

Strategies for Ocean Noise Mitigation in the Salish Sea

*Summary for Response to the
Public Consultation by Fisheries and Oceans Canada (DFO),
Regarding 'Draft Ocean Noise Strategy for Canada', October 2024*

1. Mitigate Ocean Noise by Creating Acoustic Refugia

Major marine shipping routes are difficult to move, but areas off these major routes can be protected from noise intrusion by marine shipping, thus forming a network of undisturbed marine life in the Salish Sea. This applies particularly to continual stationary noise such as generator noise from anchored ships.

Use of the Southern Gulf Islands waters for anchorage has grown from 123 anchor days in 2008 to 5898 days in 2022. This places ships in close proximity to numerous Rockfish Conservation Areas.

Anchorage use of this area and excessive ship shuttling through the Salish Sea would be unnecessary if the Port of Vancouver were required to employ efficient marine traffic management as is practiced by other ports worldwide.

2. Reduce Underwater Noise From Stationary Vessels at Anchor

Has been largely ignored by DFO but has massive impacts on sensitive marine ecosystems and coastal communities. Current mitigation attempts are not reducing stationary noise - better mitigation is needed (e.g. training ship crews to minimize energy and operate engines and fans in less noisy manner, banning noise offenders from returning to anchorages).

3. Protect Multiple Marine Species From Underwater Noise

Emphasis has been on killer whales, but many other marine organisms are sensitive and at risk to underwater noise. Rockfish, other teleost fishes such as herring or midshipman, other marine mammals like harbour porpoise.

4. Prioritize Not Only on Selected Species but Protect Entire EBSAs and KBAs From Noise

Protect EBSAs (Environmentally or Biologically Sensitive Areas) and KBAs (Key Biodiversity Areas) from marine shipping noise. This functions to protect forage fish in food webs supporting salmon populations and for killer whales, the shellfish industry, and general food security. The Southern Gulf Islands area has already been proposed as a site for a National Marine Conservation Area Reserve.

5. Assess Cumulative Effects Locally Before Allowing Increased Marine Shipping Density

Anchorage use has expanded without considering that underwater noise already existed from ferries and private boating. Adding additional industrial levels of marine shipping noise exceeds responsible limits such as within the Southern Gulf Islands.

6. Link Noise Reduction Benefits With Emission Reductions: Mitigation of Greenhouse Gas Impacts, Ocean Acidification, and Climate Warming

Reduction of travel speed means fewer emissions by ships. More efficiency in ship scheduling and just-in-time arrival at port reduces the waste of idling ships with noise and air emissions. Effects may have general benefits to marine ecosystem health locally.

REFERENCES

Specific references can be found in the following sources:

- 1) Rockfish Recovery in the Southern Salish Sea: Are Conservation Areas Impacted by the Proximity of Cargo Ship Anchorages? 2024. Centre for Marine Affairs, Southern Gulf Islands. <https://marineaffairs.ca/policy-reviews/policy-options-6-rockfish-recovery-impact-cargo-ship-anchorages.pdf>
- 2) Rohner, C., and T. Fullerton. 2020. Ship Congestion at the Port of Vancouver and Southern Gulf Islands: Green solutions for better management of vessel arrivals and anchorage demand. <https://www.marineaffairs.ca/reports.html>
- 3) Cox, K., Brennan, L. P., Gerwing, T. G., Dudas, S. E., & Juanes, F. (2018). Sound the alarm: A meta-analysis on the effect of aquatic noise on fish behavior and physiology. *Global Change Biology*, 24(7), 3105-3116. <https://doi.org/10.1111/gcb.14106>