



EXECUTIVE SUMMARY

CANADA HAS PROTECTED MORE THAN 13 PER CENT OF ITS MARINE AND COASTAL AREAS, WITH A COMMITMENT TO REACH 30 PER CENT BY 2030. BUT SHIPS ARE CURRENTLY PRODUCING 147 BILLION LITRES OF HARMFUL WASTE IN CANADIAN WATERS ANNUALLY — NEARLY 10 PER CENT OF WHICH IS DUMPED IN PROTECTED AREAS.



With the world's longest coastline, Canada's three oceans provide important habitat to at-risk species, underpin the livelihoods, sustenance, and culture of coastal and Indigenous communities, and drive national economic activity. But as ship traffic increases, so too does the threat from chronic pollution to our oceans, wildlife, and climate.

The dumping of routine "operational discharges" is still permitted, despite containing acids, carcinogens, pathogens, and toxic substances known to harm marine life and undermine the resiliency of our marine ecosystems. And despite adopting "minimum standards"

for new marine protected areas (MPAs) that prohibit dumping, the federal government has not yet defined what types of discharges this ban includes nor how it will be implemented and enforced. And, the ban won't apply to other effective area-based conservation measures (OECMs) or provincially protected areas counting toward Canada's marine conservation targets.

The lack of available information about exactly how much waste ships are producing, and where it's being dumped, has further hampered conservation efforts.



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WWF-Canada's National Vessel Dumping Assessment gives us a much clearer picture. We now know how much greywater, bilge water, sewage, and scrubber wastewater is generated annually by analyzing ship traffic data for 5,546 ships with International Maritime Organization (IMO) numbers active in Canadian waters during 2019.

We found that these **ships produce and can potentially discharge 147 billion litres of harmful waste each year while in Canadian waters** — the equivalent of 59,000 Olympic-sized swimming pools.

This dumping threatens wildlife even in the protected parts of Canada's oceans, with **roughly 10 per cent of ship waste, or 14.7 billion litres, generated in MPAs and OECMs annually.**

High traffic areas like Scott Islands marine National Wildlife Area, off the coast of B.C., stand to be most impacted by dumping; more waste was created, and therefore potentially dumped, in the Scott Islands protected area than any other protected area included in this assessment.

Though there is less shipping traffic in the Arctic than in Canada's busy east and west coasts, the proportion of waste created within Arctic MPAs, like the Tallurutiup Imanga National Marine Conservation Area, is greater than on east and west coast MPAs.

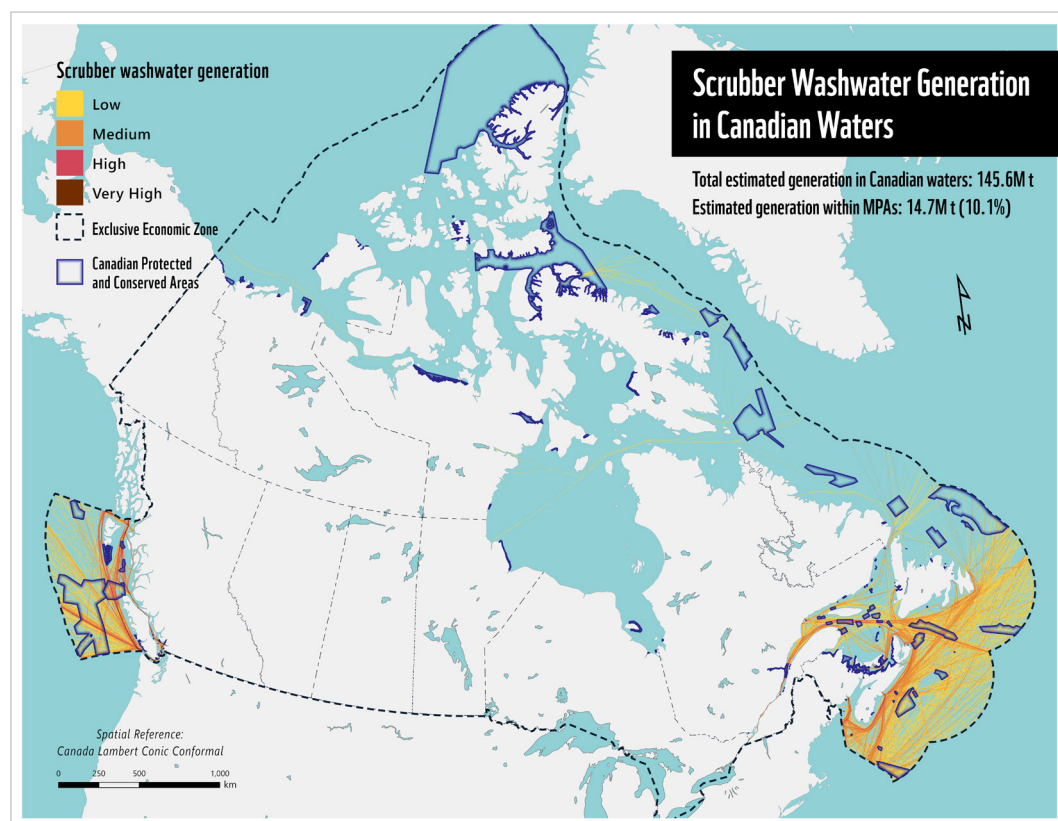
This assessment also calculated how much of each waste stream is produced annually and by what types of ships.

Scrubber wastewater was by far the greatest in volume. **Although only one in eight ships is outfitted with a scrubber, the amount of scrubber wastewater generated each year is 34 times the volume of all the other waste streams combined, or 97 per cent of total waste.** Most ships with scrubbers use open-loop systems, which means nearly all scrubber wastewater is dumped where it is generated. It's unknown how much of the remaining 3 per cent of this waste, which includes sewage, greywater, and bilge water, is dumped at sea, as ships can dispose of it at port reception facilities.

The assessment found that cruise ships produce two-thirds of all scrubber wastewater produced in Canadian waters annually. **Despite making up only 2 per cent of the ships in the analysis, cruise ships are the top producers of each of the four waste streams.** The cruise industry also leads the production of wastes within the protected areas included in this study.

The findings of WWF-Canada's National Vessel Dumping Assessment demonstrate both the magnitude of waste generated in Canadian waters and, more specifically, the amount dumped in protected areas that are intended to conserve important habitats and provide refuge for marine wildlife.

The regulations currently in place are inadequate and have gaps that leave wildlife and ecosystems vulnerable. It is imperative that the protections Canada creates effectively conserve our most sensitive marine areas now and into the future.



Exhaust gas cleaning systems, also called “scrubbers,” are devices that remove sulfur oxides from the engine and boiler exhaust produced when ships burn heavy fuel oil. The waste by-product of this process is called scrubber wastewater. Wastewater is acidic and contains large amounts of heavy metals and polycyclic aromatic hydrocarbons, which can be toxic and have carcinogenic properties. It also reduces the ocean’s ability to buffer climate change—for every tonne of sulfur dioxide discharged by scrubbers, the ocean will be unable to absorb about half a tonne of carbon dioxide from the atmosphere.



To meet its long-term goals of building healthy and resilient marine ecosystems, WWF-Canada recommends that the Government of Canada:

- Adopt a comprehensive definition of “dumping” so that minimum standards for MPAs prohibit ships from discharging any operational wastes.
- Extend minimum standards to all areas counting toward Canada’s marine conservation targets, not just new federal MPAs.
- Enforce the minimum standards in all existing MPAs and OECMs through the management planning process.
- Ban scrubbers and promote the use of cleaner alternative fuels. Not only is scrubber washwater the largest waste stream in our assessment, but scrubbers also encourage continued reliance on heavy fuel oil, which poses a severe environmental risk in the event of a spill.
- Close the Arctic greywater regulatory gap. Greywater treatment and disposal is clearly regulated in southern Canada but not in the Arctic. Explicitly regulating greywater in the Canadian Arctic would add a needed layer of protection inside and outside of Arctic MPAs and OECMs.

As Canada creates networks of MPAs and OECMs, it is important to ensure these sites have the best possible outcomes for wildlife and the people who depend on them. Banning the dumping of substances known to harm wildlife is key to ensuring MPAs are protected in more than name only.



A Canada with abundant
wildlife, where nature and
people thrive.

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