



August 22, 2019

Sent via electronic email to: CEAA.PanelRBT2-CommissionRBT2.ACEE@canada.ca

Review Panel, Roberts Bank Terminal 2 Project
Canadian Environmental Assessment Agency
160 Elgin Street | 22nd Floor
Ottawa, Ontario K1A 0H3

RE: Proposed Roberts Bank Terminal 2 Project | Closing Remarks | REFERENCE 80054

Thank you for the opportunity to provide closing remarks on the Proposed Roberts Bank Terminal 2 (RBT2) Project. Please add the following closing remarks from Orca Conservancy to the record.

Based on the natural history and behavior of the critically endangered Southern Resident killer whale (SRKW) population; it is imperative that prey species, specifically Chinook salmon, are of sufficient quality and quantity are available to support not only individual growth, reproduction, and development, but to further encourage the overall growth of this population. Prey depletion is recognized as one of the major threats to the survival and recovery of the SRKW community. Therefore, protecting and rebuilding depleted salmon stocks is listed as a top priority for the population.¹ The critically endangered SRKW, are listed as endangered under the Endangered Species Act (ESA) and the Species at Risk Act (SARA), and the area in question (RBT2) is within designated SRKW critical habitat.

Twenty-three species of wildlife listed under the federal Species at Risk Act (SARA) are known to exist within Robert Bank Terminal 2 (RBT2), as well as within the shipping area. Specifically, **six marine mammals**: the critically endangered SRKWs, transient killer whales, harbor porpoises, humpback whales, fin whales, and gray whales frequent the waters surrounding RBT2. These aforementioned mammals use the deeper waters off the banks and river channels to feed on herring, salmon and eulachon during spawning migrations runs.

The RBT2 expansion would be constructed and operated in the Fraser River estuary, a key rearing environment for declining Chinook salmon populations. Fraser River Chinook, one of the most important food sources for critically endangered SRKWs, are in steep decline and should be listed for protection as an endangered species. Additionally, while there are large, shallow tidal flats in abundance within the Fraser estuary, they are more so within Roberts Bank. Juvenile salmon in particular use the area around the current Delta port for feeding and refuge but are forced to swim around the current terminal – this situation will only become worse if RBT2 is built, thus becoming one more a man-made obstacle placed in the way of SRKW natural succession. The amount of growth of juvenile salmon through their first six months at sea is correlated with the probability of their return as adults, emphasizing the importance of rearing habitat to run size.

Recently, due to prior industrial development, herring and sand lance have declined within Georgia Strait and especially around Roberts Bank. Herring and sand lance are vital forage fish that many species rely on for their survival. RBT2 will only increase the cumulative impacts. In short, forage fish feed salmon, and salmon feed the critically endangered SRKWs. The importance of eel grass is enormous to the detritus-based food web within Roberts Bank that comes with every tide change. The proposed construction of RBT2 will alter these necessary tidal flows, will change the Fraser river plume, and will negatively alter the entire area in reducing its essential productivity.

While the Port Metro Vancouver (PMV) admits in their Environmental Impact Statement (EIS) that the critically endangered SRKWs are likely to be endangered even further by RBT2, they egregiously suggest that RBT2 impacts should not hold consequences since the critically endangered SRKWs are already endangered. This repeats the fallacy that was rejected by a

¹ National Marine Fisheries Service. 2008. Recovery Plan for Southern Resident Killer Whales (*Orcinus orca*). National Marine Fisheries Service, Northwest Region, Seattle, Washington.

federal court in the US, which likened it to asking which raindrop caused the flood, and then trying to prevent a flood by catching that particular raindrop.

The 2016 National Energy Board Report review of the Trans Mountain pipeline expansion project concluded that there were already significant noise effects on SRKW from commercial shipping. Large vessels accounted for 57-64% of the overall predicted noise effects, which focused only on the whale watching months of May to September.

Underwater sound is generated across various frequencies (measured in Hertz) by natural sources such as waves, rain and marine life, as well as man-made sources such as vessels and construction activity. Sound levels are most often described in units of decibels (dB), which is reported on a log scale. A 3dB difference translates into a 50% difference in sound intensity. At low frequencies (e.g., 5 to 1,000 Hz), ambient or background noise in coastal environments is typically dominated by shipping. In parts of the North Pacific Ocean, low frequency underwater noise has been doubling in intensity every decade for the past 60 years.² An increase in underwater noise has the potential to affect marine mammals through behavioral changes (e.g., switching from foraging to travelling), range displacement, communication interference, decreased foraging efficiency, hearing damage and physiological stress. Vessel noise is also known to disrupt behavior and mask or cover up sounds required for navigation, communication and detecting prey as well as increase stress hormone levels. These effects are likely to compound prey availability limitations. Population models predict that a 5-10% reduction in killer whale prey availability can cause significant population-level effects. (*Erbe 2002; Aguilar Soto et al. 2006; Southall et al. 2007; NMFS 2008; Lusseau et al. 2009; Fisheries and Oceans Canada 2011; Vélez-Espino et al. 2013; Wasser et al. 2012; Rolland et al. 2012; Williams et al. 2014a; Williams et al. 2014b; Lacy et al. 2015; Williams et al. 2016*). Most vessel underwater noise is caused by propeller cavitation, with peak frequencies of 30-150 Hz but acoustic power can radiate power beyond 40,000 Hz (*Veirs et al. 2015*). Other sources of vessel noise include propeller singing, engine and onboard machinery noise and the use of thrusters. Noise levels and peak frequencies vary by vessel type and operating conditions. Killer whales use of sound overlaps with the frequencies produced by vessels. Echolocation clicks used to find prey and navigate range from about 8,000 to 100,000+ Hz (*Holt, M.M. 2008*), while vocal communication is used for hunting coordination, prey sharing and social interactions via a complex repertoire of whistles and calls that range from 500 to 30,000 Hz.³ That being said, it is estimated that if the proposed RBT2 is approved it will add approximately 520 additional transits in addition to the existing RBT.⁴

On December 20, 2016, the dead body of a critically endangered (SRKW) known as J34, an 18-year old male, was discovered floating in the Strait of Georgia just north of Vancouver, British Columbia. Initially, J34's death was publicly determined to be due to 'blunt force trauma'.

The critically endangered SRKW population is on the cusp of extinction. We cannot continue to place man-made obstacles in their way if we are to have any hope of ensuring recovery. There is nothing about the proposed RBT2 project that will not have adverse effects on every facet of the ecosystem, including all the life (marine fish, plankton, bird, crab, plant, etc.) that currently call Roberts Bank home. Therefore, due to the glaring negative impacts, we respectfully request that CEAA oppose the proposed RTB2 terminal.

Sincerely,

<Original signed by>

Shari L. Tarantino
President

² Hildebrand 200, Andrew et al. 2011. Increases in deep ocean ambient noise in the Northeast Pacific west of San Nicolas Island, California

³ Economic, Environmental & Cultural Analysis of 2017. Voluntary Vessel Slowdown Trial 17001. May 2017.

⁴ Vessel numbers for all terminals at Roberts Bank included in Roberts Bank Terminal 2 Project - Environmental Impact Statement, Volume 1: Introduction and Project Information, Figure 4-27: Ship Traffic: Annual Ship Movements for 2012 and 2030, page 39 of 51:
<https://www.ceaaacee.gc.ca/050/documents/p80054/101387E.pdf>