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Media release:

Underwater noise: The hidden danger of deep-sea mining **OceanCare releases first in-depth analysis of noise emissions from deep sea mining activities**

Wädenswil, 22. November 2021: Today, OceanCare releases its report titled "Deep-Sea Mining: A noisy affair". It is the first in-depth analysis addressing concerns about noise emissions from exploration and expected exploitation activities in the deep-sea and their potential impacts on marine life.

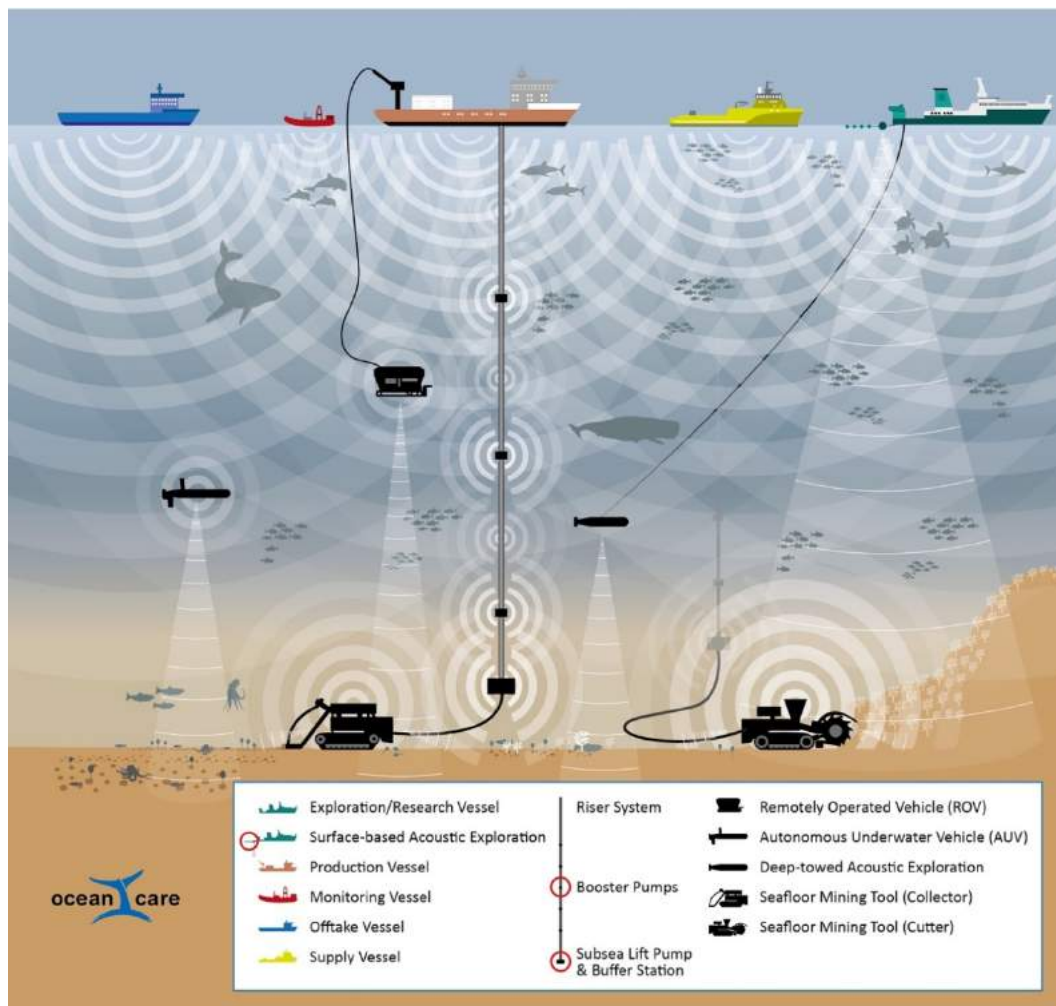
The report includes concrete recommendations to improve future decision-making regarding deep-sea mining (DSM). Main author is Cyrill Martin, lawyer and Ocean Policy Expert at OceanCare. His co-authors are marine biologist and ocean noise expert Dr. Lindy Weilgart, Dr. Diva Amon, a deep-sea expert and Dr. Johannes Müller, Ocean Policy Expert at OceanCare.

Deep-sea mining and underwater noise

While the debate around DSM has focused primarily on the physical destruction of the seafloor and sediment plumes, another important and harmful effect of deep-sea mining has only recently come into clearer focus: underwater noise.

"Underwater noise threatens marine life", says Cyrill Martin, Ocean Policy Expert at the marine wildlife protection NGO OceanCare. "High levels of noise would be emitted constantly over decades if deep-sea mining is permitted without further research and regulation", he adds. Underwater noise pollution is one of the key policy areas of OceanCare. The NGO has built expertise in and campaigned against underwater noise pollution for almost two decades.

Underwater noise is emitted at all stages of deep-sea mining. The depiction below shows the most relevant sources, some of which are temporary whereas others are near-constant for years to decades.



Noise travels fast and very efficiently underwater, at almost five times the speed of sound in air. Low frequencies can, under certain conditions, be heard over distances of thousands of kilometers in the ocean. At about 800 – 1000 meters depth in temperate areas, the Sound Fixing and Ranging (SOFAR) Channel allows sound to travel almost unimpaired – similar to light conducted through a fiber optic cable.

Through commercial shipping, oil and gas exploration activities, naval activities, and construction, noise levels have increased in the ocean. “Levels of human-generated noise have doubled every decade since the 1960’s in some regions”, says Cyrill Martin. “Deep-sea mining would take noise pollution to a whole new level, due to the presence of loud noise sources throughout the entire, very deep water column and the very long duration of noise emissions.”

But just how noisy is deep-sea mining? While it is difficult to compare noise levels and their potential impact on land and underwater due to the different densities of air and water, some rough comparisons illustrate how loud the acoustic emissions from deep-sea mining would be. Converted to decibels in air, many sources from deep-sea mining, such as sonars, vessels, dredging, and drilling emit noise levels that are several hundred times louder than those of a space-rocket launch. Even if the comparison is not 100% exact, it is clear that noise from deep-sea mining is a serious threat.

“Around 150 marine species have shown to be impacted by noise, so there is no longer any doubt that underwater noise is a harmful and a serious pollutant”, says Lindy Weilgart, marine biologist at Dalhousie University, Canada, and OceanCare consultant. “Adding another source of constant and loud noise without further research about the impacts and without significant efforts to reduce the noise would be utterly irresponsible.”

We know less about the deep ocean than the surface of the moon. To degrade this fragile ecosystem before we understand its full worth could haunt us for decades.

Therefore, OceanCare recommends:

- 1) OceanCare recommends incorporating and following the precautionary principle in regulations and to restrict noise emission until there is a sound scientific foundation showing that noise emissions from deep-sea mining activities do not harm the marine environment and species significantly.
- 2) Create a solid scientific foundation covering all relevant aspects and potentially harmful effects of noise pollution through deep-sea mining.
- 3) Adopt policy measures including a pause in the drafting of the Mining Code as well as environmental protection regulations and guidance by the International Seabed Authority (ISA), the regulatory body governing the international seabed, until reliable data are available about the noise emissions of deep-sea mining. The regulations should stipulate, among other measures, that underwater noise in mined areas and their vicinity should be at levels that are proven not to adversely affect the marine environment.

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Please contact us with any questions and interview requests.

About OceanCare

OceanCare is a Swiss non-profit organization. It was founded in 1989 and has a strong commitment to realistic and cooperative initiatives. The organization works at national and international level in the areas of marine pollution, environmental changes, fisheries, whaling, sealing, captivity of marine mammals and public education.

OceanCare holds Special Consultative Status with the Economic and Social Council of the United Nations (ECOSOC) and is a partner of the General Fisheries Commission for the Mediterranean (GFCM), the Convention on Migratory Species (CMS), and the UNEP/CMS Agreement on the Conservation of Cetaceans in the Black Sea, Mediterranean Sea and Contiguous Atlantic Area (ACCOBAMS), as well as UNEP/MAP. OceanCare is accredited observer at the Convention on Biological Diversity (CBD). OceanCare has also been accredited as a Major Group to the United Nations Environment Assembly (UNEA), which is the governing body of UNEP and is a part of the UNEP Global Partnership on Marine Litter.

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