

Ministry of the Economy
Directorate for Energy and Mining
Ulica grada Vukovara 78
10 000 Zagreb

Wädenswil, February 11, 2015

Dear Members of the Croatian Government

We welcome the opportunity to comment on the *Strateška studija o vjerojatno značajnom utjecaju na okoliš Okvirnog plana i programa istraživanja i eksploatacije ugljikovodika na Jadranu* (Strategic Study) for Croatia's compliance with the Directive 2001/42 /EC of the European Parliament and of the Council on the Assessment of the Effects of Certain Plans and Programs on the Environment (Strategic Environmental Assessment Directive) and Croatia's domestic legislation.

We commend the Croatian Government for progressing this Strategic Environmental Assessment and for releasing the Strategic Study for comment. Given that the potential impacts discussed are of a transboundary nature, we would have hoped that such an important document would be released in other languages so that it was accessible to an international audience, including neighbouring countries. None-the-less we take the opportunity to comment on the Strategic Study by recalling the obligations based on international decisions.

In general, we wish to emphasise that any further activity to explore and/or exploit hydrocarbon resources in the Adriatic Sea requires a comprehensive Environmental Impact Assessment, as laid out in our original comments in 2013.

International requirements and obligations

As Croatia has identified, assessment of likely impacts is an emerging legal requirement in the European Union. Directive 2001/42 /EC and the more recent Environmental Impact Assessment Directive 2014/52/EU requires that Environmental Impact Assessments are carried out before development consent is given to activities (2014/52/EU Art 2.1) to identify impacts to biodiversity with particular attention to species and habitat protected under Directive 92/43/EEC and Directive 2009/147/EC (2014/52/EU Art 3.1).

While seismic surveys are not included in the Annexes, the 2014/52/EU Directive introduction states that:

"[w]ith a view to ensuring a high level of protection of the marine environment, especially species and habitats, environmental impact assessment and screening procedures for projects in the marine environment should take into account the characteristics of those projects with particular regard to the technologies used (for example seismic surveys using active sonars)."

In further support of this imperative, we draw your attention to the recent Convention on Biological Diversity (CBD) *Decision XII/22: Marine and coastal biodiversity: ecologically or biologically significant marine areas (EBSAS)* that encourages Parties:

... "to make use, as appropriate, of the scientific information regarding the description of areas meeting EBSA criteria, including the information in the EBSA repository and information-sharing mechanism, as well as the information from indigenous and local communities as well as relevant sectors, including the fisheries sector, when carrying out

marine spatial planning, development of representative networks of marine protected areas, taking into account annex II to decision IX/20, and application of other area-based management measures in marine and coastal areas, with a view to contributing to national efforts to achieve the Aichi Biodiversity Targets”

Specifically, CBD Decision XII/22 has identified that:

- the Northern Adriatic hosts a bottlenose dolphin (*Tursiops truncatus*) population having one of the highest densities in the Mediterranean”, it is one of the most important feeding grounds in the Mediterranean of the loggerhead turtle (*Caretta caretta*). Moreover, it is a nursery area for a number of vulnerable species and is one of the most productive areas in the Mediterranean Sea. It is ranked high for its ‘special importance for life-history stages of species’, ‘importance for threatened, endangered or declining species and/or habitats’ and for ‘biological productivity’;
- the Jabuka/Pomo Pit hosts the largest populations of Norway lobster (*Nephrops norvegicus*) and is important especially for juveniles in the depths over 200 m. It is ranked high for its ‘uniqueness or rarity’, ‘special importance for life-history stages of species’, and for ‘biological productivity’; and
- the South Adriatic Ionian Strait contains important habitats for Cuvier’s beaked whales (*Ziphius cavirostris*), an Annex II species of the Protocol concerning Specially Protected Areas and Biological Diversity in the Mediterranean (SPA/BD Protocol) in the framework of Barcelona Convention, and significant densities of other megafauna such as the giant devil ray (*Mobula mobular*), striped dolphin (*Stenella coeruleoalba*), Mediterranean monk seal (*Monachus monachus*), and loggerhead turtle (*Caretta caretta*), all of which are listed in Annex II of SPA/BD Protocol. It is ranked high for its ‘uniqueness or rarity’, ‘special importance for life-history stages of species’, ‘importance for threatened, endangered or declining species and/or habitats’, ‘vulnerability, fragility, sensitivity, or slow recovery’ and for ‘biological diversity’.

We are of the opinion that no exploration and/or exploitation activities should be permitted within and around any of the referenced EBSA sites and/or sites declared as protected zones (including Special Areas of Conservation designated through the Species and Habitats Directive and Areas of Community Importance, including those referenced within the Strategic Environmental Assessment).

We also draw to your attention the recent discussions of the Subsidiary Body on Scientific, Technical and Technological Advice (SBSTTA) Recommendations to CBD Parties XVIII/4: Marine and coastal biodiversity that urges Parties to:

“take appropriate measures within their mandates to avoid, minimize and mitigate the potential significant adverse impacts of anthropogenic underwater noise on marine and coastal biodiversity,” and to

“[conduct] appropriate impact assessments before carrying out activities that may have adverse impacts on noise-sensitive species, and carrying out appropriate monitoring”.

SBSTTA also urged CBD Parties to combine acoustic mapping of potential noise impacts with habitat mapping of sound-sensitive species to identify areas where those species may be exposed to noise impacts.

As you are aware, the Agreement on the Conservation of Cetaceans in the Black Sea, Mediterranean Sea and Contiguous Atlantic (ACCOBAMS) *Resolution 4.17: Guidelines to Address the Impact of Anthropogenic Noise on Cetaceans in the ACCOBAMS Area (ACCOBAMS Noise Guidelines)*:

“[r]ecogniz[es] 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”.

The ACCOBAMS Resolution also 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”.

The ACCOBAMS Noise Guidelines further detail specific considerations relating to seismic surveys and offshore drilling.

Also, the Convention on Migratory Species (CMS) *Resolution 10.24: Further Steps to Abate Underwater Noise Pollution for the Protection of Cetaceans and Other Migratory Species*:

“[s]trongly 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 “[u]rges 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.”

The detail of Environmental Impact Assessments

The four bodies highlighted above have provided significant clarity about the expectations to conduct Environmental Impact Assessments in order to fully assess and effectively manage impacts associated with offshore seismic and drilling activities, among other underwater noise producing activities.

In our experience, offshore exploration proposals are often presented to governments with generalized, unsubstantiated information and usually without having conducted basic consultation. Subsequent decision-maker approvals or rejections of such poor Environmental Impact Assessments are being made on the basis of erroneous information and are vulnerable to criticisms of bias or tokenism. Environmental Impact Assessments should provide a level of technical information that gives confidence to decision-makers.

The Scientific Council of CMS (CMS ScC) recently determined that Environmental Impact Assessments for Offshore Petroleum Exploration Seismic Surveys should provide a science-based tool for decision-makers to better understand the consequences of their decisions evaluate alternatives and mitigate impacts.

Given the clarity in both Directive 2001/42 /EC and Directive 2014/52/EU and the weight of information through the CBD EBSA, ACCOBAMS and CMS Decisions, as well as the SBSTTA and CMS ScC Recommendations, we urge the Croatian Government to take this opportunity to ensure that meaningful and comprehensive Environmental Impact Assessments in the Adriatic Sea are mandatory, before any activity is approved.

Within these Environmental Impact Assessments, the government should stipulate that professional sound propagation modelling for all seismic activities is transparently provided to authorities, as well as being verified in the field. This modelling should be based on local environmental data, not on other regions, other surveys or generalist assumptions from industry. Only through such modelling and field verification will authorities be able to determine the cumulative impact from multiple and overlapping seismic activities as well as their acoustic interaction with other sound sources from anthropogenic activities, as for example shipping.

We also believe that it is important that crucial data regarding abundance, distribution, seasonality and habitat use of key species in the region should be collected and known before any activities commence. In particular, the special area of concern in the south Adriatic for *Ziphius cavirostris*

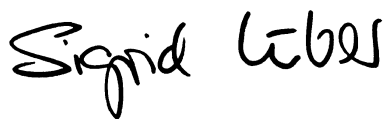
requires additional surveying.

Furthermore, we call on the Croatian government when reviewing the future results from Environmental Impact Assessments to encourage the petroleum industry to present all potential options and details about available technologies to reduce sound levels during exploration activities, as recommended within the referenced Resolution CMS 10.24 and ACCOBAMS 4.17, and SBSTTA Recommendation XVIII/4. For instance, stress field detection technology performed from the air, or similar technologies could potentially reduce the need for some seismic airgun surveys by focusing them on only the most promising areas. Marine vibroseis holds promise in reducing the acoustic footprint of seismic surveys, particularly for high-frequency specialists and noise-sensitive marine life such as beaked whales.

Finally, we urge that quantitative and systematic monitoring should be prescribed before, during and after seismic activities. It should be undertaken by independent experts and also conducted during operation of the potential platforms.

We would be pleased to provide further elaboration on any of these points, and look forward to the positive conclusion of the Strategic Environmental Assessment.

Yours sincerely



Sigrid Lüber
President of OceanCare, on behalf of:

Cetacean Society International, USA
Eastern Caribbean Coalition for Environmental Awareness, Martinique
ECOCARE, Maldives
Environmental Investigation Agency, International
M.E.E.R. e.V., Germany
Morigenos - Slovenian Marine Mammal Society, Slovenia
NRDC, International
Ocean Conservation Research, USA
Ocean Mammal Institute, USA
Pro Wildlife e.V., Germany
Tethys Cetacean Research Institute, Italy
Whale and Dolphin Conservation
Wild Migration, International

CC: to the Environment Directorate-General, François WAKENHUT, Head of Unit Biodiversity,
European Commission, B-1049 Brussels

Annex - CBD Decision XII/22, Table 7: Description of areas meeting the EBSA criteria in the Mediterranean

Location and brief description of areas	C1	C2	C3	C4	C5	C6	C7
<p>1. Northern Adriatic</p> <ul style="list-style-type: none"> Location: Part of the Northern Adriatic Basin, off the coasts of Italy, Slovenia and Croatia. The area is roughly delimited by the 9 m isobaths, encompassing the area above the strait line linking Ancona (Conero) and the island of Ilovik. The area is located in the northern part of the North Adriatic Sea Basin, with an average depth of 35 m and is strongly influenced by the Po river plume. It includes mobile sandy bottoms, seagrass meadows, hard bottom associations and unique rocky outcrops called “trezze” and “tegnue”. The area is important for several threatened species. It hosts a population of the highest density of bottlenose dolphin (<i>Tursiops truncatus</i>) in the Mediterranean, it is one of the most important feeding grounds in the Mediterranean of the Loggerhead turtle (<i>Caretta caretta</i>) and it is a nursery area for a number of vulnerable species (blue shark (<i>Prionace glauca</i>), sandbar shark (<i>Carcharinus plumbeus</i>), anchovies (<i>Engraulis encrasicolus</i>), etc.). The area hosts a strong diversity of benthic and pelagic habitats due to an important gradient of environmental factors from its western portion to its eastern coasts. It is also one of the most productive areas in the Mediterranean Sea. 	M	H	H	M	H	M	L
<p>2. Jabuka/Pomo Pit</p> <ul style="list-style-type: none"> Location: The area encompassing three distinct, adjacent depressions, with maximum depths of ca. 270, respectively. The area extends 4.5 nautical miles from the 200 m isobath. The area encompassing the adjacent depressions, the Jabuka (or Pomo) Pit is situated in the Middle Adriatic Sea and has a maximum depth of 200 - 260 m. It is a sensitive and critical spawning and nursery zone for important Adriatic demersal resources, especially European hake (<i>Merluccius merluccius</i>). This area hosts the largest populations of Norway lobster (<i>Nephrops norvegicus</i>) and is important especially for juveniles in the depths over 200 m. Based on available scientific data it is a high density area for the giant devil ray (<i>Mobula mobular</i>), an endemic species listed on Annex II SPA/BD protocol and listed as endangered on the IUCN Red List. The Pit could function as a favourable environment for some key life history stages of the porbeagle shark, and <i>Lamna nasus</i>, which is critically endangered (IUCN 2007), and both of which are listed on Annex II SPA/BD Protocol. Regarding benthic species, several types of corals can be found (<i>Scleractinia</i> and <i>Actiniaria</i>). 	H	H	M	M	H	M	L

Location and brief description of areas	C1	C2	C3	C4	C5	C6	C7
<p>3. South Adriatic Ionian Strait</p> <ul style="list-style-type: none"> Location: The area is located in the centre of the southern part of the Southern Adriatic basin and in the northern part of the Ionian Sea. It includes the deepest part of the Adriatic Sea on the western side and it encompasses a coastal area in Albania (Sazani Island and Karaburuni peninsula). It also covers the slopes in near Santa Maria di Leuca. The area is located in the centre of the southern part of the Southern Adriatic basin and the northern Ionian Sea. It is characterized by steep slopes, high salinity and a maximum depth ranging between 200 m to 1500 m. Water exchange with the Mediterranean Sea takes place through the Otranto Channel, which has a sill that is 800 m deep. This area contains important habitats for Cuvier's beaked whales (<i>Ziphius cavirostris</i>), an Annex II species of the Protocol concerning Specially Protected Areas and Biological Diversity in the Mediterranean (SPA/BD Protocol) in the framework of Barcelona Convention, and significant densities of other megafauna such as the giant devil ray (<i>Mobula mobular</i>), striped dolphin (<i>Stenella coeruleoalba</i>), Mediterranean monk seal (<i>Monachus monachus</i>) and loggerhead turtle (<i>Caretta caretta</i>), all of which are listed in Annex II of SPA/BD Protocol. Benthos includes deep-sea cold-water coral communities and deep-sea sponge aggregations, representing important biodiversity reservoirs and contributing to the trophic recycling of organic matter. Tuna, swordfish and sharks are also common in this area. 	H	H	H	H	M	H	M

Key to the tables

RANKING OF EBSA CRITERIA

Relevance

H: High

M: Medium

L: Low

-: No information

CRITERIA

- **C1:** Uniqueness or rarity
- **C2:** Special importance for life-history stages of species
- **C3:** Importance for threatened, endangered or declining species and/or habitats
- **C4:** Vulnerability, fragility, sensitivity, or slow recovery
- **C5:** Biological productivity
- **C6:** Biological diversity
- **C7:** Naturalness