Bill C-48 - Oil Tanker Moratorium Act

Written Submissions of

LIVING OCEANS SOCIETY

to the

STANDING SENATE COMMITTEE ON

TRANSPORT AND COMMUNICATIONS

February 25, 2019

Submitted by: Karen Wristen, Executive Director
kwristen@livingoceans.org
604-696-5044

Living Oceans Society is a non-profit incorporated under the Societies Act of British Columbia, with offices in the village of Sointula and City of West Vancouver. Our mandate is marine conservation. Our vision: Canada's oceans are sustainably managed and thriving with abundant and diverse sea life that supports vibrant and resilient communities.

To support this vision, Living Oceans Society:

- Engages in scientific, social and economic research to ensure our campaigns are grounded in fact and our solutions are science-based
- Interprets scientific data for diverse audiences through maps, reports and other publications, so that all stakeholders can be informed and involved in decision-making
- Engages with government, industry and the people who live and work on the coast to create viable solutions to conservation issues
- Promotes sound public policy and corporate social responsibility
- Enables coastal communities to protect the ocean resources they depend upon.

Living Oceans has been working to establish a legislated ban on oil tanker traffic on the north and central coast of British Columbia for over fifteen years. Our reasons for supporting a ban here may be succinctly summarized: these waters are far too dangerous for the shipping of dangerous cargo; and the weather and sea state would preclude any meaningful oil spill response for much of the year. The marine life of the region is far too precious to risk the known, long-term adverse effects of an oil spill; or indeed, the immediate adverse effects of underwater noise or ship strikes.

1. The waters of the north and central coast present unique dangers

Hecate Strait is classified as the world's fourth most dangerous body of water, primarily because of how quickly wind and sea state can change. In Hecate Strait, Dixon Entrance and Queen Charlotte Sound in winter, storm force winds (48-55 knots or 80-100 kilometers per hour) and 8 to 10 meter seas are not uncommon. Gusts up to 90 knots (167 kilometers per hour) are known to occur in Queen Charlotte Sound. [1]

Because it is quite shallow, Hecate Strait is known for particularly difficult sea states. Steep waves occurring at short intervals can form quickly during a storm. The maximum significant wave height and largest single wave recorded by the Department of Fisheries and Oceans in a 1988 wave survey were 11.4 and 18.5 meters in Queen Charlotte Sound,

[1] Environment Canada, Atmospheric Environment Service. (1990). *Marine Weather Hazards Manual – a guide to local forecasts and conditions 2nd edition* (Catalogue No. En 56-74/1990E). Ottawa: Minister of Supply and Services

10.7 and 19.8 meters in Hecate Strait and 9.0 and 15.2 meters in Dixon Entrance.[2] The highest wave recorded in Hecate Strait was about the height of a 10-storey building.

It is expected that, as the global climate continues to change, storms of increasing severity will result in even higher waves. On the west coast of Canada, the 100-year wave height based on the period up to 1990 has been exceeded four times since then, including December 10, 1993, when maximum waves exceeding 30 m were measured.[3]

Wind and wave conditions such as these make navigation extremely difficult and can even damage large vessels like oil tankers whose structure depends on the integrity of thousands of welded joints. When these conditions are coupled with the reduced visibility that may occur at any time of year as a result of snow or fog, the north and central coast is an exceptionally dangerous place for shipping.

If the development of Kitimat as an oil terminal were ever to be considered again, we would also have to take into account the 120-150 nautical miles of largely confined-channel transit that tankers would have to navigate. Maneuvering Douglas Channel requires several course changes and two sharp turns that may be beyond the capability of a tanker operating at 12 knots or less.

Preliminary results of computer-simulated tanker transits of Douglas Channel were filed in the Northern Gateway hearing. They showed that, even in the roughly modelled conditions used by the simulator, at the highest wind speeds used (40 knots) some simulations required 100 percent of the power of two tethered tugs to avert an allision or grounding. This means that, if any of the modelled factors changed—a gust of wind, a local current—the tugs steering the vessel would be unable to prevent it from grounding or striking rock.

The uniquely dangerous nature of these waters lends itself to a blanket moratorium. There are certainly dangerous areas on all coasts of Canada, but none that really compares with the severity and suddenness of weather in this region or the challenges of confined channel navigation. A tanker leaving a port in good weather may find itself beset by storms that develop with explosive intensity over these waters. With few places of refuge and inhospitable, rocky shorelines, vessels caught in such weather are placing lives, cargo and ships at risk.

---

[2] Juszko, B.et al (1988)I A Wave Climate Study of the Northern British Columbia Coast Final Report Volume I: Wave Observations (Canadian Contractor Report of Hydrography and Ocean Sciences No. 22)

[3] Madhav L. Khandekar & Val R. Swail (1995) Storm waves in Canadian waters:A major marine hazard, Atmosphere-Ocean, 33:2, 329-357, DOI: 10.1080/07055900.1995.9649536

It is simply unwise to permit shipping of inherently dangerous cargo in waters like these. Faced with contractual obligations to deliver oil on time to the destination refinery, some mariners will take risks that they ought not to take. Mariners, like pilots, may be called either “old” or “bold”; but never “old *and* bold”.

2. Conditions on the north and central coast prevent spill response efforts

As an intervenor in the Joint Review Panel assessment of the Northern Gateway Pipeline project, Living Oceans conducted a response gap analysis—essentially, a study of the percentage of each year when the sea state would preclude spill response, because the operating parameters of the response equipment had been exceeded.

Our analysis found sharp seasonal variation, with the winter season presenting conditions that would impair or prevent oil spill response 60-98 percent of the time. (The range is referable to different wave heights recorded at specific buoys within the region.) During the summer months, recovery efforts would be impaired or impossible between 18-65 per cent of the time.[4]

Our response gap analysis looked only at sea state. When factors such as temperature, wind and visibility are added to the assessment, the likelihood is that the percentages quoted above would rise, meaning that spill response equipment could not be mobilized or operated effectively for most of the year throughout the north and central coast region.

The response gap means that an oil spill in north or central coast waters may be expected to strand on beaches and foul estuaries. Cleanup of stranded oil requires a large work force, volumes of hot water and sorbent materials and a place to store and remediate the waste water and sorbents generated by the cleanup crew—none of which is available anywhere in the region.

3. The rich diversity of marine life would be placed at risk

The cold, nutrient-rich waters of the north and central coast make it an exceptionally productive area for marine life. An oil spill could devastate populations of species resident anywhere from the ocean floor through the water column, sea surface and the air above the ocean. But even the ordinary operations of oil tankers pose known risks to certain species, such as the whales that return to this area year after year to breed.

---

[4] Terhune, K. (2011). *Preliminary Mechanical Response Gap Analysis for the Enbridge Northern Gateway Project*. Sointula, BC: Living Oceans Society.

Whales, particularly juvenile whales, are prone to be struck by large vessels, resulting in wounding or death. There is at present no known way to avoid ship strikes, though many methods have been tried.

Ship strikes have been identified as important factors in the recovery plans for humpback, blue, fin and sei whales and for both resident and transient killer whales. Gray whales have also occasionally been reported struck by ships. While the problem has not been quantified scientifically, it is clear that one of the requisite factors in a ship strike—the proximity of ships to known whale feeding and rearing grounds—can be managed.

Underwater noise and physical disturbance from shipping is also a factor identified in several whale recovery plans. Whales such as the humpback display extraordinary fidelity to their feeding and nursery areas, returning year after year to the same waters. When they are displaced from these waters by noise or the physical intrusion of ships, feeding and education of young whales suffers and, over time, the health of the population may be impaired.

We have the benefit of the most remarkable scientific record on the consequences of a spill of heavy oil at sea, in the work that has been done in the wake of the Exxon Valdez spill. Thirty years post-spill, the beaches of Prince William Sound, Alaska, continue to harbour viscous oil deposits that are as toxic today as they were at the time of the spill, and showing little if any signs of natural degradation. The record to date gives us important information about what we would put at risk, and for how long, in the event that oil shipments were to be allowed through the moratorium area.

On the social and economic front, the losses were catastrophic and included injuries to human health (liver, kidney, lung, nervous system, and blood disorders among cleanup crews) from both the spill and the cleanup effort; loss of property damaged by oil; loss of income for First Nations, fishermen, tourism operators and all of the businesses that are supported by those. There was also a loss of subsistence resources for First Nations and other local communities. Many of those losses were felt immediately; but all persist to this day.

Compensation for loss was not provided in a timely manner or at all, which exacerbated both the human suffering and economic losses attendant on the spill. The current oil spill response regime in Canada does make provision for compensation for personal losses, but it remains unclear how quickly and by what process compensation might be made available.

From the viewpoint of risk to species (other than humans) and their habitats, the Exxon Valdez record is equally dismal and informative:

- Immediate risk: death by asphyxiation, hypothermia or poisoning of sea- and shore-birds, sea and river otters, seals, whales, eagles, shellfish, herring and salmon. Death of large populations of near-shore microbial organisms such as plankton, essential to the food web.
- Medium-term risk (1-20 years): depressed population levels of whales, sea otters, herring, salmon and shellfish with a risk of extirpation of some species. Increased vulnerability of other populations; loss of genetic diversity. Disruption of food web from elimination of near-shore plankton, herring and other small fish. Toxic oil continues to affect near-shore environment. Long-term genetic impacts on fish populations begin to be documented.
- Long –term risk (20-30+ years): extirpation of small populations of, esp., whales; failure of herring and seabird populations to recover. Toxic oil continues to affect near-shore environment. Long-term genetic impacts on fish threaten recovery of some populations, result in the extirpation of others.

4. Bill C-48 and the protection of the north and central coast

Living Oceans welcomes the protections offered by Bill C-48, as it removes any uncertainty that may exist concerning the status of the moratorium on oil tanker traffic that was put in place in 1972 to prevent oil tankers from travelling through the Dixon Entrance, Hecate Strait, Queen Charlotte Sound en route from Alaska to Washington State. American oil tankers have, ever since, voluntarily observed routing agreements, later to be formalized as a 'Tanker Exclusion Zone' off our outermost western shores.

There are some respects in which the Bill does not fully protect the coast, however:

a) Ministerial discretion to exempt

Section 6 of the Bill provides that the Minister may, without public notice or consultation, exempt an oil tanker from the provisions of the Act, if he or she is of the opinion that "the exemption is essential for the purpose of community or industry resupply or is otherwise in the public interest." This is a broad discretion that lacks transparency and accountability and we see no reason why resupply operations should be permitted to put at risk all that the Bill is designed to protect.

We recommend that the exemption be removed from the Bill altogether. Failing that, a process for public notice and consultation should be inserted to ensure transparency and

a more tightly defined set of criteria for the exercise of the Minister's discretion should be developed. "Otherwise in the public interest" is a criterion difficult to interpret in the context of this Bill, which presumably is based upon the understanding that the public interest lies in protecting the north and central coast from the impacts of tanker traffic and oil spills.

Limiting Ministerial discretion to clear cases of emergency relief and providing an expiry date for any exemption order are two of the possible approaches to amending this section, proposed by West Coast Environmental Law in its brief to the House standing committee; we support those amendments as an alternative to eliminating the Ministerial discretion altogether.

b) The Bill covers only crude and persistent oils

From a purely scientific viewpoint, there is no justification for restricting the operation of the Oil Tanker Moratorium Act to tankers carrying crude and persistent oils. The fact is that refined oils are also toxic to marine life; and the same conditions that pertain to spill response for crude and persistent oils apply to response for refined oils. The best-case scenario for a response to an ocean spill of refined oil is a recovery of 15 percent of the product, meaning that these oils will strand on beaches and mix with the water column, putting at risk marine life and the coastal communities that depend on a clean and healthy ocean.

From a practical perspective, the Bill provides an exemption for community and industry resupply by allowing vessels carrying up to 12,500 tonnes of oil of any kind to offload at port facilities within the defined moratorium area. We submit that this exemption represents an attempt to strike a balance between the provision of essential fuel for community and industry needs and the protection of the environment. While the volume chosen for the exemption is not supported by evidence (current resupply volumes do not exceed 3,200 tonnes), it is clear that this exemption is more than adequate to supply the needs of northern communities for refined product.

To allow tankers carrying refined product in excess of 12,500 tonnes into the moratorium area is to invite a spill that we cannot clean up; and that has the potential to do similar damage to marine life as crude and persistent oil.