Connecting Whales and People
in the Pacific Northwest

October 9, 2020

Laura Watson, Director
Washington Department of Ecology
300 Desmond Drive SE
Lacey, WA 98503

Submitted via web portal and email to laura.watson@ecy.wa.gov

Re: Comments on the Draft Second Supplemental Environmental Impact Statement for Northwest Innovation Works' Kalama Manufacturing and Marine Export Facility (KMMEF).

Dear Director Watson,

Thank you for the opportunity to comment on the Draft Second Supplemental Environmental Impact Statement(DSEIS) for Northwest Innovation Works' Kalama Manufacturing and Marine Export Facility (KMMEF).

Orca Network is a 501(c)3 organization dedicated to raising awareness of the whales of the Salish Sea and the importance of providing them healthy and safe habitats. Our education, outreach and advocacy efforts include over 15,000 subscribers to our Whale Sighting Network, 160,000 Facebook members, and almost 30,000 visitors to our Langley Whale Center on Whidbey Island in 2019. We respectfully submit these comments on behalf of our staff and Board of Directors. We are writing to oppose the construction of the KMMEF based on the fact that it presents an unacceptable risk to our climate, to salmon, and to the whales of the Pacific Northwest, in particular gray whales and the endangered Southern Resident orcas. All whales are vulnerable to the effects of climate change and potential ship strikes, and the KMMEF increases those risks.

Washington Department of Ecology has determined that the total greenhouse gas emissions attributable to this facility are significant. If constructed, the proposed methanol facility would become one of the 10 largest sources of greenhouse gas emissions in Washington State, and would increase greenhouse gas emissions within Washington by almost one million metric tons of carbon dioxide equivalent a year. This is in direct conflict with limits adopted by our state legislature to reduce emissions to 95% below 1990 levels and achieve net zero emissions by 2050. [1]

Climate Impacts Group has modeled climate change impacts in the Pacific Northwest to include increased temperatures, decreased snowpack and earlier snowmelt, decreased water for fish, and changes in salmon migration and reproduction, among others. [2] The increased emissions from this project and associated impacts on climate will

[1] Washington Department of Ecology Focus Sheet, Publication 20-06-012, September 2020.
[2] Ibid.

exacerbate the effects we are already seeing from climate change, and we are concerned about the impacts to salmon and whales in the Pacific Northwest.

Salmon

Salmon are an icon of the Pacific Northwest. They are important culturally for local tribes, many of whom hold treaty fishing rights, and they are the most important source of food for the endangered Southern Resident orcas, comprising over 90% of their diet. In addition to damage to important Columbia River salmon habitat that would be caused during the construction of the facility and associated runoff pollution into the river, salmon throughout the Pacific Northwest are vulnerable to climate change. In order to be successful, adult salmon need to be able to successfully reach spawning habitat, and the eggs and larvae rely on cool oxygenated water for their survival. Increased stream temperature can cause oxygen levels to decrease. It can speed up salmon metabolism, make them more susceptible to parasites and disease, and can cause young salmon to die. Decreased stream flow due to reduced snowpack affects their ability to travel and can leave them stranded and exposed to predators. Increased flooding can flush eggs and young fish from their nests.[3]

Salmon are also vulnerable to the effects of ocean acidification, or lower oceanic pH. Studies on juvenile Coho salmon exposed to low pH showed a disruption in olfaction, which plays a central role in salmon survival, navigation and reproduction. The salmon's ability to smell remained intact but rather than exhibiting a typical fear and avoidance behavior, they were indifferent to alarm odors. [4] Ocean acidification can also have negative effects on plankton, [5] thereby affecting the entire ocean food web and the prey that salmon rely on.

Southern Resident Orcas

Southern Resident orcas are a genetically, acoustically, socially, and culturally distinct population of fish-eating orcas. They were listed as endangered under the U.S. Endangered Species Act in 2005 but are continuing to decline despite the protection and recovery actions initiated by this listing. The population is currently at 74 individuals, the lowest number in four decades. [6] Their main threats include a lack of available prey, namely due to a decline in their primary prey, Chinook salmon; environmental contaminants, particularly bio-accumulative organochlorines such as DDT, PBDEs, and PCBs; and vessel effects and sound, as well as increased potential for oil spills and disease. [7] Of these threats, lack of prey is widely recognized as the biggest limiting factor in their recovery. Salmon depletion has led to changes in their social structure, decrease in presence in their core summer feeding areas, an increase in stress hormones and a miscarriage rate of almost 70%.[8]

Washington's Governor Inslee is committed to the recovery of the Southern Resident orcas, our state marine mammal. In 2018, he assembled the Southern Resident Orca Task Force with the directive to make recommendations on a suite of actions necessary to prevent the extinction of the Southern Residents. In addition to recommendations intended to increase salmon, decrease contaminants, and reduce noise pollution, the Task Force identified climate change and ocean acidification as a systemic threat that "if left unchecked, will undermine recovery efforts" and they

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[3] Global Warming Is Pushing Pacific Salmon to the Brink, Federal Scientists Warn. Bob Berwyn, Insideclimate News. July 29, 2019; Crozier et al. 2019.

[4] Southern Resident Orca Task Force Final Report and Recommendation. November 2019.

[5] Impact of ocean acidification on the structure of future phytoplankton communities. Dutkiewicz et al. 2015.

[6] Center for Whale Research Orca Survey data

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

[8] Data from the Center for Whale Research; Wasser S.K. et al. 2017. Population growth is limited by nutritional impacts on pregnancy success in endangered Southern Resident killer whales (Orcinus orca).

included five recommendations to address climate change.[9] Southern Resident orcas are affected by climate change through their food web and their strong reliance on salmon, particularly Chinook, chum and Coho.
Ocean acidification increases the bioavailability of metals including iron and copper. It also makes communication and foraging more difficult by extending the spatial spread of underwater noise, and amplifying underwater noise by reducing natural sound absorption, making it more difficult for the orcas to locate their prey. [10]

Additional Task Force recommendations included oil spill prevention and noise pollution reduction efforts, but an increase in shipping traffic, including the increased number of vessels needed to carry the refined methanol to China from the KMMEF, will undermine those efforts and will increase the risk of a ship strike on this fragile population of orcas, particularly during the winter months when they are more likely to be off the coast feeding on Columbia River salmon. Data from sightings, acoustic recordings, satellite tagging, and prey and fecal samples show that Southern Resident orcas are traveling primarily in coastal habitat between October and May. [11] The data indicates that, of the total time the orcas spend in coastal habitat each year, approximately 50% of that time is spent off the coast of Washington, and the waters off the mouth of the Columbia River have been identified as a high-use foraging area for the population.[12]

Gray Whales
Eastern Pacific gray whales undertake one of the longest migrations of any mammal in the world, traveling up to 12,000 miles round trip each year between breeding grounds in Baja, Mexico and feeding grounds in the Bering and Chukchi Seas. Within this population, there is a smaller group of around 200 individuals, called the Pacific Coast Feeding Group (PCFG) who feed along the coast of Northern California to British Columbia during the summer months. Gray whales are baleen whales and they feed primarily on invertebrates such as amphipods and ghost shrimp that burrow in the mud. The population is considered stable and was removed from the Endangered Species List in 1994. However, they are currently undergoing an “Unusual Mortality Event” (UME) due to an unexpected significant die-off that began in 2019. [13] As of October 2020 a total of 378 dead gray whales have stranded along the migration route from Mexico to Alaska, and this could represent only 10% of the actual mortality.[14] Many of the deceased whales were thin or emaciated and appeared to have died of starvation. While it is too soon to determine an exact cause of this UME, climate change is one of the suspected causes. "Is this yet another symptom of climate change? We do know that they are suffering from malnutrition, and we do know it is because of larger sea ice changes. The public needs to wake up that everywhere you look, there are impacts of climate change." ~ Frances Gulland, Marine Mammal Commission. [15]

In the progressively warming Bering Sea, the sea ice, which is an important factor in nutrients and phytoplankton levels, was at a record low in 2018.[16] This may be contributing to significant die offs of seabirds and seals in Alaska. [17] It is possible that the gray whales were not able to consume enough prey during their feeding season in the summer,

[9] Southern Resident Orca Task Force Final Report and Recommendation. November 2019.
[10] Ibid.
[11] National Marine Fisheries Service Biological Report, 2019. Proposed Revision of the Critical Habitat Designation for Southern Resident Killer Whales.
[12] Hanson, M.B., E.J. Ward, C.K. Emmons, and M.M. Holt. 2018. Modeling the occurrence of endangered killer whales near a U.S. Navy Training Range in Washington State using satellite-tag locations to improve acoustic detection data.
[13] https://www.fisheries.noaa.gov/national/marine-life-distress/2019-gray-whale-unusual-mortality-event-along-west-coast.
[14] More Than 70 Gray Whales Dead in 6 Months, and Scientists Don't Understand Why. Kimberly Hickok, June 2019.
[15] Researchers seek answers to gray whale deaths after 57 are stranded this year. Lynda Mapes, May 2019
[16] Historic low sea ice in the Bering Sea. Kathryn Hansen, May 2018.
[17] Why are birds and seals starving in a Bering Sea full of fish? Hal Bernton, November 2019.

and since they do not feed during the migration south and while in their breeding grounds, they simply did not have enough fuel to make it back to the northern feeding grounds.

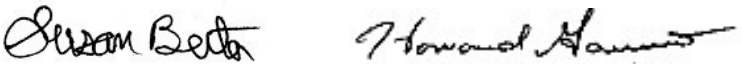
Ocean acidification also threatens the food source of gray whales by impacting the invertebrates they feed on and changing or eliminating shoreline habitat due to sea level rise. In addition to the climate change effects we are already seeing on the gray whale population as a whole, we also have grave concerns about the PCFG, effects to their food source during this UME, and the threat of a boat strike from the increase in tanker traffic due to this project.

Conclusion

Governor Inslee has made climate change a huge part of his campaign and one of his top priorities as Governor. In a May 7, 2019 press release he stated: "I cannot in good conscience support continued construction of a liquefied natural gas plant in Tacoma or a methanol production facility in Kalama. The age of consequences is upon us. We have to act based on clear science. Washington is embracing a clean energy future and the clean, healthy, sustainable jobs and benefits that come with it."

Orca Network stands with Governor Inslee and the many environmental and conservation organizations who oppose the KMMEF. This project is in direct conflict with the findings and recommendations of the Southern Resident Orca Task Force. Our state, our country and our planet are in the middle of a climate crisis and we simply cannot approve a facility that we know will contribute to climate change and have negative impacts on whales, salmon and our Washington State marine mammal, the Southern Resident orcas.

Sincerely,



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