June 12, 2016

Cowlitz County
Washington Department of Ecology &
U.S. Army Corps of Engineers
c/o ICF International
Via email at https://public.commentworks.com/cwx/mbtldeiscommentform/

Re: Public Comment on Millennium Bulk Terminals - Longview, LLC Project SEPA/NEPA Environmental Impact Statements, SEPA Draft Environmental Impact Statement

Dear Agency Representatives:

Thank you for this opportunity to provide public comment on the Draft Environmental Impact Statement (DEIS) for the proposed Millennium Bulk Terminals - Longview, LLC project (MBTL or the project). Please accept the following comment on the DEIS from Friends of Alaska National Wildlife Refuges (Friends), FRIENDS of the San Juans (FRIENDS), and Friends of Grays Harbor (FOGH).

We recommend selection of the No Action Alternative. Although the DEIS suffers from omissions and other deficiencies discussed below, the document also confirms that there would be significant and unavoidable environmental impacts from the MBTL that cannot be adequately mitigated. A revised DEIS and Final EIS for the project, based on additional studies and analysis, must correct deficiencies in the DEIS that we have identified below. Correction of these deficiencies is necessary to fully apprise decision makers of the environmental consequences of their decision, disclose factual information on impacts to the public, and lend greater support for the conclusion that the MBTL presents significant unavoidable adverse impacts that cannot be adequately mitigated.

Friends of Alaska National Wildlife Refuges (Friends) is an independent, non-profit organization dedicated to promoting the conservation of the natural resources of all the Alaska National Wildlife Refuges. The Friends promote understanding and appreciation of these refuges and assist the U.S. Fish and Wildlife Service in meeting its mandates. Our work includes educating the public and decision makers on local, national, and international levels about Alaska's National Wildlife Refuges; assisting refuges in accomplishing their missions through wildlife management and habitat

improvement projects and funding refuge oriented projects through grants, memberships, donations, and other activities.

FRIENDS of the San Juans (FRIENDS) is an independent, non-profit organization that advocates for healthy, sustainable communities and has defended natural spaces and wildlife in the San Juan Islands for over 35 years. Our scientists, educators and lawyers provide the expertise that citizens and groups need to protect and preserve the Salish Sea ecosystem. FRIENDS is concerned about the marine impacts associated with the MBTL project – many of the concerns are echoed along the entire shipping route and must be included in the EIS process.

Friends of Grays Harbor (FOGH) is a broad-based 100% volunteer tax-exempt 501(c)(3) citizens group made up of crabbers, fishers, oyster growers, and caring citizens. The mission of FOGH is to foster and promote the economic, biological, and social uniqueness of Washington's estuaries and ocean coastal environments. The goal of FOGH is to protect the natural environment, human health, and safety in Grays Harbor and vicinity through science, advocacy, law, activism, and empowerment. We oppose locating any coal or other fossil fuel terminals in the State of Washington, and any expansion of such terminals elsewhere.

I. INTRODUCTION

The Friends, FRIENDS, and FOGH are deeply concerned about the significant adverse environmental impacts of the proposed project. The scoping comment timely submitted by the Friends, FRIENDS, and FOGH discussed the interconnectedness of significant adverse impacts of the proposed project on the environments, resources, and economies of Washington and Alaska's National Wildlife Refuges. These Refuges are inextricably linked by law (the National Wildlife Refuge System Administration Act of 1966 and National Wildlife Improvement Act of 1997, 16 U.S.C. §§ 668dd -668ee). The biological integrity, fish and wildlife diversity, and environmental health of the Alaska and Washington's Refuges are also interdependent. Among other things, the refuges and marine waters offshore from them support shared migratory species. These shared species include juvenile Pacific salmon – including Chinook salmon –that migrate from their natal streams in Washington State to waters off the Alaska Maritime National Wildlife Refuge and numerous shorebird species that nest in Alaska's National Wildlife Refuges and winter or stopover in Washington State's Refuges. Congress recognized that refuges in the National Wildlife Refuge system serve "a pivotal role in the conservation of migratory birds, anadromous and interjurisdictional fish, marine mammals, endangered and threatened species, and the habitats on which these species depend." Findings §2, National Wildlife Improvement Act of 1997, Pub.L.105-57, 105th Congress.

Although the DEIS contains discussion of significant and unavoidable impacts that support our recommendation of a No Action Alternative, the DEIS fails to include studies, analysis, and full disclosure of significant adverse impacts the project would have on the resources dependent upon and protected by Washington and Alaska's National Wildlife Refuges. The following provisions of SEPA and the rules implementing it are especially relevant to assessing impacts upon these refuges and their fish and wildlife resources: SEPA's purpose statement, RCW 43.21C.010 ("prevent or eliminate damage to the environment and biosphere,"… "enrich the understanding of the ecological systems and natural resources "important to the state and nation"); SEPA's Guidelines for State Agencies and Local Governments, RCW 43.21C.030(f) ("[r]ecognize the worldwide and long-range character of environmental problems… "); and WAC 197-11-060(4)(b) (consideration of a proposal's impacts shall not be limited to "only those aspects within [lead agencies'] jurisdiction"). Even if the agencies conclude that some the project's impacts on Washington and Alaska's coastal oceans, coastlines and National Wildlife Refuges would have a low chance of occurring, these impacts must be included in the EIS if the resulting environmental consequences would be severe. WAC 197-11-794(2). ("An impact may be significant if its chance of occurrence is not great, but the resulting environmental impact would be severe if it occurred.") As one example, the risk of a vessel accident involving a spill of vessel bunker fuel in any particular location may be low but its occurrence could cause severe, even permanent, harm to marine and bird species.

The fish and wildlife species and their habitats protected by Washington and Alaska's National Wildlife Refuges are held in the public trust for the benefit of future generations pursuant to the laws establishing the various refuges. These refuges must be safeguarded as part of the network of related lands, waters, fish, and wildlife for the benefit of present and future generations of Americans. Additionally, the common law Public Trust Doctrine is applicable here. Fish and wildlife have long been recognized as protected elements of the Public Trust Doctrine in our country's jurisprudence. William Blackstone, II Commentaries on the Laws of England ch. 1, 222 (1769) (Blackstone confirmed that within the English legal system that certain elements remain in common ownership, unsusceptible to full privatization: "[S]uch are the elements of light, *air and water . . . also animals ferae naturae*, or of untamable nature . . . "). The agencies must fulfill their special fiduciary duties as trustees of these resources by studying, analyzing, and disclosing the impacts of this project on the refuges and by fully protecting refuge land, shorelines, and tidelines; the air (including the atmosphere) and water quality that sustain them; the species and habitat dependent upon the refuges for survival; and the communities that derive economic benefit from them. In the context of this permitting matter, the applicable common law Public Trust Doctrine means the agencies must not draw artificially constricted geographic boundaries for study areas, use models based on speculation to minimize actual impacts, employ statuary provisions that contain

minimum standards, or accept less than full mitigation of impacts. As currently written, the DEIS's omission of significant impacts and inclusion of ineffective mitigations runs counter to the public trust in the refuges' natural resources. The DEIS must be revised and the revised DEIS as well as the Final EIS must include studies, analysis, and full disclosure of impacts on Alaska and Washington's National Wildlife Refuges, their protected fish and wildlife species; their habitats including land, air, atmosphere, and water; and communities dependent on the health of the refuges. These resources must be fully protected by the agencies.

II. SIGNIFICANT AND UNAVOIDABLE GREENHOUSE GAS EMISSIOINS, TOXIC MERCURY EMISSIONS, INCREASING CLIMATE CHANGE, AND OCEAN ACIDIFICATION

Global climate change and ocean acidification resulting from the project's greenhouse gas (GHG) emissions and toxic mercury emissions were raised in scoping comments by the Friends, FRIENDS and FOGH as a critically important issues. The climate change and ocean acidification impacts on our two states from extracting, transporting, and burning coal are severe, unavoidable, and indisputable. Terrestrial, marine, and freshwater ecosystems and the human communities that rely on them are all deeply affected by climate change. Scientists have confirmed that global warming is accelerating and impacts on fish and wildlife will likewise be more severe than previously thought. Smith S.J., J Edmonds et al. March 2015. Near-term acceleration in the rate of temperature change. Nature Climate Change 5, 333–336. Available at http://www.nature.com/nclimate/journal/v5/n4/full/nclimate2552.html. Rising sea levels threaten shorelines and refuge species including migrating shorebirds. A warming Arctic is already resulting in phenological asychronies between interacting species protected by the refuges that threatens their survival. For example, van Gils, J.A., S .Lisovski et al. May, 2016. Body shrinkage due to Arctic warming reduces red knot fitness in tropical wintering range. Science, Vol. 352, Issue 6287, pp. 819-821. Available at http://science.sciencemag.org/content/352/6287/819. Increasing numbers and intensities of wildfires associated with a warmer and drier climate and drought conditions are destroying wildlife and their habitat in Alaska and Washington. Warmer oceans threaten fish (including Pacific salmon species and marine mammals that thrive on salmon including Washington State's iconic Southern Resident Orca whales) and fisheries. Species' extinction rates are expected to increase and even accelerate. Urban, M. C. May 2015. Report: Accelerating extinction risk from climate change. Science, Vol. 348, Issue 6234, pp. 571-573. Available at: http://science.sciencemag.org/content/348/6234/571.full.

Ocean acidification is also a grave consequence of increasing anthropogenic CO2 in the atmosphere. Marine waters in Washington and Alaska are becoming more

acidic undermining marine biodiversity and commercial fishing enterprises by hampering the ability of calcareous invertebrates such as shellfish, oysters, and prey species to build shells. Mercury, a potent neurotoxin, released into the air from coal fired power plants in Asia travels across the Pacific to Alaska and Washington States by the atmosphere and oceans. Mercury converts to methylmercury in aquatic environments and enters the marine food web and the food chain.

A. Greenhouse Gas and Mercury Emissions

The project, if permitted, would transport 44 million metric tons of coal per year to Asia. Burning this coal would produce over 90 million metric tons (MMT) of CO2e annually upon full operation of the project, DEIS 5.8-22, and the project would induce more demand for coal in Asia, DEIS 5.8-6. The DEIS recognizes that there would be significant and unavoidable adverse environmental impacts from emissions of greenhouse gases (GHG) if the terminal is permitted, DEIS 5.8-22, and on this basis the No Action Alternative must be selected.

The DEIS analysis for emissions of CO2e is based on the expected transportation routes and emissions from the combustion of coal in Asia. The DEIS properly includes these activities in its GHG emissions determination. The DEIS demonstrates that GHG emissions from rail and vessel transportation of 44 MMT of coal alone would make this project one of the largest GHG emitters in Washington State. DEIS 5.8-14. The DEIS analysis is deficient, however, in that the GHG emissions analysis fails to capture the full life cycle of GHG impacts by omitting emissions from the extraction of coal. The DEIS says that analysis of coal extraction is part of NEPA analysis for coal mines. Since with a few exceptions, a federal emission analysis for mines does not include emissions from transportation (SEPA Greenhouse Gas Emissions Technical Report[GHG Technical Report], 4.2, Table 60) or analysis of coal combustion, and the MBTL DEIS does not include extraction, there is no disclosure and analysis of the total GHG emissions in the DEIS. The DEIS approach is contrary to letters written by the Department of Ecology to the Bureau of Land Management in 2011 concerning the need for a supplemental EIS for the Wright Area Coal Lease application and to the US Department of Transportation in 2013 concerning the Tongue River Railroad. See also, Secretary of the Interior. January 15, 2016. Order No. 3338. Discretionary Programmatic Environmental Impact Statement to Modernize the Federal Coal Program. A revised DEIS and the Final EIS must include studies, analysis, and disclosure emissions from extraction of the coal in its calculation of GHG.

While it may be understandable for the DEIS to assess how markets would react to cheaper coal exported from this project, the method of this assessment and its underlying assumptions must be credible and comprehensible and must not understate or minimize the project's actual contribution to GHG emissions. As written, the DEIS

significantly minimizes likely GHG emissions impacts by applying apparently inconsistent premises and using complex models based on speculation about future coal markets and energy policy conditions. The GHG analysis includes an unwarranted hypothesis that the coal exported by MBTL *could* displace the burning of other types of coal. DEIS 5.8-6. This is inconsistent with the determination that the MBTL *would* induce greater demand for coal in Asia. DEIS 5.8-6. The complex econometric projections and multi-dimensional models used in the DEIS yield four widely varying scenarios. The explanation and application of these models in the DEIS and GHG Technical Report is presented as a "black box" analysis that resists full comprehension.

Using the "preferred 2015 Energy Policy scenario" (which assumes timely effective implementation and continuation of international agreements and federal and state energy policies – assumptions that may or may not prove reliable), the DEIS ratchets down the annual emissions of CO2e upon full operation of the MBTL project from 90 MMT annually to an estimated net annual emissions of 3.2 MMT in 2028 (DEIS Table 5.8-8). Thus, the preferred "specialized computer model" dispels nearly 87% of actual annual emissions upon full operation in 2028. And it ratchets down annual net emissions for full operations over a 10-year period (2028-2038) from 900 MMT to 27.855 MMT. (DEIS Table 5.8-.9). Thus, the "specialized computer model" also dispels over 99% of actual emissions over the 10-year period. Then, putting the emissions in "context" the DEIS concludes that the "average annual net missions from the Proposed Action at full operation would be approximately 2.8% (i.e., 2.5 MMT of CO2e annually) of the downstream combustion emissions from the coal that passes through the coal export terminal." DEIS 5.8-22. This dismisses over 99% of the likely annual emissions at full operation. These results do not make common sense given the fact that the project would produce 90 MMT of CO2e annually upon full operation. While generation of conflicting market analyses and speculation about future GHG emissions policies may characterize, describe, and depict a scenario for GHG emissions from this project, minimizing the picture of these emissions does nothing to prevent or mitigate the *actual* emissions. The EIS must present a realistic and credible GHG emissions analysis starting with the fact that at full buildout the project would transport 44 MMT of coal annually burned in Asia to produce over 90 MMT of CO2e annually.

The DEIS requires applicant to submit a plan to the Washington Department of Ecology to reduce GHG emissions "inside or outside of Washington State" by 50% using measures that are "real, permanent, enforceable, verifiable and additional." The DEIS calls for a 50% reduction of the computer model's attenuated level of emissions. Thus this plan, that would only require the reduction of 693,723 metric tons of GHG emissions (50% of 1,387,446 MMT) from 2021 to 2027 and 1.27 MMT (50% of 2.53) of GHG emissions each year 2028-2038, would not effectively reduce the project's actual GHG emissions. Additionally, the required GHG emissions reduction plan must cover

the entire period of the life of the project. The plan covers 17 years, yet the DEIS says "the terminal would be designed for a *minimum* 30-year period of operation." DEIS S-6. The plan must also be based on the CO2e emissions that would actually be produced by the project annually, i.e. 90 MMT at full build out, rather than only a small fraction of that amount.

The models, underlying facts, assumptions, and outcomes should be re-examined carefully and a revised DEIS and Final EIS must add in GHG emissions from coal extraction to ensure all GHG emissions impacts are considered and to make certain that econometric projections will not discount the project's actual emissions to the detriment of the earth's atmosphere. Despite its flaws, the DEIS acknowledges that even if the mitigation measures identified would substantially reduce GHG emissions, they would not eliminate them : "[t]he Proposed Action's remaining projected contribution to greenhouse gas emissions impacts, which are cumulative in nature, *would still be significant and adverse* under the greenhouse gas emissions intensity considerations previously noted ." DEIS 5.8-22, 5.8-16. Emphasis added. On this basis and particularly in light of the applicable Public Trust Doctrine, the No Action Alternative must be selected.

Applying the same econometric models and "black box" analysis used for GHG emissions to mercury and sulfur dioxide emissions (Appendix l, Sulfur Dioxide and Mercury Emissions, Impact Analysis) the DEIS inappropriately finds that no unavoidable and significant environmental impact would result from the project. This analysis must be reworked in a revised DEIS and in the Final DEIS to inform the public and decision makers of the actual mercury deposition that would occur from the combustion of coal as a result project.

B. Climate Change and Ocean Acidification

In the GHG analysis portion of the DEIS, the DEIS acknowledges that "[t]he climate change impacts resulting from this increase to greenhouse gases would persist for a long period of time, beyond the analysis period and are considered permanent … ." DEIS 5.8-16. The DEIS observes that climate change can result in higher global temperatures, sea level rise, changes in precipitation and snowpack patterns, ocean acidification, wildfire seasons, fluctuations in surface temperatures, and adverse impacts on biodiversity, human health and infrastructure . DEIS 5.8.1.1 and 5.8.2. However, the study area for climate change impacts from the project's GHG emissions is inexplicably limited to "the project area for the Proposed Action and the access roads and rail leading to the project area." DEIS, Table 5.0.4 and section 5.8.2.2; .SEPA Climate Change Technical Report, 1.3. Constricting the study area downplays the significant adverse climate change impacts of the project. There is no information in the DEIS about whether there would be specific climate change impacts outside the limited

study area and, if so, where those impacts would occur and the nature of specific impacts. Thus, that information is unavailable to the public and decision makers. Without information about whether there may be climate change impacts outside this limited study area, the DEIS inappropriately concludes that "[t]here would be no unavoidable and significant adverse environmental impacts." DEIS, 5.8.2.8. A revised DEIS and Final DEIS must study, analyze, and fully disclose the climate change impacts on Washington and Alaska's oceans, shorelines, fish and wildlife, communities and National Wildlife Refuges.

Applying the limited climate change study area, the DEIS and accompanying reports completely fail to analyze ocean acidification stating: "[o]cean acidification is not addressed here since its impacts *on* the Proposed Action are anticipated to be minimal. SEPA Climate Change Report, 2.4. The failure to provide an analysis of ocean acidification impacts is an egregious omission in the DEIS, particularly as Washington State and Alaska face devastating natural resource and economic losses from ocean acidification of their marine waters. At a minimum, a revised DEIS and the Final EIS must include studies, analysis, and full disclosure of ocean acidification impacts on Washington and Alaska's National Wildlife Refuges, marine waters, shorelines, fish and wildlife resources, and communities.

III. SIGNIFICANT AND UNAVOIDABLE RISKS AND CONSEQUENCES OF VESSSEL ACCIDENTS

The DEIS predicts that the deep-draft vessel traffic (1680 transits transporting 44 million metric tons of coal per year in 80% Panamax and 20% Handymax vessels upon full operation of the terminal) associated with the proposed project would increase the risk of vessel accidents, including collisions, groundings, fires, explosions, and coal and bunker fuel spills. DEIS Table 5.4-15. However, without any explanation the DEIS artificially constricts the vessel study area for indirect impacts upon operation of the facility. As a result, the DEIS avoids disclosure and analysis of significant adverse impacts from vessel accidents along a complete vessel transportation route that would include the Pacific Ocean, Gulf of Alaska, Bering Sea, and Washington and Alaska's coastal oceans and coastlines. Impacts all along the vessel transportation route are reasonably foreseeable, yet the study area for vessel transportation accidents is limited to "waterways that would be used by or could be affected by vessels calling at the project area" but only includes an area "out to 3 nautical miles seaward of the mouth of the Columbia River, the Columbia River Bar, the Columbia River upstream to Vancouver, Washington, and the Willamette River upstream to the Port of Portland." DEIS, 5.4.2. SEPA's implementing regulations do not allow this limitation on the vessel transportation study area. WAC 197-11-060(4)(b). Based on the narrowly defined study area, the rest of the chapter leaves unanalyzed impacts all along the vessel

transportation route outside the limited study area. Unless the project's vessels plan to stop abruptly at 3 nautical miles seaward of the Columbia River's mouth, or for some reason unexplained by the DEIS no vessel transportation accident could ever occur outside this area, there is no basis for the truncation of this important study area.

Alaska and Washington's oceans and coastlines are the site of important National Wildlife Refuges including the Alaska Maritime National Wildlife Refuge, Grays Harbor National Wildlife Refuge, and the Washington Maritime National Wildlife Refuge Complex. Significantly, the vessel study area does not take into account the entire vessel route to and from Asia along Washington State's and Alaska's coastal oceans and coastlines and including through the Aleutian Islands of Alaska. The Aleutian Islands are included in the Alaska Maritime National Wildlife Refuge. The North Pacific Great Circle Route traveled by vessels to Asia passes through the Aleutian Islands in two places. The seas around the Aleutian Islands are known to be some of the most dangerous for shipping in the United States, due to marine conditions including extreme weather and rough seas. These waters have a long history of marine casualties and resulting environmental harm. Nuka Research & Planning Group, LLC and Pearson Consulting, LLC. Aleutian Islands Risk Assessment, Phase B – Final Program Report. March 2016. http://www.aleutianriskassessment.com/images/160310_AIRA_Phase_B_Final_Program_Report.pdf. In 2012, a total of 1,961 large deep-draft vessels made 4,615 recorded transits through Unimak Pass in the Aleutian Islands where there is still inadequate emergency and spill prevention and response systems in place to prevent loss of life and environmental harm. Nuka Research & Planning Group LLC, 2012 Transits of Unimak Pass. September 2014. http://www.aleutianriskassessment.com/files/141125_AIRA_UnimakTransitsUpdate_FINAL.pdf This is more large commercial vessel transits than in the DEIS's constricted study area for the same period (3,178 for year 2012 – DEIS, Table 5.4-7; 3,862 for year 2014– DEIS, 5.4-14). Many other types and sizes of vessels also operate in Unimak Pass and throughout the Aleutian Islands. Foreign flagged ships transiting Unimak Pass, an international strait, are on "innocent passage" and thus are exempt from U.S. Coast Guard regulations. Also adding to the accident risks, there are no shipping lanes and no notification or pilotage requirements in this Pass.

The number of large commercial vessels transiting the Aleutian Islands is expected to rise not only from shipping along the North Pacific Great Circle Route to and from Asia but also from vessels increasingly transiting the Northern Sea Route as Arctic sea ice recedes (due to climate change impacts of GHG emissions). There are ample information sources about the existing conditions and accident history available to the agencies, including references in the readily available Aleutian Island Risk Assessment project, available at: http://www.aleutianriskassessment.com/.

The DEIS concludes that the MBTL would increase the risk of vessel accidents involving collisions, powered and drift groundings, explosion and/or fires, and other emergencies in the study area compared to both the existing condition and the No Action Alternative due to the increase in vessel traffic from the project. These accidents can result in spillage of heavy bunker fuel oil (the consequences of which are acknowledged by the DEIS to be severe in the marine environment and more difficult to clean up, DEIS 5.4-44 and 45) and/or coal. One example of a vessel accident that resulted in a bunker fuel spill occurred in Unimak Pass in the Aleutian Islands off the Alaska Maritime National Wildlife Refuge in 2004. In that incident, a Malaysian-registered bulk grain carrier, *M/V Selendang Ayu*, traveling from Seattle to China went adrift just past Unimak Pass, ran aground and broke apart on Unalaska Island during a storm. The accident resulted in the death of six crew members when a U.S. Coast Guard (USCG) rescue helicopter crashed. The event also resulted in a spill of 340,000 gallons of heavy bunker fuel and the ship's cargo of soybeans. Due to bad weather and the near absence of oil-spill-cleanup capability, nearly none of the oil was recovered. The oil coated twenty miles of the Alaska Maritime National Wildlife Refuge coastline. Some 1,700 seabird carcasses were found, but this is believed to be only a fraction of the number of birds killed. Only 29 birds were rescued. The incident also endangered commercial fisheries. In view of this accident, it is clear that not only a massive amount of bunker fuel could be spilled from operation of the proposed project, but that an entire cargo of coal could be spilled.

A project vessel accident in waters surrounding Washington and Alaska's National Wildlife Refuges could have devastating impacts on fish and wildlife as discussed in section IV below. The DEIS identifies the risk and consequences of such accidents even in the limited study area as unavoidable and significant adverse environmental impacts of the MBTL coal export proposal. DEIS 5.4.8. This finding supports selection of the No Action Alternative. The absence in the DEIS of analysis of vessel transportation impacts along the entire vessel route, however, leaves the public and decision makers uninformed about additional significant risks and consequences of the project. A revised DEIS and the Final EIS must expand the vessel accident study area and include studies, analysis, and full disclosure of vessel accident risks and consequences along the entire vessel route. Impacts of accidents must include impacts along Washington and Alaska's coastal waters and coastlines and to the states' National Wildlife Refuges and fish and wildlife species. This analysis will further support selection of the No Action Alternative.

The only "mitigation" offered by applicant is to attend a safety committee meeting once a year and refrain from bunkering at docks 2 and 3 (DEIS 5.4.7). Attending annual meetings is no mitigation at all. It would not lower the severity of a vessel accident, would not effectively lower risks of accidents resulting from such a significant increase

in vessel traffic, and would not ensure avoidance of consequences of vessel accidents even in the limited study area. Nor would applicant's attendance at annual meetings concerning the Columbia River serve as mitigation or effectively lower risks and consequences of vessel accidents in the study area or along the rest of the vessel transportation route to and from Asia, particularly in areas like Unimak Pass.

IV. SIGNIFICANT ADVERSE IMPACTS ON FISH AND WIDLIFE

The DEIS inappropriately avoids adequate analysis of significant adverse impacts on fish and wildlife species and habitats from greenhouse gas and mercury emissions, climate change, ocean acidification, and vessel transportation. Among other things the DEIS fails to study, analyze and disclose impacts on migratory fish and wildlife species shared by Washington and Alaska and on resident species dependent upon National Wildlife Refuges in the two states. Indeed, the only mention of any National Wildlife Refuge is to a deer study on the Julia Butler Hanson National Wildlife Refuge in the 1970s and a discussion of impacts on the upper estuary islands subpopulation of the federal and state listed Columbia White-Tailed Deer. SEPA Wildlife Technical Report (Wildlife Report), 2-14. (We note that the DEIS discussion of the Columbia River population of Columbia White-Tailed Deer is deficient in that it fails to study whether the project, in an area where the Deer has been documented to occur, would add further impediments to successful dispersal of this species by hindering Deer movement through the project area. This deficiency must be corrected and mitigation must be developed for this impact, if it would occur.)

Species vulnerable to the adverse impacts of the project but left unaddressed by the DEIS but listed in our scoping comment include Cetaceans and other marine mammals; fish, marine vertebrates and invertebrates, seabirds, water fowl, shorebirds and other birds, terrestrial mammals, phytoplankton, and zooplankton. The DEIS further fails to discuss and analyze significant impacts of the project on fisheries, economies, and communities dependent on the health of the National Wildlife Refuges. Given the decision makers' status as trustees of the Public Trust obliged to protect the Refuges' resources, and combined with SEPA and NEPA's public trust obligations, the DEIS should have taken special care to analyze impacts on fish and wildlife protected by the refuges. The DEIS avoids any analysis of impacts on the vast majority of these refuges' fish and wildlife species by artificially constricting the fish and wildlife study areas and, in turn, narrowly limiting species considered in the DEIS. As a result, the DEIS inappropriately concludes the project would have no unavoidable and significant adverse environmental impacts on fish and wildlife. A revised DEIS and the Final EIS must correct this deficiency.

A. Impacts on Fish and Wildlife from Greenhouse Gas and Mercury Emissions, Climate Change, and Ocean Acidification

No part of the DEIS discusses the impacts of the project's greenhouse gas and mercury emissions or climate change and ocean acidification on fish and wildlife, including fish and wildlife dependent on the environmental health of Alaska and Washington's National Wildlife Refuges. We have set forth some of these impacts above in section II. Omission of these impacts on fish and wildlife from the DEIS is unacceptable and deprives the public and decision makers of the complete information they need. The DEIS acknowledges that "[t]he climate impacts of global warming include sea level rise, changes in precipitation and snowpack patterns, ocean acidification, wildfire seasons, and fluctuations in surface temperatures" (DEIS 5.8-9) and states that "[s]tudies have found, in general, that climate change could result in changes in precipitation, temperature, and storm intensity and could increase risks of damage from flooding, drought, heat waves, winds, and storm surge (DEIS 5.8.2). That increases in greenhouse gas emissions can adversely affect "biodiversity" is mentioned as a result of higher global surface temperatures in the explanation of the "greenhouse gas effect." DEIS 5.8-3. The DEIS study area for climate change from construction and operation of the project is "the project area for the Proposed Action and the access roads and rail leading to the project area." DEIS 5.8.2.2. Analyzing climate change impacts to this narrowly defined study area, the DEIS finds no significant impacts from changes in temperature, precipitation, snowfall, sea-level rise "that could affect construction and operation" of the project " DEIS 5.8.2.8. Wildfires as a result of hotter and drier summers are discussed in DEIS, 5-8-32, but only insofar as they might impact the project's "service disruption." A revised DEIS and the Final DEIS must study, analyze and disclose climate change impacts on fish and wildlife, including those dependent upon Alaska and Washington's Natural Wildlife Refuges

The DEIS discusses ocean acidification and recognizes that it results "in changes in seawater carbonate chemistry that can affect marine organisms such as shellfish. Biological impacts from ocean acidification are expected to vary but could be significant." DEIS 5.8-25. Despite this statement the DEIS provides no further information about ocean acidification impacts on shellfish or other marine life. A revised DEIS and the Final EIS must include consideration of these significant adverse impacts on fish and wildlife, not just on shellfish but on all calcareous invertebrates including oysters, pteropods, and euphasiids that are essential prey animals of marine mammals and commercially important fish species including salmon. Ocean acidification impacts on Alaska's corals must also be studied, analyzed, and disclosed.

B. Impacts of Vessel Accidents on Fish and Wildlife

The federally protected National Wildlife Refuges in Washington State and Alaska and the waters offshore from them as well as refuges along the Columbia River provide habitat for significant populations of seabirds, songbirds, and shorebirds; marine

mammals including Orca Whales and other whale species; and fish species including bull trout; steelhead trout; and Chinook, chum, Coho, sockeye, and pink salmon. The Federally Endangered Species Act (ESA) listed endangered Southern Resident Orca Whales as well as other species of whales feed outside the mouth of the Columbia River and along the coast to the north of the River's mouth. Chinook salmon is the preferred food of the Southern Resident Orcas and their birth rates are strongly correlated with the abundance of this salmon species. An collision, grounding or other accident involving spillage of bunker fuel and/or coal from a vessel could devastate fish, including Chinook salmon, Orca whales and other whale species, and/or other wildlife populations protected by the two states' National Wildlife Refuges. See discussion in section III recounting the consequences of an accident involving the *M/V Selendang Ayu* off the Alaska Maritime National Wildlife Refuge. Not only was 340,000 gallons of heavy bunker fuel spilled in that accident but the ship's entire cargo of soybeans also spilled. Not only bunker fuel but also coal could be spilled in an accident involving the project's vessels. Based on the artificially constricted study areas for fish and wildlife species, the DEIS omits consideration of significant impacts of vessel accidents such as collisions and groundings on fish and wildlife depriving the public and decision makers of important information. In light of this omission, no legitimate conclusion can be drawn that there would be no unavoidable significant impacts on fish and wildlife from vessel accidents.

The DEIS acknowledges that collisions and groundings can result in spillage of bunker fuel, 5.4-43, and that increase in vessel traffic associated with the project will increase the risk of vessel accidents and spills of bunker fuel. DEIS, 5.4-43 and 44. Despite recognizing that bunker fuel spills from vessel accidents can be severe in the marine environment and more difficult to clean up, DEIS 5.4-44 and 45, and would result in "potential toxic acute or subacute impacts that could affect the respiration, growth, or reproduction of the affected fish" 4.7-28, the Fish and Wildlife portion of the DEIS only considers the impacts of small (e.g., less than 50 gallons) spills of fuel on fish (but not on marine mammals) associated with bunkering. 4.7-28. A revised DEIS and Final EIS must include studies, analysis, and full disclosure of all vessel accident impacts including spillage of bunker fuel and spillage of coal cargo on fish and wildlife at the coal terminal and along the entire vessel transportation route including in the lower Columbia River, along Washington's and Alaska's coasts and in the states' coastal oceans including areas where fish and wildlife species are protected by National Wildlife Refuges.

C. <u>Impacts of Underwater Noise and Vessel Strikes on Marine Mammals</u>

Marine mammals, especially Ceteceans, depend on sound to communicate, find food, reproduce, detect predators and hazards, navigate, and sense their surroundings.

The increasing large commercial vessel traffic is also increasing the amount of human-produced ocean sound that functions as noise for marine mammals. Large commercial vessels, including the large bulk carriers, including the 1680 incoming and outgoing vessels that would be used by MBTL for its shipments to Asia, produce loud and predominantly low frequency sounds. Sounds can emanate from ships' propellers, machinery, hull passage through the water, and the increasing use of sonar and depth sounders. Low-intensity sound, in particular, can travel over great distances and encompass a large area of impact. These noises may be heard over millions of square kilometers of the ocean not only in the Columbia River near the project, but all along the vessel route to Asia. Some results of noise impacts on marine mammals include: stress; hearing damage; strandings; displacement from critical feeding and breeding grounds; avoidance and shifts in migration paths; and changes in vocalizations (including decrease), respiration, swim speed, diving, and foraging behavior. Weilgart, L.S. 2007. A Brief Review of Known Effects of Noise on Marine Mammals. International Journal of Comparative Psychology. 20, 159-168. Available from: http://www.comparativepsychology.org/ijcp-vol20-2-3-2007/07.Weilgart_PDF.pdf.

The DEIS acknowledges that the increase in deep draft vessels traffic can result in adverse impacts from large vessel underwater noise (DEIS, 5.4-45). It also acknowledges that there is a greater incidence of vessel strikes with whales than other marine mammals. DEIS 4.8.-24. But the study area (the same for direct and indirect impacts for large vessel noise impacts and vessel strikes on marine mammals, Wildlife Report, 1.3) is artificially limited to "the main channel of the Columbia River and extends approximately 5.1 miles upstream and 2.1 miles downstream in the Columbia River, measured respectively, from the upstream and downstream extents of the proposed docks (Docks 2 and 3) at the project area." SEPA Wildlife Technical Report (Wildlife Report) 1.3.1.2.and Figure 4. As a result, the only order of marine mammal for which vessel noise impacts and vessel were considered is pinnipeds including three species found in the lower Columbia River that swim through the study site. DEIS 4.8.3.3; 4.8.4; Wildlife Report, 3.1.1.4. The DEIS basically concludes that these sea lion and seal species will probably just get used to the additional vessel noise and probably get out of the way of the project's 1680 massive bulkers. DEIS 4.8-24 and 4.8-25; Wildlife Report 3-23 and 3-21. These conclusions may be questionable in themselves: they are based on speculation ("…it is *likely* that an individual would have the ability to avoid and swim away from the vessel." "Any response to project-related vessel noise would *likely* be minimal." Emphasis added). The cumulative impacts analysis adds nothing to the discussion because it merely repeats these speculative conclusions without any real analysis of the cumulative impacts of noise and vessel strikes from the project vessels in isolation and when added to other reasonably foreseeable vessel transportation projects. DEIS 6-33.

The DEIS omits studies, analysis and disclosure of increased vessel noise and vessel strike impacts on Cetaceans and other marine mammals along the vessel route outside the constricted study area in Washington and Alaska's coastal oceans and along the states' coastlines. The DEIS fails to contain this analysis despite the fact that Washington's iconic endangered Southern Resident Orcas feed outside the mouth of the Columbia River and along the coast to the north and south of the River as do Humpback and other whales. Unless the project's vessels plan to cut their engines and other noise generating equipment just outside the MBTL terminal, a revised DEIS and Final DEIS must include the significant and unavoidable impacts of vessel noise and marine mammal strikes all along the vessel route. The agencies must study, analyze and fully disclose the impacts on Orca whales and all other Cetaceans and other marine mammals all along the vessel route outside the artificially drawn study area before the DEIS could reasonably conclude there would be no unavoidable significant impacts on marine mammals from vessel transportation-related noise and strikes.

D. Impacts on Fish from Wake Stranding

Wake stranding of fish from the increased number of deep-draft vessels for the project is a significant adverse impact. Wake stranding kills and injures fish because vessel wake lifts them onto the shoreline. Among other things, the fish in the lower Columbia River sustain marine birds and mammals, including Washington's Southern Resident Orca whales. The DEIS acknowledges that the increase in vessel traffic from the project would contribute to wake standing of fish, DEIS 4.7-32, and that a growing body of evidence "that juvenile salmon and other fish are at risk of stranding on wide, gently sloping beaches because of wakes generated by deep draft vessel passage ," DEIS 4.7-18 and 4.7-31; SEPA Fish Technical Report (Fish Report) 2.2.2.7 and 3-23. The DEIS concludes that "Subyearling Chinook salmon appear to be more susceptible to stranding, accounting for approximately 80% of the fish stranded by vessel wakes along the lower Columbia River." DEIS 4.7-31, Fish Report 3-25 (the studies cited in the report demonstrate this is more significant than an "appearance").

According to the DEIS, project vessels (which the DEIS numbers at 840 but that is only the number of vessels traveling one way, the actual number would be 1680) would "introduce additional permanent risk of fish stranding in the Columbia River." DEIS 4.7-18. The DEIS fails to analyze how many juvenile Chinook salmon would be stranded annually. There is no real analysis of whether or why this impact might be or not be entirely avoided except the DEIS says slowing vessels "*could*" reduce wake at Barlow Point. DEIS 4.7-19. No mitigation measure identified in the DEIS addresses wake stranding. DEIS 4.7.7. There is no quantitative cumulative impacts analysis of repeated wake stranding of juvenile Chinook salmon and other fish from the cumulative project vessel traffic in isolation or in the context of increasing cumulative vessel traffic

in the Columbia River. How many fish would be stranded and how would this impact the overall population of Chinook salmon and the marine birds and mammals that depend upon this food source? The DEIS, 6-31 and 32, merely concludes that increased vessel traffic associated with the cumulative projects could increase the potential for fish stranding caused by vessel wakes. Nevertheless, the DEIS erroneously concludes with regard to all impacts on fish including wake stranding "[c]ompliance with laws and implementation of voluntary measures and mitigation measures described above would reduce impacts on fish. There would be no unavoidable and significant adverse impact." DEIS 4.7.8. This conclusion is without basis with regard to wake stranding, particularly in light of the omissions in the analysis. A revised DEIS and the Final EIS must study, analyze, and fully disclose the impacts on fish of wake stranding over the life of the project and must identify effective mitigation. Moreover, impacts of fish wake stranding on marine birds and marine mammals that depend on live fish as their food source (including affected birds and mammals outside the narrow study area) must be included in a revised analysis.

E. Impacts of Releases of Non-native or Invasive Species in Ballast Water or from Ship Fouling

Significant adverse impacts result from the introduction of invasive aquatic species into the marine environment including competition for food with indigenous fish, shellfish, and birds. Some invasive marine species could irreparably and permanently alter the invaded marine ecosystem. The coastal areas of Alaska are already experiencing the effects of invasions by aquatic species. These species are most commonly introduced through ballast water exchange, although ballast water may also be released during an accident or other emergency event. Alien aquatic species are also released from fouled hulls or other vessel structures and equipment.

The DEIS inappropriately avoids any analysis of releases of non-native or invasive species in ballast water or from ship fouling and does not provide mitigation for this impact by merely referencing U.S. Coast Guard and Washington State regulations. There is no discussion of what these regulations would require of vessels calling on MBTL or whether and how effective those regulations would be in controlling invasive species for the vessels that would be calling on MBTL from foreign ports. Compliance with existing regulations cannot be used as mitigation. A revised DEIS and the Final EIS must correct this flaw.

V. CUMULATIVE IMPACTS

The DEIS acknowledges that cumulative impacts "can result from individually minor but collectively significant actions that occur over time." DEIS 6.1. Thus, a careful analysis of cumulative impacts can reveal new significant and unavoidable

impacts of MBTL's proposed project when added to all past, present and reasonably foreseeable future actions even if construction and operation of MBTL's project alone would not result in significant and unavoidable impacts. "The purpose of the cumulative impacts analysis is to ensure that decision-makers consider the full range of consequences for the Proposed Action, including the Proposed Action's incremental contribution to cumulative impacts on the environment." Unfortunately, the cumulative impacts chapter in the DEIS does not provide enough information or analysis with which decision makers can assess the full range of consequences of their actions. Indeed, Chapter 6 fails of its stated purpose: to address how the cumulative increases in, for example, vessel transportation, would *actually impact* fish and wildlife. As one example, the DEIS concludes that the risk of large and small bunker fuel oil spills from vessels would increase 6-58. This is an obvious conclusion from cumulative increases in vessel traffic, but the DEIS does not address the consequences of cumulative oil spills or resulting impacts on fish and aquatic wildlife and fisheries resources of increasing oil spills. As noted in section IV.D. above, there is no quantitative cumulative impacts analysis of repeated wake stranding of juvenile Chinook salmon and other fish and no indication whether the cumulative vessel transportation from either the project's vessels in isolation or combined with all cumulative vessel traffic would result in wake stranding becoming a significant unavoidable impact . See DEIS 6-31 and 32. Little additional information has been generated or disclosed in DEIS Chapter 6 beyond what has already been presented in earlier chapters and there is no discussion of whether any cumulative impact on any fish or wildlife species would create an unavoidable impact to that resource.

Like resource study areas, cumulative impacts study areas are artificially constrained in the DEIS and the DEIS fails to fully disclose the cumulative risks and consequences of oil and coal spillage for fish and wildlife, including fish and wildlife protected by National Wildlife Refuges in Washington and Alaska, cumulative noise and vessel strike impacts on Ceteceans and other marine mammals (other than pinnipeds in the Columbia River near the project area), cumulative impacts of releases non-native and invasive species outside the study area, etc. Chapter 6 also fails to include all projects that could result in cumulative impacts from increased vessels along the vessel route. As one example, the Kinder Morgan Trans Mountain Expansion (tar sands diluted bitumen export) project recently approved by the Canada Energy Board would result in a sevenfold increase in oil tankers transiting along Washington's and Alaska's oceans and coastlines and along the North Pacific Great Circle Route (including through the Aleutian Islands) to Asia. Additionally, after failing to develop quantitative and qualitative studies of cumulative impacts of increased vessel traffic on fish and marine mammal species, the DEIS makes the following unacceptably vague and speculative statement that mitigation measures "similar" to those in Chapter 4 "[I]t is likely that

similar measures would be implemented for the cumulative projects, thus reducing the potential impacts in similar ways." DEIS, 6-33.

The cumulative impacts of the project's operation on fish and wildlife resources, including species along the vessel route outside the limited study areas and species protected by Washington and Alaska's National Wildlife Refuges must be studied, analyzed and disclosed in a revised DEIS and the Final EIS. Consequences on fish and wildlife from increasing vessel traffic impacts must be included. Cumulative impacts of the project's operation in isolation and when combined with other actions must be included. In the absence of this information, decision makers cannot make a fully informed decision.

VI CONCLUSION

The DEIS identified significant and unavoidable adverse impacts from construction and operation of the proposed project on the following nine resource areas that would not be eliminated even if mitigated: greenhouse gas emissions, vessel transportation, tribal resources, social and community resources, cultural resources, rail transportation, rail safety, vehicle transportation, and noise and vibration. The DEIS's finding of "significant and unavoidable adverse impact" for any *one* of these resource areas mandates selection of the No Action Alternative. Nevertheless, the DEIS is deficient in important respects that we have set forth above. The DEIS failed to include studies, analysis, and full disclosure of impacts not only on the narrowly defined study areas, but also importantly on Washington and Alaska's coastal oceans, coastlines, fish and wildlife and economies dependent on healthy National Wildlife Refuges. The omission of these impacts from the EIS deprives the public and the decision makers of complete information about significant environmental consequences of MBTL's proposed project. The DEIS's omissions and deficiencies are so significant that a revised DEIS must be issued to include impacts we have addressed and the Final EIS must also include these impacts.

Washington State is currently respected as a leader in the development of clean energy and fuel transportation policies. Approval of permits for this fossil fuel project on the foundation of this incomplete and flawed DEIS would sully this status and would be counter to the work the state has done to address greenhouse gas emissions that are contributing to severe changes to the climate and acidification of oceans. Among other things, in light of the present climate crisis, it is inconceivable that agency decision makers would fail to perform their duties as trustees of the Public Trust protecting the air, atmosphere, water, wildlife, communities, and economies in this matter. They must choose the No Action Alternative and deny permits for the project.

Respectfully submitted by,

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