

West Coast Environmental Law Submission on the Interim Code of Practice for Repair, Maintenance and Construction of Docks, Moorings and Boathouses

We provide the following feedback regarding the Interim Code of Practice for Repair, Maintenance and Construction of Docks, Moorings and Boathouses (“CoP”)¹ on behalf of West Coast Environmental Law (“WCEL”).

WCEL is one of the oldest and largest public interest environmental law organizations in Canada. It is the only organization in Canada with a dedicated marine law program, and its marine lawyers wrote a textbook on ocean conservation law that was published by UBC Press this year.² WCEL has been involved in strengthening the *Fisheries Act* since its protections were rolled back in 2012,³ including by making submissions to the House Standing Committee on Fisheries and Oceans as part of their review of Bill C-68,⁴ which amended the *Fisheries Act* in 2018.

Polystyrene foam is commonly used as dock flotation, and this is the focus of this submission. Polystyrene foam can take the form of expanded polystyrene foam (“EPS”), commonly known as Styrofoam, and extruded polystyrene foam (“XPS”). Docks are generally regulated under provincial jurisdiction; however, the federal government is still responsible for addressing concerns in order to fully protect fish habitat.

First, this submission outlines the harm caused by unencapsulated EPS/XPS dock floats; second, it discusses how broken off pieces from EPS/XPS dock floats constitute a deleterious substance and cause a harmful alteration, disruption or destruction of fish habitat

¹ Fisheries and Oceans Canada, *Interim Code of Practice: Repair, Maintenance and Construction of Docks, Moorings and Boathouses* (July 2023), online: <https://www.talkfishhabitat.ca/38207/widgets/158079/documents/111452> [CoP].

² Stephanie Hewson, *et al.*, *Protecting the coast and ocean: a guide to marine conservation law in British Columbia* (UBC Press 2023), online: https://www.ubcpres.ca/asset/84192/1/9780774865517_OA.pdf.

³ See for example: *SCALING UP THE FISHERIES ACT: Restoring lost protections and incorporating modern safeguards* (March 2016), online: <https://www.wcel.org/sites/default/files/publications/ScalingUpTheFisheriesAct.pdf>
Submission to the Standing Committee on Fisheries and Oceans and the Forum for Leadership on Water (FLOW): HABITAT 2.0 A new approach to Canada's Fisheries Act (November 2016), online: https://www.wcel.org/sites/default/files/publications/Habitat%20_0_FINALFORWEB_singlepages.pdf;
WCEL *et al.*, *Briefing note: Modernizing the Fisheries Act: Sustaining healthy fisheries, waters and economies* (1 May 2017), online: <https://www.wcel.org/publication/modernizing-fisheries-act-sustaining-healthy-fisheries-waters-and-economies>; *Submission to Let's Talk Fish Habitat: Top 10 Recommendations for a renewed Fisheries Act* (28 August 2017), online: https://www.wcel.org/sites/default/files/publications/topten_fisheries_act_recommendations_final_aug_28_2017.pdf; see also the blogs linked on West Coast Environmental Law, “Fisheries Act” (last accessed 2 November 2023), online: <https://www.wcel.org/fisheries-act-0>; *WCEL Submission Regarding Cumulative Effects on Fish and Fish Habitat* (15 December 2022), online: <https://www.wcel.org/publication/wcel-submission-regarding-cumulative-effects-fish-and-fish-habitat>

⁴ WCELA Submission to Committee on Bill C-68 – Fisheries Act (1 April 2018), online: <https://www.wcel.org/publication/wcela-submission-committee-bill-c-68-fisheries-act>

under the *Fisheries Act*, as well as a harm to listed species or destruction of those species' critical habitat under the *Species at Risk Act*; third, it describes alternatives to unencapsulated EPS/XPS for dock flotation; and last, it recommends that the CoP prohibit unencapsulated EPS/XPS in new docks and require EPS/XPS be replaced in existing docks.

1. Harms caused by unencapsulated polystyrene foam in dock flotation

EPS/XPS is a fragile material and breaks easily, especially when exposed to waves and sunlight, and when chewed on by animals. It also degrades over time, even without physical stress. This degradation is significantly worse when the EPS/XPS is unencapsulated. Broken fragments of EPS/XPS can range from microplastics to large pieces. As such, EPS/XPS makes up a significant portion of marine debris pollution – some sources say 50-70% of material collected from shoreline clean-ups.⁵ The BC government acknowledges this in a 2020 report:

Polystyrene foam [EPS/XPS] has been used as flotation for docks, floats, aquaculture facilities, and other marine infrastructure but breaks up easily in the marine environment into small pieces that can be ingested by wildlife and contribute to microplastics pollution. Combined with tiny pieces of plastic, polystyrene foam is the most common form of garbage found during the Great Canadian Shoreline clean-ups. Industry is moving towards alternatives to unprotected polystyrene docks; however, legacy issues of exposed Styrofoam™ remain even as new ones are being installed.⁶

EPS/XPS can hurt fish and marine mammals by ingestion through physical damage (blockage and abrasion) and through exposing them to toxic chemicals; it makes its way up the food chain; it is possibly carcinogenic to humans; it creates navigational hazards; and contributes to the growth of invasive species.⁷ Many shoreline clean-ups are conducted by governments, non-profit organizations and community groups every year – costing millions of dollars and accruing countless of volunteer hours.⁸ EPS/XPS is also notoriously difficult to recycle, and transport and disposal of waterlogged EPS/XPS is difficult and expensive.

EPS/XPS is an environmental scourge, and a drain on government funds.

⁵ Surfrider Canada, *Foam Free Waters* (last accessed 14 December 2023), online: <https://canada.surfrider.org/polystyrene-pollution>; also, in the Great Lakes, over 500,000 pieces were collected over a 3-year period, which made up 14% of the plastic pieces collected: Lisa Erdle, *Problems with Polystyrene Foam: Environmental fate and effects in the Great Lakes* (2020), online: Georgian Bay Forever <https://georgianbay.ca/wp-content/uploads/2023/08/GBF-Report-Polystyrene-Foam-jun-2020.pdf>.

⁶ *What We Heard on Marine Debris in B.C.* (February 2020), at 3, online: https://www2.gov.bc.ca/assets/gov/environment/waste-management/zero-waste/marine-debris-protection/7290_malcomsmeetingsummary_report.pdf.

⁷ For a summary of the harms of polystyrene foam, see: Lisa Erdle, *Problems with Polystyrene Foam: Environmental fate and effects in the Great Lakes* (2020), online: Georgian Bay Forever <https://georgianbay.ca/wp-content/uploads/2023/08/GBF-Report-Polystyrene-Foam-jun-2020.pdf> [Erdle 2020]; see also Fauna & Flora International, *Breaking down ocean polystyrene: An initial investigation into marine uses of foamed polystyrene* (2020), at 24-27, online: https://www.fauna-flora.org/wp-content/uploads/2023/05/FFI_2020_Breaking-Down-Ocean-Polystyrene_Scoping-Report.pdf [Fauna & Flora 2020].

⁸ See for example, *Environment and Climate Change Strategy, News Release: B.C.'s largest coastline cleanup gets major funding boost* (30 May 2023), online: BC government <https://news.gov.bc.ca/releases/2023ENV0034-000839>; *Ocean Wise Shoreline Cleanup* (last accessed 14 December 2023), online: <https://ocean.org/pollution-plastics/shoreline-cleanup/>.

2. Polystyrene foam dock flotation is a deleterious substance, causes HADD and harms species at risk

The CoP puts in place measures to protect fish and fish habitat when proceeding with the repair, maintenance and construction of residential floating docks (among other structures). The CoP seeks specifically to prevent the harmful alteration, disruption or destruction (“HADD”) of fish habitat when an authorization under the *Fisheries Act*, R.S.C., 1985, c. F-14 has not been issued, and manage the risks associated with the release of deleterious substances.⁹

The CoP defines “harmful alteration, disruption or destruction (HADD)” as “[a]ny temporary or permanent change to fish habitat that directly or indirectly impairs the habitat’s capacity to support one or more life processes of fish.”¹⁰

The CoP defines “deleterious substance” as: “[a]ny substance that, if added to water, would degrade, alter, or form part of a process of degradation/alteration to the quality of that water so that it is possibly rendered deleterious to fish, fish habitat, or to the human use of fish that frequent that water. For example: fuel, lubricants, paint, primers, rust, solvents, degreasers, antifreeze, uncured concrete, creosote, chlorinated water, herbicides, etc.”¹¹

The damage that pieces of EPS/XPS cause to fish habitat and fish is well-understood and documented.¹² EPS/XPS temporarily impairs an area’s ability to support fish when the material is deposited on the seabed or suspended in the water column. Due to its pervasiveness, it may be better considered a *permanent* alteration. EPS/XPS belongs in the list of deleterious substances included in the definition, as, like the substances listed, it is toxic. It degrades the quality of water so that it is rendered deleterious to fish, fish habitat and the human use of fish.

The CoP seeks also to prevent contraventions of the *Species at Risk Act*, S.C. 2002, c. 29 by preventing activities’ harmful or destructive effects on aquatic species at risk, any part of their critical habitat or the residences of its individuals. In addition to the harms to fish and fish habitat described above, EPS/XPS can also negatively impact aquatic species at risk and their habitat. For example, the Recovery Strategy developed for the endangered Northern and Southern Resident Killer Whales includes PBDE, which is added to polystyrene, as a pollutant that may pose a risk to the species.¹³ In addition, the Courts have interpreted critical habitat as including environmental factors like contamination,¹⁴ so where docks using EPS/XPS are situated in designated critical habitat, they pose a direct threat to that habitat as well.

⁹ Section 35(1) of the *Fisheries Act* states: 35 (1) No person shall carry on any work, undertaking or activity that results in the harmful alteration, disruption or destruction of fish habitat.

Section 36(3) of the *Fisheries Act* states that the deposit of deleterious substance is prohibited: 36 (3) Subject to subsection (4), no person shall deposit or permit the deposit of a deleterious substance of any type in water frequented by fish or in any place under any conditions where the deleterious substance or any other deleterious substance that results from the deposit of the deleterious substance may enter any such water.

¹⁰ CoP, at 4, see note 1.

¹¹ CoP, at 4, see note 1.

¹² Erdle 2020, see note 7; Fauna & Flora 2020, at 24-27, see note 7.

¹³ Fisheries and Oceans Canada, Recovery Strategy for Northern and Southern Resident Killer Whales (2018), at 20, online: https://wildlife-species.az.ec.gc.ca/species-risk-registry/virtual_sara/files/plans/Rs-ResidentKillerWhale-v00-2018dec-Eng.pdf.

¹⁴ *David Suzuki Foundation v. Canada (Fisheries and Oceans)*, 2012 FCA 40 (CanLII), at para 42.

3. Alternatives to unencapsulated EPS and XPS for dock flotation

Polystyrene is a plastic, and when expanded with air, it creates EPS; EPS is 95% air, so is very buoyant. XPS is created when a number of chemicals are processed into a molten mass. It has a higher moisture resistance compared to EPS, but still degrades over time. EPS and XPS are widely available and inexpensive.

However, alternatives to unencapsulated EPS/XPS dock floats exist: most notably, encapsulated foam billets, steel floats and hollow 55-gallon plastic drums. Though concerns with leaching toxins still exist with other types of plastics, other plastics are less likely than EPS/XPS to break into smaller pieces and end up as microplastics and debris. Some of the alternatives may be more expensive than EPS/XPS dock floats upfront, but last longer: EPS/XPS floats typically last 15-20 years, whereas the alternatives last longer – some up to 60 years.¹⁵

Many jurisdictions have already restricted or prohibited the use of unencapsulated EPS/XPS in dock floats, including the province of Ontario with its *Keeping Polystyrene Out of Ontario's Lakes and Rivers Act, 2021*,¹⁶ five states and several cities in the United States.¹⁷ There are many more proposals working their way through the regulatory process.¹⁸

Conclusion: the CoP should phase out and prohibit unencapsulated EPS and XPS in dock flotation

In order to prevent HADD and the release of a deleterious substance into fish habitat, as well as harm to aquatic species at risk, their critical habitat and residences, the CoP must prohibit the use of unencapsulated EPS and XPS dock floats in all new docks, as well as when replacing flotation in existing docks. A new provision should be added to section 3 of the CoP to this effect; it may be nested under section 3.5. It should state:

3.5.3 Use an alternative to unencapsulated EPS and XPS for dock flotation

- When building a new dock, use a material other than unencapsulated expanded polystyrene foam (“EPS”), commonly known as Styrofoam, and extruded polystyrene foam (“XPS”) for flotation.
- When replacing flotation on an existing dock, use a material other than EPS and XPS for flotation, and ensure existing flotations are disposed of in a responsible manner.

¹⁵ Donna Tucker, “Dock Foam” (last accessed 14 December 2023), online: West Carling Association <https://westcarling.com/dock-foam/>

¹⁶ *Keeping Polystyrene Out of Ontario's Lakes and Rivers Act, 2021*, S.O. 2021, c 16, online: <https://www.ontario.ca/laws/statute/s21016>, which requires a seller of a floating dock, floating platform or buoy to ensure the foam is encapsulated, as well as a person constructing or reconstructing a floating dock, floating platform or buoy.

¹⁷ See for example, Wash. Rev. Code §70A.245.130, online: <https://app.leg.wa.gov/RCW/default.aspx?cite=70A.245.130>, which prohibits selling, distributing, installing, or arranging for the installation of unencapsulated EPS/XPS docks as of January 1, 2024; and see also Miami-Dade Legislative Item Ordinance 172438 (2018), online: <https://www.miamidade.gov/govaction/matter.asp?matter=172438&file=true&fileAnalysis=false&yearFolder=Y2017>.

¹⁸ See for example, New York Assembly Bill 8142 (2023), online: <https://legiscan.com/NY/text/A08142/2023>.

In addition, expanded polystyrene foam and extruded polystyrene foam should be added to the list of substances included in the definition of “deleterious substance” in the CoP.

The current bullet point regarding plastic barrel floats under section 3.5.1 (“Ensure plastic barrel floats are clean prior to use in water”) may be moved to this new section 3.5.3.

This proposal aligns with the federal government’s “Canada’s Zero Plastic Waste Agenda”, including the Ocean Plastics Charter and the Canada-wide Strategy on Zero Plastic Waste.¹⁹

We thank you for the opportunity to provide recommendations on strengthening the CoP. Incorporating the edits we have outlined above has the promise to help remedy this urgent environmental issue.

¹⁹ Environment and Climate Change Canada, “Canada’s Zero Plastic Waste Agenda” (modified 14 June 2023), online: <https://www.canada.ca/en/environment-climate-change/services/managing-reducing-waste/reduce-plastic-waste/canada-action.html>.