 1) clear instructions about what is being requested, how the information will be used and what the timeframe is for delivery;
- 2) background information about the process that this work will contribute to;
- 3) clarity whether this information will require ACCOBAMS Party approval, or is for information or as general guidance; and
- 4) how is this intended to contribute to or compliment to ACCOBAMS Noise Guidelines

The document was submitted to the COR-GEST and presented by Yanis Souami during the Meeting. The presentation was welcomed by the Contracting Parties, who asked ACCOBAMS to contribute to further follow the work of the CORMON groups, by providing specific recommendations for their discussions.

Following an information sent by the ACCOBAMS Secretariat, the Joint NWG responded to a request from CMS to input a draft report on '*Renewable Energy Technologies Deployment and Migratory Species*' by CMS (February 2014). Joint NWG members were asked to comment directly to CMS.

The Joint NWG Co-Chairs have supported Peter Evans in organising the ECS/ASOBANS/ACCOBAMS workshop: *Introducing noise into the marine environment: what are the requirements for an impact assessment for marine mammals?* This will take place 6<sup>th</sup> April 2014.

The Joint NWG is currently considering the input of ACCOBAMS in the ECAP process, relating to the Ecological Objective (EO) 11 on Energy including underwater noise. The Integrated Correspondence Groups of GES and Targets Meeting (COR GEST) have requested that the Joint NWG to provide specific recommendations for the discussions of the CORMON groups and specifically draft 'monitoring guidance on marine noise' that mirrors the guidance on eutrophication

In the ACCOBAMS Work Programme 2014-2016 (Resolution 5.2), the Joint NWG, with the help of the ACCOBAMS Scientific Committee and the Secretariat, was requested to :

- a) Identify anthropogenic noise/cetaceans interactions hot spots in the ACCOBAMS area;
- b) Map and develop a monitoring of sea ambient noise, particularly in critical habitats.

The members of the Joint NWG have been invited to contribute comments and advice on the proposed steps for the project to the draft 'note of intent' for the proposed ACCOBAMS project - Mapping anthropogenic noise hot spots in the ACCOBAMS area.

The ACCOBAMS Secretariat has also requested that members provide contact details of relevant companies that might be invited to tender for this work.

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Given the evolving membership of the Joint NWG, and in particular the recent recruitment of industry stakeholders, the Co-Chairs have requested that the ACCOBAMS, ASCOBANS and CMS Secretariat develop procedural guidelines or a code of conduct for the Joint NWG to assist the Co-Chairs and members to be able to smoothly discuss matters and reach appropriate agreement on future subjects and recommendations. The Secretariats have requested that there is a freeze of further member recruitment until this process is completed.

Annex 1: Table of Joint NWG Members

Annex 2: Proposed Joint Noise Working Group (NWG) Work Program

# Summary table of Joint ACCOBAMS/ASCOBANS/CMS Noise Working Group Members

The following table provides information about members of the Joint Noise Working Group that were able to provide their details by the 25<sup>th</sup> October 2013. All respondents gave permission for their details to be made available to Parties.

Current: 18<sup>th</sup> March 2014

This table will be updated and additional member details provided before the next relevant ACCOBAMS, ASCOBANS or CMS meeting.

**Joint Noise Working Group Chairs:**  
Yanis Souami and Sigrid Lüber

*Legend to level of participation:*  
**active member:** capacity to draft documents, take responsibility for topics  
**informative member:** capacity to exchange information, but having limited active involvement

<b>André, Michel</b>	<i>Organization/ Affiliation (if any):</i> Technical University of Catalonia, Barcelona Tech (UPC)	<i>Languages:</i> French, Spanish, English	<i>Joined the NWG</i>	<i>Level of participation:</i> <b>active member</b>	<i>Face to face workshop:</i> Yes
	<i>Relevant experience or academic background:</i> 20 years of experience in research on ocean noise	<i>Contribution areas:</i> Effects on marine fauna, passive acoustics, signal processing	<i>Comments:</i>		
<b>Campbell, John</b>	<i>Organization/ Affiliation (if any):</i> International Association of Oil & Gas Producers (OGP)	<i>Languages:</i> English	<i>Joined the NWG</i> 2013	<i>Level of participation:</i> <b>active member</b>	<i>Face to face workshop:</i> Yes
	<i>Relevant experience or academic background:</i> I have a BSC in pure chemistry and a PhD in nuclear Geochemistry both from the University of Glasgow. Following a period in oceanographic research I work as a senior adviser on marine pollution matters for the UK government and represented UK at a number of international conventions and agreements. I joined OGP in 1997 and have held a brief there on Environmental and Legal issues. Since 2005, I have been involved with the Joint Industry Programme (JIP) on E&P Sound and Marine Life as programme coordinator and represent the	<i>Contribution areas:</i>	<i>Comments:</i> I would be willing to participate and would encourage industry colleagues to participate in workshops over the next 12 months. This would very much depend on the topics around which a workshop event was framed.		

	<p>industry at a number of international conventions on a range of issues including marine sound.</p> <p>The JIP has committed in excess of \$30 million to fundamental and applied research. The research has focuses in five areas, source characterisation, physical and physiological effects, behavioural effects and biological significance, mitigation and monitoring and technology development. All data and results from the programme are readily accessible and there would be access to industry specialists who have overseen the technical work in the JIP. ACCOBAMS/ASCOBANS/CMS parties may see this information</p>				
<b>Castellote, Manuel</b>	<p><i>Organization/ Affiliation (if any):</i> National Marine Mammal Laboratory, National Marine Fisheries Service, NOAA.</p>	<p><i>Languages:</i> Spanish, English, French</p>	<p><i>Joined the NWG:</i> 2012</p>	<p><i>Level of participation:</i> <b>active member</b></p>	<p><i>Face to face workshop:</i> Yes</p>
	<p><i>Relevant experience or academic background:</i> BSc in biology, MSc in marine biology and PhD in animal behavior. Research in cetacean acoustics both in captivity and wild since 2000, in topics such as effects of noise in behavior and physiology for wild cetaceans and effects in welfare for captive cetaceans, use of sound by cetaceans, noise mitigation techniques, passive acoustic monitoring. Marine mammal acoustics and noise mitigation advisor to the National Marine Fisheries Service, Spanish Ministry of the Environment and U.S. Department of Energy Marine Hydrokinetics Working group (marine renewable energies). Member of the E.U. Marine Strategy Framework Directive Technical Subgroup on Underwater Noise, the NOAA Ocean Noise Strategy Group and the NOAA Acoustic Guidelines Review Panel.</p>	<p><i>Contribution areas:</i> Effects of noise in cetaceans. Noise mitigation techniques and strategies. Underwater noise regulation. Permitting review process for activities involving underwater noise. Experience in both the Western Mediterranean Sea and northeast North Atlantic Ocean of the ACCOBAMS/ ASCOBANS areas.</p>	<p><i>Comments:</i> It would be useful to have a more effective dedicated NWG internet site.</p> <p>Happy to participate in a face to face workshop with travel support (resides in Seattle)</p>		
<b>DeHaan, Dick</b>	<p><i>Organization/ Affiliation (if any):</i></p>	<p><i>Languages:</i></p>	<p><i>Joined the NWG:</i></p>	<p><i>Level of participation:</i></p>	<p><i>Face to face workshop:</i></p>
	<p><i>Relevant experience or academic background:</i></p>	<p><i>Contribution areas:</i></p>	<p><i>Comments:</i></p>		

<b>Dolman, Sarah</b>	<i>Organization/ Affiliation (if any):</i> Whale and Dolphin Conservation	<i>Languages:</i> English	<i>Joined the NWG:</i>	<i>Level of participation:</i> <b>active member</b>	<i>Face to face workshop:</i> Yes
	<i>Relevant experience or academic background:</i> Published a number of peer-reviewed publications and reports on management and mitigation of various noise sources and I have led and participated in various international meetings and workshops on the issue	<i>Contribution areas:</i>	<i>Comments:</i>		
<b>Dubois, Fannie</b>	<i>Organization/ Affiliation (if any):</i> Permanent Secretariat of the Pelagos Sanctuary (France - Italy - Monaco)	<i>Languages:</i> French, English, Italian	<i>Joined the NWG:</i> 2014	<i>Level of participation:</i> <b>informative member</b>	<i>Face to face workshop:</i> Yes
	<i>Relevant experience or academic background:</i> As Executive Secretary of the Pelagos Sanctuary, I support Pelagos working groups, CST and COP in the preparation of the Pelagos resolutions, and I am responsible of their implementation. In particular, I contributed to the elaboration of the Pelagos resolution 4.1 « impact on anthropogenic activities » and resolution 4.4 « maritime traffic ». A new project has just be funded by French delegation on maritime traffic and noise impact on cetaceans in the French Pelagos Sanctuary area and results will be communicated to me soon.	<i>Contribution areas:</i> Western Mediterranean Sea (France, Italy and Monaco). Pelagos Sanctuary is a pilot area of ACCOBAMS for implementing research activities, protecting measures and develop new initiatives.	<i>Comments:</i> Participation in a face to face meeting will depend on the location.  The NWG increases Pelagos and ACCOBAMS cooperation and complies with their resolutions.		
<b>Entrup, Nicolas</b>	<i>Organization/ Affiliation (if any):</i> Independent Consultant; contract work includes cooperation with OceanCare, NRDC and the Humane Society International	<i>Languages:</i> German, English	<i>Joined the NWG:</i> 2012	<i>Level of participation:</i> <b>informative member</b>	<i>Face to face workshop:</i> Yes
	<i>Relevant experience or academic background:</i> Extensive international political experience, working on multiple multilateral environmental agreements, participating in more than 20 various regional and international conferences including Meetings of the International Whaling Commission (IWC), Conferences of the Parties of	<i>Contribution areas:</i> Political and legislative information within a regional and international context; broad overview and understanding of noise activities in the region, especially focusing on military and	<i>Comments:</i> The NWG should, via support of the Secretariat of ACCOBAMS and ASCOBANS as well as the CMS Secretariat, increase its visibility and contribution in consultation with EU institutions to feed into these processes. Current understanding is that, so far, this is only done via individuals who are also Member to the		



	<p>the Convention on the International Trade in Endangered Species (CITES), the Convention on Migratory Species (CMS), the Convention on Biological Diversity (CBD), Meetings of the Parties of the Agreement on the Conservation of Cetaceans in the Black Sea, Mediterranean Sea and Contiguous Atlantic Area (ACCOBAMS) as well as the Agreement on the Conservation of Small Cetaceans of the Baltic, North East Atlantic, Irish and North Seas (ASCOBANS).</p> <p>Invited as expert to attend several Meetings of the ACCOBAMS Scientific Committee and participated Meetings of the Advisory Committee of ASCOBANS</p>	<p>seismic activities. Stakeholder communication, awareness raising activities, strategic advise</p>	<p>NWG, but not by the NWG itself.</p>		
<b>Geelhoed, Steve</b>	<p><i>Organization/ Affiliation (if any):</i> IMARES Wageningen UR, researcher</p>	<p><i>Languages:</i> Dutch, English, German</p>	<p><i>Joined the NWG:</i> 2012</p>	<p><i>Level of participation:</i> <b>informative member</b></p>	<p><i>Face to face workshop:</i> No</p>
	<p><i>Relevant experience or academic background:</i> I have been involved in owf research in relation to porpoises by means of aerial surveys and PAM.</p>	<p><i>Contribution areas:</i> Linking spatial and temporal distribution of cetaceans to noise disturbance.</p>	<p><i>Comments:</i></p>		
<b>Haelters, Jan</b>	<p><i>Organization/ Affiliation (if any):</i> Royal Belgian Institute of Natural Sciences (RBINS)</p>	<p><i>Languages:</i> Dutch, English, French</p>	<p><i>Joined the NWG:</i> 2010</p>	<p><i>Level of participation:</i> <b>informative member</b></p>	<p><i>Face to face workshop:</i> Yes</p>
	<p><i>Relevant experience or academic background:</i> Experience in impact studies on marine mammals; Experience in EIA; Information provision on national guidelines concerning UW noise</p>	<p><i>Contribution areas:</i></p>	<p><i>Comments:</i> The work delivered so far, with very little contribution from myself, has been useful in a.o. EIA work.</p>		
<b>Leaper, Russell</b>	<p><i>Organization/ Affiliation (if any):</i> IFAW/ University of Aberdeen</p>	<p><i>Languages:</i> English</p>	<p><i>Joined the NWG:</i></p>	<p><i>Level of participation:</i> <b>active member</b></p>	<p><i>Face to face workshop:</i> No</p>
	<p><i>Relevant experience or academic background:</i> Member of the EU Technical sub-group on noise established under the MSFD and also of the IWC Scientific Committee.</p>	<p><i>Contribution areas:</i> Communication between the groups mentioned in <i>Relevant experience or academic</i></p>	<p><i>Comments:</i> With so many other noise related meetings, not sure there is a need for another workshop.</p>		

	<p>Also attended IMO meetings and participated in the development of the IMO's guidelines for reducing shipping noise.</p> <p>Research interest in practical ways of reducing shipping noise (Leaper and Renilson, 2012) and in quantifying the effectiveness of mitigation measures for seismic surveys and other loud noise sources.</p>	<i>background.</i>			
<b>Lewis, Tim</b>	<p><i>Organization/ Affiliation (if any):</i></p> <p>Consultant, previously worked for IFAW and represented them at ACCOBAMS SCs and MOPs.</p>	<p><i>Languages:</i></p> <p>English</p>	<p><i>Joined the NWG:</i></p> <p>2008</p>	<p><i>Level of participation:</i></p> <p><b>active member / informative member</b></p>	<p><i>Face to face workshop:</i></p>
	<p><i>Relevant experience or academic background:</i></p> <p>PhD in exploration geophysics. Over 20 year's experience in cetacean acoustics working primarily as a researcher on IFAW's "Song of the Whale" but also as a consultant.</p> <p>As a researcher, worked mainly on the acoustics/acoustic surveys of sperm whales and porpoises, but also right, blue and beaked whales and rough-toothed dolphins.</p> <p>As a consultant, continue to work on acoustic surveys but also on passive acoustic monitoring (PAM) for the renewable energy and hydrocarbon industries (acoustic monitoring of cetacea prior to and during noise generating activities such as piling and seismic), and have been involved in the development of PAM systems.</p> <p>Have occasionally attended the ACCOBAMS MOPs and regularly participate in the ACCOBAMS scientific committee meetings especially in relation to acoustic and noise issues; Was involved in the drafting of the current Recommendation for the conservation of Cuvier's Beaked Whales in the Mediterranean</p>	<p><i>Contribution areas:</i></p> <p>Matters relating to cetacean acoustics and noise generating activities.</p> <p>Work with noise generating industries to monitor and mitigate their impact on cetacea - so have an insight into this side of the issues.</p>	<p><i>Comments:</i></p> <p>Continue to contribute to drafting and commenting on documents/proposals/issues where my expertise is pertinent, but not take the lead - due to time constraints.</p>		
<b>Lüber, Sigrid</b>	<p><i>Organization/ Affiliation (if any):</i></p> <p>OceanCare</p>	<p><i>Languages:</i></p> <p>German, English, French, Italian</p>	<p><i>Joined the NWG:</i></p> <p>2007</p>	<p><i>Level of participation:</i></p> <p><b>active member</b> (co-Chair)</p>	<p><i>Face to face workshop:</i></p> <p>Yes</p>

	<p><i>Relevant experience or academic background:</i></p> <p>Close to 25 years of professional experience progressing ocean policy and science, and is the President of OceanCare where she oversees a team of experts on a range of issues including ocean noise.</p> <p>Has been an observer at the annual meetings of the International Whaling Commission (IWC) since 1992, also has also worked towards the protection of small cetaceans through the IWC, promoting discussion and agenda items on environmental threats to cetaceans, and introducing political as well as scientific initiatives on the issue of cetacean meat contamination and its effects on human consumers.</p> <p>In the past decade has focused on the regulation and reduction of ocean noise pollution.</p> <p>Is also professionally concerned with the growing problem of economic development aid bound on conditions such as voting behaviour.</p> <p>Through UN processes, works towards the increase of transparency, good governance of oceans and the involvement of NGOs in international policy making, in order to make Governments more conscious of demands by the civil society.</p>	<p><i>Contribution areas:</i></p> <p>Very well developed negotiation skills, combined with a solid depth of understanding about marine noise and the science that underpins it.</p> <p>Strongest contribution will be well developed skill in translating science into policy and regulation contexts.</p>	<p><i>Comments:</i></p>		
<p><b>Maglio, Alessio</b></p>	<p><i>Organization/ Affiliation (if any):</i></p> <p>SINAY</p>	<p><i>Languages:</i></p> <p>Italian, French, Spanish, English</p>	<p><i>Joined the NWG:</i></p> <p>2013</p>	<p><i>Level of participation:</i></p> <p><b>informative member</b></p>	<p><i>Face to face workshop:</i></p> <p>Yes</p>
	<p><i>Relevant experience or academic background:</i></p> <p>Marine biologist. Experience in research on cetacean ecology, impact studies on marine wildlife. MMO/PAM onboard research cruises and seismic surveys. Participated and contributed to national and international meetings and workshops on underwater noise and marine mammals.</p>	<p><i>Contribution areas:</i></p>	<p><i>Comments:</i></p>		

<b>Martin, Nikki C</b>	<i>Organization/ Affiliation (if any):</i> Environmental Regulatory & Legal Affairs, International Association of Geophysical Contractors (IAGC) Karen St. John, Group Vice President – Environment (alternate)	<i>Languages:</i> English	<i>Joined the NWG:</i> 2014	<i>Level of participation:</i> <b>active member</b>	<i>Face to face workshop:</i> Yes
	<i>Relevant experience or academic background:</i> IAGC is the international trade association representing the industry that provides geophysical services (geophysical data acquisition, processing and interpretation, geophysical information ownership and licensing, associated services and product providers) to the oil and natural gas industry. IAGC member companies play an integral role in the successful exploration and development of offshore hydrocarbon resources through the acquisition and processing of geophysical data.	<i>Contribution areas:</i> IAGC is an important stakeholder and active participant in the development of research and understanding on the potential effects of underwater sounds on marine biodiversity.	<i>Comments:</i>		
<b>Pantoja, Javier</b>	<i>Organization/ Affiliation (if any):</i> Division for the Protection of the Sea. Spanish Ministry of Agriculture, Food and Environment	<i>Languages:</i> Spanish, English	<i>Joined the NWG:</i> From the beginning	<i>Level of participation:</i> <b>informative member</b>	<i>Face to face workshop:</i> No
	<i>Relevant experience or academic background:</i> Responsible for the implementation and monitoring of initiatives on conservation of marine biodiversity, with the following main features: Monitoring and international participation and implementation in Spain of international agreements and EU directives on conservation of marine biodiversity, especially on species and marine habitats. Such agreements include working groups of the UN, regional seas conventions, agreements protecting migratory species, Convention on Biological Diversity, the Marine Strategy Directive and the Birds and Habitats Directives. Planning, reporting and management of marine protected areas in state jurisdiction.	<i>Contribution areas:</i> Management aspects of noise impacts on marine biodiversity (policy)	<i>Comments:</i>		

	<p>Monitoring and implementation of national legislation on the protection of marine species and habitats, coordination with other units and departments of the Central Government and the Autonomous Communities of Spain.</p> <p>Coordination and development proposed measures to protect threatened marine species and habitats.</p> <p>Technical management of research projects, inventory and conservation of species and marine habitat types.</p>				
<b>Pavan, Gianni</b>	<p><i>Organization/ Affiliation (if any):</i></p> <p>Università di Pavia          Centro Interdisciplinare di Bioacustica e Ricerche Ambientali (CIBRA), Dipartimento di Scienze della Terra e dell'Ambiente (DISTA),          Via Taramelli 24, 27100 Pavia, Italy</p>	<p><i>Languages:</i></p> <p>Italian, English, French (reading only)</p>	<p><i>Joined the NWG:</i></p> <p>From the beginning</p>	<p><i>Level of participation:</i></p> <p><b>informative member</b>          at time also an <b>active member</b></p>	<p><i>Face to face workshop:</i></p> <p>Yes</p>
	<p><i>Relevant experience or academic background:</i></p> <p>Runs the Laboratory of Marine Bioacoustics at CIBRA since 1989</p> <p>Professor of Ecology at the IUAV University of Venice 1995-2005</p> <p>Professor of Bioacoustic at the University of Pavia since 2006</p> <p>President of CIBRA since 2007</p> <p>Author of the ACCOBAMS guidelines on noise (2005-2006), cooperates with ACCOBAMS and the Italian Ministry of the Environment since 2004</p> <p>MMO and PAM leader on seismic cruises with Columbia University and Lamonth Doherty Earth Observatory (2004-2007)</p> <p>PAM expert on NURC research cruises 1999-2011</p> <p>Cooperates with the IT Navy since 1995, with NURC since 1998, with EDA since 2010 to support mitigation policies for the protection of marine mammals</p>	<p><i>Contribution areas:</i></p> <p>Impact of noise, acoustic behaviour of animals, acoustics and bioacoustics, field experience, technical equipment, noise measures</p>	<p><i>Comments:</i></p> <p>As there is a difficult to manage increase of entropy in scientific literature, technical documents, guidelines, recommendations, etc. I think it is important to produce joint documents to consolidate the baseline scientific knowledge and to produce summary documents that must be clear and concise to support clear new recommendations and/or rules.</p>		

	Runs the Italian Online Strandings Database http://www.unipv.it/cibra http://mammiferimarini.unipv.it				
<b>Petropoulos, Vasilios</b>	<i>Organization/ Affiliation (if any):</i> University Of Athens/ Hellenic Navy Hydrographic Service	<i>Languages:</i> English, German, French	<i>Joined the NWG:</i>	<i>Level of participation:</i> <b>informative member</b>	<i>Face to face workshop:</i> Yes
	<i>Relevant experience or academic background:</i> Msc in Marine Biology, Thesis in Bioacoustics. Phd in Bioacoustics (ongoing). PAM on Board of POURQOUI PAS? during Seismic Survey at Ionian Sea.	<i>Contribution areas:</i> Document review	<i>Comments:</i>		
<b>Prideaux, Geoff</b>	<i>Organization/ Affiliation (if any):</i> Wild Migration	<i>Languages:</i> English	<i>Joined the NWG:</i> 2014	<i>Level of participation:</i> <b>active member</b>	<i>Face to face workshop:</i> No
	<i>Relevant experience or academic background:</i> 25 years professional experience as an audio/acoustics engineer. Have provided technical support to a number of organisations on understanding the properties of sound in water, especially relating to the Convention on Migratory Species (CMS), Agreement on the Conservation of Cetaceans in the Black Sea, Mediterranean Sea and Contiguous Atlantic Area (ACCOBAMS) and Agreement on the Conservation of Small Cetaceans of the Baltic, North East Atlantic, Irish and North Seas (ASCOBANS) decisions. Have a strong professional interest in the appropriate development and review of Environment Impact Assessments about marine noise. Currently the Technical Director for Wild Migration	<i>Contribution areas:</i> Document review, especially in the appropriate development and review of Environment Impact Assessments about marine noise.	<i>Comments:</i> With so many international meetings, not sure would prioritize a workshop. Efficient electronic communication and coordination would be preferable.		
<b>Schild, Guido</b>	<i>Organization/ Affiliation (if any):</i> Stichting De Noordzee (North Sea Foundation)	<i>Languages:</i> Dutch / English / German / Norwegian / French	<i>Joined the NWG:</i> 2014	<i>Level of participation:</i> <b>informative member</b>	<i>Face to face workshop:</i>
	<i>Relevant experience or academic background:</i>	<i>Contribution areas:</i>	<i>Comments:</i>		

	I have a background in international law, with special emphasis on nature conservation law and the law of the sea. My professional experience mostly relates to marine nature conservation, both area-based and species-focused. As such, I am interested in the potential threats underwater noise poses to marine mammals and other species, particularly considering the expected increase in vessel traffic and offshore construction activities in the North Sea region.	My knowledge on the functioning of the IMO and the criteria for the establishment of PSSAs			
<b>Souami, Yanis</b>	<i>Organization/ Affiliation (if any):</i> French Navy	<i>Languages:</i> French , English	<i>Joined the NWG:</i> From the beginning	<i>Level of participation:</i> <b>active member</b>	<i>Face to face workshop:</i> Yes
	<i>Relevant experience or academic background:</i> Since 2008, CEO of SINAY which is dedicated to EIA of acoustic and marine mammal. SINAY manage various program such as marine mammal and birds aerial survey, cetacean bycatch survey and marine renewable acoustic impact on aquatic life. SINAY also have a research and development activities such as pingers, passive acoustic monitoring software and acoustic real time buoy.	<i>Contribution areas:</i> Coordination. Contact with industries. Communication between scientists, NGOs, industries and governments.	<i>Comments:</i> Noise working group need a budget to organize face meeting and be more efficient		
<b>Tougaard, Jakob</b>	<i>Organization/ Affiliation (if any):</i> Aarhus University, Department of Bioscience	<i>Languages:</i> English, Danish, Swedish, Norwegian	<i>Joined the NWG:</i> From the beginning	<i>Level of participation:</i> <b>informative member</b>	<i>Face to face workshop:</i> Yes
	<i>Relevant experience or academic background:</i> 20 years professional experience in hearing physiology and bioacoustics, last 10 years as senior scientist with main emphasis on effects of underwater noise on marine mammals. Central advisor to Danish Nature Agency, Danish Energy Agency and Greenland Government on issues relating to noise and marine mammals	<i>Contribution areas:</i> Effects of noise on marine mammals, in particular small cetaceans, but also seals. Issues relating to auditory physiology of marine mammals. Passive acoustic monitoring of small cetaceans and noise.	<i>Comments:</i> Have no resources to pay for the time on Working Group work. Would be happy to participating in a face to face workshop with travel support		
<b>Weilgart,Lindy</b>	<i>Organization/ Affiliation (if any):</i> Dalhousie University	<i>Languages:</i> English, German	<i>Joined the NWG:</i>	<i>Level of participation:</i> <b>active member / informative member</b>	<i>Face to face workshop:</i> Yes

	<p><i>Relevant experience or academic background:</i></p> <p>Specialized in underwater noise pollution and its effects on whales and other marine life since 1994. Have studied whales since 1982, primarily sperm whales, and M.Sc., Ph.D., and post-doctoral studies were all in the field of whale acoustic communication in the wild.</p> <p>Have served as invited expert on several panels, workshops, and committees on underwater noise impacts and published numerous peer-reviewed papers.</p> <p>Currently a research associate in the Biology Department, Dalhousie University, Canada, as well as scientific advisor for the International Ocean Noise Coalition.</p> <p>Formerly worked for the private Okeanos Foundation, mainly on underwater noise issues. Co-organized five Okeanos-sponsored scientific workshops on noise: 1) Alternative Technologies to Seismic Airgun Surveys for Oil and Gas Exploration and their Potential for Reducing Impacts on Marine Mammals; 2) Assessing the Cumulative Impacts of Underwater Noise with Other Anthropogenic Stressors on Marine Mammals; 3) Noise from Shipping Operations and Marine Life: Technical, Operational and Economic Aspects of Noise Reduction; Noise-Related Stress in Marine Mammals; and 4) Spatio-Temporal Management of Noise.</p> <p>In 2013, was a Scientific technical review panel member and invited expert for the Workshop on Quieting Technologies for Reducing Noise During Seismic Surveying and Pile Driving, BOEM, Silver Spring, MD, 25-27 February.</p>	<p><i>Contribution areas:</i></p> <p>Reviewing policy documents about noise issues, assessing scientific studies, giving presentations, attending workshops, etc.</p>	<p><i>Comments:</i></p> <p>Self-employed and have no outside income. Would need financial support to carry out Working Group duties.</p> <p>Obviously, we all want to be as effective as possible in making actual change in the marine environment.</p>
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A number of members made a comments that their participation was limited by funding availability.



Potential future members to consider once the procedural guidelines are adopted

- Edward Kleverlaan, IMO (developing Guidelines on shipping noise)
- John Young, Ocean Science (involved in the TSG Noise)
- Predrag Vukadin, Brodarski Institut (Croatian acoustic expert)

## ANNEX 2 – PROPOSED JNWG WORK PROGRAM

This draft work program proposes a range of possible activities for the Joint NWG in the coming 1-3 years. **These activities require prioritization to meet both the timing requirements of ASCOBANS and ACCOBAMS processes as well as the volunteer capacity of the Joint NWG.**

Joint NWG ToR	Range of potential activities proposed for 2014 (these activities require prioritization)
<p><b>I. Update and complete information on:</b></p> <p>a) Relevant activities and developments in other international bodies (both regional and global) and under the EU Marine Strategy Framework Directive</p>	<p>1) Key forthcoming meetings including:</p> <ul style="list-style-type: none"> <li>a) IMO Sub-Committee on Ship Design and Construction, 20-24 January 2014 (IMO MPC October 2014)</li> <li>b) CBD Expert workshop on Underwater Noise</li> <li>c) OSPAR Biodiversity Committee, 17-21 February 2014</li> <li>d) UNEP/MAP COR GEST 17-19 February 2014</li> <li>e) IMO Marine Environment Protection Committee completes 66th session, 31 March to 4 April 2014</li> <li>f) CMS Scientific Council 1-3 July 2014</li> <li>g) OSPAR Commission, 23-27 June 2014</li> <li>h) CBD SBSTTA18, 23-27 June 2014</li> <li>i) CBD CoP12, 6-17 October</li> <li>j) CMS CoP11 4-9 November 2014</li> <li>k) UNEP/MAP COR MON (dates to be determined)</li> <li>l) Relevant Meetings on MSFD (to follow)</li> <li>m) TNO meeting on sonar, sept. 2014</li> </ul> <p>Note: document submission dates are being investigated</p>

<p>b) Relevant developments and new literature especially with respect to technologies aimed at mitigating the propagation of marine noise and noise sources that may present a threat to marine life and how cetaceans are affected</p>	<p>2) Contact the Secretariats, sending recent information as appropriate, requesting them to add the information to Conf. docs or Inf. docs or to make the information available to Parties in appropriate way</p> <p>3) Develop a summary document that presents quick and accessible information about technologies aimed to mitigate noise on marine mammals and noise sources; engage in workshops with the industry</p>
<p>c) Parties' progress in implementation of:</p> <p>CMS Res.9.19: Adverse Anthropogenic Marine/Ocean Noise Impacts on Cetaceans and other Biota</p> <p>CMS Res.10.24: Further Steps to Abate Underwater Noise Pollution for the Protection of Cetaceans and other Migratory Species</p> <p>ACCOBAMS Res.3.10: Guidelines to Address the Impact of Anthropogenic Noise on Marine Mammals in the ACCOBAMS Area</p> <p>ACCOBAMS Res.4.17: Guidelines to Address the Impact of Anthropogenic Noise on Cetaceans in the ACCOBAMS Area</p> <p>ACCOBAMS Res.5.13: Conservation of Cuvier's beaked whales in the Mediterranean</p> <p>ACCOBAMS Res.5.15: Addressing the impact of anthropogenic noise</p> <p>ASCOBANS Res.6.2: Adverse Effects of Underwater Noise on Marine Mammals during Offshore Construction Activities for Renewable Energy Production</p> <p>ASCOBANS Res.7.2: Activities of the ASCOBANS Advisory Committee and Work Plan</p> <p>And any relevant Resolutions still to be passed.</p>	<p>4) With the assistance of the Secretariats, collect information from Parties about their progress and the effectiveness in implementing the listed Resolutions.</p>

<p><b>II. Improvement of existing guidelines based on new scientific findings, detailing available mitigation measures, alternative technologies and standards required for achieving the conservation goals of the treaties, in particular by:</b></p> <ul style="list-style-type: none"> <li>d) Updating and structuring the recommendations in the ACCOBAMS and ASCOBANS noise guidelines and making them applicable globally</li> <li>e) Updating the guidance on relevant mitigation technologies and management measures, and their effectiveness and cost</li> <li>f) Continuing to consult stakeholders for advice on operational constraints to take into account</li> <li>g) Recommending appropriate biological indicators and thresholds</li> </ul>	<ul style="list-style-type: none"> <li>5) Request an update from the CMS Secretariat about progress on communications with Parties and any information received, as well as any additional information that might be presented to CBD SBSTTA18 and then also CBD CoP12</li> <li>6) Develop a matrix of noise guidelines in use around the world (including the ACCOBAMS guidelines) for discussions by the Joint NWG –</li> <li>7) Once discussed, develop draft CMS noise guideline advice for presentation to the CMS Scientific Council – the emphasis of this should be to prepare something that is simple and short</li> <li>8) Develop a Standard for geophysical surveys (seismic, multi-beam research activities,...) in the Mediterranean Sea (GNCC/ACCOBAMS Guidelines Doc. 22 are already there) To develop this standards, collect information on : <ul style="list-style-type: none"> <li>• which guidelines are applied in Mediterranean Sea; look at the effectiveness of the measures.</li> <li>• what are the best practices of industries ?</li> <li>• what are the geophysical activities in the area ?</li> <li>• what need to be included in the standard (certified training of MMO, PAM, etc.)</li> <li>• organise a workshop with the industry</li> </ul> </li> </ul> <p>For II (d) Please refer to the item IV regarding collaboration with UNEP/MAP</p>
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<p><b>III. Further develop the documents:</b></p> <ul style="list-style-type: none"> <li>h) ACCOBAMS-MOP5/2013/Doc.22 on Anthropogenic noise and marine mammals: review of the effort in addressing the impact of anthropogenic underwater noise in the ACCOBAMS and ASCOBANS areas,</li> <li>i) ACCOBAMS-MOP5/2013/Doc.23 on Implementation of underwater noise mitigation measures by industries: Operational and economical constraints, and</li> <li>j) ACCOBAMS-MOP5/2013/Doc.24 Methodological Guide: “Guidance on underwater noise mitigation measures” according to available knowledge and to report about progress made to the next Meeting of Parties to ACCOBAMS</li> </ul>	<p>9) Develop further comments on :</p> <ul style="list-style-type: none"> <li>a) ACCOBAMS-MOP5/2013/Doc.22;</li> <li>b) ACCOBAMS-MOP5/2013/Doc.23 and</li> <li>c) ACCOBAMS-MOP5/2013/Doc.24</li> </ul> <p>Continue to update these three documents until the end of 2014</p>
<p><b>IV. Provision of advice on:</b></p> <ul style="list-style-type: none"> <li>k) Collaboration with other international bodies, such as OSPAR, HELCOM, CBD, IMO and IWC</li> </ul>	<ul style="list-style-type: none"> <li>10) Collaborate and engage with IMO on the next work plan related with the Sub-Committee on Ship Design and Construction that could be considered in 2014</li> <li>11) Write to OSPAR for additional information and update on their noise mitigation considerations</li> <li>12) Pursue the ACCOBAMS collaboration with UNEP/MAP to develop specific indicator related to EO11</li> <li>13) Relevant collaboration activities with CBD (to follow)</li> </ul>

<p>l) Requirements of the relevant other bodies that countries have elected to adhere to with respect to underwater noise, such as European Directives (i.e. the Marine Strategy Framework Directive and the Habitats Directive)</p>	<p>14) Give recommendations on a development of an indicator on noise, with the overall aim of updating the list of the COP18 agreed GES, targets, indicators by COP19 in 2015 (UNEP/MAP).</p> <p>15) Further develop table presented during the COR GEST Meeting regarding EO11 for adoption of noise indicator by COP19 (UNEP/MAP)</p> <p>16) With the assistance of the Secretariats, collect information from Parties about their progress and the effectiveness in implementing the Habitat Directive</p> <p>17) With the assistance of the Secretariats, collect information from Parties about their progress and the effectiveness in implementing the MSFD (descriptor 11)</p>
<p>m) Opportunities for influencing decisions of other relevant bodies in order to achieve more effective protection of marine life from impacts of underwater noise</p>	<p>18) Develop a draft advisory note for governments about factors to consider for effective mitigation of noise propagation into MPAs or other protected areas, and seeking comment from the:</p> <ul style="list-style-type: none"> <li>a) IUCN SSC/WCPA Marine Mammal Taskforce</li> <li>b) IUCN WCPA Transboundary Conservation Specialist Group</li> <li>c) IUCN SSC Cetacean Specialist Group, Pinniped Specialist Group, Sirenian Specialist Group, Polar Bear Specialist Group, Shark Specialist Group and CMS ScC Aquatic Mammals Working Group</li> </ul> <p>19) With comments incorporated, present the advisory note to the CMS Scientific Council, ASCOBANS Advisory Committee and ACCOBAMS Scientific Committee for comment and forward recommendation</p> <p>20) Engage industries, Parties, NGO with implementing ship quieting guidelines</p>

<p><b>V. Design, and help implement as appropriate, pilot projects to test and improve the existing noise guidelines (ACCOBAMS Res. 4.17 and ASCOBANS AC17/Doc.4-08) and mitigation measures for their application in the field</b></p>	<p>21) Define 2 or 3 priorities of pilot project (ex.: define save levels (at least for MPAs), test quieting technologies, etc.)</p> <p>22) Propose 2 or 3 pilot projects to ASCOBANS/ACCOBAMS/CMS</p> <p>23) Engage with Gvmt and non Gvmt Parties in implementing the IMO ship quieting Guidelines within the reagon.</p> <p>The new guidelines:</p> <ul style="list-style-type: none"><li>- recognize that shipping noise can have short-term and long-term impacts on marine life;</li><li>- call for measurement of shipping noise according to objective ISO standards, which are themselves on the verge of adoption;</li><li>- identify computational models for determining effective quieting measures;</li><li>- provide guidance for designing quieter ships and for reducing noise from existing ships, especially from propeller cavitation; and</li><li>- advise owners and operators on how to minimize noise through ship operations and maintenance, such as by polishing ship propellers to remove fouling and surface roughness.</li></ul> <p>While these (as yet) are voluntary guidelines, not mandatory code, they put the IMO's imprimatur on noise reduction.</p>
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<p><b>VI. Follow up activities specified by ACCOBAMS Parties related to conservation of Cuvier's beaked whales in the Mediterranean, by:</b></p> <p>n) Developing, in collaboration with Parties, non-Parties, as well as NATO and other stakeholders as necessary, implementable measures to reduce impacts of intense noise activities within areas identified as of special concern for Cuvier's beaked whales for consideration by the next Meeting of the Parties of ACCOBAMS</p>	<p>24) Create dialogue with stakeholders and other potential organisation to reduce impacts</p> <p>25) Review of existing measures and if they could be applied in other regions</p> <p>26) Extend this activities to other regions than ACCOBAMS</p> <p>27) Establish dialogue with stakeholders to develop implementable measures.</p> <p>28) Dialogue needs to go through the secretariats and will need to be reviewed by Scientific Committee, Advisory Committee and Scientific Council</p> <p>29) Attend September Meeting in Amsterdam, which focuses on military noise and organise a meeting around that workshop on which most NATO countries attend,</p> <p>30) Get a review what the Navy does in EU waters</p>
<p>o) Supporting the ACCOBAMS Scientific Committee over the study on the extent and temporal variability of the habitat of species that are known to be particularly vulnerable to man-made noise (eg <i>Ziphius cavirostris</i>), in order to ensure that more data are made available, to increase the model's robustness and to compare different algorithms for best results</p>	<p>31) Define the process of exchange and communication with the Scientific Committee</p> <p>32) Propose a technical presentation of models (methodology, advantage/disadvantage, performance/limit, etc.) both for scientific and non-scientific</p> <p>33) Develop the models in other area</p>



<p><b>VII. Responding to relevant Resolutions and priorities of CMS, ACCOBAMS and ASCOBANS</b></p>	<p>34) Further develop contacts with the industry, including writing to industry about the ACCOBAMS guidelines Develop a summary document that present quick and accessible information about measures to mitigate noise on marine mammals; Rules, Tools and procedures</p> <p>35) Organize workshop with different industries (i.e. special workshop for geophysical Industry) and develop a standard.</p> <p>36) Aquatic mammal conference 2015 will dedicate one day on policy. Attend and establish and improve dialogue with member states.</p> <p>37) Attend 2015 Barcelona Conference on ONP. Host an Noise and Environmental Impact Assessment workshop at the ECS meeting (Remark: Risk assessment is a different audience, how to bring all people related to risk assessment in the process?)</p> <p>38) Develop CMS level guidelines (i.e. broader than European context) for EIA relating to marine noise for the CMS Scientific Council to consider, and possibly recommend to the CMS Conference of the Parties</p> <p>39) Develop European level guidelines for EIA relating to marine noise for ASCOBANS and ACCOBAMS to consider</p> <p>40) Identify and map anthropogenic noise/cetaceans interactions hot spots in the ACCOBAMS area</p> <p>41) Identify and map anthropogenic noise hot spots</p> <p>42) Identify and map cetacean hot spots</p>
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<p><b>Other) Increasing the Joint NWG Profile in coordination with the Secretariats</b></p>	<p>43) Prepare general presentation about the Joint NWG for use in meetings with other organisations</p> <p>44) Prepare the Joint NWG online workspace, and launch it to the whole Joint NWG -</p> <p>45) Invite international bodies to join the Joint NWG and exchange information where possible (including seeking to have Joint NWG document distributed to member States of key organisations)</p> <p>46) Invite additional expert members to participate in the Joint NWG</p> <p>47) Host a Joint NWG meeting in the margins of the ECS meeting</p> <p>48) Further develop contacts with the industry, including writing to industry about the ACCOBAMS guidelines</p> <p>49) Recirculate list of participants/members and reconfirm the aim and purpose of the NWG (i.e. to serve the ACCOBAMS SC, ASCOBANS AC and CMS SC as advisory group with the purpose to ensure cetacean conservation from ONP) into the work program.</p>
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**General remarks :**

- 50) Need to define what to be produce for each meeting (ACCOBAMS, ASCOBANS, CMS)
- 51) Clarify the organisation of the JNWG
- 52) Organise more meeting of the JNWG