



November 18, 2013

Delivered via e-mail: [comments@millenniumbulkeiswa.gov](mailto:comments@millenniumbulkeiswa.gov)

Proposed Millennium Bulk Terminals-Longview EIS  
c/o ICF International  
710 Second Avenue, Suite 550  
Seattle, WA 98104

U.S. Army Corps of Engineers, Seattle District  
Cowlitz County Department of Building and Planning  
Department of Ecology, Southwest Regional Office

**RE: Comments on Scope of EIS for Proposed Millennium Bulk Terminals Longview LLC  
Coal Export Terminal: Docket number 2013-19738**

Dear Lead Agency Representatives:

Thank you for this opportunity to provide scoping comments for preparation of an Environmental Impact Statement (EIS) for the proposed Millennium Bulk Terminals, Longview LLC coal export facility (MBTL). Please accept the following comments from the FRIENDS of the San Juans.

Friends of the San Juans is a non-profit organization founded in 1979 to support local efforts to manage growth and protect the natural beauty and rich wildlife in Washington's San Juan Islands. Using science, policy, law, education, and citizen activism, Friends of the San Juans works to protect, preserve, and restore the land, water, and sea of the San Juan archipelago. Friends of the San Juans' activities include protection of orca whales and other endangered species; marine research and habitat restoration; ecological stewardship and conservation; land use and environmental compliance; community engagement and education. Friends of the San Juans' efforts have produced cleaner, healthier habitats for sensitive species in beaches, parks, and waters; inventories of marine and nearshore habitat to help rebuild depleted salmon stocks; and increased protections for our magnificent orca whales. Members of Friends of the San Juans live, work, and recreate in the San Juan Islands and on the surrounding waters, where they enjoy observing orca

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*Protecting the San Juans, preserving our quality of life*

whales. 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. We offered these comments to secure standing for our staff, board and members in the EIS process.

## **I. ECONOMY OF THE SAN JUANS**

San Juan County's current economic bread and butter are visitors, retirees, and part-time residents who have vacation homes in the islands. The San Juan Islands economy is inextricably connected to the beauty of our environment and the health of our ecosystems. Many islanders depend upon a healthy and sustainable salmon fishery and Orca population. Tourism is the primary economy in San Juan County and our resident Orca whales are the prime driver of that economy.

With a boost from the recent designations of “#1 Island in the U.S.” by Trip Advisor<sup>1</sup>, “#2 in the New York Times’ Best Places to Visit,” “#3 on Lonely Planet’s ‘Top 10 Destinations for 2013’”, and National Monument status, the San Juan Islands are now a major tourist destination. San Juan County’s visitors and part-time residents provide significant state and local tax revenues.<sup>2</sup> In 2012, more than 700,000 people visited our islands and spent nearly \$158 million.<sup>3</sup> In the same year, 1,850 jobs here were directly related to the travel industry.<sup>4</sup> During August 2012, the peak travel month, the total number of non-agricultural jobs — direct (due to tourism), indirect and induced — in San Juan County was 6,450.<sup>5</sup>

The San Juan Islands face “direct, indirect and induced” damage to the health of our environment due to the MBTL increased shipping traffic, with its accompanying underwater noise, air and water pollution, increased risk of a fuel/cargo spill in our surrounding waters, and potential impacts to federally listed threatened and endangered fish, wildlife and marine mammals protected under the US Federal Endangered Species Act.

*Please address the following impacts in the draft EIS for the MBTL:*

1. What are adverse impacts, including the adverse impacts from the increased risk of oil and/or coal spills, to salmon, an essential food for the Orca, in the Columbia River?
2. What would be the adverse impacts to forage fish, an essential food for salmon and in turn Orca, from increased coal or oil spills in the Columbia River?

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<sup>1</sup> <http://www.youtube.com/watch?v=8ApKOSYothA>

<sup>2</sup> San Juan County collected \$884,314 and the Town of Friday Harbor collected \$298,830 in lodging taxes in 2012. Treasurer, Town of Friday Harbor; San Juan County Treasurer’s Office.

<sup>3</sup> San Juan Islands Visitors Bureau, <http://www.visitsanjuans.com>

<sup>4</sup> Dean Runyan Associates “Washington State Travel Impacts and Visitor Volume, 2002-2012.”

<sup>5</sup> Washington State Employment Security Department, Labor Area Summaries, <https://fortress.wa.gov/esd/employmentdata/reports-publications/regional-reports/labor-area-summaries>.

3. What is the economic threat from the loss of Orca to the economy of the San Juans?
4. What would be the loss of property values and what would be the loss of tourism, real estate sales, from depleted fish and wildlife populations such as Orca in the event of a major oil spill in the Columbia River?
5. What would be the loss of property values and what would be the loss of tourism, real estate sales, from depleted fish and wildlife populations such as Orca in the event of a major oil spill from vessels and barges transiting through the San Juans on their way to deliver propulsion fuel to ships in Longview?
6. In analyzing each and all of the above impacts, what would a “worst case scenario” look like in the presence of *each* of the plausible, compounding factors or events, including but not limited to human errors, storms, earthquakes, tsunamis, and other planned/proposed projects that may contribute to increased cumulative impacts and chance of accidents? What would a “worst case scenario” look like for *all* the above plausible, compounding factors combined? What would be the estimated damages in dollars, overall and for San Juan County in particular, if such a “worst case” event were to happen? Will the MTBL project have sufficient insurance coverage to insure against the “worst case” damages and economic losses?

## **II. UPPER COLUMBIA RIVER AND SNAKE RIVER CHINOOK SALMON ARE ESSENTIAL FOR THE SURVIVAL OF SAN JUAN COUNTY’S ORCA WHALES**

The Southern Resident Killer Whales (SRKW), also known as the orca whale, is San Juan County’s icon. As noted above, our tourism-driven economy is dependent on these charismatic marine mammals. The birth rate of the SRKWs is strongly correlated with the abundance of Chinook salmon. New information shows that abundant runs of Columbia and Snake River Chinook salmon are important to the long-term survival of the SRKW.<sup>6</sup>

Since the Southern Resident Killer Whale (SRKW) was listed as Endangered under the Endangered Species Act in 2005, the National Oceanic and Atmospheric Administration (NOAA) has funded studies of SRKWs to better understand how they can be protected. A key part of this effort is defining Critical Habitats that are essential for their traveling, foraging, resting, and reproduction. It is well established that SRKWs spend much of the summer near the San Juan and Canadian Gulf Islands, but winter sightings had been rare until a satellite-tracking device was attached to a young male SRKW in K pod. This NOAA-funded project has tracked the winter travels of the K pod of Southern Resident Killer Whales along the outer coast from the Strait of San Juan de Fuca to Northern California. K pod spent the most time between late December 2012 and

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<sup>6</sup> [http://www.nwfsc.noaa.gov/research/divisions/cb/ecosystem/marinemammal/satellite\\_tagging/blog.cfm](http://www.nwfsc.noaa.gov/research/divisions/cb/ecosystem/marinemammal/satellite_tagging/blog.cfm)



early April 2013 around the mouth of the Columbia River. Because Chinook salmon is the preferred food of the SRKW, they were likely feasting on upper Columbia and Snake River Chinook salmon that were transiting these waters at the time.

Juvenile Chinook salmon use the lower Columbia River for migration and sustenance. Adult salmon must migrate along the Columbia River past the site of the proposed MBTL. Impacts associated with the proposed terminal, including fuel spills from vessels visiting the terminal, are potential threats to maintaining Chinook salmon runs adequate to sustain the Southern Resident Killer Whale population. Therefore we request that the scope of the EIS for the proposed MBTL include a study of impacts to this key salmon population that is federally listed as Threatened under the Endangered Species Act. Chinook salmon are also subject to further conservation considerations under the Fish and Wildlife Coordination Act, [16 U.S.C. 661-667e](#) and the Magnus-

NOAA: Movements of SRKW  
<http://www.youtube.com/watch?v=8>

Stevens Fishery Conservation and Management Act-Essential Fish Habitat, Pub. L. 94-265 and by international conservation efforts under the Treaty. As species listed under the Endangered Species Act, their defined critical habitat must be protected under law.

*Please address the following impacts in the draft EIS for the MBTL:*

1. What would be the impacts to Chinook salmon, and especially to juvenile Chinook salmon, caused by the construction of eight rail lines, two new docks, two ship-loaders, four coal stockpile pads, and associated facilities, conveyors, and equipment?
2. Because earlier industries have contaminated the river sediments surrounding the site of the proposed Millennium Bulk Terminals-Longview, what would be the impacts to Chinook salmon, and especially to juvenile Chinook salmon, of dredging the close to 400,000 cubic yards of contaminated river sediments necessary for the Millennium Bulk Terminals-Longview project?
3. What would be the cumulative impacts to Chinook salmon, and especially to juvenile Chinook salmon, of dredging contaminated river sediments near the Millennium Bulk Terminals-Longview site every few years to maintain access for Panamax-sized vessels?
4. What would be the impacts to Chinook salmon, and especially to juvenile Chinook salmon, of driving 647 new steel piles into contaminated river sediments?
5. What would be the impacts to Chinook salmon, and especially to juvenile Chinook salmon, of the shading caused by 647 new steel piles and two new docks?

6. What would be the impacts to Chinook salmon, and especially to juvenile Chinook salmon, of the noise and lighting during construction of the eight rail lines, two new docks, two ship-loaders, four coal stockpile pads, and associated facilities, conveyors, and equipment?
7. What would be the impacts to Chinook salmon, and especially to juvenile Chinook salmon, of the noise and lighting during the round-the-clock operation of the proposed eight rail lines, two new docks, two ship-loaders, four coal stockpile pads, and associated facilities, conveyors, and equipment?
8. What would be the impacts to Chinook salmon, and especially to juvenile Chinook salmon, of cumulative smaller fuel spills from the vessel traffic associated with the Millennium Bulk Terminals-Longview?
9. What would be the impacts to Chinook salmon, and especially to juvenile Chinook salmon, of cumulative moderately-sized fuel spills from the vessel traffic associated with the Millennium Bulk Terminals-Longview?
10. What would be the adverse impacts to Chinook salmon from a single catastrophic fuel spill? Please take into account the possibility of all plausible, compounding factors, including earthquakes from the Cascadia subduction zone and resulting tsunamis. According to studies by Oregon State University<sup>7</sup> and scientists at the Geological Survey of Canada (a Canadian government agency)<sup>8</sup> there is a 10-15% chance of a mega-quake (magnitude 8 or greater) within the next 50 years.
11. What would be the adverse impacts to migrating Chinook salmon smolts from oil spills of all sizes and in particular from heavy (also referred to as persistent) oils?
12. What would be the cumulative adverse impacts to Chinook salmon from the increased risks of an oil spill especially given the treacherous conditions that can exist at the Columbia River bar that is known as the “Graveyard of the Pacific.”
13. What would be the impacts to Chinook salmon, and especially to juvenile Chinook salmon, from improper flushing of vessel bilge spaces to remove oil, oil vapors, and other chemicals that may be lethal or sub-lethal to juvenile salmon?
14. What would be the impacts to Chinook salmon, and especially to juvenile Chinook salmon, if the oil separator for the bilge water is bypassed or is not functional?

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<sup>7</sup> <http://oregonstate.edu/ua/ncs/node/13426>

<sup>8</sup> <http://earthquake.usgs.gov/hazards/about/workshops/PacNWworkshoptalks/AdamsCascCondProbUSGS06.pdf>

15. What would be the impacts to Chinook salmon, and especially to juvenile Chinook salmon, from pollution-bearing stormwater from the proposed Millennium Bulk Terminals-Longview facilities into the Columbia River?
16. What would be the impacts to Chinook salmon, and especially to juvenile Chinook salmon, from stormwater runoff from the uncovered coal stockpiled at the facility?
17. What would be the impacts to Chinook salmon, and especially to juvenile Chinook salmon, from runoff of the dust-control water that is applied to the piles of coal?
18. What would be the impacts to Chinook salmon, and especially to juvenile Chinook salmon, if the dust control water and the stormwater runoff are not reliably treated to an exceptionally high level before entering the Columbia River?
19. What would be the impacts to Chinook salmon, and especially to juvenile Chinook salmon, caused by the removal of Columbia River water to control fugitive dust?
20. What would be the impacts to Chinook salmon, and especially to juvenile Chinook salmon, from fugitive coal dust released during vessel loading of coal that uses only partially covered conveyors?
21. What would be the impacts to Chinook salmon, and especially to juvenile Chinook salmon, from fugitive coal dust released into the Columbia River from the piles of coal and during conveyor loading of coal during periods of strong winds?
22. What would be the impacts to Chinook salmon, and especially to juvenile Chinook salmon, from fugitive coal dust released from uncovered boxcars of coal travelling along the windy Columbia River Gorge?
23. What would be the impacts to Chinook salmon, and especially to juvenile Chinook salmon, from coal train derailments along the Columbia River caused by rail bed instability promoted by fugitive coal dust?
24. What would be the impacts to Chinook salmon, and especially to juvenile Chinook salmon, if the dust suppressants like MinTopper S+0150, which has not been properly tested for ecological effects, is used to suppress fugitive coal dust at the proposed terminal and used on coal-filled boxcars that will travel along the windy Columbia River Gorge? What amount of MinTopper S+0150, or other dust suppressants, would be lost to the environment during different weather conditions? What would be the amount of MinTopper S+0150, or other suppressants, lost into the environment annually? What are the effects of MinTopper S+0150 or other suppressants and their multiple degradation products on juvenile salmon? Do MinTopper S+0150 and other suppressants partially degrade into endocrine disruptors of

salmon reproduction or development in certain ecological compartments such as anoxic river sediments?

25. What would be the impacts to Chinook salmon, and especially to juvenile Chinook salmon, from the acids formed by diesel pollutants generated by the trains and ships visiting the proposed Millennium Bulk Terminals –Longview?
26. What would be the impacts to Chinook salmon, and especially to juvenile Chinook salmon, from nitrogen pollutants emitted by the diesel engines of the trains and ships visiting the proposed Millennium Bulk Terminals –Longview?
27. What would be the impacts to Chinook salmon, and especially to juvenile Chinook salmon, of cumulatively increasing mercury levels in their tissues caused by the return of coal pollutants to the Pacific Northwest on the prevailing winds from Asia?
28. What would be the impacts to the federally listed Endangered Southern Resident Killer Whales from consuming Chinook salmon with increasing levels of mercury in their tissues?
29. What would be the impacts to Chinook salmon from decreased stream flows and rising water temperatures in their spawning areas caused by the acceleration of climate changes caused by the burning of coal exported from the MBTL to Asia?
30. What would be the impacts to the federally listed Endangered Southern Resident Killer Whales from declining runs of Upper Columbia River and Snake River Chinook salmon?

*Please consider the following mitigations:*

1. Cease operations during the migration of Chinook salmon smolts.
2. Cease operations when juvenile Chinook salmon are present.
3. Cease operations when adult Chinook salmon are migrating.

*Please Review the Cumulative adverse impacts to Chinook salmon*

The draft EIS for Millennium Bulk Terminals –Longview should also study the cumulative adverse impacts to Chinook salmon of the proposed Morrow Pacific Coyote Island Project, the proposed Port Westward Transloading Coal Barge Dock, the proposed Vancouver Energy Distribution Terminal, the proposed Global Partners facility at Clatskanie, and the proposed Paramount Terminal at Portland.

### **III. CUMULATIVE IMPACTS OF VESSEL TRAFFIC**

The total number of cargo and tanker vessels calling at Columbia River terminals in 2012 was about 1428<sup>9</sup>. Considering the two proposed coal export terminals, Millennium Bulk Terminal and Port Westward Coyote Island Terminal, coupled with Ambre's Pacific Trans loading Barge Dock, the number of vessels navigating the Columbia River could increase by as much as 50%. The number and size of ships visiting the existing and proposed terminals and the amounts of hazardous cargo or fuel within those ships elevates the risk of shipping accidents and fuel spills in the Columbia River, the Columbia River Bar, or surrounding ocean waters.

Although the annual number of oil tanker spills fell about three-fold world-wide between 1992 and 2011, the number of fuel spills for allisions, collisions, and groundings of tankers and bulk cargo carriers in restricted and inland waters did not decrease during this period. These data indicate that improvements in the shipping industry, the efforts of the International Maritime Organization, and national governments have not decreased the number of accidents in inland and restricted waters. As an inland waterway, the Columbia River's significant spill risk could be even greater than the world-wide average.

In contrast to the reduction in tanker fuel spills (likely due to double-hulls and other structural improvements in tanker design); world-wide bunker fuel spills did not decrease between 1992 and 2011.<sup>10</sup> Bunker fuel is the generic term for fuel used by ship engines. It is heavier and more polluting than other fuels. The bunker fuel capacity of most large bulk carriers can be as much as 1.2 million gallons. These are single hull vessels with double bottoms that experience a historically higher mechanical failure and accident rates than other vessels. Combine these characteristics with the fact that most are operated by foreign crews, and misunderstandings or miscommunications, navigational errors (despite the presence of a US Pilot) will additionally contribute to the risk level.

Bulk carriers travel without tug escorts, and require a large amount of room to maneuver. In an emergency, they require up to 1¼ miles to stop with power, and up to 7 miles without. In addition, these ships have large areas above the water that act as a sail. At low speed, this "sail area" makes them difficult to maneuver. An un-powered ship is even more subject to wind and currents, and will be essentially out-of-control without power or tug assistance. The absence of tug assistance, inadequate ship maintenance and crew training along with severe weather all increase the risk of a fuel spill.

In an emergency, tug assistance can be undependable because it is based on the vessel of opportunity concept. This means that any tug that happens to be in the area may be called upon to provide assistance to a stricken vessel. However, a randomly available tug may not have the power,

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<sup>9</sup> Washington State Department of Ecology, Spill Prevention, Preparedness and Response Programme. (2013). *Vessel Entries and Transits for Washington Waters: VEAT 2012*. ( Washington State Department of Ecology).

<sup>10</sup> Figures 9 & 13 in: Trends in Oil Spills from Tankers and ITOPF Non-tanker Attended Incidents Susannah Musk, Technical Support Coordinator -International Tanker Owner Pollution Federation Ltd, ITOPF London, UK

the proper equipment, or crew training necessary to render effective assistance to a large vessel in distress.

The bar at the entrance to the Columbia River is a physical challenge to any mariner and seagoing vessel. The following is from "Running the Bar" in the February, 2009 Smithsonian Magazine:

'Each of the 16 bar pilots has the authority to close the bar when conditions are too dangerous.' Still, "When we shut down the bar for two days, trains are backed up all the way into the Midwest. And just like a traffic jam on the freeway, once you clear the wreck, it takes a long time for it to smooth out again."

The impediment of the Columbia Bar has the potential to cause substantial delays in shipping schedules, particularly during stormy conditions. Shutting down "the bar" for several days in bad weather could result in coal trains accumulating all along the rail transport corridor, all the way back to the mines.

Because of the increased vessel traffic from all proposed facilities, the Millennium Bulk Terminal EIS should include vessel traffic and risk evaluation studies. These assessments should consider not only the increased vessel size and numbers, but also the requirement for an expansion in the number of trained ship pilots to ensure safe navigation of the Columbia River from the bar to the proposed terminals and to sea again.

*Please address the following questions within the EIS being developed for MBTL:*

1. What would be the adverse impacts to Columbia and Snake River Chinook salmon (which are an essential food source for Southern Resident Orca Whales) from the increased risk of oil and/or coal spills associated with the Millennium Terminal and the other proposed terminal on the river?
2. What would the economic losses to commercial and recreational fisheries be as a result of intermittent, and point source medium, and large oil spills in the Columbia River system impacting salmon, other finfish, and shellfish populations?
3. Are there adequate oil spill response resources and capability (trained personnel, equipment, response plans, and vessels) available and resident in the lower Columbia River to respond to, contain, and clean up oil spills? If not, please determine what would be required, what would be the cost, and who would pay to upgrade response resources necessary to adequately address oil spills on the river?
4. What would be the economic and social impacts from a storm related or terminal equipment malfunction delay (possibly for days) in the scheduled shipping of coal from the proposed terminals, on the rail transportation system, and communities along the rail shipment

corridor? Please study the impacts on local businesses, medical response time, traffic, and the efficient movement of goods by trucks created by any foreseeable delays in transportation of fossil fuels to export terminals

5. In addition to trains, would not ships be backed up? Would ships remain offshore or would some need to anchor in the river? Both choices increase navigational hazards in dangerous waters.
6. What would be the loss of property values, tourism revenue, real estate sales and related tax revenue from a major oil spill in the Columbia River or associated waters?
7. For each of the impacts above, please conduct “worst-case” scenario analyses considering each and all combinations of possible, compounding factors such as storms, floods, earthquakes and human errors.

#### IV. CUMULATIVE SHIPPING IMPACTS ON NATINAL WILDLIFE REFUGES (FROM THE COLUMBIA RIVER TO ALASKA)

Marine shipping by its very nature requires a rigorous assessment of all direct, indirect and cumulative impacts on the route of the cargo from MBTL up the coastline of Oregon, Washington, and British Columbia and through Alaska.

Because NEPA and SEPA do not place a time or location restraint on reasonably foreseeable adverse impacts, our request is within the purview of the EIS we believe that this EIS requires an analysis of Alaska’s National Wildlife Refuges and National Wildlife Refuges in Washington



State, including the fish and wildlife dependent upon these Refuges; the air, water, marine, and terrestrial environments in these refuges; and the communities, economies, and cultures that rely on the health of the natural systems that sustain these refuges.

Alaska has 16 wildlife refuges that are part of the National Wildlife Refuge System. 83% of all National Wildlife Refuge lands in the U.S. are located in Alaska. The Alaska Maritime National Wildlife Refuge (Alaska Maritime Refuge) contains more than 2,500 islands, islets, spires, rocks, reefs, waters and headlands that extend from Forrester Island, to the north of Canada's Queen Charlotte Islands deep in the southeast tongue of the state, to the westernmost tip of the Aleutian Islands, and north to Cape Lisburne on the Arctic Ocean. The 3.4 million acres of the Refuge are spread out along most of the 47,300 miles of Alaska's coastline. There are five units within the Refuge: Aleutian Islands Unit; Gulf of Alaska Unit, Bering Sea Unit, Alaska Peninsula Unit, and Chukchi Sea Unit. The Refuge protects essential habitat for seabirds, shorebirds, waterfowl, marine mammals, fish, and other wildlife. The Refuge contains one of the most important marine ecosystems in the world. Its isolated islands host unique species not found anywhere else.

The Alaska Maritime Refuge is home to more than 40 million seabirds (80% of all the seabirds found in Alaska) representing more than 30 species. These birds forage for fish and plankton in the seas surrounding the Refuge. Some 250 migratory bird species, including rare species from Asia and North America, use the Refuge. Some species and subspecies of birds in the Refuge are found nowhere else. Some of the birds that nest on the refuge – including Whiskered, Crested, and Least Auklets, Red-legged Kittiwakes, Aleutian Terns and Red-faced Cormorants – live and breed solely in the core Bering Sea-North Pacific Ocean zone.

Thirty Maritime Refuge sites (including Unimak Pass identified as a top Important Bird Area (IBA) based upon bird abundance and diversity) have been identified by National Audubon as IBAs of the Bering Sea Eco-region under an international bird conservation program spearheaded by Audubon Alaska with Russian and Asian partners. (An IBA is an international designation used in more than 150 countries to indicate that an area harbors bird species of special concern, species with restricted home ranges, and species that are vulnerable because they exist in high concentrations and therefore could suffer significant negative impact from a single event). Birds found in the Alaska Maritime Refuge, including individuals of 58 species in the Aleutian Islands Unit, 60 species in the Alaska Peninsula Unit, and 64 species in the Gulf of Alaska Unit, migrate to the San Juan Islands; Grays Harbor, Willapa Bay, and Columbia River estuaries, and the national wildlife refuges in Washington.

The Refuge also supports endangered and threatened marine mammals (Steller sea lion and sea otters), as well as Northern fur seals, walrus, harbor seals, and Northern elephant seals. These mammals breed or find refuge on remote Refuge beaches or offshore islets. Nearshore waters of the Refuge provide protected "nurseries" for endangered and declining marine mammals. Nearshore waters also contain habitat for the following Cetacea: Gray Whale, Blue Whale, Fin Whale, Sei Whale, Minke Whale, Humpback Whale, Sperm Whale, Baird's Beaked Whale, Cuvier's Beaked

Whale, Killer Whale, Pacific White-sided Dolphin, and the Dall's Porpoise. For many marine mammals, Unimak Pass in the Aleutian Islands provides a critical migratory corridor between the North Pacific Ocean and the Bering Sea. This Pass has been called a marine mammal "superhighway," used by Humpback Whales, the threatened population of Steller Sea Lions, fur seals, and many other wildlife species moving between the two water bodies.

At least 93 species of fish, skates, and sharks have been documented in the cold, turbulent nutrient-rich Alaska Maritime Refuge waters. The fish resources in waters around the Alaska Maritime Refuge are not only important to wildlife. The waters of the Bering Sea and Gulf of Alaska surrounding and adjacent to the Alaska Maritime Refuge provide vital habitat for the five species of Pacific salmon during the ocean phase of their life: Chinook, Chum, Coho, Pink, and Sockeye. Each year, juvenile Pacific salmon from Washington, Oregon, California, and British Columbia migrate far at sea to Alaskan waters – into the Gulf of Alaska, Bristol Bay, and Aleutian Islands - and eventually back to their inland natal streams to spawn. The species of salmon spend a significant part of their lives in open waters of the North Pacific and Bering Sea.

Populations of Pacific salmon from Washington State, including from the Salish Sea area and their natal streams that empty into the Pacific Ocean along coastal Washington, migrate thousands of miles north from Washington. They travel in nutrient-rich currents along the west coast of Canada and southeast Alaska to reach the biologically rich waters of the Gulf of Alaska and around the arc of the Gulf into the Bering Sea. Unimak Pass in the Aleutian Islands provides a major, direct conduit for salmon to travel between the shelves of the North Pacific and eastern Bering Sea. The Pass is a significant source of nutrients to the productive "green-belt" ecosystem of the southeastern Bering Sea shelf. Chinook salmon and steelhead trout tagged in the Aleutian Islands have been recovered in rivers in Washington.

Rich eelgrass beds and kelp forests that provide substrate and shelter for invertebrates and fish and serve as an important source of nutrition for seabirds are found in the waters of the Aleutian Islands. Izembek Lagoon in the adjacent Izembek National Wildlife Refuge contains two of the world's largest eelgrass beds that provide a rich fueling and resting area for over half a million migrating geese, ducks, and shorebirds. The Lagoon supports nearly the entire world's population of migrating Pacific Black Brant, a species whose numbers have been declining in recent decades. The Aleutian Islands are also home to coral gardens where more than 100 species of cold water corals, including some endemic to the region, provide rich habitat for numerous fish and invertebrates, including rockfish, shrimp, and golden king crab. New species are continually being discovered in the Alaska Maritime Refuge.

#### **A. North Pacific Great Circle Route and Unimak Pass**

A "great circle route" is the shortest distance between two places on the earth's surface. A circle route follows a line described by the intersection of the surface with an imaginary plane passing through the earth's center. Large commercial vessels from Pacific coast ports in the U.S.,

Canada, and Asia traverse the North Pacific Great Circle Route because it is the most direct transit route. Large and small vessels traveling the Route carry significant volumes of fuel and other oils as well as cargoes - including hazardous materials, fossil fuels, and chemicals - and invasive species. A foreseeable consequence of the proposed MBTL, if approved, would be a significant increase in vessel traffic to and from Asia along the North Pacific Great Circle Route through the waters surrounding and adjacent to the Alaska Maritime Refuge and other Alaska coastal refuges, including through and/or near the Aleutian Islands and Unimak Pass. MBTL vessel traffic would add to all existing and foreseeable future vessel traffic using this Great Circle Route.

Because of the Aleutian Islands arc, vessels traveling to Asia using the North Pacific Great Circle Route may pass through the islands twice, once through Unimak Pass and again through the westernmost islands, for example, Buldir Island. Vessels from Asia also travel through or near the Aleutian Islands. The Great Circle Route crosses the transit lanes and fishing grounds of the largest fisheries in North America, valued in excess of \$1.5 billion annually.

The majority of the vessels traversing the Great Circle Route are foreign flagged on “innocent passage” (right of vessel passage through a state’s territorial sea when not calling at a port in that state - up to 12 nautical miles from the baseline), so they are exempt from U.S. Coast Guard requirements for vessels calling on ports. Heavily traveled Unimak Pass in the Aleutians is an “international strait” that foreign vessels can enter without regulatory restriction. There are no shipping lanes and no notification or pilotage requirements. In addition to large commercial vessels (classed as containerships, bulk carriers, car carriers, tanker vessels, and others), fishing vessels, ferries, cruise ships, tugs, and local supply, service and work vessels and barges operate in and around areas within the Great Circle Route including the Aleutian Islands region.

In addition to ships sailing on the Great Circle Route, large vessels traveling to and through the Arctic Northwest Passage will also pass through the Aleutian Islands including via Unimak Pass. Usage of the Arctic Northwest Passage shipping route is predicted to increase due to warming of the climate and melting sea ice resulting from greenhouse gas emissions. In September 2013, a Panamax size bulk carrier, the *Nordic Orion*, containing 73,000 tons of metallurgical coal exported from Vancouver, B.C passed through the Aleutian Islands to sail via the Arctic Northwest Passage to Finland.

#### **B. Vessel Accidents – Risks and Consequences**

Accidents along the Great Circle Route, particularly in Alaska Maritime Refuge’s Aleutian Islands region, are not uncommon. In fact, this area is well-known not only for frequent and sudden storms, very high winds and severe sea conditions, but also its history of accidents and spills. (See map Attachment B.) Recent accidents involving the large and growing fleet of vessels traveling along the Great Circle Route from Pacific Coast ports have resulted in fuel oil and cargo spills with serious consequences. In December 2004, 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 severe 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 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.

The Transportation Board of the National Academies of Sciences (NAS) stated that the M/V *Selendang Ayu* accident was not an isolated event: “[E]ach year, accidents and near accidents occur in the Aleutians with the potential for significant environmental and economic consequences.” Many of these accidents have involved casualties as well as fuel and cargo spills. There is only very minimal capability to respond to large vessels in distress along the North Pacific Great Circle Route near and through the Aleutians, particularly in harsh weather conditions. Radio network gaps can hinder communication in the area. In many cases, the nearly complete lack of response equipment and vessels coupled with unforgiving weather and sea conditions have prevented any response to these events. As a result, nearly all efforts to recover oil from these accidents have been ineffective.

Accidents and spills along the North Pacific Great Circle Route are not confined to the Aleutian Islands. Most recently, on December 31, 2012 in the Gulf of Alaska during an intense winter storm, the Shell Oil drilling rig *Kulluk* en route from the Beaufort Sea to Seattle broke away from one of its tow lines, drifted, and ran aground off Sitkalidak Island, southeast of Kodiak Island near units of the Kodiak National Wildlife Refuge. The coastline off Sitkalidak Island traps abundant food sources upwelling from the central Gulf of Alaska that attract large numbers of seabirds and marine mammals. Waters around this island have the largest concentration of herring in the archipelago. The largest flock of common murre ever recorded by U.S. Fish and Wildlife was in Sitkalidak Strait, which is also threatened Steller sea lion critical habitat. Accidents and spills from increased vessel traffic would have significant adverse impacts on the ecosystems of the Alaska Maritime Refuge and possibly other Alaska National Wildlife Refuges, including the Izembek, Alaska Peninsula/Becharof, Kodiak, and Togiak Refuges, devastating wildlife, marine and coastal habitat, economies, and cultures that depend on the region's rich fish and wildlife resources.

Based upon the volume of vessel traffic currently traversing and planned to traverse the North Pacific Great Circle Route to and from Asia and via the Aleutian Islands to the Arctic Northwest Passage, we request that the EIS for the MBTL identify, quantify and evaluate the risk and consequences of accidents, spills and other discharges of fuel and cargo along this route, as well as the potential impacts on the ecosystems and resources of Alaska's National Wildlife Refuges. This must include an evaluation of worst case scenarios.

*Please address the following impacts in the draft EIS for the MBTL:*

1. identify the type and quantify the number of vessels that would travel to and from MBTL annually from the time of initial operation of the MBTL, through full operation of the terminal, and over the life of the MBTL;
2. identify with specificity the entire route or routes, that MBTL vessels would take to and from Asia during all seasons of the year, including passage along the North Pacific Great Circle Route and through the Aleutian Islands;
3. identify and evaluate operation and safety laws/regulations applicable to the MBTL vessels' passage along the entire route or routes from Washington State to Asia, including international straits and waters, and identify the entities that would be responsible for compliance with each law/regulation identified and liability for non-compliance;
4. identify with specificity the likely owners and operators of MBTL vessels, the flags under which they would operate, and whether/where the vessels would be sailing under the right of innocent passage;
5. identify, quantify, and evaluate the risk of MBTL vessel accidents all along the Great Circle Route (including collisions, allisions, powered groundings, drift groundings, fire and explosion, structural failures, and foundering);
6. identify, quantify and evaluate the types and volumes of fuel (including fuel oil and diesel fuel), lubricating oil, hydraulic oil, mechanical oil, and cargo that would be carried by MBTL vessels, and under what circumstances, including results of an accident or during operations, fuel and other oils, and/or cargo could be spilled, discharged, or otherwise released into the environment;
7. evaluate the types and efficacy of all safety communication systems and equipment that would be on board each MBTL vessel and the entities that would be responsible for providing and maintaining this equipment;
8. identify and evaluate all rescue protocols and maritime accident response infrastructure along the MBTL vessels' routes;
9. identify, quantify, and evaluate all potential impacts of MBTL vessel accidents or operational events that may result in fuel, oils, and cargo spills and/or other materials discharges on:
  - a. oceans and shorelines, including all aquatic and terrestrial habitats;
  - b. fish, marine mammals, other marine vertebrates and invertebrates;
  - c. seabirds and their rookeries, water fowl, shorebirds and all other birds;
  - d. terrestrial mammals;

- e. phytoplankton and zooplankton;
  - f. aquatic and terrestrial plants
  - g. the marine food web;
  - h. commercial, sport, and subsistence fisheries;
  - i. tourism, local economies, communities, and cultures;
10. identify who would pay the costs of response, assessment of damages, remediation, cleanup, and restoration of natural resources and damages for all impacts that could result from a MBTL vessel accident or operation;
11. Identify impacts from projections of ship traffic for the MBT project, and quantify the increased risk of accident from the extra transits; and
12. Evaluate the cumulative risks of all existing and projected transits, including large vessels over 300 tons, vessels carrying a dangerous cargo, and cruise ships and other vessels. This type of cumulative assessment is required as it will reveal risks that, while perhaps appearing to be minor on an individual level, once quantified in a cumulative assessment framework, may actually turn out to be highly relevant contributors to the risk profile when placed in the context of the overall risk to the North Pacific Great Circle Route, waters near Alaska's National Wildlife Refuges, and the Lower Columbia River.
13. A reasonable review of the increased risk and consequences of accidents and spills from vessel traffic along the route from Washington State to Asia must not consider the MBTL vessels in isolation. Instead, the EIS must also evaluate MBTL vessel traffic in the context of existing and future vessel traffic along the North Pacific Great Circle Route, including large commercial vessels on their way to the Arctic Northwest Passage. Therefore, we request that you identify, quantify, and evaluate the cumulative risks and impacts of accidents and spills involving MBTL vessels when added to the following existing and future vessel traffic along the North Pacific Great Circle Route, including in waters near Alaska's National Wildlife Refuges:
- a. the 4,500+ large commercial vessels and all other vessels that currently travel this route;
  - b. future vessels from all other new coal export terminal projects planned for Washington, Oregon and British Columbia ("B.C."), including planned expansions of existing B.C. coal terminals;
  - c. all other planned Washington, Oregon, B.C., and Alaska fossil fuel export projects, including Enbridge Northern Gateway and Kinder Morgan tar sands export projects as well as LNG export projects; and all planned new container, bulk carrier, and cruise ship projects.

## **V. IMPACTS OF OCEAN ACIDIFICATION**

Since the beginning of the industrial age ever-increasing amounts of carbon dioxide have been released into the atmosphere, not only warming the planet but increasing oceanic CO<sub>2</sub> content by 30% during the same period. For many years scientists have been measuring and reporting that oceanic CO<sub>2</sub> absorption is causing seawater to be more acidic. The chemistry of our oceans is changing. This change is already impacting coral reefs and could now threaten the entire marine food chain.

An article in the Journal *Nature Geoscience* 5, 845-846 (2012), reported that Pteropods, which are small snail-like sea creatures important to many fish including salmon, are experiencing thinning and dissolution of their shells resulting in increasing morbidity and mortality. This is occurring at current pH levels, levels which were not expected to be reached until 2038. Any organism dependent on calcium carbonate for a shell or body parts is now at risk from acidification.

Fish eggs, embryonic fish, and a host of larval organisms at the very base of the marine food web are likewise threatened. In past epochs, mass extinctions occurred when oceans became similarly acidic. However, because the chemical changes occurred over many centuries, the ancestors of today's sea creatures were able to adapt to that slowly changing environment. The rapidity and immensity of chemical changes now occurring may not allow marine organisms to evolve species preserving strategies.

Ninety seven percent of climate scientists agree that the burning of fossil fuels by industry, transportation, and energy production are responsible for the climate and chemical changes occurring in the atmosphere and oceans. If oceanic biodiversity is important for the species we rely upon as a food source, it would seem illogical to continue to promote the use of fuels associated with physical and economic damages linked to atmospheric and oceanic changes. Executive Order 12-07, Washington's Response to Ocean Acidification, includes implementation of the recommendations of Governor Gregoire's Blue Ribbon Panel on Ocean Acidification; the number one recommendation is to reduce emissions of carbon dioxide. The proposed Millennium Bulk Coal Export Terminal presents a direct contradiction to that Executive Order.

Therefore, the Millennium Bulk Terminal EIS should include the potential biological, environmental, social, and economic consequences to the Pacific Northwest from burning the 44 million tons of coal to be shipped from this facility. The carbon dioxide and other green house gasses (GHG) contributions from burning coal shipped from the other two proposed Northwest coal export terminals need to be included. Only when all contributions are accounted for can the cumulative effects of regional coal shipments to Asia be adequately evaluated. The global accumulation of GHG's impacting Washington State's economy, and in particular our coastal marine species which depend upon healthy ecosystems, must be included in any appraisal of the consequences of burning native US coal anywhere in the world.

*Please address the following impacts in the draft EIS for the MBTL:*

1. What would be the economic cost to the shellfish industry in Washington State because of ocean acidification due to increased oceanic CO<sub>2</sub> from the burning of the 44 million tons of coal proposed to be shipped from the MBTL and the additional millions of tons from the other proposed coal export terminals in the Pacific Northwest?
2. What would be the economic losses to the sea food and fishing industry, in terms of jobs and capital infrastructure, as a result of the decrease or loss of important species of marine food animals due to ocean acidification from GHG's and CO<sub>2</sub> contributed by burning coal and from the Millennium Terminal and the two other proposed northwest terminals?
3. What would be the economic costs to coastal communities of sea level rise due to climate change driven by the additional CO<sub>2</sub>, and other GHG's produced from the burning of coal shipped from the Millennium Terminal and the other two terminals proposed in the Pacific Northwest?
4. What would be the economic costs of increased violence and size of storms due to the CO<sub>2</sub> added to atmospheric and oceanic systems from Millennium coal burned in Asia and the other proposed Northwest coal terminals?
5. What economic losses would The Columbia River system sustain because of a decline, or loss, of tourist, commercial, and recreational fishing revenue due to decrease in salmon fisheries because of ocean acidification affecting the marine food web attributable to CO<sub>2</sub> contributions from Millennium Terminal and the other proposed terminals?
6. What would be the cultural and socioeconomic losses to Native American Tribes of the region from a further decline in salmon populations due to ocean acidification by the additional CO<sub>2</sub> contributions from the Millennium Terminal and the two other terminals proposed for the Pacific Northwest?
7. What would be the economic costs to San Juan County from the adverse impacts of ocean acidification on Chinook salmon? Since Chinook salmon are the main food source of the Endangered Southern Resident Killer (Orca) Whales, what would a decline in both their Salish Sea and Columbia River food supply mean for their survival?

## **VI. IMPACTS OF CLIMATE CHANGE AND SEA LEVEL RISE**

The MBTL at full capacity will ship 44 million metric tons of coal per year.<sup>11</sup> It is expected that all of this traded coal will go directly to Asia. In doing so, both the transport and use of the coal itself, presents considerable risks that should be examined by the MBTL Environmental Impact Statement. The burning of coal releases carbon dioxide that contributes to global climate change.

The adverse effects of climate change are those which result in changes to the physical environment or biota and which have significant deleterious effects on the composition, resilience, or productivity of natural and managed ecosystems or on the operation of socio-economic systems or on human health and welfare.<sup>12</sup>

The potential impacts of this change upon island communities such as the San Juan Islands are astronomical. The San Juans are comprised of over 450 islands, rocks, and pinnacles.<sup>13</sup> Twenty of these islands are inhabited by residents. Many of the remaining islands serve as summer recreation areas, research sites, or nesting or breeding haul out sites for marine mammals and seabirds. They could all be adversely impacted by sea level rise.

Washington State is believed to be particularly vulnerable to a warming climate particularly because of its snow-fed water supplies that provide drinking water, irrigation for agriculture and which are also responsible for nearly three-fourths of the state's electrical power. In addition to the San Juan Islands, nearly 40 other communities, including some of the state's largest population areas, exist along 2,300 miles of Washington's shoreline, which is threatened by rising sea levels and ocean acidification.

It has been estimated that if no action is taken, potential costs to Washington state from climate change impacts are projected to reach nearly \$10 billion per year by 2020 from increased health costs, storm damage, coastal destruction, rising energy costs, increased wildfires, drought, and other impacts.<sup>14</sup>

Due to the severity of this threat, Pacific coast leaders in the United States have recognized this threat to their regional environment and economy and on October 28, 2013, leaders of California,

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<sup>11</sup> 2010 Washington State, Joint Aquatic Resources Permit Application: Millennium Bulk Terminals Longview. 2012, February 2nd. Available from, < [http://www.ecy.wa.gov/geographic/millennium/20120222\\_JARPAApplication.pdf](http://www.ecy.wa.gov/geographic/millennium/20120222_JARPAApplication.pdf)> Section 6d.

<sup>12</sup> FCCC. Article 1. Definitions.

<sup>13</sup> <http://www.blm.gov/or/resources/recreation/sanjuans/>

<sup>14</sup> Department of Ecology, State of Washington (2012). *Preparing for a Changing Climate Washington State's Integrated Climate Response Strategy*. (DOE, Olympia, Publication No. 12-01-004) 2-6.

Oregon, Washington and British Columbia signed the Pacific Coast Action Plan <sup>15</sup> on Climate and Energy to begin to address these threats.

Climate impacts to island communities are well documented. Small islands are at the forefront of the extreme risks posed by climatic change. The threat of, ‘possible adverse effects of sea level rise on islands’<sup>16</sup> was recognized in the United Nations *Framework Convention on Climate Change* (FCCC). It was added that such ‘small island countries’ are ‘particularly vulnerable to the adverse effects of climate change’.<sup>17</sup> The ‘deep concern’ for small island (states) was reiterated at the 7<sup>th</sup> COP in 2001.<sup>18</sup> This concern, which is continually reiterated by groups such as the South Pacific Forum,<sup>19</sup> is due to their specific situation, which according to the 1994 United Nations Global Conference for the Sustainable Development of Small Island Developing States stated,

While small islands developing states are among those that contribute least to global climate change and sea level rise, they are among those that would suffer most from the adverse effects of such phenomena and could in some cases become uninhabitable.<sup>20</sup>

Based on the tonnage of coal proposed to be exported and subsequently burned, we would request that the MBTL EIS include an analysis on the impacts of climate change on the San Juans.

*Please address the following impacts in the draft EIS for the MBTL:*

1. What would be the impacts of the acceleration of climate change to San Juan County’s replacing public infrastructure (roads, water, sewer, and electric utilities)?
2. What would be the costs from associated increased storm winds, ocean surges, and precipitation on the San Juans from climate change?
3. What are the impact of sea level rise on marine mammal haul out sites and nesting and/or foraging sites for seabirds?
4. What would be the costs associated with more intense storms coinciding with the highest tides on our public roads and infrastructure?
5. The burning of coal releases mercury. Based on the tonnage of coal proposed to be exported and subsequently burned? What amount of mercury will be released and what amount of that mercury will increase the mercury content of San Juan County seafood and the people and

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<sup>15</sup> <http://www.pacificcoastcollaborative.org/Documents/Pacific%20Coast%20Climate%20Action%20Plan.pdf>

<sup>16</sup> The United Nations *Framework Convention on Climate Change Preamble Paragraph 12*.

<sup>17</sup> The United Nations *Framework Convention on Climate Change Preamble Paragraph 19*

<sup>18</sup> The Marrakesh Ministerial Declaration. COP 7 (Marrakesh). FCCC/CP/2001/13/Add.1. 21 January 2002. Part II. Action Taken. Decision 1/CP. 7.3.

<sup>19</sup> Example: “Global warming and sea level rise were among the most serious threats to the Pacific region and the survival of some island states.” South Pacific Forum Communique. Paragraph 29. Available from [www.forumsec.org/fj/docs/fc93.htm](http://www.forumsec.org/fj/docs/fc93.htm)

<sup>20</sup> Report of the Global Conference on the Sustainable Development of Small Island Developing States. A/CONF.167/9. October, 1994. Annex I, Section III.

wildlife that feed upon that seafood?

6. Prevailing winds send mercury that is burned in Asia back towards the U. S. Pacific Northwest. What would be the impacts of the increased mercury pollution?
7. How would the increased mercury pollution impact fish consumption rates? What would be the costs associated with the increased mercury pollution?
8. What would be the impacts on the health and reproduction of the Southern Resident Killer Whale from increased mercury pollution?

## **VI. CONCLUSION**

Our members live, work, and recreate in the San Juans. We share a common interest in the rich and diverse fish and wildlife resources and habitats held in trust. Among those resources are salmon and other fish and shellfish species; bird, mammal and plant species; marine and terrestrial ecosystems, and the atmosphere. Among the interests the refuges protect are ecosystems, habitats, wildlife, fisheries, local economies, communities, and cultures.

NEPA and SEPA confer an affirmative obligation on you as trustees to protect the resources in these refuges for the benefit of all, including succeeding generations. The National Wildlife Refuges and the natural resources we have discussed in this EIS scoping comment belong to the public and are placed at great risk by schemes like MBTL that would increase global trade in fossil fuels. Air, water, terrestrial, marine noise and atmospheric pollution from MBTL's proposed coal export project threaten to undermine the health and environmental integrity of the species that depend on our marine waters. Your statutory duties as trustees of the resources discussed in this comment are based on the public trust doctrine, which has a long tradition in Western democracy. Environmental standards based upon this doctrine cannot be treated as merely a set of minimum requirements.

FRIENDS of the San Juans respectfully request that you fully exercise your legally conferred duties as trustees to study in detail the broader implications and impacts of the MBTL proposal, including the impacts on the resources and interests of the Columbia River, Washington and Alaska's National Wildlife Refuges and the natural systems that sustain them, including the earth's atmosphere.

Many of the impacts we have raised in these comments cannot or would not be mitigated or mitigation would be ineffective to prevent or remediate permanent environmental harm. Unless every one of these impacts, singly and in combination, would be fully mitigated, we recommend the "no action" alternative.

We look forward to the Draft EIS addressing all of our comments with in-depth analysis and with reasonable alternatives identified, including the no build option. Should the project be permitted, all feasible mitigation measures should be required to be implemented.

Thank you for this opportunity to comment on the scope of the EIS for the proposed Millennium Bulk Terminals in Longview, Washington.

Sincerely,



Stephanie Buffum, MPA/MURP  
Executive Director  
Friends of the San Juans