Underwater Noise from Shipping:
Opportunities for Action

Commercial shipping is the primary source of underwater noise pollution in the ocean today, and its impacts to marine life are far-ranging and harmful.

Growing scientific evidence has shown that underwater noise adversely affects the entire marine food web, encompassing aquatic plants, plankton, invertebrates, fishes, and marine mammals, posing a substantial threat to marine ecosystems and biodiversity. Furthermore, underwater noise from shipping continues to intensify – doubling roughly each decade – mirroring the growth in global shipping activities.

Urgent action by policy-makers, the shipping industry, and others is needed at the international, national, and regional levels to reduce underwater noise pollution in the ocean.

Recommended Actions for Countries to Take

While it is largely the responsibility of ship owners and operators to adopt measures that can reduce ship noise, there are a number of ways that countries can support the shipping industry to make the needed changes.

Raise awareness of the urgency to reduce underwater noise pollution

Currently, the shipping industry is keenly focused on reaching net-zero GHG emissions by or around 2050, which is necessary to address the climate crisis. However, the industry must also consider how it can address the biodiversity crisis in tandem. Countries can help to educate the shipping industry on the urgent threat that underwater noise pollution poses to marine biodiversity, and to ensure that international-level meetings that consider shipping impacts include a priority focus on reducing ship noise. The vision should be a future of shipping that is both carbon-free and quiet.

Employ vessel speed reduction programs to reduce noise

Slowing vessel speed is currently the most effective way to reduce a ship's underwater noise. Vessel speed reduction programs have been implemented in multiple countries as a means to both protect whales from collisions and to reduce underwater noise. Additionally, slowing vessel speed can also lower GHG emissions and particulate pollution that can harm local communities. Where ship strikes of whales are a concern, requiring ships to travel at 10 knots or less is most effective to reduce whale mortality from collisions. Elsewhere, modest speed reductions of just 10 or 20% can significantly reduce underwater noise impacts on marine mammals.

Some examples of vessel speed reduction programs include:

- Panama's Vessel Speed Limits into and out of the Panama Canal
- Protecting Blue Whales and Blue Skies Initiative along the U.S. California coast
- Quiet Sound voluntary vessel slowdown in Puget Sound, Washington, USA

Consider designating “Quiet” Green Corridors

Currently, countries, ports, industry, and other stakeholders are exploring how Green Corridors can help spur innovation around shipping decarbonization. Green Corridors could also be used to spur innovation around underwater noise reduction. For example, Green Corridors could use underwater listening stations to measure ship’s noise emissions and evaluate the efficacy of various noise reduction measures, such as slowing to different speeds or using energy-saving devices or cleaning hulls from fouling. They could also attract investment in quiet vessel design.

Provide incentives to shipping companies and vessels to reduce noise

Countries, in partnership with ports, can provide incentives or recognition to ships that take measures to reduce underwater noise. Canada’s Vancouver-Fraser Port Authority’s EcoAction and Prince Rupert Port’s Green Wave programs provide reductions in fees charged to ships that can prove they have installed technology that quiets ships. Where such financial incentives are not feasible, other incentives could include offering priority docking times or other such efficiencies to shipping companies that meet quieting criteria. Other programs have had success with public recognition incentives. The Protecting Blue Whale and Blue Skies initiative provides the coveted Whale Tail award to shipping companies whose fleets show high compliance with vessel slowdown programs.

Set limits on underwater noise pollution

Various regional entities are taking action to require reductions in underwater noise pollution from ships. For example, in 2022, the EU adopted thresholds which cover vessel noise to allow EU Member States to determine whether they are achieving Good Environmental Status as required by legislation. Programmes of measures will need to be developed to reduce shipping noise in areas where the thresholds are exceeded. These measures could include requirements for ship quieting technologies or reduced vessel speeds.

Recognition of the Need for Action

The increasing threat to ocean health and biodiversity from underwater noise pollution has prompted urgent calls for action. It's time for policy-makers to respond.

- On World Oceans Day 2023, international scientists issued a joint statement urging governments around the world to "act swiftly and decisively to mitigate the escalating burden of human noise in our oceans" and identified key actions for governments to take, including fostering international collaboration, enforcing and establishing regulatory frameworks to reduce noise, raising public awareness, and supporting sustainable maritime practices.

- The UN General Assembly, in its resolutions on oceans and the law of the sea, has called upon Member States to identify appropriate measures and approaches to address the socioeconomic and environmental impacts of anthropogenic underwater noise, and further encourages States to implement recommended solutions identified by the International Maritime Organization.

- The 15th Conference of the Parties to the Convention on Biological Diversity issued a decision encouraging governments and intergovernmental organizations to avoid, minimize, and mitigate the significant adverse impacts of anthropogenic underwater noise on marine and coastal biodiversity.

- The IUCN World Conservation Congress passed a resolution urging immediate action to regulate and reduce anthropogenic underwater noise in 2021.

- The International Whaling Commission agreed by consensus a resolution recognizing the concern over ocean noise in 2018 and adopted a workplan in 2022 related to better management of harmful noise pollution.

- The Convention on the Conservation of Migratory Species of Wild Animals issued a resolution in 2017 confirming the need to limit harmful ocean noise through management and regulation. CMS has also issued a Technical Report on best available technologies and practices to mitigate underwater noise.

How is the IMO addressing shipping noise?

Responding to the ongoing and growing concern about the adverse impacts of shipping noise on the ocean, the International Maritime Organization (IMO) is currently evaluating additional steps it can take to prevent or reduce underwater noise from shipping.

In July 2023, the IMO approved revised voluntary guidelines to reduce vessel noise, replacing the previous guidelines that had been largely ineffectual, and has invited Member States and stakeholders to engage in a three-year experience-building phase to raise awareness of the solutions that can reduce vessel noise impacts on marine life. In September 2024, the IMO has agreed upon an Action Plan to further prevent and reduce shipping noise.

Additionally, the IMO has established the GloNoise Partnership to assist developing countries to build capacity, support project implementation, and enable policy dialogue to reduce underwater noise.

Like all UN bodies, the ambition levels of the IMO are driven entirely by its Member States. It is a very important time for Member States to engage at the IMO and to call for ambitious action, including new policies, to drive necessary reductions in shipping noise.