



FACTSHEET

Marine

An ocean of noise

Reducing the impact of industrial noise on whales



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Ocean noise is a growing threat to the health of ocean life. Many animals in the ocean depend on sound to communicate, to find food and mates, and to avoid predators. The noise produced by increasing human activity on and in the oceans needs to be better controlled to help reduce its impacts.

WWF commissioned a comprehensive report to examine the complex issue of ocean noise management. The report concludes that if we are to avoid biologically significant negative impacts on ocean life, society must now be precautionary in its response to this growing threat by using changes in operations and technology to quieten the oceans. Precaution means using what we know now, instead of waiting for additional scientific research before taking any actions.



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A ship towing seismic equipment.

WWF recommends a focus on the following key findings that will make the oceans a quieter place for the benefit of whales, dolphins, fish and other species in a very rapidly changing ocean:

- It is clear from existing research that ocean noise is a conservation threat to many marine species. We do not need more research before acting to reduce impacts and reduce noise at source. However, **further research on technologies to reduce noise created by oil exploration, commercial shipping, and pile driving** is recommended.
- Making certain areas of the marine environment unavailable to industry, at least during sensitive periods, represents one of the most effective methods for reducing impacts of noise on marine mammals. Consequently, **noise-producing activities should be avoided in vulnerable areas where vulnerable species are located**, particularly in areas that are stressed by existing noise levels and/or are ecologically important. Management agencies should implement proactive area-based management efforts such as establishing marine protected areas (MPAs) or time-area closures that restrict noise-producing activities, and implement buffer zones around protected areas to ensure that levels of noise within are not raised beyond acceptable levels.
- Where avoidance is not possible, mitigation measures should be taken (i) that **reduce loud sounds in areas where vulnerable species may be present** and (ii) that **reduce the amount of noise pollution at the source**. In the case of shipping, the Guidelines for Minimizing Underwater Noise from Commercial Ships are soon to be adopted by the International Maritime Organisation (IMO). These guidelines then need to be swiftly and effectively implemented by the industry and formalized as regulations.

- **Transit areas that require lower speed to avoid cetaceans** should be encouraged as part of marine spatial planning/voyage planning. The slow steaming initiative that saves fuel and additionally reduces emissions as well as other environmental impacts needs to be maintained. This initiative is believed to have also resulted in a substantial decrease in noise levels (and a reduced collision risk for whales).
- As recommended by the IMO Subcommittee on Design and Equipment, the IMO's Marine Environmental Protection Committee (MEPC) should consider the proposals for further work on the reduction of underwater noise from commercial shipping, listed as 'out of scope' of the above IMO Guidelines, by developing future guidelines and regulatory policies that include **a global noise reduction target and the inclusion of environmentally sensitive areas on marine charts.**
- The proposed High Seas Biodiversity Agreement under discussion via the UN should address underwater noise including through the designation of **acoustic refuges for cetaceans**, which might be addressed through high seas MPAs or other measures.
- **Limits on pile driving noise** have been put in place by Germany. Such noise may be limited by using techniques such as bubble curtains and coffer dams which prevent much of the source noise travelling beyond them and into the wider ocean environment. The development and use of these technologies to their current states was a direct result of the German regulations. The noise limits developed by Germany and the reduction methods employed there should be implemented elsewhere.
- Seismic surveys using air guns are extremely noisy. Much of the frequency spectrum of the noise created by the airgun explosions is not required for seabed analysis and surveys may be repeated over the same areas of seabed. Other techniques for oil exploration are available (such as Vibroseis, which uses a vibrating device on the sea floor). Every effort should be made to **limit the extent of seismic surveys and encourage the further development and use of less noisy technologies.**

Aerial view of Narwhal (*Monodon monoceros*) group migrating, Lancaster Sound, Canadian Arctic





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Blainville's beaked whale.

- **High-intensity sonars used by the military for training exercises need to be used less and great care taken in terms of where and when they are used in order to avoid impacts on marine life.**
- **Marine management and spatial plans should specify noise objectives, and set cumulative noise caps.**
- To facilitate a more holistic approach to the management of noise exposures, management agencies and regulators should **improve cumulative impact assessment procedures**; make wider use of strategic or regional environmental assessments, especially in areas experiencing rapid growth; and adopt protocols which encourage industry cooperation in the preparation of assessments, such as the joint noise exposure model required from companies wishing to conduct seismic surveys in Greenland.
- Governments and regulators are recommended to **implement scientifically based noise limits for oil and gas activities**, including, but not limited to, exploration, extraction and decommissioning, that can be phased in over a period of not more than 10 years.
- Port authorities are strongly encouraged to **develop regional port partnerships and adopt noise-related green certification standards**, and certification programs are recommended to include noise-related criteria in their standards.
- Regulators should develop public and industry **education programs about the impacts of ocean noise on marine life**, and possible reduction measures.

WWF will continue its efforts to reduce ocean noise by collaborating with industry and regulators in this direction. To see the full report and find out more about ocean noise and WWF's work please visit: panda.org/oceannoise

	<p>Why we are here To stop the degradation of the planet's natural environment and to build a future in which humans live in harmony with nature.</p> <p>panda.org/arctic</p>
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Information

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