

My name is Julie Trimmingham. I am a stay-at-home mother living in Whatcom County with my family. I am concerned about significant, adverse impacts that the proposed Gateway Pacific Terminal, and attendant transportation and systems, would have on public health, quality of life, local economies, local environments, regional and global environments, and relationships with other nations, including neighboring tribal nations.

I am raising a child here. My parents live here. My husband's business, a specialty saw mill, is dependent upon local transportation systems and natural resources. The quality of our lives, our good health, our economic well-being, our safety, and the security of our future are put at risk by proposed coal export projects. Some of these risks derive from coal (primarily the mining, combustion, and fugitive dust thereof); some derive from the intensity of rail and ship transit that would be required (these transportation impacts would occur even if it were solar panels that we were exporting); some derive from transporting coal, specifically (i.e. the risks of coal, en route, accidentally and inevitably, spilled into the Columbia River or the Salish Sea).

All of these impacts are significant to myself and to my family. Some of the impacts that most concern me (health and safety risks; the degradation of the place I live and love; harms to my husband's business and our economic well-being; noise and nuisance; the various pollutions; damaged fisheries; treaty rights; sanctity of cultural and sacred sites; etc) would affect people all along the coal transportation corridor, from the mines in the Powder River Basin to the proposed port site, and thence into the Salish Sea. Impacts like ocean acidification and climate change affect a much larger population base. Many of these impacts are impossible to fully mitigate.

I would therefore respectfully request that first, certain frameworks for study be put in place and second, special attention be given to certain impacts.

FRAMEWORKS

- I. The **entire coal transportation corridor** should be included in studies of impacts to economies, communities, public health, culture, and natural resources. SEPA and NEPA require that study not stop at state or international borders, when relevant. Please include British Columbia, Idaho, Montana, Wyoming and Oregon in the Environmental Impact Statement.
- II. SEPA requires that "interdependent systems" be considered holistically. Coal transport exists **ONLY** to link coal mining to coal combustion. Therefore, the **impacts and associated costs to society of coal mining and coal combustion should be included in the EIS**. Impacts of coal mining should especially consider water quality, public health, and environmental degradation. Impacts of coal combustions should especially consider public health impacts where the coal is to be burned (primarily Asia); global climate change; and ocean acidification.
- III. The issue of potential impacts from GPT is further complicated by the fact that there are several proposed coal export facilities in the Pacific Northwest, from Oregon to

British Columbia. If more than one of these facilities is built, the impacts from one facility will increase and exacerbate the impacts from another facility. It is impossible to accurately assess the full impacts of GPT without considering the impacts of other proposed coal ports. Likewise, it is impossible to accurately and fully assess potential impacts of GPT without a clear baseline. Therefore, I respectfully request that:

A. The “no-action” alternative be fully studied. Examining the environmental, economic, quality of life, public health, archeological, and treaty implications of not building GPT, or similar facility, at Cherry Point is necessary to provide an accurate baseline against which the impacts of GPT can be measured. My understanding is that the mandate of the GPT project is to provide necessary export facilities. Is this facility really necessary? Could not grain and other bulk commodities be exported from previously existing ports along the west coast?

B. That the impacts of other proposed coal export facilities be taken into account. It may be the case that GPT alone would be below certain acceptable thresholds, but that when considered as part of a bigger picture, would push some impacts beyond that threshold. For example: the impacts of increased rail traffic to a community like Spokane must be considered.

C. Again, with a holistic view of a project, GPT’s environmental, public health, economic and social impacts should be considered in a larger context of rail transit and ship traffic. For example, the over 900 annual transits that would be required by GPT’s operations should not be considered in isolation: this is ship traffic that would be added to the already existing shipping as well as planned future shipping. Shipping in Canada, particularly, is increasing (i.e. Enbridge, Kinder Morgan). What are the effects of adding to large vessel traffic in the Salish Sea and commonly used passages such as Unimak Pass? How would GPT add to and inform the cumulative effects of increases in various pollutions (diesel, sound, etc) on marine ecosystems, collision risks, human safety, oil or bunker fuel spill risks, and various natural resources?

IMPACTS

I am submitting the coaltrainfacts.org “Key Facts” booklet (54 pp), with accompanying endnotes, as well as the coaltrainfacts.org bibliography (28 pp) as supporting documentation. The impacts addressed here correspond to the impacts in “Key Facts.”

I. PROPOSED WEST COAST COAL EXPORT

What are the cumulative impacts of not only GPT, but of all the proposed coal export facilities on the west coast of North America, should they be built? Given that the coal export market has traditionally been volatile, what are the impacts if the coal market diminishes, or sources coal elsewhere? Will taxpayers still be held accountable for costs associated with GPT? Will GPT fill any necessary market? The infrastructures built to make GPT possible will still exist, often to the detriment of a community (i.e.

overpasses, railway sidings); how will these be justified if the coal market were to plummet? What are the implications of selling, cheaply, an energy resource to an economic rival? What are the implications of becoming, essentially, a resource for developing Asian economies? What are the costs of strip mining to the natural and human environments in the Powder River Basin, and are these costs justified by the export of cheap coal to Asia? What are the human health, climate change and ocean acidification costs to the combustion of Powder River Basin coal in Asia, and are these costs justified by the profits to be made by the coal companies, the rail companies, the terminal companies, and the shipping companies. **Specifically in regard to GPT, how much annual profit will be made by Peabody Energy; BNSF; Goldman Sachs; Berkshire Hathaway; and Carrix/SSA Marine/PIT? Do profits to these particular companies justify the costs to taxpayers, to human health and safety, to local economies, to regional identities, to natural resources, to tribal nations?**

II. THE PROPOSED GATEWAY PACIFIC TERMINAL

The proposal calls for a bulk commodity export facility which would handle, annually, 54 million metric tons, 48 million metric tons of which would be coal. Are there caps on these figures, or could the terminal be expanded at a later date? What are the hopes and expectations of Powder River Basin coal companies (i.e. Peabody Energy) and the rail companies (i.e. BNSF) with regard to future coal export? Recognizing that the impacts of such a project are often cumulative, what critical thresholds might be crossed if the project were to expand in the future?

III. TRAINS

- A. Coal Dust:** What kind of train cars will be used? Will they be covered? Will surfactants be used? If so, what are the potential human health and environment impacts of such chemical agents? How effective have surfactants proven in the suppression of coal dust in open cars subject to high wind events, such as those often present in the Columbia River Gorge and along the Puget Sound coastline? According to BNSF, each uncovered car loses between 500 pounds and 1 ton of coal dust en route. What are the impacts to human health, soil, and water supplies from fugitive coal dust blowing and/or leaching (due to rain and other moisture) from coal cars?
- B. Passenger Rail:** how will the high intensity use of the rail lines by the coal trains affect current and future passenger rail?
- C. Bottleneck and Infrastructure Issues:** How will the addition of 18 coal trains, each up to a mile and a half long, daily impact tunnels and single-track areas? Will passenger rail be forced off the tracks for extended periods? Idling locomotives produce a significant amount of diesel emissions; what are the human health and environmental impacts of locomotives that are forced to idle due to GPT train traffic?
- D. Agricultural and Other Freight:** How will the intensity of coal train traffic, and the priority given to coal as a commodity for transit, adversely affect local manufacturers and agricultural producers who need low-cost short-haul transit?

E. Rail Capacity Issues: How will the addition of GPT coal train traffic affect the overall rail system? The Washington State rail system is already near capacity; and constraints can cause delays throughout the system. Will BNSF increase capacity along the I-5 corridor to Cherry Point, and if so, what are the impacts of such capacity increase on property ownership (eminent domain); taxpayer investment; physical disruption to sites and attendant losses to local businesses? If a capacity increase is made necessary, in whole or in part, by GPT, who will pay for it and how will it impact local communities, economies, public health, and quality of life?

III. TRAFFIC

Traffic studies conducted in Bellingham, Burlington, Stanwood, Marysville, Mt. Vernon, Seattle and Edmonds by Gibson Traffic Consultants suggest severe traffic delays and consequences due to the proposed increase of rail traffic associated with GPT. How will delays at grade crossings adversely affect a community's level of service, ability to provide effective emergency response times, and local freight delivery systems? These traffic impacts will be felt in communities all along the rail corridor, from the mines in Wyoming and Montana clear through to Cherry Point. Please study the traffic impacts in the entire region.

IV. JOBS AND LOCAL BUSINESSES

How will traffic delays, noise, and pollutions from the trains impact freight delivery, customer convenience, waterfront access, and regional branding? How will the acres of coal in open storage and the traffic of the coal ships affect fisheries, maritime businesses, tourism, and regional branding? What are the costs to local jobs and local businesses?

A. Mitigation of Traffic Gridlock: attempts to mitigate the interrupted flow of commerce would likely include the construction of overpasses, underpasses, and other infrastructure. These mitigation efforts themselves cause physical disruption, displacement of homes and businesses, and take years to complete. What are the impacts of such mitigation efforts on local businesses and communities? If traffic impacts along the rail corridor are to be considered (as they should), it seems that mitigation efforts would easily be in the billions of dollars (considering that one single, simple overpass runs in the vicinity of 15-20 million dollars). How much would effectively mitigating adverse traffic impacts along the rail corridor cost, and who would pay?

B. Economic Analysis: Please conduct a comprehensive economic analysis that takes into account not only the number of permanent number of jobs created at the terminal site and the tax revenue associated with the terminal, but also job losses, damages to small businesses and fisheries, opportunity costs (such as loss of tourism revenue), and taxpayer expenses for upgraded safety and infrastructure along the rail corridor. Also, please indicate real numbers from expected tax revenue, and how this revenue is to be allocated/distributed. Is GPT's assessment of tax revenue accurate? Would Whatcom County be the only beneficiary, or would that tax revenue be shared with state and/or federal governments?

C. Opportunity Costs: How many businesses might be discouraged from staying in or moving to the region because of traffic gridlock, diminished quality of life, damaged natural resources, and other adverse impacts associated with GPT?

D. Actual Job Numbers: Given increasing automation at facilities like that proposed, how many permanent jobs will be created by GPT? Would these permanent jobs be on the PIT payroll, or simply “associated,” “indirect,” “implied,” or “induced?” Will these jobs go to Whatcom County residents, or will they require specialized skills drawn from a larger labor pool? How does this number of direct, permanent jobs compare with other Whatcom County businesses in terms of number of employees, salary and skill level?

V. TAXPAYER INVESTMENT

GPT operations will require various infrastructures and upgrades. Studies on rail capacity, existing infrastructure, traffic impacts, and likely coal export needs indicate that sidings, overpasses, underpasses, bridges and other infrastructures will need to be built and/or improved. The increased intensity of rail traffic will also necessitate upgraded safety measures. BNSF typically pays only for a small fraction of costs directly associated with rail usage. Infrastructure and/or safety upgrades along the rail corridor would cost taxpayers a huge sum of money. Please study exactly what would be entailed in providing necessary infrastructures, system and safety upgrades to facilitate all GPT operations, including all rail systems, anything necessary at the port site, and marine systems. How much would all of this cost? Who would pay for these costs, and in what percentages? How would the costs break down to municipal, state and national governments? How does the amount of money to be paid by local, state, regional and federal taxpayers compare with the amount of money to be made, collectively, by Peabody Energy, BNSF, Berkshire Hathaway, Goldman Sachs, Carrix/SSA Marine, PIT and related parties?

VI. PROPERTY VALUES

By how much will residential, agricultural, marine and commercial properties decrease because of the increased rail traffic? How will damage caused by train rumbling to foundational structures, noise, traffic delays, fugitive coal dust and pollutions emitted by the coal trains affect the value of these properties? How will tidal properties, such as that used by shellfish farms, be affected?

VII. MARINE VESSEL TRAFFIC

Over 900 annual transits by some of the largest ocean-going vessels in the world will be required to ship the coal to Asia. These vessels are single-hulled (meaning that a breach results in a diesel spill); they burn a tremendously polluting form of diesel; their anchor drag on the sea floor; sometimes they are unescorted by tugs through narrow passageways; they cause noise and possibly other marine pollutions (ie from paint).

A. Collision, ship damage, and oil/diesel/coal spill risks. By what factor will collision, oil spill, diesel spill and coal spill risks rise if GPT traffic is added to current levels of traffic? By what factor will these risks rise if GPT traffic is added to current marine traffic plus the traffic of one or more of the other

proposed west coast coal export facilities? By what factor will these risks rise if GPT traffic is added to current marine traffic plus other proposed increases in marine traffic, i.e. from Kinder Morgan in Canada? GPT's marine traffic should not be considered in isolation: it needs to be studied in context of current and probable future levels of marine traffic. Traffic in the Salish Sea, at Unimak Pass, and at destination port sites in Asia need to be considered. The impacts of a collision or other damage to a vessel, and the resulting spill of oil, fuel and/or coal on the marine environment where-ever such damage might occur need to be considered. What would be the impacts of a damaged ship and/or hydrocarbon spill directly or indirectly caused by GPT marine traffic on Salish Sea, Puget Sound, and/or West Coast marine environments, human environments, and economic (i.e. tourism, fisheries, etc) environments?

B. Air pollution: Marine vessels represent one of the most difficult to regulate sources of air pollution in the world. Sometimes called "floating power plants," marine vessels emit sufficient pollutants to negatively impact the air quality and health of people near ports and inland waterways. Marine vessels used in international shipping are typically powered by diesel engines fueled by either diesel (distillate) or residual fuel. Marine vessels account for the largest single source of sulfur dioxide in the airshed in the larger Georgia Basin. How will the marine traffic associated with GPT operations affect our airshed? How will the various airborne toxins emitted by vessels associated with GPT operations impact human health (both in Washington State and elsewhere, including Asia, and wherever the pollutants might drift), climate change and/or ocean acidification?

VIII. MARINE IMPACTS

Sharply increased marine vessel traffic (bulk cargo carriers and tug escorts); physical disruption of ecologically sensitive areas (tidal; littoral; wetlands; uplands; riparian); and open storage of coal in proximity to the Cherry Point Aquatic Reserve will have a number of impacts on marine and associated environments.

What are the various effects of:

- A. fugitive coal dust (airborne)
- B. any spilled coal dust (on land or into the water)
- C. ballast water
- D. air pollutions from marine vessels associated with GPT
- E. water-borne pollutions from marine vessels
- F. anchor dragging on sea floor
- G. noise pollutions
- H. the physical presence/transit of the ships/tugs themselves
- I. collision risks between ship/tug and
 - 1. another bulk carrier, tanker and/or tug;
 - 2. another vessel (commercial, fishing, recreational, ferry);
 - 3. an object (crab pot, rock, etc)
 - 4. a marine mammal

On:

- J. the Cherry Point Aquatic Reserve management plan
- K. eel grass
- L. the Cherry Point herring population
- M. salmon populations
- N. crab populations
- O. the orca population
- P. shorebirds
- Q. various marine, tidal, estuarian, wetland, uplands and riparian (Nooksack) ecosystems, food webs and/or habitats
- R. tourism and recreational use and economies related to Salish Sea marine environments

A note, and request, regarding **ballast water**: if there are regulations in place, or to be put in place, regarding ballast water, how effective is enforcement of these regulations? The United Nations has identified ballast water as one of the four greatest threats to the world's oceans. Is it possible to be sure that foreign organisms, bacteria and invasive species will not enter the Salish Sea via the ocean-going vessels associated with GPT? What measures can be taken to verify strict compliance? Who would pay for such measures to be put in place and enforced?

IX. FISHERIES

How will construction and operations of GPT, and attendant train and marine vessel traffic, impact the various habitats that sustain our fisheries? The Salish Sea waters, the tidal lands, the shores, the uplands, the wetlands and the Nooksack River are all part of an ecosystem that supports various fisheries. The Cherry Point herring population is a key food for other species. How will the salmon and crab fisheries be impacted by GPT? Please study not only diminished food supplies for these species, but also damages to the fishing process (i.e. what are the economic impacts for the crabber whose pots are inevitably run over and destroyed by the coal ships?). What are the economic impacts for those people whose livelihood is dependent upon fisheries, and how will those lost and/or diminished livelihoods impact the larger local economy? How might the various pollutions involved with GPT operations, the transportation systems (rail and marine), and coal itself affect the safety of herring, salmon and crab as food sources for humans? How much money that has been previously invested in the restoring marine ecologies will be lost by GPT-caused damage to those ecologies and fisheries?

X. QUALITY OF LIFE AND REGIONAL IDENTITY

The Northwest is a region noted for spectacular physical beauty, an emphasis on "quality of life," and a dedication to clean, healthy living and environmental stewardship. It is considered a prime tourist destination spot and a highly desirable place to live; it is both agriculturally rich and a haven for innovative business.

- A. In what ways might the pollution, traffic, noise, and degradation of our waters and fisheries that would come with significant coal train and ship traffic be at odds with our enjoyment and stewardship of this region? **How might choosing to become an economy in which coal transport is an emphasis undermine aspirations to build on the Northwest economies of tourism,**

healthy agriculture, innovative businesses, clean energy and the manufacture of local goods? How might our our icons – the salmon and the orca– be imperiled by the proposed project? The Northwest’s most valuable asset is our quality of life –witness the profusion of Northwest communities on “best places” lists– and this quality is what hangs in the balance. How would GPT construction and operations; how would the coal export mission; how would the dramatic increase in rail and marine vessel traffic and associated impacts change the very nature and ethos of the Northwest, as well as the public perception of it?

- B. Along the Puget Sound rail corridor, many communities have **invested in the the transformation of waterfront** from industrial to commercial use as an essential part of a plan for sustainable economic viability. A continuously in-use train track effectively shears such a town off from its waterfront, and jeopardizes such long- term planning. For example, according to a study conducted by CommunityWise Bellingham, Bellingham’s waterfront Boulevard Park and Taylor Street Dock could be cut off entirely from vehicular access by the addition of coal train rail siding. How would GPT’s use of the rail system impede such waterfront development along the Puget Sound coast, and what would be the economic cost of this loss?
- C. The transport of another region’s goods to another country brings limited benefit to our region, at significant cost to our region. In particular, many feel that the export of a highly polluting form of fossil fuel is contradictory to this region’s values and dedication to phase out domestic coal-burning power plants. The Puget Sound Partnership compile an action agenda which addresses many of these quality of life concerns. **How do GPT’s mission and proposed operations run counter to these quality of life concerns, and is there a way to quantify loss of quality of life, loss of reputation, loss of tourism dollars, and the ex-migration of professional/cultural residents that often accompanies a loss of quality of life and regional identity?**

XI. COAL DUST

Coal contains lead, barium, arsenic, cadmium, chromium, selenium and mercury: all **toxic heavy metals**. What is the effect of these toxic heavy metals, if leached out from fugitive and/or spilled coal dust, on water supplies, airsheds, and soil? What are the human health, environmental, agricultural and aquacultural impacts of such heavy metals?

- A. **On the trains:** Coal dust is notoriously difficult to control. BNSF estimates that each uncovered coal car loses between 500 lbs and a ton of coal dust en route. How does the applicant propose to mitigate coal dust lost en route, and what is the proven efficacy of these measures? How much coal dust might be leached by precipitation/moisture while the coal train is en route from mine to port and back again (my understanding is that the coal cars are not washed out, so even the “empties” still have coal residue).
- B. **In storage:** 80-100 acres in proximity to the Cherry Point Aquatic Reserve would be covered in vast heaps of coal in open storage. High winds occur in this area during 6 months of the year. What is the proven efficacy of measures

the applicant claims will be made to contain this dust? Is there any coal export facility in the world that has successfully contained all coal dust during high wind events? How much coal dust can reasonably be expected to be blown from the piles and/or leached into the ground and/or water?

- C. **In the conveyor:** photos of a recent coal ship crashing through a berth at a coal export facility in Canada showed the vast amount of coal dumped into the water when the conveyor system was smashed. What would be the myriad implications of such a coal spill at the Cherry Point site? What measures would be taken to prevent and clean up such a spill? Can such a spill be completely cleaned? Who would pay for such a clean-up?
- D. **On the ships:** Does any coal blow out of the ships? What happens if the ship collides or otherwise breaks? What would be the effects of a massive coal spill in the Salish Sea, at Unimak Pass, in the open ocean, or at destination port sites? What marine environments might be damaged and/or jeopardized? Would there be impacts to human health? Who would pay for the clean-up, who would be liable? Is it possible to ever fully and successfully clean up such a spill?

XII. COAL TRAIN DERAILMENTS

There have been a number of coal train derailments in the past few years (36 separate coal train derailments from 2010-2012 are indexed in Key Facts; another, from 2006, saw coal train cars being submerged in a river, and resulted in an EPA Superfund action). Derailments are often caused by either fluctuation in temperature and/or damaged ballast on the track. This damage can be caused by fugitive coal dust, which is why BNSF is now charging shippings with suppressing coal dust (and shippers are balking). As coal trains become longer, and as transits become more frequent, it seems that the risk of derailments would increase. These derailments often result in the spilling of many tons of coal. What would be the impacts of such a coal train derailment and subsequent spill on the Columbia River Gorge, in urban environments like Spokane or Seattle, or along the coast line of Puget Sound? How might these derailments affect other train and vehicular traffic, nearby homes and businesses, human health and safety? What are the risks to the various environments, especially drinking water sources and agricultural lands? Sometimes, coal train derailments kill people, as the recent case when a coal train derailed off a trestle and landed on a nearby car. What are the risks to human safety from coal train derailments associated with GPT?

XIII. AIR QUALITY:

Several types and sources of pollutants need to be considered. Coal dust; the transportation of coal; and the combustion of coal all would contribute to air pollutions that harm human health, exacerbate climate change, and speed ocean acidification.

- A. Coal dust from the trains, and more significantly, from the acres of open storage at the proposed terminal site.** Coal dust can easily become airborne: how much coal dust would likely blow from the train cars and from the open storage site? What are the human health and/or environmental impacts of fugitive coal dust?

- B. Diesel particulate matter from the locomotives, the ships and the tug escorts (when applicable): DPM is a known carcinogen.** Given the types of locomotives and ships *currently* in use (which one can assume would be the type in use for GPT operations, if they commence within the next few years), how much diesel particulate matter can we expect will be added to the breathing air in communities close to the rail corridor and close to where the ships would idle, and close to the terminal site? How much geographic area would this tainted airshed cover, how many people would be affected, and what would be the likely effects as measure in asthma/cancer/heart disease medical expenses, compromised lives, and premature deaths?
- C. Pollutions and harmful emissions caused by coal combustion.** The only purpose for GPT's shipping PRB coal is so that it can be burned in Asia. What are the various pollutants created and spewed into the atmosphere by coal combustion? How will these pollutants harm human health in Asia and here, on the west coast of North America (i.e. mercury from Asian coal combustion already poisons our watersheds). How will these emissions speed and exacerbate climate change and ocean acidification?

XIV. NOISE

- A. Train noise:** By how much would frequency, duration and intensity of train noise increase due to GPT's coal train traffic? What would be the impacts on human health (including hearing damage, sleep disruption, cognitive function, and cardiac integrity) from such chronic noise exposure? What would the effects of such noise exposure be on children, especially those who live, go to school, or regularly play in areas close to the rail corridor?
- B. Marine noise:** What would be the impacts of increased marine noise on orca populations and other marine life forms and environments?
- C. Noise mitigation:** How effective are railway "quiet zones" in cities? Who would bear the cost for such "quiet zones?" Do "quiet zones" experience any increased risk to human safety? Is it possible to mitigate the noise from marine vessels to the extent that the noise no longer harms, discourages or agitates marine mammals and other forms of life? If so, are these mitigation measures proven to be effective? If so, who pays?

XV. PUBLIC HEALTH

- A. Please see the Scoping Comment from Whatcom and Skagit County Physicians with regard to public health concerns. How would human health and safety be impacted by GPT's direct and indirect contributions to:
1. exposure to diesel particulate matter, which is known to cause cancers, asthma, and heart disease
 2. chronic and/or intense noise exposure
 3. exposure to fugitive coal dust and/or heavy metals leached from coal dust into local water supplies and soils
 4. delayed emergency vehicle response and/or return time; emergency personnel delayed en route to the hospital

5. collisions and/or accidents involving trains and/or vehicles, bicycles and/or pedestrians
 6. mercury from coal combustion in Asia found in local watersheds and fish/seafoods
- B. How much would these resulting health and safety problems **cost in terms of insurance dollars**, emergency room expenses, hospitalization, medication, lost work and productivity. What are the economic impacts of the cumulative adverse health impacts?
- C. What are the **impacts as measured in suffering**, in severely diminished quality of life, disrupted families, grief and premature death?
- D. I would request that an official, comprehensive **Health Impact Assessment** be conducted as part of the environmental review and included in the EIS. Such an HIA should be conducted by a qualified third party, and reviewed and accepted by a medical body such as the University of Washington School of Public Health.

XVI. GLOBAL IMPACTS

GPT is being proposed for the primary purpose of coal export: to my knowledge, the only existing contract for GPT is coal (via Peabody Energy), and the applicant has not shown a need for additional bulk commodities export facility (as many already exist).

- A. Because GPT is being proposed as a coal export facility, because coal transport and export exist only to link coal mines to coal combustion plants, and because SEPA and NEPA acknowledge the permeable nature of state and natural boundaries and the importance of considering interdependent systems, I urge you to study the economic, environmental, cultural and public health impacts of coal combustion. Please study how the combustion of coal exported through GPT will speed, exacerbate or otherwise affect the following:
1. Public health in Asia, or wherever the coal is combusted, as well as on the west coast of North America, if/when the pollutions migrate across the ocean (as they do). How much illness, lost work, premature death, and other forms of suffering caused by toxic emissions, primarily sulfur dioxide, will be caused by the combustion of PRB coal?
 2. Ocean acidification, and attendant loss of biodiversity, marine health, and fisheries.
 3. Acid rain, and the results thereof on environments, ecosystems, and people.
 4. Mercury emissions and associated public health impacts, both where the coal is burned and on the west coast of North America, as the pollution blows back across the Pacific Ocean
 5. Climate change, and associated effects including socio-political disruptions; agricultural disturbances; storms classified as natural disasters; rising seas; ecosystems and biodiversity; human health.
- B. Mitigation of the above effects does not seem possible. Please study if it is possible, and, if so, exactly who would pay.

XVII. TRIBAL NATIONS TREATY RIGHTS AND ARCHEOLOGICAL CONCERNS

I respectfully request that various impacts upon tribal nations be given due consideration. Please study:

- A. Potential damages to the Nooksack River, to Salish Sea ecosystems and fisheries, and to Cherry Point itself; and impacts on traditional livelihoods, natural resources, food sources, culture and religion.
- B. Possible infringement of international and treaty rights, and the consequences of such infringement.
- C. Any disturbance of archaeological sites, burial sites, and sites of cultural importance.

As recognized in the Cherry Point Aquatic Reserve Plan, the Lummi Nation and other tribes have treaty rights in the Salish Sea, as usual and accustomed fishing grounds. How might damaged fisheries; polluted waters, lands and air; altered ecosystems; and increasingly industrialized, crowded waterways impact traditional Native culture and spirituality; employment and livelihoods; natural resources and safe food sources? **How might the construction and operations of GPT, and the transport and storage of bulk commodities, including coal, affect the full and proper observation of all relevant rights and treaties?**

Xwe'chi'eXen (Cherry Point) is known to have deep spiritual and cultural significance. A burial ground and a sacred site, it is associated with the creation story of the Lummi People and the First Salmon Ceremony. For over 175 generations, Lummi ancestors lived and fished at Xwe'chi'eXen, and it was part of the (now much smaller) Lummi Reservation as established by the Point Elliott Treaty. It was the first site in Washington State to be listed on the Washington Heritage Register and is eligible for the National Register of Historic Places. The 2007 United Nations Declaration on the Rights of Indigenous Peoples, supported by the President of the United States, includes the right to maintain and protect archaeological and historic sites. **I request that a third party archaeological study of cultural significance at Cherry Point be done in accordance with Lummi tribal code, and approved and accepted by a Lummi Nation cultural commission.**

As a non-indigenous person, I can't accurately articulate GPT's current and potential damages to culture and spirituality. That is why third-party studies done in collaboration with the Lummi Nation and other involved tribes are necessary. However, I do understand that the impacts would be serious, and that some would likely be irrevocable and impossible to mitigate. I do understand that we in the United States, as citizens and as a nation, have a legal obligation to uphold treaties and other accorded rights, and a moral obligation to help respect and protect the sanctity of Lummi Nation's holy ground.

Note: In the summer of 2011, SSA Marine illegally graded and cleared land without permits on the site for their proposed Gateway Pacific coal terminal at Cherry Point. Both Whatcom County and the U.S. Corps of Engineers required SSA to reach agreement on land disturbances with local Tribes. Five months later, at the time SSA

submitted the new GPT application, SSA still had not resolved these outstanding violations. A description, with appendices, of these events can be found [here](#).

Relevant Documents:

- Point Elliot Treaty
- United Nations Declaration on the Rights of Indigenous Peoples
- Announcement of the U.S. Support for the United Nations Declaration on the Rights of Indigenous Peoples & Initiatives to Promote the Government-to-Government Relationship & Improve the Lives of Indigenous Peoples
- Information on Cherry Point
- Sovereignty and Treaty Protection for the Lummi Nation
- Cherry Point Aquatic Reserve Plan

XVIII: WATER USAGE and OTHER CONCERNS

The GPT construction and operations will, I understand, use millions of gallons of water from the Nooksack River. Additionally, there will be pollutants from GPT operations and transportation systems and heavy metal leachates from the coal itself that could contaminate water supplies along the rail corridor as well as in proximity to the proposed port site. **How will GPT's cumulative usage of water and/or direct and indirect contamination of water supplies affect human health, environmental health, agriculture, fisheries, and ecosystems?**

XIX: SOIL CONTAMINATION and AGRICULTURAL/ FOOD SAFETY CONCERNS

How might pollutions emitted by the transportation of coal, and/or fugitive coal dust, and/or heavy metal leached from coal, adversely affect agriculture and food safety? Whatcom and Skagit Counties are agricultural counties with an increasing number of organic farms: how might exposure to toxins pertaining to the transport and export of coal and related GPT construction and/or operations adversely affect organic farming?

ATTACHMENTS:

- I. "Key Facts" booklet from coaltrainfacts.org. Cited facts have sources listed in endnotes. Because coaltrainfacts.org is a website, citations are for linked documents; url is given.
- II. Bibliography for coaltrainfacts.org. Reference material is to be considered for the EIS.

Key Facts Booklet

<i>Overview</i>	2
<i>West Coast Coal Export</i>	2
<i>The Proposed GPT Facility</i>	4

AREAS OF CONCERN

<i>Trains</i>	5
<i>Traffic</i>	7
<i>Jobs and Local Businesses</i>	8
<i>Taxpayer Investment</i>	10
<i>Property Values</i>	11
<i>Marine Vessel Traffic</i>	11
<i>Marine Impacts</i>	14
<i>Fisheries</i>	18
<i>Quality of Life and Regional Identity</i>	19
<i>Coal Dust</i>	20
<i>Derailments</i>	21
<i>Air Quality</i>	22
<i>Noise</i>	23
<i>Public Health</i>	25
<i>Global Impacts</i>	26

FURTHER INFORMATION

<i>Scoping</i>	32
<i>Permitting</i>	37
<i>Environmental Review</i>	38
<i>Common Questions and Misperceptions</i>	40
• <i>Would the trains come through anyway?</i>	
• <i>Are there any limits on coal export volumes or number of trains?</i>	
• <i>Would the port be used for grain?</i>	

This booklet is a print version of the coaltrainfacts.org Key Facts section, which is a good faith attempt by volunteers to summarize and present the best information available on the subject of the proposed coal port at Cherry Point and attendant concerns. No expertise on the part of the writers is claimed. More information on the issue and on how to submit a “scoping comment” is available at coaltrainfacts.org.

OVERVIEW

There are currently plans to develop the largest coal export facility in North America at Cherry Point, in northwest Washington state. *The Gateway Pacific Terminal*,¹ a project of Pacific International Terminals, would be owned by *SSA Marine*², which is owned by *Carrix*³, partnered with *Goldman Sachs*⁴. Coal mined from the Powder River Basin by *Peabody Energy*⁵ would be hauled by trains along *BNSF*⁶ rail lines. *The coal train corridor*⁷ extends from mines in Montana and Wyoming through Sandpoint, Idaho to Spokane, down through the Columbia River Gorge, then up along the Puget Sound coast, passing through Longview, Tacoma, Seattle, Edmonds, Everett, Mt. Vernon, Bellingham, Ferndale and all points in between.

Costs to *local economies, public health, and rail corridor communities* are concerning to many. There is evidence to support that *local jobs and businesses, property values, human health* and quality of life would be adversely impacted by the coal trains. Increased *marine traffic* and the coal terminal would affect *fisheries, marine ecosystems, and air quality*. Further, substantial *taxpayer investment* may be required to support infrastructure required by the project and to mitigate some of the potential negative effects. There are questions as to whether damages to local businesses, *regional identity, communities and fisheries* could ever be adequately mitigated. The *global impacts* of coal export and coal combustion are significant, particularly when the future is considered.

WEST COAST COAL EXPORT

¹ <http://gatewaypacificterminal.com>

² <http://www.ssamarine.com>

³ <http://www.carrix.com>

⁴ <http://www.goldmansachs.com>

⁵ <http://www.peabodyenergy.com>

⁶ <http://www.bnsf.com>

⁷ <http://www.coaltrainfacts.org/sightline-daily-coal-trains-and-rail-congestion>

China is building at least *[one new coal-fired power plant every week](#)*⁸ and has a seemingly *[limitless appetite for coal](#)*⁹. The Powder River Basin in southeast Montana and northeast Wyoming has a *[seemingly limitless supply](#)*¹⁰. There is increasing interest linking this supply with Asian demand through west coast coal terminals. Two potential sites in Washington state—*[Gateway Pacific Terminal](#)*¹¹ at Cherry Point (Carrix/SSA Marine, Peabody Energy) and *[Millenium Bulk Terminal](#)*¹² at Longview (Ambre Energy, Arch Coal)—are currently the most active projects, although other sites both in the States and in Canada are under consideration.

Coal mining and coal transport (by both rail and sea) are problematic when conducted at such scale. Local economies, communities, and human health are foremost amongst concerns. The coal industry itself acknowledges that *[coal markets are traditionally volatile](#)*¹³ and that coal terminals are financially risky ventures. Strategic questions regarding the wisdom of selling energy resources cheaply to economic rival have been raised. Additional concerns include those about the coal combustion that occurs once the PRB coal reaches its market.

*[China consumes coal at an ever-increasing rate due to its burgeoning industrial economy](#)*¹⁴. Though China has vast coal supplies of its own, dangerous mines combined with overrun rail infrastructure make it *[easier for China to import coal](#)*¹⁵ from other countries rather than mine its own. China has committed *[\\$80 billion over the next decade to build up its passenger rail in an effort to open up its main rail line capacity to move more coal](#)*¹⁶. Washington State has put policies in place to phase out coal burning facilities because of coal's negative environmental

⁸ <http://www.instituteforenergyresearch.org/issues/china/>

⁹ <http://www.instituteforenergyresearch.org/2010/08/06/china-world's-largest-energy-consumer-surpasses-the-u-s/>

¹⁰ <http://www.coaltrainfacts.org/exporting-powder-river-basin-coal-risks-and-costs>

¹¹ <http://gatewaypacificterminal.com>

¹² <http://ambreenergy.com/what/us-operations/millennium-terminal>

¹³ <http://www.coalage.com/index.php/features/763-building-a-coal-terminal-on-the-west-coast.html>

¹⁴ <http://www.coaltrainfacts.org/the-greenhouse-gas-impact-of-exporting-coal-from-the-west-coast-an-economic-analysis>

¹⁵ <http://www.coaltrainfacts.org/seattle-times-coal-quandary-as-state-plans-to-send-dirty-fuel-overseas>

¹⁶ <http://www.theatlantic.com/magazine/archive/2010/12/dirty-coal-clean-future/308307/3/>

impact, *yet we are exporting it to China*¹⁷. Its unique economic position makes *China especially powerful*¹⁸ in negotiations of prices of coal worldwide.

The *Powder River Basin*¹⁹ (PRB) is an area in southeast Montana and northeast Wyoming known for its natural coal deposits. It is the largest source of coal in the United States. The Wyodak coalbed covers 10,000 square miles in the PRB and has seams of coal averaging 70 feet thick. Total production from the PRB was *over 455 million short tons of coal in 2009*²⁰. Powder River Basin coal is low-sulfur, subbituminous coal. While it contains 15 times less sulfur than Eastern (Appalachian) coal, it also has fewer Btu's of energy or a lower "heat rate," which means that coal-fired power plants need to burn nearly *50 percent more of it*²¹ to match the power output from Eastern coal.

Coal is mined by a process called *strip mining*²², a type of surface mining where overlying soil and rock are removed to reach the coal underneath. The *mining process damages aquifers*²³ in the region, affecting human health and local economies, particularly ranching. Transporting tremendous amounts of coal from Powder River Basin mines requires an unprecedented intensity of railway usage.

This *dedication of rail lines to coal transport is associated with a number of concerns*²⁴, including, but not limited to, interference with passenger rail and other freight rail uses; impacts on other ground traffic, as railroad crossing delays escalate to hours per day; damages to local economies as businesses are isolated on the "wrong side of the tracks;" loss of tax revenues; effects of noise, vibration, coal dust and diesel emissions on human health, property values and quality of life. The coal train corridor extends through several states and communities that differ in size, demographics, and economic base; however, all communities would be subject to impacts from the proposed scale of coal export activities.

¹⁷ <http://www.coaltrainfacts.org/seattle-times-coal-quandary-as-state-plans-to-send-dirty-fuel-overseas>

¹⁸ <http://www.coaltrainfacts.org/docs/Chinas-Coal-Imports-Stanford1.pdf>

¹⁹ http://en.wikipedia.org/wiki/Powder_River_Basin

²⁰ <http://www.eia.gov/coal/annual/>

²¹ http://www.ucsusa.org/clean_energy/coalvswind/brief_coal.html

²² http://www.citizenscoalcouncil.org/?option=com_content&view=article&id=13&Itemid=21

²³ <http://meic.org/mining/coal-mining/rosebud-coal-mine>

²⁴ <http://www.coaltrainfacts.org/docs/Local-Govt-Sept-2011-Update-Salish-Land-Policy-Regional-Impacts-of-Coal-Sept-25-2011.pdf>

Although the Gateway Pacific Terminal and Longview, both in Washington State, are the two terminal sites with current proposals, *other ports*²⁵, including the Port of Grays Harbor in Hoquiam, Oregon International Port of Coos Bay, and Port of St. Helens are also under consideration. British Columbia ships coal from the facility at *Westshore*²⁶, at Roberts Bank; there is talk of *expanding Prince Rupert's Ridley Island terminal*²⁷; *other locations*²⁸ in BC may be developed towards similar ends.

Sightline Institute has done research into the *unreliable economics*²⁹ of West Coast coal export. An example of the false economic promise of coal export is the coal terminal in Los Angeles which was closed in 2006 due to *market failure*³⁰.

“Clean Coal” and the Powder River Basin

There is a compelling argument made by *James Fallows in The Atlantic Magazine*³¹ for making clean coal a priority, alongside “all-out effort on all other fronts, from conservation and efficiency to improved battery technology to wind- and solar-power systems to improved nuclear facilities.” Clean coal refers to coal being used in more sustainable ways by sequestering the carbon dioxide emissions of coal. Fallows reports that China is a leader in developing clean coal technologies; these technologies, however, are still theoretical. A fundamental question remains: Is selling coal cheaply to China the best way to provide incentive to further develop “clean coal?” Selling an inexpensive energy resource that can be utilized with existing technologies may simply perpetuate the consumption of coal as we know it.

THE PROPOSED GATEWAY PACIFIC TERMINAL

²⁵ <http://crosscut.com/2011/09/21/coal-ports/21320/Coalexport-plans-turn-into-running-battle/?page=single>

²⁶ <http://westshore.com>

²⁷ <http://www.vancouver.sun.com/business/Ridley+Island+terminal+expansion+development/5428962/story.html>

²⁸ http://www2.news.gov.bc.ca/news_releases_2009-2013/2010TRAN0104-001386.htm

²⁹ <http://www.coaltrainfacts.org/sightline-daily-coal-export-a-history-of-failure-for-western-ports>

³⁰ <http://www.coalage.com/index.php/features/763-building-a-coal-terminal-on-the-west-coast.html>

³¹ <http://www.theatlantic.com/magazine/archive/2010/12/dirty-coal-clean-future/308307/>

The proposed Gateway Pacific Terminal (GPT) at Cherry Point would have a capacity of approximately 54 million metric tons of goods³², of which 48 million tons would be coal³³, annually. By comparison, Westshore Terminals³⁴ at Robert's Bank in the lower mainland of British Columbia, currently the largest coal port in North America, ships around 21 million metric tons of coal per year. The 2,980 foot long wharf³⁵ would berth 3 ships; cargo would be conveyed along a 1,250 foot trestle linking the ships to shore. There would be an 80 to 105-acre stockyard³⁶ at Cherry Point for storage of coal and associated machinery. Coal dust is generated from uncovered piles that need to be rotated regularly. The dust is notoriously difficult to control³⁷. The coal would be loaded from the storage areas into Panamax and cape-size³⁸ (too large to fit through the Panama Canal and must sail around a cape) ships for transport to destinations in Asia. As both supply and demand for Powder River Basin coal are vast, and as the current application is to develop only 350 acres of a 1,092 acre site, there is no way to accurately predict how large the Gateway Pacific Terminal might eventually become, and how many coal trains and vessels would then be required.

TRAINS

Transporting coal from the Powder River Basin to proposed west coast terminal sites would require unprecedented levels of regional rail usage. There are concerns not only about dramatically increased rail traffic, but also about negative impacts associated with coal trains specifically, due to train length, weight, content, and polluting capacity. The terminal at Cherry Point would see the addition of approximately 30 miles of coal trains daily³⁹ to the BNSF rail line that runs along the Puget Sound coast. This would likely constrain passenger rail and adversely

³² <http://www.coaltrainfacts.org/pid>

³³ <http://bbjtoday.com/blog/gateway-pacific-terminal-environmental-review-process/10262#>

³⁴ <http://www.westshore.com>

³⁵ <http://gatewaypacificterminal.com/the-project/what/>

³⁶ <http://www.coaltrainfacts.org/pid>

³⁷ <http://www.coaltrainfacts.org/the-daily-news-westshore-provides-glimpse-of-longviews-potential-future-with-coal>

³⁸ <http://www.coaltrainfacts.org/pid>

³⁹ <http://www.coaltrainfacts.org/docs/city-of-seattle-news-release.pdf>

*affect the transport of freight other than coal*⁴⁰. The Washington state rail system is already nearing practical capacity; infrastructure would need to be upgraded to accommodate proposed usage. *BNSF has been largely silent on the issue*⁴¹ of rail improvements ; it remains unclear who would pay, and what kind of physical and economic disruption such upgrades would cause.

Train number, size, weight and type:

There are various numbers given for the number of trains per day required to transport 48 million tons of coal per year from the Powder River Basin to the proposed coal terminal at Cherry Point. According to Carrix/SSA, the total number of coal train trips per day (arriving full, leaving empty) would be in the range of *16*⁴² to *18*⁴³ (9 loaded and 9 returning). Each of the coal trains would be approximately a mile and a half in length, made up of *125-150 cars*⁴⁴, depending on car size and type. There is no cap on the number of trains possible, should the proposed terminal expand capacity in the future.

According to the Whatcom Transportation Plan of 2007, there are *currently about 35 trains that run each day between Seattle and Everett, and 14 trains each day between Everett and Brownsville, BC.*⁴⁵ This means that between Everett and the Cherry Point coal port, there would be upwards of 30 trains total a day. Each loaded *coal car*⁴⁶ (an open-top gondola or bottom dump hopper or bottom dump rapid discharge railcar) weighs an average of 143 tons. Due to this extreme weight, each 125-150 car train requires *four to five locomotives*⁴⁷, and therefore has at least four times the impacts due to diesel emissions of a single-locomotive train. The heaviness of the trains also produces more noise. There are lingering questions about the impact of the trains' weight, including their long-term impact on the rail

⁴⁰ <http://www.coaltrainfacts.org/docs/Statewide-Rail-Capacity-and-System-Needs-Study.pdf>

⁴¹ <http://crosscut.com/2011/02/23/bellingham/20662/Coal-plans-raise-questions-for-Bellingham/?page=single>

⁴² <http://www.coaltrainfacts.org/bellingham-herald-cherry-point-initial-cargo-would-focus-on-coal-produce-fewer-jobs>

⁴³ <http://www.coaltrainfacts.org/heraldnet-freight>

⁴⁴ <http://www.coaltrainfacts.org/bellingham-herald-cherry-point-initial-cargo-would-focus-on-coal-produce-fewer-jobs>

⁴⁵ <http://www.coaltrainfacts.org/whatcom-transportation-plan-2007>

⁴⁶ <http://www.bnsf.com/customers/equipment/coal-cars/>

⁴⁷ <http://www.coaltrainfacts.org/docs/The-Coal-Pipeline-In-Pacific-Northwest-A-Local-Battle-Has-Global-Fallout.pdf>

system and *potential damage to nearby structural foundations*⁴⁸ due to the trains' vibrations.

Coal dust:

*Coal cars are typically uncovered*⁴⁹; each car loses between *500 pounds and one ton of coal dust en route*⁵⁰. Coal dust is a proven nuisance for rail lines; fugitive dusts degrades the ballast of the rail lines, and can be a *cause of derailments*⁵¹. While adverse effects of coal dust from mining and combustion on human health are well-documented, the effects of coal dust blowing and/or leaching from coal cars on human health and on local water safety are as yet unknown.

Passenger Rail:

Rail lines like BNSF's Burlington–Ferndale route are projected to *exceed practical capacity*⁵² by 2015, causing delays and interruption in the service quality to passenger rail. There is also evidence to suggest that *the increased number of freight trains along the corridor would preclude the development of high-speed passenger rail in the area*⁵³.

Bottlenecks and infrastructure problems:

*In some places along the rail corridor, the trains are on single tracks*⁵⁴. These areas, along with other tunnels and bottlenecks along the corridor, could be severely impacted by an increase in the number and size of trains. Other trains, most notably passenger rail, could be forced off the tracks for extended periods of time. In addition, *idling rail engines produce a significant amount of diesel emissions*,⁵⁵ resulting in environmental damage and raising health concerns.

Agricultural and other freight:

⁴⁸ http://www.fta.dot.gov/documents/FTA_Noise_and_Vibration_Manual.pdf

⁴⁹ <http://www.bnsf.com/customers/equipment/coal-cars/>

⁵⁰ <http://www.coaltrainfacts.org/bnsf-coal-dust-frequently-asked-questions>

⁵¹ <http://www.coaltrainfacts.org/ny-times-railroads-utilities-clash-over-dust-from-coal-trains>

⁵² <http://www.coaltrainfacts.org/docs/Statewide-Rail-Capacity-and-System-Needs-Study.pdf>

⁵³ <http://www.coaltrainfacts.org/crosscut-everett-vancouver-a-railroad-bottleneck-if-coal-trains-increase-2>

⁵⁴ <http://www.coaltrainfacts.org/crosscut-everett-vancouver-a-railroad-bottleneck-if-coal-trains-increase-2>

⁵⁵ <http://www.epa.gov/nonroad/locomotv/420f08014.htm>

Because freight railroads who own the track (i.e. BNSF) are focused on obtaining maximum benefit and revenue from each available train slot⁵⁶, Washington State's manufacturers and agricultural shippers who need low-cost, shorter haul carload service are being outbid and priced out of the rail market by high-volume shippers. Specifically, BNSF is giving preference to intermodal (double stack container trains that move as a unit from origin to destination with no or few stops) and coal (longer trains carrying more cars) contracts. This is squeezing out Washington's industrial (lumber, wood product producers, manufacturers, waste management, and mining) and low-density agricultural product (apples, wheat, other fruit, potatoes) shippers—making it more expensive for them to use rail and forcing them to consider other options of delivery like trucking, which could negatively impact the consumer, increase air pollution, and even force businesses out of state.

Rail system capacity issues:

A number of factors determine capacity⁵⁷ including the number of tracks and sidings, topography, mix of train types, the efficiency of terminals and rail yards receiving traffic, track speed, and power of locomotives. Generally, for a single rail system, capacity is in the range of 16 to 30 trains a day⁵⁸. Already nearing capacity, the Washington State rail system is being further strained by the increased demand of longer (8,000-foot) trains carrying higher-volume freight (coal). Because rail traffic is a system, capacity issues caused by infrastructure shortage somewhere along the route or other constraints can cause delays throughout the system⁵⁹. In its most recent Freight Rail Plan⁶⁰, WSDOT's projections for coal freight (estimated at 19.9 million tons in 2030) were based in part on BNSF's statement that it had “no public plans to increase capacity... for the foreseeable future” along the I-5 corridor. Yet, in February 2011, Peabody Energy and SSA Marine entered into contract to export⁶¹ (with BNSF agreeing to haul) 24-48 million metric tons of coal per year along the I-5 corridor to Cherry Point—effectively doubling even the highest projected level of coal freight related to managing capacity issues.

⁵⁶ <http://www.coaltrainfacts.org/docs/Statewide-Rail-Capacity-and-System-Needs-Study.pdf>

⁵⁷ <http://www.coaltrainfacts.org/exporting-powder-river-basin-coal-risks-and-costs>

⁵⁸ http://www.aar.org/~media/aar/Files/natl_freight_capacity_study.ashx

⁵⁹ <http://www.coaltrainfacts.org/congressional-budget-office-freight-rail-transportation-a-review-of-the-2004-experience>

⁶⁰ <http://www.coaltrainfacts.org/docs/Washington-State-Freight-Rail-Plan-2010-2030.pdf>

⁶¹ <http://www.coaltrainfacts.com/docs/Peabody-and-SSA-marine.pdf>

BNSF basics:

BNSF, owned by Berkshire Hathaway (Warren Buffett), operates in both the United States and in Canada, and transports coal across the border at Blaine, in Washington, and also in the Midwest. The railway privately owns and operates the tracks in Wyoming, Montana, Idaho and Washington. Historically, railroads have been accorded extraordinary rights (i.e. eminent domain) and protections (i.e. exempt from paying more than 10% of costs related to safety and the mitigation⁶² of adverse affects due to rail usage). BNSF has announced its plans to haul the coal (24-54 million mtpa) from Peabody Energy's PRB operations to the proposed SSA International Gateway Pacific Terminal at Cherry Point, where it will be shipped to Asia.⁶³ Additionally, BNSF along with the Union Pacific railroad would service the proposed Millenium Bulk Terminal⁶⁴ (MBT) at Longview, WA.

TRAFFIC

“Findings have shown that increases in rail traffic have the potential to result in diseconomies⁶⁵ as a result of traffic delays,” according to a paper taken from a University of Texas Transportation Center study. Recent studies conducted by Gibson Traffic Consultants in the western Washington cities of Seattle⁶⁶, Edmonds⁶⁷, Burlington⁶⁸, Marysville⁶⁹, Mt Vernon⁷⁰, Stanwood⁷¹ and Bellingham⁷² suggest potentially severe consequences due to the proposed increase in rail traffic intensity associated with GPT⁷³. Adverse effects include increased

⁶² <http://www.coaltrainfacts.org/docs/Cornell-Univ-Law-School.pdf>

⁶³ <http://www.coalage.com/index.php/features/992-west-coast-exports-materialize.html>

⁶⁴ <http://ambreenergy.com/what/us-operations/millennium-terminal>

⁶⁵ http://www.trforum.org/forum/downloads/2010_91_Impact_Intermodal_Rail_State_Planning.pdf

⁶⁶ <http://www.coaltrainfacts.org/docs/GTC-Seattle-Traffic-Report.pdf>

⁶⁷ <http://www.coaltrainfacts.org/docs/Cherry-Point-Coal-GTC-Edmonds-Final.pdf>

⁶⁸ <http://www.coaltrainfacts.org/docs/traffic-study-Burlington.pdf>

⁶⁹ <http://www.coaltrainfacts.org/docs/traffic-study-Marysville.pdf>

⁷⁰ <http://www.coaltrainfacts.org/docs/traffic-study-Mt-Vernon.pdf>

⁷¹ <http://www.coaltrainfacts.org/docs/traffic-study-Stanwood.pdf>

⁷² <http://www.coaltrainfacts.org/docs/Bham-Traffic-Study.pdf>

⁷³ <http://www.coaltrainfacts.org/gtc-traffic-study-burlington-marysville-mt-vernon-and-stanwood-wa>

risk of accidents, impacts to the city's level of service, decreased ability to provide effective emergency response times, and possible interference with the local freight delivery systems affecting the local economy.

The cities studied by Gibson Traffic Consultants all have common concerns regarding waiting and traffic. An additional *16-18*⁷⁴ trains are expected, and each train may be over *1.5 miles long*⁷⁵. At a speed of 50-60 mph, that would be an approximate 3-4 minute wait time at crossings. At a speed of 35 mph, there would be an approximate 6-7 minute wait time at crossings. These wait times are in addition to existing train traffic, and do not take into consideration the compounded wait times that would occur with traffic backed up at stop lights, freeway exits and/or ferry lines (as in Edmonds, WA). There is concern among the citizens of towns like Marysville—including the *Mayor*⁷⁶—that the additional train could cause *over two additional hours of traffic delays per day*⁷⁷. Whatcom County predicts an average of *2-3 hours of additional county-wide delays per day*⁷⁸, should the proposal go through.

JOBS and LOCAL BUSINESSES

There are concerns that diverse existing businesses would be compromised and/or lost in order to accommodate coal traffic. Increased traffic delays at city rail crossings and on I-5, waterfront accessibility issues, and increased noise and pollution would likely all *impact local jobs and businesses*⁷⁹. Mitigating the disruption to the flow of traffic would require the building of over- and underpasses, which would, themselves, cause *disruption to local commerce*⁸⁰. It is unclear who would pay for mitigation; these costs are typically borne, in large part, by taxpayers. Rail corridor communities outside of Whatcom County will experience potential negative economic impacts without guarantee of any of

⁷⁴ <http://www.coaltrainfacts.org/heraldnet-freight>

⁷⁵ <http://www.coaltrainfacts.org/gtc-traffic-study-burlington-marysville-mt-vernon-and-stanwood-wa>

⁷⁶ <http://www.coaltrainfacts.org/marysville-mayor-letter-to-marysville-globe>

⁷⁷ <http://www.coaltrainfacts.org/up-front-with-robert-mak-the-great-train-debate>

⁷⁸ <http://www.coaltrainfacts.org/docs/Business-Owner-Sept-2011-Update-Salish-Land-Policy-Regional-Impacts-of-Coal-Sept-25-2011.pdf>

⁷⁹ w.trforum.org/forum/downloads/2010_91_Impact_Intermodal_Rail_State_Planning.pdf

⁸⁰ <http://www.sj-r.com/news/x1574721306/Railroad-plan-calls-for-9-overpasses-1-underpass-5-intersection-closings>

potential economic benefits (i.e. tax revenue from the terminal, the permanent employment of 44 terminal operators). *Ranching and agricultural enterprises can be particularly hard hit by increased rail traffic through their properties and by damages to local water supplies caused by mining*⁸¹. A thorough economic analysis can be conducted as part of the environmental review process.

Mitigation of Traffic Gridlock:

Attempts to repair the interrupted flow of commerce would likely include the building of over- and underpasses. These mitigation efforts, themselves, would entail *physical disruption to and displacement*⁸² of the surrounding businesses. Projects such as these often take years to complete, and cost many millions of dollars at each site. There are concerns that damages to local business would already be done by the time that such mitigation measures would be completed. As the railroad line is prevented from paying more than a small fraction of total mitigation costs, it seems likely that *local residents and businesses would pay*⁸³, in some part.

Economic Analysis:

There has yet to be a thorough analysis of the economic impacts of the proposed GPT coal terminal, though one could be called for as part of the *environmental impact statement*⁸⁴. Such an analysis could approximate a net gain or loss of jobs, and a net gain or loss to the economy. It could take into account not only the number of permanent number of jobs created at the terminal site and the tax revenue associated with the terminal, but also job losses, damages to small businesses and fisheries, opportunity costs (such as loss of tourism revenue), and taxpayer expenses for upgraded safety and infrastructure along the rail corridor. It is more difficult to quantify losses to quality of life and regional identity.

Opportunity Costs:

One possible consequence of the project may be to discourage new businesses from locating to the area because of traffic gridlock, loss of quality of life, or diminished attractiveness of waterfront redevelopment projects cut off from the rest of the city due to rail line delays. In Bellingham, for instance, there have been

⁸¹ <http://www.coaltrainfacts.org/docs/New-Coal-export-factsheet-FNL-4-12-111.pdf>

⁸² <http://www.sj-r.com/news/x1574721306/Railroad-plan-calls-for-9-overpasses-1-underpass-5-intersection-closings>

⁸³ [w.coaltrainfacts.org/u-s-code-railway-highway-crossings](http://www.coaltrainfacts.org/u-s-code-railway-highway-crossings)

⁸⁴ <http://www.epa.gov/oecaerth/nepa/>

considerable previous investments made in a large [waterfront redevelopment project](#)⁸⁵, the impacts of the coal train on the continued development of this project are unknown.

Actual Job Numbers:

There is a great deal of rhetorical confusion about precisely how many jobs will be created and sustained by the Gateway Terminal Project. Peabody and SSA have offered divergent claims about job numbers, ranging from less than a hundred to upward of 4,000, but analysis of the Project Information Document by the Bellingham Herald on May 21, 2011 shows that [89 full-time jobs](#)⁸⁶ will be created by the end of the first phase of construction. Then, depending on demand, the number could grow to [160 jobs by 2017 and 213 jobs by 2026](#)⁸⁷. The applicant's traffic impact summary in their land use application to Whatcom County states a [maximum of 213 jobs at build-out](#)⁸⁸. Pacific International Terminals/Gateway Pacific Terminal commissioned a study by Martin Associates, and then a review by three local economists. The jobs study and the review were fairly consistent in their findings, projecting the employment of 44 terminal operators at the Cherry Point site. Tug operators, railroad workers, ILWU workers, tug and ship pilots, and maritime services also factored into their [430 "direct jobs"](#)⁸⁹ figure.

TAXPAYER INVESTMENT

A recent study conducted by a Billings-based transportation consultant and released by the Western Organization of Resource Councils (WORC) outlines economic costs associated with [rail system, road and infrastructure upgrades](#)⁹⁰ that would be required by proposed Powder River Basin / West Coast coal export projects. The study indicates that these costs, added to mitigation measures, could total in the billions and would likely be borne by state and local governments. The WORC report complements studies previously released by [CommunityWise](#)

⁸⁵ <http://www.portofbellingham.com/index.aspx?nid=144>

⁸⁶ <http://www.coaltrainfacts.org/bellingham-herald-cherry-point-initial-cargo-would-focus-on-coal-produce-fewer-jobs>

⁸⁷ <http://www.coaltrainfacts.org/bellingham-herald-cherry-point-initial-cargo-would-focus-on-coal-produce-fewer-jobs>

⁸⁸ <http://www.coaltrainfacts.org/ssa-permit-application-gpt-to-provide-213-jobs-at-full-build-out>

⁸⁹ <http://gatewaypacificterminal.com/wp-content/uploads/2011/11/Economists-weigh-in-on-Gateway-Pacific.pdf>

⁹⁰ <http://www.heavytrafficahead.org>

[*Bellingham*](#)⁹¹ on rail capacity, transportation and economic impact issues. Crosscut offers a concise overview of the situation in an [*article by Floyd McKay*](#)⁹².

Recent traffic studies conducted in the western Washington cities of [*Seattle*](#)⁹³, [*Bellingham*](#)⁹⁴, [*Edmonds*](#)⁹⁵, [*Burlington*](#)⁹⁶, [*Marysville*](#)⁹⁷, [*Mt Vernon*](#)⁹⁸, and [*Stanwood*](#)⁹⁹ suggest potentially severe consequences due to the proposed increase in rail traffic intensity associated with GPT. Adverse effects include increased risk of accidents, impacts to the city's level of service, decreased ability to provide effective emergency response times, and possible interference with the local freight delivery systems affecting the local economy.

Mitigation refers to the measures taken to diminish the adverse effects of a project. For instance, traffic gridlock at a grade railway crossing can be mitigated by building an overpass or an underpass so that the cars don't have to wait for the train to pass. The building of overpasses at affected railway crossings in Washington State could cost many millions, if not billions, of dollars. Research is currently being done to assess how many critical crossings would require grade separation, and how much this might cost. Building [*a single grade separation can easily cost 20 million dollars*](#)¹⁰⁰, can cause disruption to neighborhoods if businesses and/or residences need to be condemned or relocated, and can create [*access problems*](#)¹⁰¹. There are 24 grade crossings in Whatcom County alone. Additionally, bridges, sidings, and tunnels would need to be built, improved, and/or expanded.

⁹¹ <http://www.communitywisebellingham.org>

⁹² <http://crosscut.com/2012/07/12/coal-ports/109550/coal-ports-trains-seattle-edmonds-bellingham/>

⁹³ <http://www.coaltrainfacts.org/docs/GTC-Seattle-Traffic-Report.pdf>

⁹⁴ <http://www.coaltrainfacts.org/docs/Bham-Traffic-Study.pdf>

⁹⁵ <http://www.coaltrainfacts.org/docs/Cherry-Point-Coal-GTC-Edmonds-Final.pdf>

⁹⁶ <http://www.coaltrainfacts.org/docs/traffic-study-Burlington.pdf>

⁹⁷ <http://www.coaltrainfacts.org/docs/traffic-study-Marysville.pdf>

⁹⁸ <http://www.coaltrainfacts.org/docs/traffic-study-Mt-Vernon.pdf>

⁹⁹ <http://www.coaltrainfacts.org/docs/traffic-study-Stanwood.pdf>

¹⁰⁰ <http://www.wsdot.wa.gov/rail/trainsafety.htm>

¹⁰¹ <http://www.coaltrainfacts.org/docs/High-speed-rail-plan-calls-for-nine-overpasses-Springfield-IL-The-State-Journal-Register.pdf>

Mitigation costs, by law and by precedent, are normally borne by *taxpayers*¹⁰² for the building of infrastructure to support additional rail traffic. It is unclear who might pay for any safety measures that might help protect communities from the significantly increased rail traffic. Nothing in SSA's proposal or anything submitted by BNSF suggests a willingness to provide grade separation at all crossings or make other mitigation expenditures necessary to reduce impacts all along the Puget Sound line or along the rest of the rail corridor. BNSF recently cited a "good" example of a community heavily impacted by rail where *BNSF paid only 2% of mitigation costs*¹⁰³ (taxpayers paid the rest). Technically, taxpayer investment in infrastructure necessary to support and mitigate the hauling of coal along the rail line could be considered a public subsidy of a private industry, as the railroads would continue to privately own and control the railways. The profits to be made from transporting and exporting coal would go to the interested parties: SSA Marine, Peabody Energy, BNSF railroad.

Additionally, *CommunityWise Bellingham*¹⁰⁴ commissioned a study from Transit Safety Management to assess *impacts from GPT train traffic on the Bellingham waterfront*¹⁰⁵. The study finds that capacity issues would likely be resolved by additional siding close to downtown, which would impede waterfront access, recreational park use, businesses and future passenger rail service. It is unknown how much taxpayers would be expected to pay for costs and mitigation associated with the siding. Other communities could likewise be affected by rail capacity issues, although studies have not yet been conducted further along the rail corridor.

PROPERTY VALUES

Property values could suffer near the coal train corridor. Entrepreneur Magazine found that the worth of small homes near freight rail lines *decrease 5-7%*. *Ranching and agricultural properties are often bisected by rail lines and therefore are particularly affected by increased coal train traffic. The productive value of these properties is further diminished by damages to water supply caused by strip mining in the Powder River Basin.*¹⁰⁶ A new study examining Los Angeles

¹⁰² <http://www.coaltrainfacts.org/u-s-code-railway-highway-crossings>

¹⁰³ <http://crosscut.com/2012/05/08/coal-ports/108419/coal-study-railroad-passenger-trains-exports/?page=2>

¹⁰⁴ <http://www.communitywisebellingham.org>

¹⁰⁵ <http://www.communitywisebellingham.org/cwb-studies-gpt-train-impacts-on-the-waterfront/>

¹⁰⁶ <http://www.coaltrainfacts.org/docs/New-Coal-export-factsheet-FNL-4-12-111.pdf>

neighborhoods supports the notion that home values decrease¹⁰⁷ as nearby rail traffic increases.

MARINE VESSEL TRAFFIC

Tens of thousands of marine vessels transit the Strait of Georgia every year, including those destined for the piers of the Alcoa Aluminum smelter, BP and Conoco-Phillips refineries at Cherry Point. Vessel traffic is growing due to a rise in exports and plans for an additional oil pipeline from Canada. The transport of 54 million metric tons per annum¹⁰⁸ (Mtpa) of cargo, 48 Mtpa of which would be coal,¹⁰⁹ from the proposed terminal at Cherry Point, would require the addition of over 900 annual transits (over 450 ships, coming and going) by some of the largest oceangoing vessels. Despite the increase in vessel traffic, Washington's oil response spill program is facing budget cuts. Given the size of vessel involved, a spill of coal and/or oil would be devastating to marine life, shorelines, and Washington's economy¹¹⁰.

The Passage:

Marine vessels in transit to and from the proposed terminal at Cherry Point travel through the Strait of Georgia. The Discovery Islands at the north and San Juan Islands at the south, along with narrow channels, mark each end of the Strait. It adjoins Puget Sound to the south (through Rosario Strait) and the Strait of Juan de Fuca to the west (through Haro Strait).

Cherry Point's deep water trench (about 80 feet) makes it a much sought-after deep water industrial port, as it easily can accommodate Panamax and capesize vessels. This same bathymetrical feature also makes it a vital environmental zone, as the phyto- and zooplankton that form the bottom of the food chain thrive in such a place.

Vessel Size/Type, Projected Number of Transits:

¹⁰⁷ <http://econ.ucsd.edu/~mfutch/pdfs/FutchJMP2011.pdf>

¹⁰⁸ <http://www.coaltrainfacts.com/docs/PID-comprehensive.pdf>

¹⁰⁹ <http://bbjtoday.com/blog/gateway-pacific-terminal-environmental-review-process>

¹¹⁰ <http://earthfix.opb.org/water/article/oil-spill-preparedness/>

The *Strait of Georgia*¹¹¹ is one of the *busiest shipping lanes in the world*¹¹² and is getting busier with recent increases in the region's *marine exports*¹¹³. In addition, the *number of oil tankers*¹¹⁴ traveling from Canada through the Strait of Georgia has increased dramatically due to an increased volume of oil exports. Moreover, the number of oil tankers and the volume of oil exports in the Strait are expected to grow unprecedentedly high with North America's *Kinder Morgan*¹¹⁵ energy company's plans to proceed with a *major oil pipeline expansion*¹¹⁶ linking Alberta tar sands oil to Vancouver's Westridge terminal.

Cherry Point's eight mile shoreline currently receives 850 annual transits from its three existing marine piers. The proposed terminal would *add approximately 221-487 (by 2026) vessels*¹¹⁷ for a total of 442-947 transits per year. Vessels will be either *Panamax or Capesize*¹¹⁸. Panamax class are the largest vessels that can cargo through the Panama Canal, they are *up to 950 feet long by 106 feet wide, with a deadweight of 50,000 – 80,000 tonnes.*¹¹⁹ Capesize vessels are too wide to fit through the Panama or Suez Canal and therefore must travel around the Cape of Good Hope or Cape Horn. These vessels *require deep-water ports and can carry a deadweight of 80,001 to 199,000 tonnes*¹²⁰ (which would include both bulk commodity i.e. coal and ballast water for stability).

Vessel Collision, Groundings and Delays:

A 2008 BP Refinery *Vessel Traffic Risk Assessment*¹²¹ study projected dramatic increases for both the risk of marine vessel accidents and oil spills or outflows

¹¹¹ <http://www.coaltrainfacts.org/docs/SalishSea.jpg>

¹¹² http://www.int-res.com/articles/cr_oa/c040p001.pdf

¹¹³ <http://www.bcjobsplan.ca/2011/03/exports-by-the-numbers/>

¹¹⁴ <http://www.openfile.ca/vancouver/vancouver/file/2010/11/crude-awakening>

¹¹⁵ <http://www.kindermorgan.com>

¹¹⁶ <http://www.coaltrainfacts.org/the-vancouver-sun-kinder-morgan-to-proceed-with-5-billion-trans-mountain-pipeline-expansion-to-burnaby>

¹¹⁷ <http://www.coaltrainfacts.com/docs/PID-comprehensive.pdf>

¹¹⁸ <http://www.coaltrainfacts.com/docs/PID-comprehensive.pdf>

¹¹⁹ <http://en.wikipedia.org/wiki/Panamax>

¹²⁰ http://www.worldtraderref.com/WTR_site/vessel_classification.asp

¹²¹ <http://www.coaltrainfacts.org/bp-vessel-traffic-risk-assessment-assessment-of-oil-spill-risk-due-to-potential-increased-vessel-traffic-at-cherry-point-washington>

resulting from collisions between two vessels, groundings (both powered and drift), and allisions (collisions with the dock or other fixed objects) if crude vessel traffic levels increased by 17% at the BP Cherry Point Refinery.

A review of the environmental and safety documents for the initial (1997) proposed Gateway Pacific Terminal, shows that the proposed increase in vessels *would result in an increase of approximately 60% in the deep draft ship traffic in the upper Rosario Strait*,¹²² the route most vessels from the terminal would likely take. The review also found that the increase in proposed deep draft traffic on the risk of collisions and powered vessel groundings in Rosario Strait was not adequately addressed by the 1997 Vessel Traffic Study. Collision frequency is highly dependent upon traffic density and environmental conditions. Vessels most likely to be involved in a collision with a large bulk cargo vessel are: passenger ferries, tank barges, and tank vessels—the impact of which any one would be catastrophic. *Powered or drift groundings of large bulk carriers are also a serious risk*¹²³ given that they carry thousands of tons of bunkers in single bottom tanks and they are not escorted by tugs. *Marine traffic delays and backups*¹²⁴ in the Rosario Strait will also likely occur given that it is a one-way zone for deep draft vessels.

Air Pollution from Marine Vessels:

Marine vessels represent one of the most difficult to regulate sources of air pollution in the world. Sometimes called “floating power plants,” marine vessels emit sufficient pollutants to negatively impact the air quality and health of people near ports and inland waterways. Marine vessels used in international shipping are typically powered by diesel engines fueled by either diesel (distillate) or residual fuel. Diesel engines generate significant amounts of *fine particle and toxic emissions, which are linked to cancer, cardiovascular problems, aggravated asthma, chronic bronchitis and premature death*¹²⁵. Additionally, in response to increasing oil prices and the large quantities of fuel needed to operate vessels, lower quality residual fuel called bunker fuel is commonly used. Bunker fuel has a very high sulfur content which, when burned, emits harmful levels of particulate

¹²² <http://www.coaltrainfacts.org/a-review-of-environmental-and-safety-impact-documents-for-the-proposed-gateway-pacific-terminal>

¹²³ <http://www.coaltrainfacts.org/a-review-of-environmental-and-safety-impact-documents-for-the-proposed-gateway-pacific-terminal>

¹²⁴ <http://www.coaltrainfacts.org/a-review-of-environmental-and-safety-impact-documents-for-the-proposed-gateway-pacific-terminal>

¹²⁵ <http://www.pscleanair.org/programs/dieselsolutions/concerns.aspx>

matter and nitrogen oxide that can travel inland, causing severe respiratory illnesses. Airborne pollution at Cherry Point is primarily from marine vessel traffic and stationary sources. Marine vessels account for the *largest single source of sulfur dioxide*¹²⁶ in the airshed in the larger Georgia Basin (where the Cherry Point Aquatic Reserve is located).

MARINE IMPACTS

Sharply increased marine traffic, physical disruption of ecologically sensitive areas, and open coal storage in proximity to the *Cherry Point Aquatic Reserve*¹²⁷ give rise to concerns about the proposed coal export facility. The risk of *collisions and oil spills*¹²⁸ rises as coal ships are added to waters already crowded with oil tankers. 80-100 acres of *open coal heaps will be in proximity to the aquatic reserve*¹²⁹, in an area sometimes subjected to high winds; it is unknown to what extent coal dust in the water might affect the marine plants and animals. The construction of the facility and rail loops on wetlands and uplands, and of the wharf and trestle area over the water, have the potential to disrupt fragile ecosystems. *Cherry Point herring*¹³⁰ are a keystone species, providing food for a number of other species; their status is currently fragile, and would likely be further stressed by activities associated with the coal port. Increased *noise pollution*¹³¹, increased risk of collision with marine vessels, threatened food sources (i.e. herring), and a degraded marine environment would pose challenges to killer whales, salmon and a myriad of shore and migratory bird populations. Ballast water carried from Asian ports and released into local waters could introduce *invasive species*¹³², to possibly devastating consequence.

Oil Spill Risks:

Tens of thousands of marine vessels transit the Strait of Georgia every year, including those destined for Cherry Point. The Strait of Georgia has been

¹²⁶ <http://www.coaltrainfacts.org/department-of-natural-resources-cherry-point-plan>

¹²⁷ http://www.dnr.wa.gov/ResearchScience/Topics/AquaticHabitats/Pages/aqr_rsve_cherry_point.aspx

¹²⁸ <http://www.coaltrainfacts.org/docs/Review-of-1997-GPT-Vessel-Traffic-Study.pdf>

¹²⁹ <http://www.coaltrainfacts.org/docs/PDS-Map-Gateway-Property-within-Birch-Bay-Watershed-Dec-6-2011.pdf>

¹³⁰ <http://crosscut.com/2011/10/28/environment/21354/Big-Coal-meets-Cherry-Points-tiny-herring/>

¹³¹ http://www.biologicaldiversity.org/species/fish/Cherry_Point_Pacific_herring/pdfs/71069_6360.pdf

¹³² http://water.epa.gov/type/oceb/habitat/invasive_species_factsheet.cfm

designated by Parks Canada as Canada's "*most-at-risk natural environment*."¹³³ Vessel traffic is growing due to a rise in exports and *plans for a major oil pipeline expansion*¹³⁴ in Canada. Coal transport from the proposed terminal at Cherry Point would require, at build-out, an additional 974 annual transits by some of the largest oceangoing vessels. Despite the increase in vessel traffic and a *Vessel Traffic Risk Assessment*¹³⁵ correlating higher vessel traffic levels with a higher risk of accidents and oil spills, Washington's *oil spill response program is facing budget cuts*¹³⁶. Effects from collision or grounding are amplified by the type of vessel and cargo; oil and/or coal would be devastating to marine life, shorelines, and Washington's economy in the event of a spill.

Of recent concern is *how to prepare for and respond to an oil spill from bitumen*¹³⁷—the type of oil moving through B.C. Canada's pipeline. Originating from the Alberta Oil Sands, bitumen is thicker and heavier than crude oil and may sink rather than float on the surface making traditional oil spill response and clean-up methods likely ineffective. Not knowing how much bitumen is currently exported through our region's waters or how a spill would affect the environment, the Washington Department of Ecology acknowledges its concern, especially in light of the planned pipeline expansion.

The Risks to Cherry Point Herring:

Washington herring are a keystone species, as they provide food for a number of other species. Cherry Point herring, unlike other regional herring populations that spawn at sea in the winter, migrate toward fresh water and estuaries to spawn in the spring. This unique spawning schedule and location makes the *Cherry Point herring a vital source of food for endangered Chinook salmon*¹³⁸. The Chinook salmon, in turn, provide sustenance for orca/killer whales, porpoises and other marine mammals. Cherry Point herring was once the most abundant herring species in Washington state waters; their population has declined by over 90%.

¹³³ <http://www.dfo-mpo.gc.ca/science/publications/ecosystem/index-eng.htm>

¹³⁴ <http://www.coaltrainfacts.org/the-vancouver-sun-kinder-morgan-to-proceed-with-5-billion-trans-mountain-pipeline-expansion-to-burnaby>

¹³⁵ <http://www.coaltrainfacts.org/bp-vessel-traffic-risk-assessment-assessment-of-oil-spill-risk-due-to-potential-increased-vessel-traffic-at-cherry-point-washington>

¹³⁶ <http://earthfix.opb.org/water/article/oil-spill-preparedness/>

¹³⁷ <http://www.coaltrainfacts.org/kuow-washington-not-ready-for-implications-of-b-c-pipeline-expansion>

¹³⁸ <http://crosscut.com/2011/10/28/environment/21354/Big-Coal-meets-Cherry-Points-tiny-herring/>

Efforts to have this critical and fragile species declared “endangered” have so far been unsuccessful.

*Noise and vessel movement are stressors to Pacific herring*¹³⁹. The waters at Cherry Point serve as a *“core” region for Pacific herring*¹⁴⁰ spawn deposition. Because Cherry Point herring spawn in open, high energy shoreline areas, vessels in transit to and from the proposed Terminal could cross through their prespawning holding areas and disrupt their spawning habits. According to Washington Fish and Wildlife, *conservation of herring spawning habitat and minimizing disturbance in the prespawning holding areas are key to preservation of herring stock*¹⁴¹ inside Puget Sound. Additionally, shading from the proposed Terminal’s wharf and trestle could further decrease the herring population by causing a decline in herring spawning habitat and primary productivity due to reduction of macroalgae. Coal dust, which is *notoriously difficult to control*¹⁴², blowing or running into the water from the proposed Terminal’s uncovered 80-acre coal storage area could further shade critical macroalgae or seagrass species and *deplete critical oxygen in nearshore habitats*¹⁴³. Noting the regional importance of the Cherry Point herring stock, the WDNR, in a 1998 letter to Pacific International Terminals, stated that further herring studies and a regional risk analysis were necessary and that it would *“allow the construction of the Terminal only if the completed regional ecological risk analysis shows that construction and operation activities will not pose an unacceptable risk to the Cherry Point herring stock.”*¹⁴⁴

Killer Whales (Orca) and other Marine Mammals:

Marine mammals in and around the waters at the proposed Terminal *may be injured or killed by collision with vessels*¹⁴⁵. *Disturbance by marine traffic*¹⁴⁶ from noise and vessel movement, reduction of food (Chinook salmon, herring, cod), and

¹³⁹ <http://www.co.whatcom.wa.us/pds/plan/current/gpt-ssa/pdf/1999-settlementagreement.pdf>

¹⁴⁰ <http://www.coaltrainfacts.org/docs/cherry-point-plan.pdf>

¹⁴¹ <http://wdfw.wa.gov/publications/00047/wdfw00047.pdf>

¹⁴² <http://www.coaltrainfacts.org/the-daily-news-westshore-provides-glimpse-of-longviews-potential-future-with-coal>

¹⁴³ <http://climatesolutions.org/press-room/press-releases/cherry-point-coal-export-facility-would-impact-health-community-and-waterfront-business/>

¹⁴⁴ <http://www.co.whatcom.wa.us/pds/plan/current/gpt-ssa/pdf/1999-settlementagreement.pdf>

¹⁴⁵ <http://www.coaltrainfacts.org/docs/NOAA-Vessel-Rule-EA.pdf>

¹⁴⁶ <http://www.psp.wa.gov/vitalsigns/orcas.php>

high levels of environmental contaminants are the three main factors causing the decline of threatened Northern Resident and endangered Southern Resident Killer Whales.

Cherry Point Habitats:

*The Cherry Point Aquatic Reserve*¹⁴⁷ encompasses important habitats, including those of mixed microalgae (critical for salmon and herring), kelp, eelgrass beds, a salt marsh, and two small freshwater streams, which provide lower salinity in the nearshore, which in turn provides habitat for many fish species, including Pacific herring, salmon, surf smelt, and groundfish. Surf smelt spawning very high up in the tideland area rely on the beach's mix of sand and fine gravel. The Reserve is listed as a significant bird habitat, and its wetland supports many species of marine and migratory birds. Marine mammals that may use the Reserve's waters include: Dall's porpoise, Stellar and California sea lions, gray whales, harbor seals, Southern Resident Killer Whales, humpback whales, seals, and Pacific harbor porpoise.

The Importance of Wetlands at Cherry Point:

A *wetland impact assessment*¹⁴⁸ of the proposed project at Cherry Point has determined direct permanent wetland impacts to approximately 140.6 acres of wetlands, including filling and grading or cutting to raise areas for rail embankments. The project will be located within two coastal watersheds—the Gateway Pacific Terminal Watershed and the Birch Bay Watershed, which contains extensive wetlands associated with Terrell Creek and Lake Terrell, including a 1,500-acre wildlife area managed by the Washington Department of Fish and Wildlife (WDFW) for wintering waterfowl (Canada geese, duck, trumpeter and tundra swans, pheasants). In addition, Lake Terrell wetlands support the second largest heron rookery in Washington. Indirect effects to aquatic systems downstream are expected as well. Potential negative changes to stormwater; soil erosion and sedimentation; and spills and fugitive coal dust all would degrade water quality.

Ballast Water and the Risk of Invasive Species:

In order to maintain stability and structural strength during transit, cargo vessels fill their ballast tanks with water at one port and then discharge it at another when receiving cargo. A single modern cargo vessel can carry anywhere from 100,000 to

¹⁴⁷ <http://www.coaltrainfacts.org/docs/cherry-point-plan.pdf>

¹⁴⁸ <http://www.co.whatcom.wa.us/pds/plan/current/gpt-ssa/pdf/2011-02-preliminary-conceptual-compensatory-mitigation-plan.pdf>

10 million gallons or more of ballast water (6 million gallons is approximately 10 Olympic-size swimming pools) — all potentially containing several hundred different invasive aquatic species (plants, insects, animals, microbes). Once established, *the invasive species can become a significant threat to biodiversity*¹⁴⁹ because there are often no natural predators to control them. The introduction of invasive marine species into new environments by ships' ballast water has been identified by the United Nations as *one of the four greatest threats to the world's oceans*¹⁵⁰. The International Maritime Organization (IMO) recommends guidelines to minimize the risk of spreading aquatic nuisance species such as mid-ocean water exchange of ballast water. Several countries have adopted the IMO standards. However, in the United States, the US Coast Guard (USCG) has yet to mandate a ballast water discharge standard to help vessel operators comply with its ballast water management practices.

The Cherry Point Aquatic Reserve & Required Environmental Protection:

Because part of the proposed terminal (the wharf and nearly all the trestle) will need to be built on state-owned tidelands, a lease from the Washington Department of Natural Resources (WDNR) is required. These tidelands have been *recognized by the State of Washington as part of the Cherry Point Aquatic Reserve*.¹⁵¹ In 2010, the WDNR adopted a *Management Plan*¹⁵² to assist in its management and protection of the Reserve. The Management Plan identifies environmental protection of the Reserve over and above all other management actions. In addition to following the Management Plan, it is also the responsibility of the WDNR, under state law, to *withhold from leasing lands which it finds to have significant natural values*.¹⁵³

GPT and the Aquatic Reserve: concerns and incomplete studies:

While there are many effects to consider regarding the proposed terminal and increase in marine traffic, *several key areas of concern were identified*¹⁵⁴ by environmental groups and state agencies during negotiations to a 1999 Settlement Agreement between Pacific International Terminals, Inc. and five citizen groups,

¹⁴⁹ http://water.epa.gov/type/oceb/habitat/invasive_species_factsheet.cfm

¹⁵⁰ http://www.maritimenorway.no/maritimenorway/vedlegg/OptiMarin_Allweiler20100719.pdf

¹⁵¹ http://www.dnr.wa.gov/Publications/aqr_rsve_chpt_comm_order.pdf

¹⁵² <http://www.coaltrainfacts.org/docs/cherry-point-plan.pdf>

¹⁵³ http://www.dnr.wa.gov/ResearchScience/Topics/AquaticHabitats/Pages/aqr_rsve_cherry_point.aspx

¹⁵⁴ http://www.whatcomwatch.org/old_issues/v8i8-9.html

including: “impacts to habitat in the footprint of the pier from shading and ship operations; impacts to herring, particularly during spawning season; ballast water exchange; water quality deterioration from construction and operation of the facility; vessel traffic impacts; public access issues, and questions surrounding how many additional piers will be allowed...” As key conditions of the settlement, Pacific International Terminals, Inc. agreed to conduct and fund mitigation and monitoring programs for macroalgae, herring, ballast water, sediment, as well as a vessel traffic analysis, which will evaluate impacts of increased vessel traffic, oil spill risk, hazards at the facility, and bunkering (fueling) operations. Many of these studies have yet to be completed. Additionally, a Biological Assessment (in preparation) will evaluate impacts on marine habitat, threatened, endangered, and priority species, including salmon and herring.

FISHERIES

Partly due to its deep water feature, Cherry Point has been an especially rich and fertile marine area. The waters around Cherry Point have traditionally been part of abundant salmon and lingcod fisheries. There has also been a vigorous *recreational, commercial, and tribal Dungeness crab*¹⁵⁵ fishery. Damages to the local herring population would result in *damages to the salmon and lingcod fisheries*¹⁵⁶, as herring are a primary source of nutrition for these fish. Heavily increased marine traffic could result in losses both the the fisheries and the fisherman, as crabbing gear can be destroyed or carried away by large marine vessels.

Herring Populations, Eelgrass Beds and Fisheries:

According to the *Cherry Point Aquatic Reserve Management Plan*¹⁵⁷, there are several factors that could disturb the *already fragile herring population*¹⁵⁸. *Light, noise, shading, and movement*¹⁵⁹ from the terminal and/or from marine vessels could disrupt herring spawning. Many fish, mammals, and aquatic birds are dependent upon herring, including: Pacific Cod, Lingcod, halibut, Chinook

¹⁵⁵ <http://www.coaltrainfacts.org/docs/cherry-point-plan.pdf>

¹⁵⁶ <http://wdfw.wa.gov/news/jul1001a/>

¹⁵⁷ <http://www.coaltrainfacts.org/department-of-natural-resources-cherry-point-plan>

¹⁵⁸ <http://www.coaltrainfacts.org/department-of-natural-resources-herring-populations>

¹⁵⁹ <http://www.co.whatcom.wa.us/pds/plan/current/gpt-ssa/pdf/1999-settlementagreement.pdf>

salmon, harbor seals, herons, western grebes, common murre, rhinoceros auklets, tufted puffins, orcas, seals, sea lions, Dall's porpoises and surf scoters.

The Department of Natural Resources (DNR) has extensively studied the Cherry Point herring population and its decline. Their website contains [a study called "Covered Species Paper" that documents the health of the Cherry Point Pacific herring population](#)¹⁶⁰ (see pps. 3-80 through 3-87). Two state agencies, Puget Sound Partnership (PSP) and DNR, have been studying eelgrass in the Puget Sound because it is a preferred habitat for herring spawn deposition. PSP has just adopted "Recovery Targets" for Puget Sound eelgrass. [DNR's Nearshore Habitat Program webpage](#)¹⁶¹ includes scientific studies on eelgrass, including a paper entitled ["Developing Indicators and Targets for Eelgrass in Puget Sound."](#)¹⁶² PSP has generated numerous scientific documents relating to the health of the Puget Sound generally, including the [2009 State of the Sound Report](#)¹⁶³. It has also published [specific recovery targets for protecting and restoring eelgrass](#)¹⁶⁴ habitat: ["Eelgrass extent in 2020 is 120 percent of area measured in the 2000-2008 baseline period."](#)¹⁶⁵

Much has been written about the decline of anadromous fisheries in the Puget Sound. Anadromous fish are those that are born in fresh water, live their lives in salt water, then return to fresh water to spawn. Salmon and smelt are examples. The [importance of estuaries in marine life can not be overstated](#),¹⁶⁶ a healthy estuarial system is critical to the survival of certain species. DNR has done a study on [threatened and covered species listed under the Endangered Species Act \(ESA\)](#)¹⁶⁷ as a part of its "Aquatic Lands Habitat Conservation Plan." You can also

¹⁶⁰ http://www.dnr.wa.gov/ResearchScience/Topics/AquaticHCP/Pages/aqr_aquatics_hcp.aspx#science

¹⁶¹ http://www.dnr.wa.gov/ResearchScience/Topics/AquaticHabitats/Pages/aqr_nearshore_habitat_program.aspx

¹⁶² http://www.dnr.wa.gov/Publications/aqr_eelgrass_08232010.pdf

¹⁶³ <http://www.psp.wa.gov/sos2009.php>

¹⁶⁴ http://www.psp.wa.gov/action_agenda_2011_recovery_targets.php

¹⁶⁵ http://www.psp.wa.gov/downloads/AA2011/2011_Targets_11_03_11.pdf

¹⁶⁶ <http://water.epa.gov/type/oceb/nep/about.cfm>

¹⁶⁷ http://www.dnr.wa.gov/ResearchScience/Topics/AquaticHCP/Pages/aqr_aquatics_hcp.aspx#science

see the [*National Marine Fisheries Service website*](#)¹⁶⁸, which administers the ESA and recovery planning for listed species.

The federal government, the Puget Sound Partnership, and the state DNR have [*invested millions of dollars in working to restore marine ecologies that now may be jeopardized*](#)¹⁶⁹ by the substantial increase in ship traffic, pollution and wetland disturbance associated with the proposed coal port site.

QUALITY OF LIFE and REGIONAL IDENTITY

The Northwest is a region noted for spectacular physical beauty, an emphasis on “quality of life,” and a dedication to clean, healthy living and environmental stewardship. It is considered a prime tourist destination spot and a highly desirable place to live; it is both agriculturally rich and a haven for innovative business. The pollution, traffic, noise, and degradation of our waters and fisheries that would come with significant coal train and ship traffic is at odds with our enjoyment and stewardship of this region. Choosing to become an economy in which coal transport is an emphasis seemingly undermines aspirations to build on the Northwest economies of tourism, healthy agriculture, innovative businesses, clean energy and the manufacture of local goods. Even our icons – the salmon and the orca– would be imperiled by the proposed project. The Northwest’s most valuable asset is our quality of life –witness the profusion of Northwest communities on “best places” lists– and this quality is what hangs in the balance.

Along the Puget Sound rail corridor, many communities have invested in the [*transformation of waterfront*](#)¹⁷⁰ from industrial to commercial use as an essential part of a plan for sustainable economic viability. A continuously in-use train track effectively shears such a town off from its waterfront, and jeopardizes such long-term planning. For example, according to a study conducted by CommunityWise Bellingham, Bellingham’s waterfront [*Boulevard Park and Taylor Street Dock could be cut off entirely*](#)¹⁷¹ from vehicular access by the addition of coal train rail siding.

¹⁶⁸ <http://www.nwr.noaa.gov/Salmon-Recovery-Planning/Recovery-Domains/Puget-Sound/PS-Chinook-Plan.cfm>

¹⁶⁹ <http://www.coaltrainfacts.org/docs/PSP-Action-Agenda.pdf>

¹⁷⁰ <http://www.portofbellingham.com/index.aspx?nid=172>

¹⁷¹ <http://www.communitywisebellingham.org/cwb-studies-gpt-train-impacts-on-the-waterfront/>

The transport of another region's goods to another country brings limited benefit to our region, at significant cost to our region. In particular, many feel that the export of a highly polluting form of fossil fuel is contradictory to this region's values and dedication to phase out domestic coal-burning power plants. *[The Puget Sound Partnership compiled an action agenda](#)*¹⁷² which addresses many of these quality of life concerns.

COAL DUST

Coal dust is notoriously difficult to control. BNSF estimates that each uncovered car loses between 500 pounds and a ton of coal dust en route. It is unknown how much coal dust will be released into the air, onto the land, and into the water from the from the 80-100+ acres of open, continuously turned-over, coal heaps in storage at the terminal site. There are concerns about train derailments, the effects of dust on human health, local clean water supplies, and on the marine environment. The methods of containing coal dust, especially in adverse weather conditions (wind, rain) are unproven, and it is uncertain which party would pay for dust mitigation measures.

Because most coal trains are *uncovered*¹⁷³, they produce significant amounts of coal dust in the course of transporting the coal from one place to another. According to BNSF research, *500 pounds to a ton of of coal can escape a single loaded car*¹⁷⁴. Coal dust is regarded as a nuisance, as the dust can damage the ballast and, the railway claims, *cause derailments*¹⁷⁵. BNSF asks that shippers pay for dust mitigation; *shippers typically balk at paying*¹⁷⁶. The Puget Sound coast line is notoriously rainy and windy; it is unclear as to how effective surfactants might be at containing the pulverized coal in adverse weather. There seem to be no guarantees that dust would successfully be controlled en route from the mines to the port.

Dust is also generated at the terminal site, as bulldozers continually shift and rotate the ground-up coal. Constant turnover is required to both keep the coal in one area,

¹⁷² <http://www.coaltrainfacts.org/puget-sound-partnership-action-agenda>

¹⁷³ <http://www.bnsf.com/customers/equipment/coal-cars/>

¹⁷⁴ <http://www.coaltrainfacts.org/bnsf-coal-dust-frequently-asked-questions>

¹⁷⁵ <http://www.coaltrainfacts.org/ny-times-railroads-utilities-clash-over-dust-from-coal-trains>

¹⁷⁶ <http://www.coaltrainfacts.org/docs/Coal-Dust-Control-Arkansas-Electric-Petition-for-Declaratory-Order.pdf>

and also to prevent *spontaneous combustion*¹⁷⁷. Wind and moisture can agitate the combustive properties of coal. The potential *adverse effects of coal dust on adjacent sites*¹⁷⁸ was a factor in the Port of Vancouver rejecting a proposal to export coal from a new export site there. The dust is notoriously *difficult to control*¹⁷⁹, and has proven to be a concern for residents close to Westshore, the coal port in BC. The coal at the proposed GPT terminal will be stored in open heaps on 80-105 acres located in proximity to the Cherry Point Aquatic Reserve. Cherry Point can be buffeted by high winds, winter conditions often see wind gusts in the 60-70 knot range. It seems likely that the wind will agitate the heaped, pulverized coal.

The *leaching of toxic heavy metals*¹⁸⁰ from coal ash into water supplies is a proven problem. Exposure to *arsenic, cadmium, barium, chromium, selenium, lead and mercury*¹⁸¹ can cause any number of health problems, including cancers and neurological diseases. It is unknown if and to what extent these heavy metals might leach out from the coal and/or fugitive coal dust, from the train cars and at the terminal storage site, into local water supplies and into the marine environment. There are potential implications for the safety of the water we drink and the seafood we eat.

COAL TRAIN DERAILMENTS

*Ashby, NE – October 2012*¹⁸²

*Oktaha, OK – September 2012*¹⁸³

¹⁷⁷ <http://www.coaltrainfacts.org/environmental-safety-health-the-fire-below-spontaneous-combustion-in-coal>

¹⁷⁸ <http://www.columbian.com/news/2011/apr/03/dodging-coal-embracing-potash-the-port-of-vancouve/>

¹⁷⁹ <http://www.coaltrainfacts.org/the-daily-news-westshore-provides-glimpse-of-longviews-potential-future-with-coal>

¹⁸⁰ <http://www.coaltrainfacts.org/docs/Summary-of-EPA-Coal-Combustion-Waste-Damage-Cases-Involving-Sand-Gravel.pdf>

¹⁸¹ <http://www.coaltrainfacts.org/docs/ELEMENTAL-CHARACTERIZATION-OF-COAL-ASH-LEACHATES..pdf>

¹⁸² <http://www.nebraska.tv/story/19710484/coal-train-derails-in-western-nebraska>

¹⁸³ http://www.tulsaworld.com/news/article.aspx?subjectid=12&articleid=20120920_12_0_OKTAHA277610

*Ellicott City, MD – August 2012*¹⁸⁴

*Grants, NM – August 2012*¹⁸⁵

*Raleigh, WV – August 2012*¹⁸⁶

*Saline County, KS – July 2012*¹⁸⁷

*Havelock, NC – July 2012*¹⁸⁸

*Jefferson County, KS – July 2012*¹⁸⁹

*Princeton, IN – July 2012*¹⁹⁰

*Pendleton, TX – July 2012*¹⁹¹

*Northbrook/Glenview, IL – July 2012*¹⁹²

*Mesa, WA – July 2012*¹⁹³

*Portageville, MO – June 2012*¹⁹⁴

*Junction City, KS – June 2012*¹⁹⁵

*Collins, MS – May 2012*¹⁹⁶

¹⁸⁴ <http://news.yahoo.com/csx-train-derails-md-kills-2-college-students-150326498.html>

¹⁸⁵ <http://www.krqe.com/dpp/news/business/coal-train-wrecks-in-western-nm>

¹⁸⁶ <http://www.wvnstv.com/story/19180914/coal-train-derails-in-raleigh-block-road>

¹⁸⁷ <http://www.wibw.com/home/headlines/Train-Derailment-Dumps-Coal-Sparks-Grass-Fire--164213666.html>

¹⁸⁸ <http://www.havenews.com>

¹⁸⁹ <http://www.wibw.com/home/headlines/Union-Pacific-Train-Derails-In-Jefferson-County-162537006.html>

¹⁹⁰ <http://www.14news.com/story/18997229/train-accident-shuts-down-intersections-in-princeton>

¹⁹¹ <http://www.kwtx.com/home/headlines/Dozens-Of-Train-Cars-Derail-In-Central-Texas-161379835.html>

¹⁹² http://articles.chicagotribune.com/2012-07-05/news/ct-met-train-derailment-overpass-20120705_1_train-derailment-coal-cars-bridge-collapse

¹⁹³ <http://www.tri-cityherald.com/2012/07/03/2008611/coal-train-derails-in-mesa-no.html>

¹⁹⁴ <http://www.kait8.com/story/18844480/pemiscot-county-train-derailment-shuts-down-traffic>

¹⁹⁵ <http://www.wibw.com/home/headlines/Coal-Cars-Derail-In-Junction-City-160616375.html>

¹⁹⁶ <http://www2.whlt.com/news/2012/may/11/update-collins-coal-train-derailment-ar-3776651/>

*[Salmon Arm, BC – April 2012](#)*¹⁹⁷
*[Houston, BC – February 2012](#)*¹⁹⁸
*[Hinton, Alberta – January 2012](#)*¹⁹⁹
*[Vanderhoof, BC – January 2012](#)*²⁰⁰
*[Montrose, IA – December 2011](#)*²⁰¹
*[Vanderhoof, BC – December 2011](#)*²⁰²
*[Galland, BC – December 2011](#)*²⁰³
*[Topeka, KS – November 2011](#)*²⁰⁴
*[Peetz, NE – October 2011](#)*²⁰⁵
*[Charleston, WV – October 2011](#)*²⁰⁶
*[Emmett, KS – September 2011](#)*²⁰⁷
*[Denison, IA – July 2011](#)*²⁰⁸
*[Omaha, NE – July 2011](#)*²⁰⁹
*[Bloomington, IN – July 2011](#)*²¹⁰

¹⁹⁷ <http://www.cbc.ca/news/canada/british-columbia/story/2012/04/30/bc-cp-train-derail-power.html>

¹⁹⁸ <http://railroaded.wordpress.com/2012/03/03/more-on-46-car-cn-derailment/>

¹⁹⁹ <http://www.ctvnews.ca/coal-cars-derail-after-collision-on-alberta-line-1.755774>

²⁰⁰ <http://www.bclocalnews.com/news/137103973.html>

²⁰¹ <http://www.dailygate.com/articles/2011/12/13/news/dgc1618646.txt>

²⁰² <http://hqprincegeorge.com/news/local/news/Local/11/12/22/No-Injuries-in-Train-Derailment-Near-Vanderhoof>

²⁰³ <http://www.dailygate.com/articles/2011/12/20/news/dgc1671509.txt>

²⁰⁴ <http://www2.ljworld.com/news/2011/nov/15/trains-derail-after-collision-near-topeka/>

²⁰⁵ <http://www.9news.com/news/article/226509/188/Coal-train-derailment-a-mess-supreme>

²⁰⁶ <http://www.youtube.com/watch?v=8HwCSFURGT4>

²⁰⁷ <http://www.kctv5.com/story/15396620/train-derails-in-ne-kansas>

²⁰⁸ <http://www.youtube.com/watch?v=g7I0EMuDw1Q>

²⁰⁹ <http://omaha.com/article/20110727/NEWS01/110729777>

²¹⁰ <http://www.wthr.com/story/15055638/train-derails-near-bloomington>

*Ashdown, AK – July 2011*²¹¹

*Pueblo, CO – November 2010*²¹²

*Surveyor, WV – April 2011*²¹³

*Kearney, NE – September 2010*²¹⁴

*Quantico, VA – August 2010*²¹⁵

*Drummond, MT – August 2010*²¹⁶

*Ferry Farm, VA – July 2010*²¹⁷

And, a 2006 spill that resulted in 2 loaded cars being submerged in the Clark Ford River:

*Trout Creek, MT – November 2006*²¹⁸, 2-4 cars spilled and submerged into Clark Fork River – resulting in *EPA Superfund action*²¹⁹.

AIR QUALITY

Pollutants, weather, wind patterns and topography all affect local air quality. Accurately predicting the effects of the Gateway Pacific Terminal on the air we breathe, and thus on *public health*²²⁰, will require much good science. Both the means of transporting coal and the coal itself present potential air quality challenges. Diesel particulate matter emitted by the coal trains and ships; fugitive coal dust from the trains and from storage at the port site; and the toxins that blow over the Pacific to the West Coast of the US from coal combustion in Asia, are all cause for concern with regard to regional air quality and the resultant health effect on humans who breathe that air.

²¹¹ <http://www.youtube.com/watch?v=ENrqJ8NBFsU>

²¹² <http://www.gordon-elias.com/blog/1859/bnsf-coal-train-derails-in-pueblo-colorado/>

²¹³ <http://www.register-herald.com/local/x731685673/18-coal-cars-derail-in-train-wreck-near-Surveyor>

²¹⁴ <http://www.youtube.com/watch?v=-zn-nthiLOQ>

²¹⁵ <http://www.quantico.usmc.mil/Sentry/StoryView.aspx?SID=4388>

²¹⁶ <http://www.krtv.com/news/train-derailment-near-drummond-now-cleared/>

²¹⁷ <http://www.gordon-elias.com/blog/1005/csx-train-derailment-spills-coal-in-ferry-farm-va-area/>

²¹⁸ <http://www.trainorders.com/discussion/read.php?1,1279588>

²¹⁹ http://oaspub.epa.gov/enviro/cerclis_web.report?pgm_sys_id=MTN000802674

²²⁰ http://www.trforum.org/forum/downloads/2010_91_Impact_Intermodal_Rail_State_Planning.pdf

The locomotives and ships that would transport coal through our region are diesel-burning; diesel particulate matter causes cancer and other diseases. Up to 18 trains a day, each powered by an average of 4 locomotives, would pass through our rail communities; immense coal ships would make over 950 annual transits right by island and coastal communities. Emissions from locomotives and ships vary depending upon the type of fuel burned, how old the engine is, and how hard the engine is working at a given time. Air quality studies conducted in [*Spokane*](#)²²¹ and in [*California*](#)²²² have shown that neighborhoods in proximity to heavy rail activity have increased rates of cancer. The EPA considers ocean vessels and large ships to be “[*significant contributors to air pollution*](#).”²²³

BNSF has indicated that each coal car loses [*500 lbs to a ton of coal dust en route*](#)²²⁴; 80 near shore acres at the GPT terminal site would be covered in open heaps of coal. Newspaper photos of coal dust over two relatively small British Columbia coal ports, one at [*Westshore*](#)²²⁵ and one at [*Ridley*](#)²²⁶ would seem to indicate that dust management, as currently practiced, is not effective. While coal dust is a reported [*nuisance*](#)²²⁷ in coal port communities, the health effects of pulverized coal released into the air have not yet, to our knowledge, been systematically studied. Coal dust inhalation in closed situations is, of course, a different matter, although instructive in the kind of governmental oversight and corporate compliance that is necessary to keep people safe: NPR and the Center for Public Integrity recently reported the resurgence of black lung disease in American miners is due to “[*weak regulation and industry deception*](#).”²²⁸

²²¹ <http://www.coaltrainfacts.org/spokane-regional-clean-air-agency-health-risk-study-for-the-bnsf-spokane-railyard>

²²² http://www.coaltrainfacts.org/docs/bnsf_stockton_hra.pdf

²²³ <http://www.epa.gov/oms/oceanvessels.htm>

²²⁴ <http://www.coaltrainfacts.org/bnsf-coal-dust-frequently-asked-questions>

²²⁵ http://tdn.com/news/local/what-would-a-coal-terminal-mean-for-cowlitz-county-air/article_23364436-9635-11e1-9264-001a4bcf887a.html

²²⁶ <http://www.thenorthernview.com/news/124013379.html>

²²⁷ http://tdn.com/news/local/article_35ad9c0c-3634-11e0-8eea-001cc4c03286.html

²²⁸ <http://www.npr.org/2012/07/14/156772226/black-lung-makes-a-deadly-resurgence>

It is worth considering that our air is directly affected by what happens in Asia, the market to which GPT would ship coal. The [*Jaffe Group*](#)²²⁹ has proven that mercury emitted by coal combustion in Asia crosses over the Pacific Ocean and pollutes our Northwest water supplies; mercury is implicated in a number of health problems, especially those involving the brain and nervous system. [*The New York Times*](#)²³⁰ has written that sulphur dioxide, which can cause respiratory disorders, likewise blows back to us from Asia. Noted meteorologist and UW atmospheric scientist [*Cliff Mass*](#)²³¹ has shown that the haze over much of the Pacific Northwest coastline in early summer 2012 was smoke from massive Asian wildfires. What burns in Asia does not stay in Asia: we all breathe the same air.

NOISE

While there are many sources of noise from trains (high-pitch screeching, idling engines; moving cars, etc.), horn sounding is the most significant. Federal rules governing the blowing of locomotive engine horns require that engineers of all trains sound horns for [*at least 15-20 seconds at 96-110 decibels \(dB\) at all public crossings*](#)²³². Decibels in the range of 80-105 are labeled extremely loud, whereas those above 105 are dangerous. Decibels are logarithmic, meaning that 100 decibels is ten times as loud as 90, 110 decibels is ten times as loud as 100, and so on. While impacts to quality of life from repeated loud noise are self-evident, chronic noise exposure has proven adverse health effects, including impaired sleep and cognitive function, and cardiovascular effects.

Noise Level and Frequency:

The Federal Railroad Administration (FRA), regulates the sounding of train horns at public highway railroad at-grade crossings i.e. where a public roadway crosses the railroad tracks at the same level. Under the [*train horn rule*](#)²³³, the FRA requires train horns to be at least 96 dB and no louder than 110 dB. Since sound propagates depending on conditions like weather, openness of land, etc., only someone standing right next to the train hears the horns at 96-110 dB levels. Using the

²²⁹ <http://www.atmos.washington.edu/jaffegroup/modules/news/>

²³⁰ http://www.nytimes.com/2006/06/11/business/worldbusiness/11chinacoal.html?_r=3

²³¹ <http://cliffmass.blogspot.com/2012/07/asian-fires-and-fireworks-smoke-up.html>

²³² http://www.fra.dot.gov/downloads/PubAffairs/TRAIN_HORN_RULE_FactSheet.pdf

²³³ http://www.fra.dot.gov/downloads/PubAffairs/TRAIN_HORN_RULE_FactSheet.pdf

*inverse square law*²³⁴, an estimate of someone living within 300 feet of the rail can be predicted to hear a train horn of 110 dB at 70.77 dB, which is categorized as very loud.

With few exceptions, before reaching an at-grade crossing, the FRA requires a locomotive engineer to sound the horn in a pattern: 2 long: 1 short: 1 long for a minimum of 15 second and a maximum of 20 seconds.

An Example of Potential Noise Increases:

There are 12 at-grade public crossings within the City of Bellingham. Current train traffic through Bellingham is estimated at 12-15 trains per day, accounting for at least 36 minutes of horn noise (15-second soundings x 12 at-grade crossings x 12 existing trains = 2,160 seconds). An additional 18 trains per day will add 54 minutes of horn soundings: (15-second soundings x 12 at-grade crossings x 18 trains = 3,240 seconds) for a total of 90 minutes. Each day, this 90 minutes will be comprised of at least 1440 horn blows (4 x 12 at-grade crossings x 30 trains).

Adverse Health Impacts from Noise:

*Studies on noise*²³⁵ from aircraft, roadways, and trains show that continuous noise above 30 dB or frequent intermittent noise disturbs sleep. In addition to sleep disturbance, noise during sleep causes increased blood pressure, increased heart rate, increased pulse amplitude, vasoconstriction, changes in respiration, cardiac arrhythmias, and increased body movement.

Secondary effects from sleep disturbance can also occur including fatigue, depressed mood and well-being, and decreased performance and alertness. Cardiovascular effects, independent of sleep disturbance, can also occur with acute exposure to noise mostly due to elevated blood pressures and levels of stress-induced hormones. In addition, noise can exacerbate stress and anxiety and impair task performance. The National Institute for Occupational Safety and Health recommends *less than 15 minutes of exposure*²³⁶ per day to noises over 100 dB.

Noise Mitigation:

²³⁴ <http://hyperphysics.phy-astr.gsu.edu/hbase/acoustic/isprob2.html#c1>

²³⁵ <http://www.coaltrainfacts.org/docs/appendix-D.pdf>

²³⁶ <http://www.osha.gov/SLTC/noisehearingconservation/index.html>

To mitigate train noise, some cities have established *quiet zones*²³⁷, in which safety modifications are made to public crossings; exempting trains from their horn soundings at the modified crossing. However, the *high cost of significant improvements*²³⁸ at public crossings borne by cities and taxpayers has been a deterrent. Moreover, once a crossing is converted into a quiet zone, *liability shifts from the railroad to the city*²³⁹ for any traffic or personal injury incurred within the quiet zone.

PUBLIC HEALTH

Frequent long trains at rail crossings will mean *delayed emergency medical service response times*²⁴⁰, as well as increased risk of accidents, traumatic injury and death. The scale of the proposed terminal would require a dramatic increase in the number of diesel-burning locomotives and marine vessels affecting Puget Sound airsheds. Diesel particulate matter is a particularly noxious form of air pollution, as it is of sufficiently small size (PM 2.5) to embed in the lung tissue. Diesel particulate matter is associated with both *pulmonary*²⁴¹ and *cardiovascular*²⁴² issues, including cancers, heart disease, and asthma. *Children, teens*²⁴³ and the elderly are especially vulnerable. *Noise exposure*²⁴⁴ can cause cardiovascular disease; cognitive impairment in children; sleep disturbance and resultant fatigue; hypertension; arrhythmia; and increased rate of accidents and injuries; and exacerbation of mental health disorders such as depression, stress and anxiety, and psychosis. Transporting coal to China in particular has the potential to *raise levels of mercury*²⁴⁵ in our waters. Mercury is associated with neurological dysfunction, as in ALS, Parkinson's, and Alzheimer's.

²³⁷ http://www.fra.dot.gov/rrs/pages/fp_1475.shtml

²³⁸ http://www.bouldercolorado.gov/index.php?option=com_content&view=article&id=7853&Itemid=3088

²³⁹ http://www.bouldercolorado.gov/index.php?option=com_content&view=article&id=7853&Itemid=3088

²⁴⁰ <http://www.coaltrainfacts.org/gtc-traffic-study-burlington-marysville-mt-vernon-and-stanwood-wa>

²⁴¹ <http://jama.jamanetwork.com/article.aspx?articleid=194704>

²⁴² <http://circ.ahajournals.org/content/121/21/2331.full.pdf>

²⁴³ <http://www.nejm.org/doi/full/10.1056/NEJMoa040610>

²⁴⁴ <http://www.coaltrainfacts.org/noise-and-its-effects>

²⁴⁵ mercury pdf

For further explanation of public health concerns, please see the *[Physicians' Position Statement](#)*²⁴⁶ calling for a Health Impact Assessment. The attached appendices go into further detail about: *[pulmonary](#)*²⁴⁷, *[cardiovascular](#)*²⁴⁸, *[coal dust](#)*²⁴⁹, *[noise exposure](#)*²⁵⁰, and *[delayed emergency vehicle response time](#)*²⁵¹ concerns.

*[Whatcom Docs](#)*²⁵², a group representing over 180 local physicians, and an increasing number of health care providers from the Pacific Northwest (Skagit, King and Thurston counties; Oregon) are calling for a *[Health Impact Assessment \(HIA\)](#)*²⁵³. While few specific mandates or resources exist for conducting HIA, its use is increasing and recently has been included in state legislation to fulfill regulatory requirements. For example, Washington state required an HIA be performed to inform mitigation planning for the State Route 520 Bridge in Seattle to analyze effects on air pollution exposure. Realizing the benefits of HIA, many are advocating its analysis be integrated with or part of the Environmental Impact Assessment process.

For more information on HIAs:

*[Center for Disease Control Fact Sheet on Health Impact Assessments](#)*²⁵⁴

*[A Guide for Health Impact Assessment](#)*²⁵⁵

*[Health Impact Project: About the HIA](#)*²⁵⁶

*[Health Impact Project: The HIA Process](#)*²⁵⁷

²⁴⁶ <http://www.coaltrainfacts.org/whatcom-docs-press-release>

²⁴⁷ <http://www.coaltrainfacts.org/whatcom-docs-appendix-a>

²⁴⁸ <http://www.coaltrainfacts.org/whatcom-docs-appendix-c>

²⁴⁹ <http://www.coaltrainfacts.org/whatcom-docs-appendix-b>

²⁵⁰ <http://www.coaltrainfacts.org/whatcom-docs-appendix-d>

²⁵¹ <http://www.coaltrainfacts.org/whatcom-docs-appendix-d>

²⁵² <http://www.coaltrainfacts.org/whatcom-docs-position-statement-and-appendices>

²⁵³ <http://www.coaltrainfacts.org/health-impact-statement-fact-sheet>

²⁵⁴ http://www.cdc.gov/healthyplaces/factsheets/Health_Impact_Assessment_factsheet_Final.pdf

²⁵⁵ <http://www.cdph.ca.gov/pubsforms/Guidelines/Documents/HIA%20Guide%20FINAL%202010-19-10.pdf>

²⁵⁶ <http://www.healthimpactproject.org/hia>

²⁵⁷ <http://www.healthimpactproject.org/hia/process>

*Public Health – Seattle and King County Health Impact Assessment*²⁵⁸

Many people have expressed anxiety about coal dust. Although *coal dust*²⁵⁹ contains toxic heavy metals and has been associated with emphysema, chronic bronchitis, and malignancy in people who work closely with coal in mining, processing and/or transport, it is not yet known what, if any, health effects fugitive coal dust from coal trains or from the uncovered coal heaps in storage, might have on the general population. A more pressing question might involve the effects of coal dust from the trains and/or storage site leaching into local water supplies, about which little is known.

GLOBAL IMPACTS

While the Gateway Pacific Terminal and the associated coal trains would be active in only the transport and export of coal, it is important to recognize that the *only* function of coal transport is to link coal mining to coal combustion: GPT and related enterprises need to be considered as part of this larger system. Each of the various processes associated with coal have negative effects on local economies, public health, communities and the environment. The coal mines in the Powder River Basin (Montana and Wyoming) continue to *degrade local aquifers and water supplies*²⁶⁰. Coal combustion in China presents a *serious health risk to the hundreds of millions of people*²⁶¹, especially children, who live in affected airsheds. Coal combustion is also associated with negative impacts that transcend geographic borders. *Ocean acidification, acid rain, mercury emissions, and climate change*²⁶² affect global populations, regardless of where the coal is burned. The financial cost accrued from health and environmental damages from coal mining, processing, transport and combustion are currently estimated at a third to *over half a trillion dollars annually in the U.S. alone.*²⁶³

China, PRB Coal, and the Global Energy Market:

²⁵⁸ <http://www.kingcounty.gov/healthservices/health/ehs/hia.aspx>

²⁵⁹ <http://www.osha.gov/SLTC/healthguidelines/coaldust-less5percentsio2/recognition.html#evaluation>

²⁶⁰ http://www.coaltrainfacts.org/docs/Exporting_Powder_River_Basin_Coal_Risks_and_Cost.pdf

²⁶¹ <http://esa.un.org/techcoop/flagship.asp?Code=ras92461>

²⁶² http://www.coaltrainfacts.org/docs/epstein_full-cost-of-coal.pdf

²⁶³ http://www.coaltrainfacts.org/docs/epstein_full-cost-of-coal.pdf

We are at a critical time and a critical place: a *West Coast coal export industry of the scale currently under discussion could influence Chinese energy policy for the next half-century*.²⁶⁴ increasing the supply of cheap coal could reduce the incentive to pursue clean energy. While regulations such as The Clean Air Act have limited the profitability of coal in the U.S. and provided a degree of environmental and health protection, China has no such regulations.

From 2005 to 2030 the global demand for electricity is expected to double, bringing with it an increase in coal consumption. Although the U.S. Energy Information Administration predicts that by 2030 nearly 90% of increased coal consumption will be attributed to China, this prediction is not inevitable. Economic analysis shows that Chinese demand is sensitive to the value of coal in the market place. Recently an empirical study performed in China found that a 10 percent decrease in the cost of coal resulted in a 12 percent increase in Chinese coal consumption.

The proposed Gateway Pacific Terminal is part of a larger trend to create a *coal export industry*²⁶⁵ in the United States. SSA Marine at Cherry Point and Millenium Bulk Terminals at Longview are currently seeking permits that would allow them to export close to 110 million tons of coal annually. In addition, Port of Morrow in eastern Oregon has signed a one-year lease to transfer coal, while other ports, including Port of St. Helens, Coos Bay, and Grays Harbor, are also being considered.

In order to profit, Washington ports will have to undercut the prices of Australian and Asian competitors as well as other North American sources. Increased competition results in reduced price. Inserting Powder River Basin (PRB) coal into the global market each year could influence China towards a future of coal and away from exploring renewables.

Quantifying the Effects of Coal Mining, Transport, Processing and Combustion:

While certain parties stand to profit considerably from coal, *the general population will suffer economic loss due to its health and environmental impacts*²⁶⁶. Studies quantifying such comprehensive costs include that of Dr. Paul Epstein of the

²⁶⁴ <http://www.coaltrainfacts.org/the-greenhouse-gas-impact-of-exporting-coal-from-the-west-coast-an-economic-analysis>

²⁶⁵ <http://www.coaltrainfacts.org/sightline-daily-coal-export-a-history-of-failure-for-western-ports>

²⁶⁶ <http://www.coaltrainfacts.org/the-full-cost-of-coal-epstein-m-d-m-p-h>

Harvard Medical School Center for Health and the Global Environment. A 2011 study co-authored with 11 peers traces each stage in the life cycle of coal. As the report states, “Each stage—extraction, transport, processing, and combustion—generates a waste stream and carries multiple hazards for health and the environment.” These effects are defined as “externalities.” Coal companies are not responsible for these costs. Rather, they fall to the public. *The Epstein study*²⁶⁷ estimates that each year externalities cost the U.S. public a third to over \$500 billion or half a trillion dollars.

Externalities transcend borders. The effects of air pollution, mercury emissions, acid precipitation, ocean acidification and climate change are felt globally regardless of where the coal is burned.

Public Health: At home and in China:

Coal combustion produces sulfur dioxide, which causes the premature deaths of about 400,000 people in China each year. Pollution from coal combustion makes some cities so dark that people drive with their lights on during the day. Some of that *sulfur dioxide pollution crosses the Pacific Ocean*²⁶⁸, and has been detected in California, Oregon and Washington State. India, whose population is expected to exceed China’s by 2030, is accelerating construction of coal-burning plants.

Acid Rain:

Another externality of coal combustion is *acid precipitation or acid rain*²⁶⁹. The primary man-made cause of acid rain is sulfur dioxide (SO₂) and nitrogen oxides (NO_x), released from burning fossil fuels like coal. Approximately 2/3 of all SO₂ and 1/4 of all NO_x in the U.S. comes from burning fossil fuels for power. Acid rain is not limited to national borders and can travel hundreds of miles before precipitation occurs. Although the U.S. has taken action to regulate coal power plants domestically and thus reduce acid rain, these efforts would be undermined from a global perspective if U.S. coal contributes to Chinese acidification—a form of pollution that already effects not only China, but threatens quality of life across the Pacific Rim, resulting in increased illness and premature death from heart and lung disorders, such as asthma and bronchitis.

Mercury:

²⁶⁷ http://www.coaltrainfacts.org/docs/epstein_full-cost-of-coal.pdf

²⁶⁸ <http://www.nytimes.com/2006/06/11/business/worldbusiness/11chinacoal.html?pagewanted=all>

²⁶⁹ <http://www.epa.gov/acidrain/>

While acid rain can travel hundreds of miles, mercury emissions can travel thousands of miles. The EPA estimates that [34% of mercury emissions in the U.S. come from non-U.S. sources](#)²⁷⁰. In Oregon, a researcher estimated that [18% of mercury in the Willamete River came from overseas](#)²⁷¹. Increasingly the source of mercury is Asia. From 1990 to 1995, Asia's contribution to the global inventory rose from 30 to 56%. Like acid rain, coal burning power plants are the primary cause of mercury. After mercury from coal combustion is emitted into the atmosphere, it settles in water, where microorganisms change it to methylmercury, a high toxic chemical that builds up in shellfish and fish. Human consumption of methylmercury infected seafood can harm the brain, heart, kidneys, lungs and immune system. For pregnant woman, methylmercury exposure can damage the nervous system of unborn children resulting in mental retardation. A 2003 study conducted by the Centers for Disease Control and Prevention found that [one in twelve women \(8%\) of childbearing age had mercury in their blood above levels deemed safe by the EPA](#)²⁷².

Ocean Acidification:

The burning of fossil fuels, including coal, release carbon dioxide into the atmosphere. About a quarter of all carbon dioxide emissions are absorbed into the world's oceans. This carbon dioxide changes the chemistry of the ocean water, making it more acidic. Marine life has been and is being harmed by this rather sudden and dramatic change; the ocean's pH had remained fairly stable for about 20 million years prior to humans burning coal and oil. At current rates, the waters around Antarctica will become corrosive by 2050. [High acidity will fundamentally alter the nature of the oceans](#)²⁷³ and any human connection (fishing, tourism, recreation) with them.

A recent study published in the journal Limnology and Oceanography shows that [ocean acidification is occurring much sooner than predicted](#)²⁷⁴. Since 2005, oyster farms and hatcheries in the Pacific Northwest have been experiencing massive oyster larvae die-offs during periods of ocean upwelling. During these periods, scientists have determined that the level of acidity from the combination of more acidic deep ocean water from the upwell and the rising carbon dioxide levels in

²⁷⁰ mercury pdf

²⁷¹ missing: mercury in Willamette

²⁷² mercury pdf

²⁷³ <http://www.nrdc.org/oceans/acidification/>

²⁷⁴ <http://www.coaltrainfacts.org/seattle-times-study-blames-ocean-co2-for-oyster-declines>

surface water from increased CO₂ emissions is too high for the oyster larvae to survive.

Climate Change:

Of the greenhouse gases linked to global warming, the *UN's Intergovernmental Panel on Climate Change (IPCC)*²⁷⁵ cites carbon dioxide as being the single most important. Coal burning is the primary contributor of CO₂ emissions, accounting for 81% of emissions in the U.S. Overall coal combustion contributes at least one-third of heat trapping chemicals. Carbon emissions have already shown an alarming increase, rising 80% from 1970 to 2004.

West coal export would contribute to this trend, allowing for close to 110 million tons of Powder River Basin coal to leave Washington annually. For context, burning this amount of PRB coal is roughly equivalent to the annual carbon emissions of 40 million cars. For every 100 million tons of PRB coal burned, 180 million tons of heat trapping carbon-dioxide are released into the atmosphere. That constitutes *twice the greenhouse gas emissions of the entire state of Washington, including every power plant, car, truck factory, and farm combined*²⁷⁶.

The IPCC report states that in order for the global temperature to stabilize between 2 and 2.4 degrees above the pre-industrial average, emissions would need to peak before 2015. Rather than peaking, *coal exporters hope to hit their stride in 2015*²⁷⁷, abandoning the IPCC warnings in order to take advantage of a market that Peabody Energy estimates will have grown to 220-260 million metric tons a year by that time.

Economics of Climate Change:

To date, the most comprehensive study done to measure the full economic effect of climate change is the *Stern Review*²⁷⁸, a 700 page independent report released for the British government led by Sir Nicholas Stern of The Grantham Research Institute on Climate Change and the Environment.

At current rates, the stock of greenhouse gases in the atmosphere would reach 550ppm CO₂e by 2050, doubling pre-industrial averages. However increasing transportation and energy demand has resulted in an acceleration of emissions. The

²⁷⁵ http://www.ipcc.ch/publications_and_data/ar4/syr/en/main.html

²⁷⁶ <http://www.coaltrainfacts.org/sightline-daily-coal-export-a-history-of-failure-for-western-ports>

²⁷⁷ <http://www.coaltrainfacts.org/exporting-powder-river-basin-coal-risks-and-costs>

²⁷⁸ <http://www.coaltrainfacts.org/docs/SternReviewEng.pdf>

level of 550ppm CO₂e could be reached as early as 2035. Depending on the climate model used, there is a 77% to 99% chance that at this level global warming will rise 2 degrees Celsius. If emissions go uncurbed, the study estimates a 50% risk of exceeding 5° C global temperature rise in the decades following the turn of the century.

The economic effect of climate change is proportional to the rise in temperature. Today the world has warmed half a degree Celsius, and already seen a measured increase in asthma, heat waves, clusters of illnesses after heavy rain events and intense storms, and the distribution of infectious disease. The costs of weather-related disasters rose 10-fold from the 1980s to the 1990s (from an average of \$4 billion/year to \$40 billion/year) and jumped again in the past decade, reaching \$225 billion in 2005.

Effect of Uncurbed Emissions:

Given that current trends anticipate a 2-3° C warming over the next fifty years or so—a number that will rise several more degrees if emissions continue to grow—the [*Stern Review*](#)²⁷⁹ reveals the following severe impacts:

“Melting glaciers will initially increase flood risk and then strongly reduce water supplies, eventually threatening one-sixth of the world’s population, predominantly in the Indian sub-continent, parts of China, and the Andes in South America.”

“Declining crop yields, especially in Africa, could leave hundreds of millions without the ability to produce or purchase sufficient food. At mid to high latitudes, crop yields may increase for moderate temperature rises (2 – 3°C), but then decline with greater amounts of warming. At 4°C and above, global food production is likely to be seriously affected.”

“In higher latitudes, cold-related deaths will decrease. But climate change will increase worldwide deaths from malnutrition and heat stress. Vector-borne diseases such as malaria and dengue fever could

²⁷⁹ <http://www.coaltrainfacts.org/docs/SternReviewEng.pdf>

become more widespread if effective control measures are not in place.”

“Rising sea levels will result in tens to hundreds of millions more people flooded each year with warming of 3 or 4°C. There will be serious risks and increasing pressures for coastal protection in South East Asia (Bangladesh and Vietnam), small islands in the Caribbean and the Pacific, and large coastal cities, such as Tokyo, New York, Cairo and London. According to one estimate, by the middle of the century, 200 million people may become permanently displaced due to rising sea levels, heavier floods, and more intense droughts.”

“Ecosystems will be particularly vulnerable to climate change, with around 15 – 40% of species potentially facing extinction after only 2°C of warming. And ocean acidification, a direct result of rising carbon dioxide levels, will have major effects on marine ecosystems, with possible adverse consequences on fish stocks.”

“Warming may induce sudden shifts in regional weather patterns such as the monsoon rains in South Asia or the El Niño phenomenon – changes that would have severe consequences for water availability and flooding in tropical regions and threaten the livelihoods of millions of people.”

“A number of studies suggest that the Amazon rainforest could be vulnerable to climate change, with models projecting significant drying in this region. One model, for example, finds that the Amazon rainforest could be significantly, and possibly irrevocably, damaged by a warming of 2 – 3°C.”

“The melting or collapse of ice sheets would eventually threaten land which today is home to 1 in every 20 people.”

Cost of Mitigation:

In addition to the immeasurable human cost, by the end of the century a very real temperature rise of 5-6 C would result in an estimated 5-10% loss of global GDP, with poor countries suffering costs in excess of 10% GDP. In contrast, the review estimates the annual cost of stabilization at 500-550ppm CO₂ e to be around 1% of GDP by 2050, with a range of -2% to +5% GDP. If mitigation to reduce emissions fails in the next 10 to 20 years, the costs of deceleration will increase and

stabilization even at 550 ppm CO₂e will be beyond reach. As the Stern Review states, “Mitigation—taking strong action to reduce emissions—must be viewed as an investment, a cost incurred now...to avoid the risks of very severe consequences in the future.”

SCOPING: THE PUBLIC’S OPPORTUNITY TO PARTICIPATE

The public will never vote on the GPT project, however, it will have an opportunity to officially express concerns about the proposal during a period called scoping. The scoping period will last for 120 days; beginning on Monday September 24, 2012 and ending on Monday January 21, 2013. Comments made at official sessions or submitted in writing during the scoping process will help inform the type and the geographic scope of impacts to be included in the Environmental Impact Statement (EIS). The EIS is the key document for the various agencies and individuals involved with approving or denying permits, permissions and/or leases for the project.

Scoping Comments:

Scoping letters should address which of the project’s potential impacts that should be studied, measured and considered; these letters are not letters of support, protest, or other opinion. Scoping letters are most effective when they outline:

- **specific impacts**, how you and others would be affected
- the **significance** of those impacts (i.e. permanent and irreparable harm)
- the direct and indirect **costs** of those impacts, and who will bear those costs
- a request for an **alternatives** analysis (i.e. a “no action” alternative, in which the proposal would be denied; also, what the project with mitigation would look like).

Thoughtful letters by individuals presenting compelling arguments will carry great weight. If you have the time and inclination to draft your own letter, the following guides will be of assistance:

[*Guide to writing scoping comments*](#)²⁸⁰

[*Scoping comment worksheet/outline*](#)²⁸¹

²⁸⁰ <http://www.coaltrainfacts.org/docs/ScopingCommentsGuide.p>

²⁸¹ <http://www.coaltrainfacts.org/docs/ScopingOutline.pdf>

Comments can be submitted either online, mailed, or in person at public scoping meetings.

Online:

Emails can be sent to: comments@eisgatewaypacificwa.gov

Letters:

GPT/BNSF Custer Spur EIS Co-Lead Agencies
1100 112th Avenue Northeast, Suite 400
Bellevue, Washington
98004

Public Scoping Meetings:

10/27/12 – At Squalicum High School, 3773 East McLeod Road, Bellingham, WA 98226 from 11am-3pm

11/3/12 – At Friday Harbor High School, 45 Blair Avenue, Friday Harbor, WA 98250 from 12am-3pm

11/5/12 – At McIntyre Hall, 2501 East College Way, Mount Vernon, WA 98273 from 4pm-7pm

11/13/12 – At North Seattle Community College, 9600 College Way North, Seattle, WA 98103 from 4pm-7pm

11/29/12 – At Ferndale Events Center, 5715 Barrett Road, Ferndale, WA 98248 from 3pm-7pm

12/4/12 – At Spokane County Fairgrounds, 404 North Havana Street, Spokane Valley, WA 99202 from 4pm-7pm

12/12/12 – At Clark College, Graiser Student Center, 1933 Fort Vancouver Way, Vancouver, WA 98663 from 4pm-7pm

A website has been set up for a continuous online scoping meeting at www.eisgatewaypacificwa.gov. You can also [view all comments](#)²⁸² submitted through this website.

Any major development project is subject to an environmental review process required by both the National Environmental Policy Act (NEPA) and the State Environmental Policy Act (SEPA). Projects deemed too damaging to the

²⁸² <http://www.eisgatewaypacificwa.gov/get-involved/comment/all>

“environment” are not permitted to proceed. More usually, projects are required to mitigate adverse impacts; these impacts are determined by the review process. Scope consists of “the range of actions, alternatives, and impacts to be considered in an environmental impact statement.” Council on Environmental Quality NEPA Regulations, Sec.1508.25, Definition of Scope In this context, “environment” is a term broadly defined, as it encompasses concerns that are chiefly human as well as issues pertaining to land, air and water quality and to ecosystems.

The Army Corps of Engineers is the lead agency conducting the NEPA environmental review for the Gateway Pacific Terminal Project. Whatcom County and the Washington State Department of Ecology are “co-leads” for SEPA. It is expected that there will be a single, joint Environmental Impact Statement, including both NEPA and SEPA, though this is yet to be confirmed.

Geographic Scope:

Whatcom County and the Washington State Department of Ecology are obligated by law SEPA, WAC 197-11-060(4)(b) to consider impacts that might affect areas outside of Whatcom County and/or Washington State as well as areas within the vicinity of the proposed coal port.

*The communities close to Cherry Point*²⁸³ will be directly impacted by the actual terminal, as communities in the vicinity of other coal terminals have had issues pertaining to coal dust.

The coal ships will navigate through the *narrow passages of the Salish Sea*²⁸⁴, traversing the Cherry Point Aquatic Reserve en route. The vessel traffic and terminal site marine impacts will affect local coastal and island communities; it’s difficult to draw a geographic boundary around the marine ecosystems potentially damaged by vessel traffic impacts and/or possible collision and/or spill impacts.

*The rail corridor*²⁸⁵ extends south from the proposed terminal site at Cherry Point, in Whatcom County, down along the Puget Sound coast to Longview, east along the Columbia River, north to Spokane, then across Idaho, and into Montana and Wyoming where the Powder River Basin coal mines are located. Residents and

²⁸³ <https://maps.google.com/maps?q=cherry+pt+wa&hl=en&ll=48.881877,-122.695312&spn=0.372525,0.891953&sll=37.0625,-95.677068&sspn=56.637293,114.169922&vpsrc=6&hnear=Cherry+Point&t=h&z=11>

²⁸⁴ <http://www.coaltrainfacts.org/docs/SalishSea.jpg>

²⁸⁵ <http://www.coaltrainfacts.org/docs/bnsfrailmap.gif>

businesses all along this rail corridor could request that impacts to their local economies, public health and quality of life be considered as part of the EIS.

SEPA also mandates that related actions in a comprehensive system be studied: “A large proposal involving actions in vastly different locations, such as material being mined at one site, then transported to and processed at another, is another example of defining the entire proposal. Appropriate environmental review would look at the impacts of *all the related activities*.”²⁸⁶

It is important to remember that actions are related if they are dependent on each other, so that one will not happen without the other.” It is uncertain as to whether it will be argued that continued and/or new mining of coal in the Powder River Basin and the future combustion of coal at coal-burning plants currently being built in Asia are activities dependent upon and related to the transport and export of coal to and from the proposed Gateway Pacific Terminal.

Impact Categories:

SEPA has a checklist of impact categories entitled “*Elements of the Environment*.” In general, the impacts that could be studied in an environmental review include impacts to:

- Traffic (of all sorts) & Parking
- Movement of people and/or goods
- Emergency Services
- Public Service and Utilities
- Noise
- Public Health
- Land and Shoreline Use
- Aesthetics & “Scenic Resources”
- Parks & Recreation
- Historic and Cultural Preservation
- Agriculture
- Geology and Physical Features of the Earth
- Air Quality

²⁸⁶ <http://www.ecy.wa.gov/programs/sea/sepa/handbk/hbch02.html#2.3.1>

Water Quality and Public Water Supplies
Energy and Natural Resources
Plants & Animals
Environmental Health
Climate (greenhouse gases)

Health Impact Statement:

*Health Impact Assessment*²⁸⁷: An assessment of potential health risks may also be called for. An HIA studies in detail the public health impacts of a proposed development project. Typically, it is voluntary, and can be conducted by a variety of public bodies. For example, an HIA was mandated by the Washington State Legislature and then conducted by the Public Health department of Seattle and King County prior to the permitting of the bridge on highway 520 Public Health-Seattle & King County HIA. Many Washington state physicians are calling for an HIA doctors' position statement to be conducted as part of the review process for the Gateway Pacific Terminal at Cherry Point.

For more information on NEPA:

*14 CFR Parts 1500-1508, Council on Environmental Quality Regulations for Implementing NEPA*²⁸⁸

*33 CFR Part 230, Procedures for Implementing NEPA (U.S. Army Corps of Engineers)*²⁸⁹

*Draft Guidance on Consideration of the Effects of Climate Change and Greenhouse Gases*²⁹⁰

*NEPA's Forty Most Asked Questions*²⁹¹

*SEPA Homepage (Dept. of Ecology)*²⁹²

²⁸⁷ <http://www.coaltrainfacts.org/health-impact-statement-fact-sheet>

²⁸⁸ http://ceq.hss.doe.gov/nepa/regs/ceq/toc_ceq.htm

²⁸⁹ http://www.ecfr.gov/cgi-bin/text-idx?c=ecfr&tpl=/ecfrbrowse/Title33/33cfr230_main_02.tpl

²⁹⁰ http://ceq.hss.doe.gov/nepa/regs/Consideration_of_Effects_of_GHG_Draft_NEPA_Guidance_FINAL_02182010.pdf

²⁹¹ <http://ceq.hss.doe.gov/nepa/regs/40/40p3.htm>

²⁹² <http://www.ecy.wa.gov/programs/sea/sepa/e-review.html>

[SEPA Statute, RCW Ch. 43.21C](#)²⁹³

[SEPA Rules, WAC Chapter 197-11](#)²⁹⁴

[Whatcom County SEPA regulations: Chapter 16.08](#)²⁹⁵

[Draft Working Paper on Greenhouse Gas Emissions and SEPA](#)²⁹⁶

[Center for Disease Control Fact Sheet on Health Impact Assessments](#)²⁹⁷

[A Guide for Health Impact Assessment](#)²⁹⁸

[Health Impact Project: About the HIA](#)²⁹⁹

[Health Impact Project: The HIA Process](#)³⁰⁰

[Public Health – Seattle and King County Health Impact Assessment](#)³⁰¹

PERMITTING: WHO DECIDES AND HOW

The permitting process for GPT will be complex and will involve multiple levels of federal, state and local review. Decision-makers include the [Whatcom County Council](#)³⁰² for shoreline and development permits and the [Public Lands Commissioner](#)³⁰³ at the Department of Natural Resources for an aquatic lease (state-owned tide lands). The Department of Ecology, the Department of Fish and Wildlife and the U.S. Army Corps of Engineers must also grant approvals in order for the project to go through. These governmental bodies will consider the Environmental Impact Statement when making their decisions. The Lummi and

²⁹³ <http://apps.leg.wa.gov/RCW/default.aspx?cite=43.21C>

²⁹⁴ <http://apps.leg.wa.gov/WAC/default.aspx?cite=197-11>

²⁹⁵ <http://www.codepublishing.com/wa/whatcomcounty/>

²⁹⁶ http://www.ecy.wa.gov/climatechange/docs/sepa/10192010_sepahg_workingpaper.pdf

²⁹⁷ http://www.cdc.gov/healthyplaces/factsheets/Health_Impact_Assessment_factsheet_Final.pdf

²⁹⁸ <http://www.cdph.ca.gov/pubsforms/Guidelines/Documents/HIA%20Guide%20FINAL%2010-19-10.pdf>

²⁹⁹ <http://www.healthimpactproject.org/hia>

³⁰⁰ <http://www.healthimpactproject.org/hia/process>

³⁰¹ <http://www.kingcounty.gov/healthservices/health/ehs/hia.aspx>

³⁰² <http://www.co.whatcom.wa.us/council/index.jsp>

³⁰³ <http://www.dnr.wa.gov/AboutDNR/Pages/commissioner.aspx>

Nooksack Nations, following their own processes, will render pivotal decisions regarding usual and accustomed fishing grounds.

Primary decision makers on permits will be:

- the Whatcom County Council for shoreline and development permits;
- the Public Lands Commissioner at the Department of Natural Resources for an aquatic lease;
- the Department of Ecology for water quality and stormwater approvals;
- the Department of Fish and Wildlife for Hydraulic Project Approvals (*GPT's application is still incomplete*³⁰⁴); and
- the U.S. Army Corps of Engineers for fill of 140 acres of wetlands
- and construction of a pier in navigable waters.

Tribal Nations:

As recognized in the Cherry Point Aquatic Reserve Plan, the *Lummi Nation*³⁰⁵ and *Nooksack Indian Tribe*³⁰⁶, with at least four other tribes, have treaty rights in the Georgia Strait, as usual and accustomed fishing grounds. Cherry Point is also known to have spiritual and cultural significance to one or more Tribes. Their approval or disapproval of the project by Tribes will be cited by the Corps of Engineers and other agencies in making their permitting decisions, based on formal government to government consultations with the Tribes. Sovereignty and Treaty Protection for the Lummi Nation has taken a "*no*" position³⁰⁷ on the use of Xwe'chi'eXen (Cherry Point) as a coal terminal.

Other important decision makers:

- the U.S. Congress in authorizing rail improvements needed by BNSF for rail sidings; and
- potentially federal and/or state railway regulatory bodies that require permits for new rail construction.

Permits and other considerations include:

- **Shorelines:** This project will be subject to study of the nearshore habitat and the shoreline habitat. Of particular interest is Whatcom

³⁰⁴ <http://www.coaltrainfacts.org/docs/DOFW-Letter-Cherry-Point-Incomplete.pdf>

³⁰⁵ <http://www.lummi-nsn.org>

³⁰⁶ <http://nooksackindiantribe.org>

³⁰⁷ <http://treatyprotection.org>

County's Shoreline Management Program, at [*Title 23 of the Whatcom County Code*](#).³⁰⁸

- **Forest Practices:** This project will need a [*Forest Practices Permit*](#)³⁰⁹ under Chapter 76.09 RCW to cut trees on the site.
- **Water Supply:** This project will need to provide water to the site, likely in the form of [*water rights issued by the Department of Ecology*](#).³¹⁰

The project will require several permits under the [*National Permit Discharge Elimination System \(NPDES\)*](#).³¹¹

[*Analysis: The History and Significance of SSA Marine's Land and Cultural Disturbance at the Gateway Pacific Terminal Site, Summer 2011.*](#)³¹²

ENVIRONMENTAL REVIEW

All major development projects are reviewed under both the National Environmental Policy Act (NEPA) and the State Environmental Policy Act (SEPA). Two major purposes of the environmental review process are better informed decisions and citizen involvement. If a proposal is likely to have significant environmental impact, as in the case of the proposed Gateway Pacific Terminal, an Environmental Impact Statement (EIS) must be prepared. The various agencies involved in approving or denying permits, leases and other permissions refer to the environmental impact statements when making their decisions. For the Gateway Pacific Terminal project, [*NEPA will be led by the Army Corps of Engineers*](#).³¹³ Whatcom County and the Washington State Department of Ecology will act as co-leads for SEPA.

³⁰⁸ [http://www.co.whatcom.wa.us/pds/naturalresources/shorelines/updates/download/pdf/Existing%20Shorline%20Master%20Program title 23.pdf](http://www.co.whatcom.wa.us/pds/naturalresources/shorelines/updates/download/pdf/Existing%20Shorline%20Master%20Program%20title%2023.pdf)

³⁰⁹ <http://apps.leg.wa.gov/rcw/default.aspx?cite=76.09>

³¹⁰ <http://www.ecy.wa.gov/programs/wr/rights/tracking-apps.html>

³¹¹ <http://www.ecy.wa.gov/programs/wq/permits/index.html>

³¹² <http://www.coaltrainfacts.org/ssa-land-and-cultural-disturbance>

³¹³ <http://www.coaltrainfacts.org/press-release-ecology-whatcom-county-to-co-lead-state-environmental-review-of-proposed-gateway-pacific-terminal-at-cherry-point>

The U.S. Army Corps of Engineers has informed SSA Marine and BNSF that their projects (the Gateway Pacific Terminal and the Custer railroad spur) *will require preparation of an EIS*³¹⁴. It is likely that there will be only one, joint state/federal scoping process and EIS for this particular project.

An EIS is conducted by a third party; the contract for an EIS is put out for bid after the application is submitted but before scoping begins. A contractor selected and managed by the U.S. Army Corps of Engineers and Whatcom County “Tentative Project Schedule,” Gateway Pacific Terminal, Multi-Agency Permit (MAP) Team, April 22, 2011 will oversee a number of studies that will constitute the EIS. The subject and breadth of those studies is determined during the scoping process.

Timeline for Environmental Impact Statements:

The environmental review process is triggered by the submission of a complete application. An *application was submitted on March 19, 2012*³¹⁵, and a *Determination of Completeness*³¹⁶ was issued on April 2, 2012. It is estimated that the environmental studies will take a minimum of two years to complete.

The National Environmental Policy Act (NEPA) requires federal agencies in the executive branch of the government to undertake an *assessment of the environmental effects of proposed actions before making decisions*³¹⁷. Two major purposes of the environmental review process are better informed decisions and citizen involvement, both of which should lead to implementation of NEPA’s policies.

The State Environmental Policy Act (SEPA) has a mission similar to NEPA’s but *allows Whatcom County and state agencies to deny or condition the project based on their adopted SEPA policies and regulations*³¹⁸, which include the County’s Shoreline Management Master Program and in particular its policies and regulations for development of the Cherry Point area. (See § 23.100.170 of

³¹⁴ <http://www.coaltrainfacts.org/press-release-ecology-whatcom-county-to-co-lead-state-environmental-review-of-proposed-gateway-pacific-terminal-at-cherry-point>

³¹⁵ <http://www.coaltrainfacts.org/ssa-marine-gpt-major-project-permit-and-shoreline-substantial-development-permit-filed>

³¹⁶ <http://www.coaltrainfacts.org/whatcom-county-planning-development-ssa-application-determined-complete>

³¹⁷ <http://www.coaltrainfacts.org/a-citizens-guide-to-nepa>

³¹⁸ <http://www.coaltrainfacts.org/state-environmental-policy-act-sepa-laws-policies-and-regulations>

the *Whatcom County Code*³¹⁹). A good starting point for helpful explanations of the SEPA process is the *SEPA handbook*³²⁰. The handbook includes step-by-step guidance and a digest of current case law. The Department of Ecology website contains a wealth of information on SEPA, including some *useful explanations of the SEPA process*³²¹ and a *focus sheet*³²². *On July 15, 2011*³²³, the State Department of Ecology agreed that state agencies will participate with Whatcom County as co-leads in preparing a state EIS.

COMMON QUESTIONS & MISPERCEPTIONS

Would rail usage really increase, or will the coal trains come through anyway?

The building of the Gateway Pacific Terminal would dramatically increase rail traffic along the Puget Sound BNSF rail corridor. Although there are currently a few (2-6 total) coal trains that travel along the Puget Sound rail corridor to Canadian ports, the building and use of the proposed coal port would, by the applicant's own conservative estimates, cause a dramatic increase in the number of coal trains, adding an additional 9 fully-loaded and 9 empty (18 total) trains each day.

Proponents of the coal port at Cherry Point have often claimed that this larger number of "coal trains will come through anyway," even if the GPT facility is not approved. This assertion does not stand up to a *fact check*³²⁴ U.S. company Arch Coal has a contract to export 2.5 million tonnes of coal per year through Ridley, Canada, but *the contract expires in 2015*³²⁵. Canadian coal companies are *currently engaged aggressively to dedicate all future export capacity to Canadian firms*.³²⁶

³¹⁹ <http://www.codepublishing.com/wa/whatcomcounty/>

³²⁰ <http://www.ecy.wa.gov/programs/sea/sepa/e-review.html>

³²¹ <http://www.ecy.wa.gov/programs/sea/sepa/e-review.html>

³²² <http://www.coaltrainfacts.org/doe-focus-sheet-on-sepa>

³²³ <http://www.coaltrainfacts.org/press-release-ecology-whatcom-county-to-co-lead-state-environmental-review-of-proposed-gateway-pacific-terminal-at-cherry-point>

³²⁴ <http://www.coaltrainfacts.org/salish-law-pllc-will-the-trains-coming-anyway>

³²⁵ <http://news.archcoal.com/phoenix.zhtml?c=107109&p=irol-newsArticle&ID=1517028&highlight>

³²⁶ <http://www.theglobeandmail.com/report-on-business/coal-producers-decry-ridley-terminals-decision/article1881479/>

*[A recent analysis prepared by Sightline](#)*³²⁷ concludes that, even if all the planned expansion in Canadian coal export facilities went to American companies – a highly unlikely scenario – the total additional capacity of 28 million metric tons would not be enough to satisfy the planned export of U.S. coal. Peabody Coal alone has contracted with SSA for Cherry Point exports of 24 million metric tons. *[Canadian coal producers voiced their strong disagreement with a decision to award contracts to U.S. companies for shipment from Pt. Ridley, Canada.](#)*³²⁸ Thus, U.S. coal export facilities will likely drive increased rail traffic on western rail lines.

CommunityWise Bellingham has also examined the “trains are coming anyway” fallacy and its *[implications for local taxpayers.](#)*³²⁹

Are there any limits on coal export volumes or number of trains?

Peabody Energy has a contract with Carrix/SSA Marine to ship 24 million tons of coal annually. Sometimes people refer to tons, and sometimes to metric tons, or tonnes. In the United States and Canada, a “*ton*”³³⁰ is 2,000 lbs, whereas a “metric ton” (sometimes referred to as a “tonne”) is 1,000 kg (approx 2,205 lbs). This has accounted for some variance in the capacity numbers, as has the fact that there is an initial contract with Peabody Coal for 24 million metric tons per year and a “build out” capacity of 48 million metric tons per year for the proposed coal port.

Often, a facility will be permitted for an initial capacity, even though there may be an unspoken intent to expand the facility in the future. For example, in *[Longview](#)*³³¹, the applicant for the coal facility proposed an initial volume of 5 million tons per year, but actually intended to expand to a much larger facility (up to 80 million tons). There is a concern that the Gateway application is for a pier and upland facility on a site that could accommodate significant future expansion; for planning purposes, it may be prudent to take the applicant’s estimates of export volume and number of trains per day as minimum planning numbers. *[The](#)*

³²⁷ <http://www.sightline.org/research/coal-exports-from-canada/>

³²⁸ <http://www.theglobeandmail.com/report-on-business/coal-producers-decry-ridley-terminals-decision/article1881479/>

³²⁹ <http://www.communitywisebellingham.org/cwb-studies-report3/>

³³⁰ <http://en.wikipedia.org/wiki/Ton>

³³¹ <http://www.coaltrainfacts.org/up-front-with-robert-mak-the-great-train-debate>

*applicant has not proposed any permit conditions that would place a cap on export volumes or number of trains per day*³³².

Would the port be used for grain?

There is a *large surplus of export capacity at existing ports on the Columbia River*³³³, closer to grain producers in Eastern Washington. Skagit and Whatcom County are not grain-export producing markets. An exhaustive discussion of this issue in a recent article in *Crosscut*³³⁴ concluded that the Gateway Pacific terminal would not likely lead to increased agricultural exports. After interviewing industry analysts, Crosscut noted that SSA has not contracted for any grain export leases at Cherry Point: “SSA Marine wants to present its project as a multiple-commodity port, but at this time it is only coal that seems to be a certain customer.”

³³² <http://www.co.whatcom.wa.us/pds/plan/current/gpt-ssa/pdf/20110610-applications.pdf>

³³³ http://tdn.com/news/article_674ac426-3128-5863-912f-287af0fbac8a.html

³³⁴ <http://crosscut.com/2011/05/23/agriculture/20936/Will-agriculture-ease-concerns-about-coal-port-nea/?page=single>

Publisher / Source	Author	Title	Date	URL	CTF URL
Arch Coal, Inc.		Arch Coal Announces Agreement with Canada's Ridley Terminal for Pacific Coast Exports		http://news.archcoal.com/phoenix.zhtml?c=107109&p=irol-newsArticle&ID=1517028&highlight	
Association of American Railroads	prepared by Cambridge Systematics, Inc.	National Rail Freight Infrastructure Capacity and Investment Study	September 2007	http://www.aar.org/~/media/aar/Files/natl_freight_capacity_study.ashx	
BC Government		Export By The Numbers	31-Mar-2011	http://www.bcjobsandeconomy.gov.bc.ca/2011/03/exports-by-the-numbers/	
BC's Ministry of Transportation and Infrastructure		Coal Growth Supported by Pacific Gateway Investment	7-Nov-2009	http://www2.news.gov.bc.ca/news_releases_2009-2013/2010TRAN0104-001386.htm	
Bellingham Business Journal	Bonnell, Issac	Gateway Pacific Terminal begins environmental review process	1-Mar-2010	http://bbjtoday.com/blog/gateway-pacific-terminal-environmental-review-process/10262#	
Bellingham City Council	Bellingham City Council	Letter - Re: Scope of EIS for Proposed Gateway Pacific Terminal in Whatcom County	24-May-2010		http://www.coaltrainfacts.com/docs/Letter-from-Bellingham-City-Council.pdf
Bellingham City Council	Bellingham City Council	Letter Re: Scope of EIS for Proposed Gateway Pacific Terminal in Whatcom County	24-May-2010		http://www.coaltrainfacts.org/docs/05-24-11-Bham-City-Council-re-EIS-for-Gateway-Pacific-Terminal.pdf
Bellingham KOMO		Mayor McGinn on new coal terminals: "I think it's a really bad idea"	10-May-2010	http://bellingham.komonews.com/news/environment/747401-mayor-mcginn-new-coal-terminals-i-think-its-really-bad-idea	
BNSF Railway		Coal cars		http://www.bnsf.com/customers/equipment/coal-cars/	

Publisher / Source	Author	Title	Date	URL	CTF URL
BNSF Railway Company	BNSF	Coal Dust - Frequently Asked Questions	year 2011		http://www.coaltrainfacts.org/docs/BNSF-Coal-Dust-FAQs1.pdf
Burlington Chamber of Commerce		Letter to WA Legislators	21-Nov-2		http://www.coaltrainfacts.org/docs/BurlingtonChamberCommerce.pdf
Carrix, Inc.	Carrix, Inc. (parent company of SSA Marine)	Goldman Sachs Infrastructure Partners makes investment in Carrix with plans for growth	5-Jul-200		http://www.coaltrainfacts.org/docs/ssa-marine-goldman-sachs.pdf
Center for Biological Diversity et al		Petition to list Pacific herring under ESA	21-Jan-2		http://www.coaltrainfacts.org/docs/Clupea-pallasi.pdf
Circulation Journal of the American Heart Association	multiple	Particulate Matter Air Pollution and Cardiovascular Disease : An Update to the Scientific Statement From the American Heart Association	10-May-2	http://circ.ahajournals.org/content/121/21/2331	http://www.coaltrainfacts.org/docs/AHA-diesel-emissions.pdf
Circulation—Journal of the American Heart Association		Particulate Matter Air Pollution and Cardiovascular Disease: An Update to the Scientific Statement From the American Heart Association		http://circ.ahajournals.org/content/121/21/2331.full.pdf	
Citizen's Coal Council		Strip Mining		http://www.citizenscoalcouncil.org/index.php?option=com_content&view=article&id=13&Itemid=21	
City of Bellingham Office of the Mayor	Pike, Dan	Bellingham Mayor Dan Pike: "Jobs, but at what cost?"	3-Jun-20		http://www.coaltrainfacts.org/docs/Bellingham-Mayor-Dan-Pike_Jobs-but-at-what-cost.pdf

Publisher / Source	Author	Title	Date	URL	CTF URL
City of Burlington	Mayor of Burlington, Edward J. Brunz	Letter to Governor Gregoire re: Request for Expanded Environmental Review for Gateway Pacific Terminal, Cherry Point, WA	14-Jul-20		http://www.coaltrainfacts.org/docs/Burlington-letter-7.14.2011.pdf
City of Camas	Camas City Council	Resolution	5-Mar-20		http://www.coaltrainfacts.org/docs/Camas-resolution.pdf
City of Edmonds (City Council)	Edmonds City Council	Approves resolution opposing GPT	23-Nov-2		http://www.coaltrainfacts.org/docs/Edmondsresolution.pdf
City of Marysville		Marysville Resolution	14-May-2		http://www.coaltrainfacts.org/docs/Marysville-R-2325.pdf
City of Mosier	Mayor Andrea Rogers, Mosier City Council	City of Mosier Letter to USACE re: Port of Morrow Pacific coal export project	24-Apr-2		http://www.coaltrainfacts.org/docs/City-of-Mosier-letter-ACOE.pdf
City of Mt. Vernon	Mt. Vernon Mayor Bud Norris	Letter to Whatcom County Planning Department requesting inclusion in environmental review scope and SEPA notifications	29-Sep-2		http://www.coaltrainfacts.org/docs/Mount-Vernon-Mayor-and-City-Council-letter.pdf
City of Seattle Office of the Mayor	McGinn, Mike	Seattle Mayor Statement	18-Jul-20		http://www.coaltrainfacts.org/docs/city-of-seattle-news-release.pdf
City of Stevenson	Mayor Frank Cox	Resolution	25-May-2		http://www.coaltrainfacts.org/city-of-stevenson-wa-passes-resolution-over-coal-trains
Climate Research Journal	Johannesse n, S.C., Macdonald, R.W.	Effects of local and global change on an inland sea: the Strait of Georgia, British Columbia, Canada		http://www.int-res.com/articles/cr_oa/c040p001.pdf	

Publisher / Source	Author	Title	Date	URL	CTF URL
Climate Solutions	Ferris, Bob	Cherry Point Coal Export Facility Would Impact Health, Community, and Waterfront Business	1-Mar-20	http://climatesolutions.org/press-room/press-releases/cherry-point-coal-export-facility-would-impact-health-community-and-waterfront-business/	
Coal Age	Gambrel, David	Building a Coal Terminal on the West Coast	18-Nov-2	http://www.coalage.com/index.php/features/763-building-a-coal-terminal-on-the-west-coast.html	
Coal Age	Buchsbaum	West Coast Exports Materialize	24-Mar-2	http://www.coalage.com/index.php/features/992-west-coast-exports-materialize.html	
Coal Age		Coal Dust Control - Arkansas Electric Petition for Declaratory Order		http://www.coaltrainfacts.org/docs/Coal-Dust-Control-Arkansas-Electric-Petition-for-Declaratory-Order.pdf	
Columbia River Inter-Tribal Fish Commission		Letter to USACE re: Public Notice for Permit Application re: Coyote Island Terminals/Port of Morrow Pacific Project	7-May-20		http://www.coaltrainfacts.org/docs/COLUMBIA-RIVER-INTER-TRIBAL-FISH-COMMISSION.pdf
Communitywise Bellingham		Google Map Info Overlays - Train Lengths and Coal Storage		http://www.communitywisebellingham.org/2011/04/google-map-info-overlays/	
Confederated Tribes of the Umatilla Indian Reservation		Letter to USACE re: comment on application of Port of Morrow Coal Barge Dock	28-Mar-2		http://www.coaltrainfacts.org/docs/Confederated-Tribes-of-the-Umatilla-Indian-Reservation.pdf
Congressional Budget Office		Freight Rail Transportation: A Review of the 2004 Experience	May 2005	http://www.cbo.gov/doc.cfm?index=6350&type=0#pt1	
Cornell University Law School Legal Information Institute	The Office of the Law Revision Counsel	U.S. Code TITLE 23 CHAPTER 1 § 130 § 130. Railway-highway crossings			http://www.coaltrainfacts.org/docs/Cornell-Univ-Law-School.pdf

Publisher / Source	Author	Title	Date	URL	CTF URL
Council on Environmental Quality (CEQ)		CEQ - Regulations for Implementing NEPA		http://ceq.hss.doe.gov/nepa/regs/ceq/toc_ceq.htm	
Council on Environmental Quality (CEQ)		NEPA's Forty Most Asked Questions		http://ceq.hss.doe.gov/nepa/regs/40/40p3.htm	
Council on Environmental Quality (CEQ)	Sutley, Nancy, H.	Draft NEPA Guidance on Consideration of the Effects of Climate Change and Greenhouse Gas Emissions		http://ceq.hss.doe.gov/nepa/regs/Consideration_of_Effects_of_GHG_Draft_NEPA_Guidance_FINAL_02182010.pdf	
Council on Environmental Quality Executive Office of the President		A Citizen's Guide to NEPA	December 2007		http://www.coaltrainfacts.org/docs/Citizens_Guide_Dec07.pdf
Crosscut	McKay, Floyd	Coal-export plans turn into a running battle	21-Sep-2011	http://crosscut.com/2011/09/21/coal-ports/21320/Coal-export-plans-turn-into-a-running-battle/one_page/	
Crosscut	McKay, Floyd	Coal plans raise questions for Bellingham	23-Feb-2011	http://crosscut.com/2011/02/23/bellingham/20662/Coal-plans-raise-questions-for-Bellingham--/one_page/	
Crosscut	Simmons, Bob	Big Coal meets Cherry Point's tiny herring	28-Oct-2011	http://crosscut.com/2011/10/28/environment/21354/Big-Coal-meets-Cherry-Point-s-tiny-herring/	
Crosscut		Will agriculture ease concerns about coal port near Bellingham?		http://crosscut.com/2011/05/23/agriculture/20936/Will-agriculture-ease-concerns-about-coal-port-near-Bellingham-/one_page/	
Crosscut	Bob Simmons	Cherry Point's coal debate: new fight on a site with stormy history	19-Oct-2011		http://www.coaltrainfacts.org/docs/Crosscut-Cherry-Points-coal-debate_-new-fight-on-a-site-with-stormy-history.pdf

Publisher / Source	Author	Title	Date	URL	CTF URL
Crosscut	Floyd Mckay	Coal port advocates narrow the range of environmental impacts	21-Mar-2		http://www.coaltrainfacts.org/docs/Crosscut-Coal-port-advocates-narrow-the-range-of-environmental-impacts.pdf
Crosscut	Floyd Mckay	Study questions coal's value to Bellingham	7-Mar-20		http://www.coaltrainfacts.org/docs/Crosscut-Study-questions-coals-value-to-Bellingham.pdf
Crosscut	Daniel Jack Chasan	The coal port issue is spreading all over the Northwest	25-Apr-21		http://crosscut.com/2012/04/25/coal-ports/22243/The-coal-port-issue-is-spreading-all-over-Northwes/
Crosscut: Coal ports	McKay, Floyd	Everett-Vancouver: a railroad bottleneck if coal trains increase	27-Jul-20	http://crosscut.com/2011/07/27/coal-ports/21154/Everett-Vancouver:-a-railroad-bottleneck-if-coal-trains-increase-/	
CTF		Permitting and Regulatory Processes Summary			http://www.coaltrainfacts.org/permitting-and-regulatory-processes-summary
CTF	?	Whatcom Docs Press Release		http://www.coaltrainfacts.org/whatcom-docs-press-release	
CTF website	CTF	SEPA Laws, Policies and Regulations			http://www.coaltrainfacts.org/state-environmental-policy-act-sepa-laws-policies-and-regulations
Daily Gate City		Coal train derails near Montrose	12/12/20	http://www.dailygate.com/articles/2011/12/13/news/dgc1618646.txt	
Daily Gate City		2nd train derailment occurs near same spot	20-Dec-2	http://www.dailygate.com/articles/2011/12/20/news/dgc1671509.txt	
Dallesport-Murdock		Dallesport-Murdock Community Council Letter to Editor	21-Nov-2		http://www.coaltrainfacts.org/docs/Dallesport-Murdock.pdf

Publisher / Source	Author	Title	Date	URL	CTF URL
Decision Support Associates, LLC and Performance Improvement Enterprises, LLC	Harrald, John R, Ph.D, and Townley, James, R.	A Review of Environmental and Safety Impact Documents for the Proposed Gateway Pacific Terminal	August 1997		http://www.coaltrainfacts.org/docs/Review-of-1997-GPT-Vessel-Traffic-Study.pdf
Denver 9News.com		Coal train derailment a mess supreme	26-Oct-2	http://www.9news.com/news/article/226509/188/Coal-train-derailment-a-mess-supreme	
Department of Ecology		SEPA Online Handbook		http://www.ecy.wa.gov/programs/sea/sepa/handbk/hbch02.html#2.3.1	
Department of Ecology State of Washington		State Environmental Policy Act (SEPA)		http://www.ecy.wa.gov/programs/sea/sepa/e-review.html	
Department of Ecology State of Washington		Pending Water Rights Applications by County		http://www.ecy.wa.gov/programs/wr/rights/tracking-apps.html	
Department of Ecology State of Washington		Water Quality Permits - Point Source Pollution		http://www.ecy.wa.gov/programs/wq/permits/index.html	
Department of Fish and Wildlife	State of Washington Department of Fish and Wildlife	Cherry Point Application Incomplete	23-Jun-2		http://www.coaltrainfacts.org/docs/DOFW-Letter-Cherry-Point-Incomplete.pdf
Department of the Army Seattle District, Corps of Engineers	Department of the Army Seattle District, Corps of Engineers	Letter to Pacific International Terminals, Inc. Re: notice that an EIS is necessary	13-Jun-2		http://www.coaltrainfacts.org/docs/USACE-EIS-Determination-Letter-and-memorandum.pdf
DOE/WCPD	Slideshow	Environmental Review Process: GPT and BNSF Custer Spur Proposal	20-Mar-2		http://www.coaltrainfacts.org/docs/GPT-presentation-3-20-12.pdf
DOE/WCPD	Timeline slideshow	GPT Project	20-Mar-2		http://www.coaltrainfacts.org/docs/GPT-timeleine-3-20-12.pdf

Publisher / Source	Author	Title	Date	URL	CTF URL
Entrepreneur	Simons, Robert A.; El Jaouhari, Abdellazuz	The effect of freight railroad tracks and train activity on residential property values	Summer, 2004		http://www.coaltrainfacts.com/docs/The-effect-of-freight-railroad-tracks-and-train-activity-on-residential-property-values.pdf
Everett Herald	Bill Sheets	Rail Terminal in Bellingham could mean more coal, freight trains through county	26-May-2		http://www.coaltrainfacts.com/docs/HeraldNet-Rail-terminal-in-Bellingham-could-mean-more-coal-freight-trains-through-county.pdf
Fisheries and Oceans Canada		A New Ecosystem Science Framework in Support of Integrated Mangement		http://www.dfo-mpo.gc.ca/science/publications/ecosystem/index-eng.htm	
Gateway Pacific Terminal		The Project		http://gatewaypacificterminal.com/the-project/what/	
Gateway Pacific Terminal		The Project - Timetable		http://gatewaypacificterminal.com/the-project/timetable/	
Gateway Pacific Terminal		The Project - F.A.Q.		http://gatewaypacificterminal.com/the-project/f-a-q/	
George Washington University; VCU; SEAS		BP Vessel Traffic Risk Assessment - Assessment of Oil Spill Risk due to Potential Increased Vessel Traffic at Cherry Point, Washington	31-Aug-2	http://www.seas.gwu.edu/~dorpjr/VTRA/FINAL%20REPORT/083108/VTRA%20REPORT%20-%20Main%20Report%20083108.pdf	
Gibson Traffic Consultants, Inc.	Gibson Traffic Consultants, Inc.	GTC Traffic Study - Burlington	15-Aug-2		http://www.coaltrainfacts.org/docs/traffic-study-Burlington.pdf
Gibson Traffic Consultants, Inc.	Gibson Traffic Consultants, Inc.	GTC Traffic Study - Marysville	15-Jun-2		http://www.coaltrainfacts.org/docs/traffic-study-Marysville.pdf
Gibson Traffic Consultants, Inc.	Gibson Traffic Consultants, Inc.	GTC Traffic Study - Mt. Vernon	1-Sep-20		http://www.coaltrainfacts.org/docs/traffic-study-Mt-Vernon.pdf

Publisher / Source	Author	Title	Date	URL	CTF URL
Gibson Traffic Consultants, Inc.	Gibson Traffic Consultants, Inc.	GTC Traffic Study - Stanwood	8-Aug-20		http://www.coaltrainfacts.org/docs/traffic-study-Stanwood.pdf
Google Map		Cherry Point, WA		http://maps.google.com/maps?q=cherry+pt+wa&hl=en&ll=48.881877,-122.695312&spn=0.372525,0.891953&sll=37.0625,-95.677068&sspn=56.637293,114.169922&vpsrc=6&hnear=Cherry+Point&t=h&z=11	
Gordon, Elias, & Seely, LLP		BNSF Coal Train Derails in Pueblo, Colorado	29-Nov-2	http://www.gordon-elias.com/blog/1859/bnsf-coal-train-derails-in-pueblo-colorado/	
Gordon, Elias, & Seely, LLP		CSX Train Derailment Spills Coal in Ferry Farm VA Area	9-Jul-201	http://www.gordon-elias.com/blog/1005/csx-train-derailment-spills-coal-in-ferry-farm-va-area/	
Government of the United Kingdom	Sir Nicholas Stern	Stern Review: The Economics of Climate Change			http://www.coaltrainfacts.org/docs/SternReviewEng.pdf
Great Falls, Montana— 3 KRTV.com		Train derailment near Drummond now cleared	2-Aug-20	http://www.krtv.com/news/train-derailment-near-drummond-now-cleared/	
Huffington Post	Peeples, Lynne	The Coal Pipeline: In Pacific Northwest, A Local Battle Has Global Fallout	23-Nov-2		http://www.coaltrainfacts.org/docs/The-Coal-Pipeline-In-Pacific-Northwest-A-Local-Battle-Has-Global-Fallout.pdf
Indianapolis— 13 WTHR		Crews begin clean-up of cars, coal from derailment	10-Jul-20	http://www.wthr.com/story/15055638/train-derails-near-bloomington	
Institute for Energy Research		China		http://www.instituteforenergyresearch.org/issues/china/	

Publisher / Source	Author	Title	Date	URL	CTF URL
Institute for Energy Research		China: World's Largest Energy Consumer; Surpasses the U.S.		http://www.instituteforenergyresearch.org/2010/08/06/china-world's-largest-energy-consumer-surpasses-the-u-s/	
Intergovernmental Panel on Climate Change		Climate Change 2007: Synthesis Report		http://www.ipcc.ch/publications_and_data/ar4/syr/en/main.html	
Journal of American Medical Association		Lung Cancer, Cardiopulmonary Mortality and Long-term Exposure to Fine Particulate Air Pollution		http://jama.ama-assn.org/content/287/9/1132.full.pdf	
Kansas City—KCTV 5 News		Coal train derails in NE Kansas	5-Sep-20	http://www.kctv5.com/story/15396620/train-derails-in-ne-kansas	
King 5 News	Mak, Robert	The Great Train Debate	17-Jul-20	http://www.king5.com/news/up-front/The-great-train-debate-125713753.html	
Lewis & Clark Law School's Environmental Law Online	9th Circuit Court of Appeals	Ocean Advocates v. United States Army Corp of Engineers	27-Jun-1	http://www.elawreview.org/summaries/environmental_quality/nepa/ocean_advocates_v_united_state.html	
LJWorld.com		32 train cars derail near Topeka	15-Nov-2	http://www2.ljworld.com/news/2011/nov/15/trains-derail-after-collision-near-topeka/	
Lummi Nation		Lummi Nation website		http://www.lumminsn.org/	
Lynden Tribune	Bratt, Calvin	Economists weigh in on Gateway Pacific	2-Nov-20	http://gatewaypacificterminal.com/wp-content/uploads/2011/11/Economists-weigh-in-on-Gateway-Pacific.pdf	
McDermott, Rockwell	Don McDermott, Mike Rockwell	Coal Trains in the Columbia River Gorge			http://www.coaltrainfacts.org/docs/CoalTrainsGorge.Bingen.WA_.v2.1.pdf

Publisher / Source	Author	Title	Date	URL	CTF URL
Montana Environmental Information Center		Rosebud Coal Mine: Profile of a Montana coal mine		http://meic.org/mining/coal-mining/rosebud-coal-mine	
National Archives and Records Administration: Electronic Code of Federal Regulations		Title 33-- Navigation and Navigable Waters... Part 230--Procedures fro Implementing NEPA		http://ecfr.gpoaccess.gov/cgi/t/text/text-idx?c=ecfr&tpl=/ecfrbrowse/Title33/33cfr230_main_02.tpl	
National Oceanic and Atmospheric Administration		Puget Sound Chinook ESA Salmon Recovery Plan		http://www.nwr.noaa.gov/Salmon-Recovery-Planning/Recovery-Domains/Puget-Sound/PS-Chinook-Plan.cfm	
Natural Resources Defense Council		Ocean Acidification: The Other CO2 Problem		http://www.nrdc.org/oceans/acidification/	
New York Times	Voorhees, Josh	Railroads, Utilities Clash Over Dust From Coal Trains	25-Jan-2		http://www.coaltrainfacts.org/docs/Railroads-Utilities-Clash-Over-Dust-From-Coal-Trains-NYTimes.com_.pdf
New York Times	Kirkland, Joel	Asia's Exploding Economic Growth Churns Australia's Coal Industry	22-Dec-2	http://www.nytimes.com/cwire/2010/12/22/22climaticwire-asias-exploding-economic-growth-churns-austr-57447.html?emc=eta1	
New York Times	Rosenthal, Elisabeth	Nations That Debate Coal Use Export It to Feed China's Need	21-Nov-2	http://www.nytimes.com/2010/11/22/science/earth/22fossil.html?emc=eta1	
Noise Pollution Clearinghouse	Suter, Alice, H., Dr.	Noise and Its Effects	Novem ber 1991	http://www.nonoise.org/library/suter/suter.htm	
Nooksack Indian Tribe		Nooksack Indian Tribe website		http://nooksackindiantribe.org/	

Publisher / Source	Author	Title	Date	URL	CTF URL
Northeast States for Coordinated Air Use Management		Mercury Emissions From Coal-Fired Power Plants The Case for Regulatory Action	October 2003	rpt031104mercury.pdf	
Northern Plains Resource Council	Northern Plains Resource Council	A Hidden Cost of Coal - Exporting Our Coal to Asia	April 2011		http://www.coaltrainfacts.org/docs/New-Coal-export-factsheet-FNL-4-12-111.pdf
NPR	Azusa Uchikura	Coal Export Terminal Opponents Submit Petition	29-Feb-2		http://www.coaltrainfacts.org/docs/NPR-Coal-Export-Terminal-Opponents-Submit-Petition.pdf
NW Washington Central Labor Council	NW Washington Central Labor Council	Labor Leaders Examine Alleged Health Risks of Gateway Pacific Terminal	11-Oct-2		http://www.coaltrainfacts.org/docs/NWWCLCDocLetter0001.pdf
Office of Protected Resources National Marine Fisheries Service United States Department of Commerce		Petition to list the Cherry Point herring as threatened or endangered under the the ESA	21-Jan-2	http://www.biologicaldiversity.org/species/fish/Cherry_Point_Pacific_herring/pdfs/71069_6360.pdf	
Omaha.com		OPPD confirms coal train derailment	27-Jul-20	http://omaha.com/article/20110727/NEWS01/11072977	
OpenFile-Vancouver		Crude Awakening	18-Nov-2	http://vancouver.openfile.ca/vancouver/file/2010/11/crude-awakening	
OptiMartin		Ballast Water Treatment in Norway		http://www.maritimenorway.no/maritimenorway/vedlegg/OptiMarin_Allweiler20100719.pdf	
Oregon Public Broadcasting - EarthFix		Northwest Readiness for Oil Spills Drops As Risks Increase		http://earthfix.opb.org/water/article/oil-spill-preparedness/	

Publisher / Source	Author	Title	Date	URL	CTF URL
OSHA		Occupational Safety and Health Guidelines for Coal Dust		http://www.osha.gov/SLTC/healthguidelines/coaldust-less5percentsio2/recognition.html#evaluation	
Pacific International Terminals		Letter to Whatcom County Planning & Development Services re: Gateway Pacific Terminal Major Project Permit Application Submittal		http://www.co.whatcom.wa.us/pds/plan/current/gpt-ssa/pdf/20110610-applications.pdf	
Pacific International Terminals, Inc., a subsidiary of SSA Marine	Pacific International Terminals, Inc.	Gateway Pacific Terminal Project Information Document	28-Feb-2		http://www.coaltrainfacts.com/docs/PID-comprehensive.pdf
Pacific International Terminals, Inc.	Pacific International Terminals, Inc.	Whatcom County Preliminary Traffic & Concurrency Information	17-Jul-20		Pacific International Terminals, Inc.
Peabody Energy	Peabody Energy, Inc.	2nd Quarter 2011 Report	19-Jul-20		http://www.coaltrainfacts.org/peabody-energy-2nd-quarter-2011-report:Peabody-Energy-2nd-Quarter-2011-Report-July-19-2011 (.docx, 139 KB)
Port of Bellingham		Waterfront Redevelopment		http://www.portofbellingham.com/index.aspx?nid=144	
Port of Bellingham		Waterfront Redevelopment Master Plan		http://www.portofbellingham.com/index.aspx?nid=172	
Port of Skagit	Port of Skagit	Letter to Governor Gregoire Re: Proposed Gateway Pacific Terminal Project	13-Sep-2		http://www.coaltrainfacts.org/docs/portofskagit.pdf
Power, Thomas M, Dr	Power, Thomas, M., Dr.	The Greenhouse Gas Impact of Exporting Coal from the West Coast - An Economic Analysis			http://www.coaltrainfacts.org/docs/economics-of-coal-export.pdf

Publisher / Source	Author	Title	Date	URL	CTF URL
Prince George's Online Headquarters		No Injuries in Train Derailment Near Vanderhoof	22-Dec-2	http://hqprincegeorge.com/news/local/news/Local/11/12/22/No-Injuries-in-Train-Derailment-Near-Vanderhoof	
PRNewswire	Peabody Energy	Peabody Energy and SSA Marine Enter Into Long-Term Agreement for Powder River Basin Coal Export	28-Feb-2		http://www.coaltrainfacts.com/docs/Peabody-and-SSA-marine.pdf
Puget Sound Clean Air Agency		Why Worry About Diesel Exhaust?		http://www.pscleanair.org/programs/dieselsolutions/concerns.aspx	
Puget Sound Partnership	Puget Sound Partnership	The Puget Sound Action Agenda	12/1/2008; updated May 27, 2009		http://www.coaltrainfacts.org/docs/PSP-Action-Agenda.pdf
Puget Sound Partnership		Puget Sound's orcas are facing a decrease in prey and increased contaminants		http://www.psp.wa.gov/vitalsigns/orcas.php	
Puget Sound Partnership		2009 State of the Sound		http://www.psp.wa.gov/sos2009.php	
Puget Sound Partnership		Setting Recovery Targets for Puget Sound		http://www.psp.wa.gov/action_agenda_2011_recovery_targets.php	
Puget Sound Partnership		Puget Sound Ecosystem Recovery Targets		http://www.psp.wa.gov/downloads/AA2011/2011_Targets_11_03_11.pdf	
Quantico Sentry		Derailment aboard MCB Quantico disrupts East Coast rail traffic	5-Aug-20	http://www.quantico.usmc.mil/Sentry/StoryView.aspx?SID=4388	
Salish Land Policy Solutions	Salish Land Policy Solutions	Letter to Governor's Office of Regulatory Assistance re: Gateway Pacific Terminal iMAP Review	27-Apr-2		http://www.coaltrainfacts.org/docs/ORA-letter.pdf

Publisher / Source	Author	Title	Date	URL	CTF URL
Salish Land Policy Solutions	Salish Land Policy Solutions	Appendix A: Questions Regarding Substantive Impacts	27-Apr-2011		http://www.coaltrainfacts.org/docs/Appendix-A-Gateway-April-27-2011.pdf
Salish Land Policy Solutions	Salish Land Policy Solutions	Appendix B: Whatcom County Comprehensive Plan Policies	27-Apr-2011		http://www.coaltrainfacts.org/docs/Appendix-B-Gateway-April-27-2011.pdf
Salish Land Policy Solutions	Salish Land Policy Solutions	Appendix C: Asian Mercury Atmospheric Transport	27-Apr-2011		http://www.coaltrainfacts.org/docs/Appendix-C-Gateway-April-27-2011.pdf
Salish Land Policy Solutions	Salish Land Policy Solutions	Appendix D: Sea Level Rise Estimates	27-Apr-2011		http://www.coaltrainfacts.org/docs/Appendix-D-Gateway-April-27-2011.pdf
Salish Land Policy Solutions	Salish Land Policy Solutions	Appendix E: Recommendations for Transparency	27-Apr-2011		http://www.coaltrainfacts.org/docs/Appendix-E-Gateway-April-27-2011.pdf
Salish Land Policy Solutions	Salish Land Policy Solutions	Process, Timelines and Issues: Review of the Regional Impacts of a Proposed Coal Export Terminal at Cherry Point, Washington	2-Aug-2011		http://www.coaltrainfacts.org/docs/Business-Owners-Salish-Land-Policy-Regional-Impacts-of-Coal-August-2-2011.pdf
Salish Land Policy Solutions	Salish Land Policy Solutions	Report on December 8, 2011 Planning Commission Hearing	9-Dec-2011		http://www.coaltrainfacts.org/docs/SLPS-Memo-reporting-Planning-Commission-Hearing-Dec-8-2011.pdf
Salish Land Policy Solutions	Salish Land Policy Solutions	Map of Proposed Gateway Pacific Terminal within the Birch Bay Watershed showing streams and rail	?		http://www.coaltrainfacts.org/docs/SLPS-Lighter-Overlay-Showing-Streams-PID-Rail-on-PDS-Map-BB-Watershed.pdf

Publisher / Source	Author	Title	Date	URL	CTF URL
Salish Land Policy Solutions	Salish Land Policy Solutions	Emails between WCPD and Office of Regulatory Assistance re: Birch Bay Watershed Habitat Mitigation "fee in-lieu" program related to the Gateway Pacific Terminal	10-Oct-2011		http://www.coaltrainfacts.org/docs/SLPS-Maps-Emails-Birch-Bay-1.pdf
Salish Land Policy Solutions	Salish Land Policy Solutions	Map of Gateway Pacific Terminal's proposed rail on Whatcom County Planning Department's Map of Birch Bay Watershed			http://www.coaltrainfacts.org/docs/SLPS-Overlay-PID-Rail-on-PDS-Map-Birch-Bay-Watershed.pdf
Salish Land Policy Solutions	Salish Land Policy Solutions	Letter to Director of Washington State Department of Ecology Re: Gateway Pacific Terminal Pre-Scoping Considerations	20-Oct-2011		http://www.coaltrainfacts.org/docs/Sent-SLPS-Letter-to-TS-DOE-SEPA-Co-Lead-Gateway-October-19-2011.pdf
Salish Land Policy Solutions	Salish Land Policy Solutions	Notice of Opportunity for Public Comment	13-Dec-2011		http://www.coaltrainfacts.org/docs/SLPS-RFP.pdf
Salish Land Policy Solutions	Salish Land Policy Solutions	Process, Timelines and Issues: Review of the Regional Impacts of a Proposed Coal Export Terminal at Cherry Point, Washington (updates Aug. 2, 2011 - Business Owners)	25-Sep-2011		http://www.coaltrainfacts.org/docs/Business-Owner-Sept-2011-Update-Salish-Land-Policy-Regional-Impacts-of-Coal-Sept-25-2011.pdf
Salish Land Policy Solutions	Salish Land Policy Solutions	Process, Timelines and Issues: Review of the Regional Impacts of a Proposed Coal Export Terminal at Cherry Point, Washington (updates Aug. 2, 2011 SLPS and breakout for local governments)	26-Sep-2011		http://www.coaltrainfacts.org/docs/Local-Govt-Sept-2011-Update-Salish-Land-Policy-Regional-Impacts-of-Coal-Sept-25-2011.pdf

Publisher / Source	Author	Title	Date	URL	CTF URL
Salish Land Policy Solutions from Gateway Pacific Terminal Project Information Document	Salish Land Policy Solutions	Map of Birch Bay and BNSF Rail Improvements	28-Feb-2		http://www.coaltrainfacts.org/docs/SLPS-Maps-Birch-Bay-2-BNSF-Rail-Improvements-Source-is-SSA-PID.pdf
Seattle Daily Journal of Commerce	Seattle Daily Journal of Commerce	Coal Terminal RFP expected in January	30-Nov-2		http://www.coaltrainfacts.org/docs/Seattle-DJC.pdf
Seattle Times	Welch, Craig	Coal quandary as state plans to send dirty fuel overseas	26-Mar-2	http://o.seattletimes.nwsource.com/html/localnews/2014609339_exportingcoal27m.html	
Sightline Daily	de Place, Eric	Coal Company Destroys Key Argument for Coal Terminal	9-Nov-20		http://www.coaltrainfacts.org/docs/Sightline-Coal-Company-Destroys-Key-Argument-for-Coal-Terminal-PDF-371-KB.pdf
Sightline Daily	de Place, Eric	Coal Trains and Rail Congestion An overview of Washington's rail system	21-Sep-2		http://www.coaltrainfacts.org/docs/Coal-Trains-and-Rail-Congestion-_-Sightline-Daily.pdf
Sightline Daily	de Place, Eric	Why Railroads Care About Coal Exports How the rail industry thinks about coal.	11-Jan-2		http://www.coaltrainfacts.org/docs/Why-Railroads-Care-About-Coal-Exports-_-Sightline-Daily.pdf
Sightline Daily			8-Mar-20	http://daily.sightline.org/2011/03/08/coal-companies-maybe-not-always-entirely-truthful/	
Sightline Institute	VandenHeuvel, Brett; de Place, Eric	Coal Export: A history of failure for western ports	August 2011		http://www.coaltrainfacts.org/docs/Sightline_Coal-Export-A-History-of-Failure.pdf
Sightline Institute	de Place, Eric	Northwest Coal Exports—Some common questions about economics, health, and pollution	September 2011		http://www.coaltrainfacts.org/docs/coal-FAQ.pdf

Publisher / Source	Author	Title	Date	URL	CTF URL
Sightline Institute		Coal Exports From Canada: Why coal planned for Washington's ports can't divert to BC.		http://www.sightline.org/research/energy/coal/coal-exports-from-canada	
Skagit County Board of Commissioners	Skagit County Board of Commissioners	Letter to Governor Gregoire re: concern of increase in freight traffic's impacts in Skagit and request to have Skagit County represented on the MAP-ORA team	28-Jul-20		http://www.coaltrainfacts.org/docs/Skagit-Commissioners-Letter-Gateway-July-28-2011.pdf
Spokane Regional Clean Air Agency	Studer, Charles E.,	Health Risk Study for the BNSF Railroad Spokane Railyard	16-Jun-2		http://www.spokanecleanair.org/documents/Study_Reports/BNSF%20Spokane%20Railyard%20Health%20Study.pdf
Spokane Regional Clean Air Agency	Spokane Regional Clean Air Agency	Board Meeting Minutes: Review of Spokane Rail Yard Study	3-Jun-20		http://www.spokanecleanair.org/documents/Minutes/060310_minutes.pdf
SSA Marine for Pacific International Terminals, Inc.	Pacific International Terminals	Letter to Whatcom County Planning Department - requesting extension for major project permit submittal and additional materials	19-Dec-2		http://www.coaltrainfacts.org/docs/SSAextensionrequest.pdf
Stanford University: Program on Energy and Sustainable Development	Morse, Richard K.; He, Gang	The World's Greatest Coal Arbitrage: China's Coal Import Behavior and Implications for the Global Coal Market	August 2011		http://www.coaltrainfacts.org/docs/Chinas-Coal-Imports-Stanford1.pdf
Stanford University: Program on Energy and Sustainable Development	Morse, Richard K.; He, Gang	The World's Greatest Coal Arbitrage: China's Coal Import Behavior and Implications for the Global Coal Market	August 2011	http://www.coaltrainfacts.org/stanford-university-study-on-chinas-coal-import-behavior	http://www.coaltrainfacts.org/docs/Chinas-Coal-Imports-Stanford.pdf

Publisher / Source	Author	Title	Date	URL	CTF URL
Swinomish Climate Change Initiative	Swinomish Indian Tribal Community	Local Response to Climate Change: Swinomish Case Study	unkown		http://www.coaltrainfacts.org/docs/Climate-Change-Impacts-on-the-Swinomish-Reservation-Fidalgo-Bay.pdf
The Annals of the New York Academy of Sciences	Epstein, Paul R., et. al.	Full cost accounting for the life cycle of coal	year 2011		http://www.coaltrainfacts.org/docs/epstein_full-cost-of-coal.pdf
The Atlantic	Fallows, James	Dirty Coal, Clean Future	December 2010	http://www.theatlantic.com/magazine/archive/2010/12/dirty-coal-clean-future/8307/3/	
The Bellingham Herald	Stark, John	Documents: Cherry Point initial cargo would focus on coal, produce fewer jobs	29-May-2		http://www.coaltrainfacts.com/docs/Bellingham-Herald-Cherry-Point.pdf
The Bellingham Herald	Jefferson Sr., Merle	Lummi Nation reviewing proposed deep-water port terminal	5-Dec-20		http://www.coaltrainfacts.org/docs/WHATCOM-VIEW_-Lummi-Nation-reviewing-proposed-deep-water-port-terminal.pdf
The Bellingham Herald	Connor, Paul; Elkayam, David; Morrow, Gib; Olson, David	Physician's group concerned about coal train impacts on Whatcom health	21-Jun-2		http://www.coaltrainfacts.org/docs/BhamHerald-Morrow.pdf
The Bellingham Herald	Stark, John	RE Sources files lawsuit against coal port developer's ground disturbance last summer	13-Dec-2		http://www.coaltrainfacts.org/docs/RESources-BhamHerald.pdf
The Bellingham Herald	Stark, John	SSA Marine fined, admits mistakes at Cherry Point terminal site	4-Aug-20	http://www.bellinghamherald.com/2011/08/04/2128514/ssa-marine-fined-admits-mistakes.html	

Publisher / Source	Author	Title	Date	URL	CTF URL
The Bellingham Herald	Stark, John	SSA Marine's grading at Cherry Point draws county scrutiny	2-Aug-20	http://www.bellinghamherald.com/2011/08/02/2125663/ssa-marines-grading-at-cherry.html	
The Columbian		Port dodges coal, embraces potash		http://www.columbian.com/news/2011/apr/03/dodging-coal-embracing-potash-the-port-of-vancouve/	
The Daily News Online	Olson, Erik	Westshore provides glimpse of Longview's potential future with coal	12-Feb-2	http://tdn.com/news/local/article_35ad9c0c-3634-11e0-8eea-001c4c03286.html	http://www.coaltrainfacts.org/the-daily-news-westshore-provides-glimpse-of-longviews-potential-future-with-coal
The Daily News Online - Lower Columbia		When the terminal's done, who will supply the grain?		http://tdn.com/news/article_674ac426-3128-5863-912f-287af0fbac8a.html	
The Globe and Mail		Coal producers decry Ridley Terminals decision		http://www.theglobeandmail.com/report-on-business/coal-producers-decry-ridley-terminals-decision/article1881479/	
The Marysville Globe	Mayor of Marysville, Jon Nehring	Impacts of proposed Cherry Point Coal Export Terminal	10-Aug-2		http://www.coaltrainfacts.org/docs/MarysvilleGlobe-Mayor.pdf
The New England Journal of Medicine		The Effect of Air Pollution on Lung Development from 10 to 18 Years of Age	9-Sep-20	http://www.nejm.org/doi/full/10.1056/NEJMoa040610	
The New York Times	Bradsher, Keith and Barboza, David	Pollution From Chinese Coal Casts a Global Shadow	11-Jun-2	http://www.nytimes.com/2006/06/11/business/worldbusiness/11chinacoal.html?pagewanted=all	
The Register-Herald, Beckley, WV		18 coal cars derail in train wreck near Surveyor	14-Apr-2	http://www.register-herald.com/local/x731685673/18-coal-cars-derail-in-train-wreck-near-Surveyor	

Publisher / Source	Author	Title	Date	URL	CTF URL
The State Journal - Register - Springfield, IL		High-speed rail plan calls for nine overpasses	2-Sep-20	http://www.sj-r.com/news/x1574721306/Railroad-plan-calls-for-9-overpasses-1-underpass-5-intersection-closings	http://www.coaltrainfacts.org/docs/High-speed-rail-plan-calls-for-nine-overpasses-Springfield-IL-The-State-Journal-Register.pdf
The U.S. Army Corps of Engineers (Corps), Washington State Department of Ecology (Ecology), and Whatcom County Planning and Development Services (County)	The U.S. Army Corps of Engineers (Corps), Washington State Department of Ecology (Ecology), and Whatcom County Planning and Development Services (County)	Request for Proposals (RFP) for Gateway Pacific Terminal and BNSF Custer Spur Modifications Project NEPA/ SEPA Environmental Impact Statement Development	4-Jan-20		http://www.coaltrainfacts.org/docs/RFPGPTEIS1-4-12.pdf
Trainorders.com		MRL Derailment, BR 57, Trout Creek, MT	11/13/20	http://www.trainorders.com/discussion/read.php?1,1279588	
U.S. Energy Information Administration		Annual Coal Report	30-Nov-2	http://www.eia.gov/coal/annual/	
Union of Concerned Scientists		How Coal Works		http://www.ucsusa.org/clean_energy/coalvswind/brief_coal.html	
United Nations United States Department of Energy; Environment Safety & Health Bulletin		Energy, coal combustion and atmospheric pollution in Northeast Asia		http://esa.un.org/techcoop/flagship.asp?Code=ras92461	
		The Fire Below: Spontaneous Combustion in Coal		http://www.safetek.net/worksafe/bull94.txt	

Publisher / Source	Author	Title	Date	URL	CTF URL
United States Environmental Protection Agency	United States Environmental Protection Agency	News Release: EPA Issues First National Standards for Mercury Pollution from Power Plants/Historic 'mercury and air toxics standards' meet 20-year old requirement to cut dangerous smokestack emissions	21-Dec-2		http://www.coaltrainfacts.org/docs/EPAstandards.pdf
United States Environmental Protection Agency		Factsheet: Ballast Water and Aquatic Invasive Species		http://water.epa.gov/type/oceb/habitat/invasive_species_factsheet.cfm	
United States Environmental Protection Agency		Basic Information about Estuaries		http://water.epa.gov/type/oceb/nep/about.cfm	
United States Environmental Protection Agency		Summary of EPA Coal Combustion Waste Damage Cases Involving Sand & Gravel Mines/Pits/Operations			http://www.coaltrainfacts.org/docs/Summary-of-EPA-Coal-Combustion-Waste-Damage-Cases-Involving-Sand-Gravel.pdf
United States Environmental Protection Agency		Superfund (CERCLIS) Query Results		http://oaspub.epa.gov/enviro/cerclis_web.report?pgm_sys_id=MTN000802674	
United States Environmental Protection Agency		Acid Rain		http://www.epa.gov/acidrain/	
University of California, San Diego		Examining the Spatial Distribution of Externalities: Freight Rail Traffic and Home Values in Los Angeles		http://econ.ucsd.edu/~mfutch/pdfs/FutchJMP2011.pdf	
University of Illinois	Cerbus, John, F.; Landsberger, Sheldon; Larson, Susan	Elemental Characterization of Coal Ash Leachates			http://www.coaltrainfacts.org/docs/ELEMENTAL-CHARACTERIZATION-OF-COAL-ASH-LEACHATES..pdf

Publisher / Source	Author	Title	Date	URL	CTF URL
University of Texas at Austin, Department of Civil, Architectural, and Environmental Engineering	Seedah, Dan and Harrison, Robert	Measuring the Impact of Intermodal Rail Movements in State Transportation Planning		http://www.trforum.org/forum/downloads/2010_91_Impact_Intermodal_Rail_State_Planning.pdf	
US Department of Transportation		Transit Noise and Vibration Impact Assessment	May 2006	http://www.fta.dot.gov/documents/FTA_Noise_and_Vibration_Manual.pdf	
US Environmental Protection Agency		Control of Emissions from Idling Locomotives	March 2008	http://www.epa.gov/nonroad/locomotv/420f08014.htm	
US Environmental Protection Agency		National Environmental Policy Act (NEPA)		http://www.epa.gov/oecaerth/nepa/	
Vancouver Sun	Hamilton, Gordon	Ridley Island terminal expansion key to development	20-Sep-2008	http://www.vancouversun.com/business/Ridley+Island+terminal+expansion+development/5428962/story.html	
Vanderhoof Omineca Express		Coal cars derailed near why 16 None injured, no water spoiled: CN	11-Jan-2008	http://www.ominecaexpress.com/news/137103973.html	
Washington Department of Fish and Wildlife		Protecting Nearshore Habitat and Functions in Puget Sound	June 2010	http://wdfw.wa.gov/publications/00047/wdfw00047.pdf	
Washington Department of Fish and Wildlife		State scientists seek answers on Cherry Point herring decline	10-Jul-2008	http://wdfw.wa.gov/news/jul1001a/	
Washington Department of Fish and Wildlife (Kurt Stick)	Washington Department of Fish and Wildlife (Kurt Stick)	Cherry Point Herring Populations (Powerpoint presentation)	?		http://www.coaltrainfacts.org/docs/herring-biomass.pdf
Washington State Department of Ecology	Washington State Department of Ecology	Focus Sheet on SEPA	May 2002		http://www.coaltrainfacts.org/docs/DOE-Focus-on-SEPA-from-website.pdf

Publisher / Source	Author	Title	Date	URL	CTF URL
Washington State Department of Ecology	Washington State Department of Ecology	News Release: Ecology, Whatcom County to co-lead state environmental review of proposed Gateway Pacific Terminal at Cherry Point	15-Jul-20		http://www.coaltrainfacts.org/docs/ssa-ecology-assumes-epa-co-lead.pdf
Washington State Department of Ecology	Washington State Department of Ecology	Letter to Whatcom County Planning Supervisor/ Designated SEPA Official Re: Gateway Pacific Terminal SEPA Process	15-Jul-20		http://www.coaltrainfacts.org/docs/doe-gpt-co-lead-acceptance.pdf
Washington State Department of Ecology		Meeting set to inform public about review process for proposed Cherry Point terminal	5-Mar-20		http://www.coaltrainfacts.org/docs/Meeting-set-to-inform-public-about-EIS.pdf
Washington State Department of Ecology Air Quality Program	Washington State Department of Ecology	Health Effects and Economic Impacts of Fine Particle Pollution in Washington	15-Dec-2		http://www.coaltrainfacts.org/docs/DOE-benMAPstudy.pdf
Washington State Department of Natural Resources	Washington State Department of Natural Resources	Cherry Point Aquatic Reserve Management Plan	November 2010		http://www.coaltrainfacts.org/docs/cherry-point-plan.pdf
Washington State Department of Natural Resources		Cherry Point Aquatic Reserve		http://www.dnr.wa.gov/ResearchScience/Topics/AquaticHabitats/Pages/aqr_rsve_cherry_point.aspx	
Washington State Department of Natural Resources		Commissioner's Order: Withdrawal Order for Cherry Point State Aquatic Reserve		http://www.dnr.wa.gov/Publications/aqr_rsve_chpt_comm_order.pdf	

Publisher / Source	Author	Title	Date	URL	CTF URL
Washington State Department of Natural Resources		Cherry Point Aquatic Reserve		http://www.dnr.wa.gov/ResearchScience/Topics/AquaticHabitats/Pages/aqr_rsve_cherry_point.aspx	
Washington State Department of Natural Resources		Aquatic Lands Habitat Conservation Plan		http://www.dnr.wa.gov/ResearchScience/Topics/AquaticHCP/Pages/aqr_aquatics_hcp.aspx#science	
Washington State Department of Natural Resources		Nearshore Habitat Program		http://www.dnr.wa.gov/ResearchScience/Topics/AquaticHabitats/Pages/aqr_nearshore_habitat_program.aspx	
Washington State Department of Natural Resources		Commissioner Of Public Lands		http://www.dnr.wa.gov/AboutDNR/Pages/commissioner.aspx	
Washington State Department of Natural Resources		Statement from Commissioner Goldmark on Receiving Petitions about Coal Exports	29-Feb-2		http://www.coaltrainfacts.org/docs/Statement-from-Commissioner-Goldmark-on-receiving-petitions-about-coal-exports.pdf
Washington State Department of Transportation		Freight Rail - Train Safety		http://www.wsdot.wa.gov/Freight/Rail/TrainSafety.htm	
Washington State Legislature	Washington State Legislature	RCW 43.21C.030 Guidelines for state agencies, local governments — Statements — Reports — Advice — Information.			http://www.coaltrainfacts.com/docs/Guidelines-for-state-agencies-local-governments—Statements—Reports—Advice—Information.pdf
Washington State Legislature	Washington State Legislature	RCW 43.21C.060 Chapter supplementary — Conditioning or denial of governmental action.			http://apps.leg.wa.gov/rcw/default.aspx?cite=43.21C.060

Publisher / Source	Author	Title	Date	URL	CTF URL
Washington State Legislature	13 Senators of the Washington State Legislature	Letter to Director of Washington State Department of Ecology and Whatcom County Council Executive Re: Gateway Pacific Terminal site at Cherry Point	3-Nov-20		http://www.coaltrainfacts.org/docs/Nov-3-2011-Senators-Letter-re-Cherry-Point-PDF-32-KB.pdf
Washington State Legislature		Chapter 43.21C Revised Code of Washington - State environmental policy		http://apps.leg.wa.gov/RCW/default.aspx?cite=43.21C	
Washington State Legislature		Chapter 197-11 Washington Administrative Code - SEPA rules		http://apps.leg.wa.gov/WAC/default.aspx?cite=197-11	
Washington State Legislature		Chapter 76.09 Revised Code of Washington - Forest practices		http://apps.leg.wa.gov/rcw/default.aspx?cite=76.09	
Washington State ORA	Washington State Governor's Office of Regulatory Assistance	Meeting Notes re: SEPA co-lead issues	5-Jul-2011		http://www.coaltrainfacts.org/docs/Mtg-Notes-Whatcom-ECY-070511-fin.pdf
Washington State Transportation Commission		Washington State Railroad Main Lines - 2006 Average Train Counts and Capacities			http://www.coaltrainfacts.org/docs/bnsfrailmap.gif
Western Washington University	Cartographer: Stefan Freelan	The Salish Sea & Surrounding Basin			http://www.coaltrainfacts.org/docs/SalishSea.jpg
Whatcom County doctors	Whatcom County doctors	APPENDIX A: Pulmonary Impacts of Airborne Pollutants (including diesel particulate matter):			http://www.coaltrainfacts.org/docs/appendix-A.pdf
Whatcom County doctors	Whatcom County doctors	APPENDIX B: Health Impacts of Coal Dust			http://www.coaltrainfacts.org/docs/appendix-B.pdf

Publisher / Source	Author	Title	Date	URL	CTF URL
Whatcom County doctors	Whatcom County doctors	APPENDIX C: Cardiovascular Impacts of Airborne Pollutants (including particulate matter);			http://www.coaltrainfacts.org/docs/appendix-C.pdf
Whatcom County doctors	Whatcom County doctors	APPENDIX D: Health Impacts of Noise Pollution			http://www.coaltrainfacts.org/docs/appendix-D.pdf
Whatcom County doctors	Whatcom County doctors	APPENDIX E: Anticipated Impacts of Frequent Long Trains on Emergency Medical Service Response Times and Risk of Injuries at Crossings			http://www.coaltrainfacts.org/docs/appendix-E.pdf
Whatcom County Doctors	Whatcom County doctors	Whatcom Doctors Position Statement and Appendices		http://www.coaltrainfacts.org/whatcom-docs-position-statement-and-appendices	
Whatcom County Health Department	Stern, Greg, MD, Health Officer	Whatcom County Health Department and the Gateway Pacific Terminal Project	28-Jul-20		http://www.coaltrainfacts.org/docs/Whatcom-Co-Health-Department-EIS-Scope.pdf
Whatcom County Planning & Development Natural Resources Managment	Whatcom County Planning & Development Natural Resources Managment	Map of Proposed Gateway Pacific Terminal within the Birch Bay Watershed	6-Dec-20		http://www.coaltrainfacts.org/docs/PDS-Map-Gateway-Property-within-Birch-Bay-Watershed-Dec-6-2011.pdf
Whatcom County Planning & Development Services	Whatcom County Planning & Development Services	Letter to SSA Marine re: Major Project Permit extension	21-Dec-2		http://www.coaltrainfacts.org/docs/GPT-Extension-letter.pdf
Whatcom County Planning & Development Services	Whatcom County Planning & Development Services	Letter - Re: Formal Request for State Environmental Policy Act (SEPA) Lead Agency Agreement Associated with the Gateway Pacific Terminals Project	15-Jul-20		http://www.coaltrainfacts.org/docs/doe-gpt-co-lead-request.pdf

Publisher / Source	Author	Title	Date	URL	CTF URL
Whatcom County Planning & Development Services	Whatcom County Planning & Development Services	Birch Bay Watershed Based Management Plan - Habitat Mitigation Fund	2-Nov-20		http://www.coaltrainfacts.org/docs/BirchBayHabitatMitigation.pdf
Whatcom County Planning & Development Services	Whatcom County Planning & Development Services	Suggested Changes - Birch Bay Watershed Action Plan	8-Dec-20		http://www.coaltrainfacts.org/docs/PDSrecommendedchanges-1.pdf
Whatcom County Planning and Development Services		Settlement Agreement (1999) Pacific International Terminals Shoreline Substantial Permit SHS 92-0020 and SHB Appeals Numbers 97-22 and 97-23		http://www.co.whatcom.wa.us/pds/plan/current/gpt-ssa/pdf/1999-settlementagreement.pdf	
Whatcom County Planning and Development Services				http://www.co.whatcom.wa.us/pds/plan/current/gpt-ssa/pdf/2011-02-preliminary-conceptual-compensatory-mitigation-plan.pdf	
Whatcom County Planning and Development Services		Title 23 - Shoreline Management Program		http://www.co.whatcom.wa.us/pds/naturalresources/shorelines/updates/download/pdf/Existing%20Shorline%20Master%20Program_title_23.pdf	
Whatcom County Planning and Development Services		Gateway Pacific Terminal Project		http://www.co.whatcom.wa.us/pds/plan/current/gpt-ssa/index.jsp	
Whatcom County Washington		Whatcom County Code		http://www.codepublishing.com/wa/whatcomcounty/	
Whatcom County Washington		County Council		http://www.co.whatcom.wa.us/council/index.jsp	

Publisher / Source	Author	Title	Date	URL	CTF URL
Whatcom Docs		Recent Research on the Health Effects of Particulate Matter Pollution	?		http://www.coaltrainfacts.org/health-effects-particulate-matter
Whatcom Docs		Letter to Department of Ecology and Whatcom County Executive re: new research in major medical journals augmenting concerns of pollution from coal trains			http://www.coaltrainfacts.org/whatcom-docs-new-research-augments-concerns
Whatcom Docs	Whatcom County doctors	An Open Letter from Community Physicians to Labor Council	24-Oct-2011		http://www.coaltrainfacts.org/docs/Physicians-open-letter-10-24-11.pdf
Whatcom Transportation Plan 2007		Whatcom Transportation Plan: A Combined Metropolitan and Regional Plan	25-Jun-2007		http://www.coaltrainfacts.com/docs/Whatcom-Transportation-Plan-2007-excerpt.pdf
Whatcom Watch Online	Schmalz, David, M.	Cherry Point Pier Settlement Attains Additional Marine Resources Protection	August/September 1999		
Wikipedia		Powder River Basin		http://en.wikipedia.org/wiki/Powder_River_Basin	
Wikipedia		Panamax		http://en.wikipedia.org/wiki/Panamax	
Wikipedia		Ton		http://en.wikipedia.org/wiki/Ton	
WORC	Western Organization of Resource Councils (WORC)	Exporting Powder River Basin Coal: Risks and Costs	January 2011		http://www.coaltrainfacts.org/docs/Exporting_Powder_River_Basin_Coal_Risks_and_Cost.pdf
World Trade Ref		Vessel Classifications		http://www.worldtraderef.com/WTR_site/vessel_classification.asp	

Publisher / Source	Author	Title	Date	URL	CTF URL
WSDOT	Washington State Department of Transportation	The Washington State 2010-2030 Freight Rail Plan	December 2009		http://www.coaltrainfacts.org/docs/Washington-State-Freight-Rail-Plan-2010-2030.pdf
WSL	Washington State Legislature	RCW 70.235.020 Greenhouse gas emissions reductions — Reporting requirements			http://www.coaltrainfacts.com/docs/Greenhouse-gas-emissions-reductions—Reporting-requirements.pdf
WSTC	Washington State Transportation Commission	Statewide Rail Capacity and System Needs Study - Final Report	December 2006		http://www.coaltrainfacts.org/docs/Statewide-Rail-Capacity-and-System-Needs-Study.pdf
You Tube		Coal Train Derailment at Charleston, WV	5-Oct-20	http://www.youtube.com/watch?v=8HwCSFURGT4	
You Tube		Coal derailment	15-Sep-2	http://www.youtube.com/watch?v=-zn-nthiLOQ	
You Tube		Derailed Coal Train - Ashdown, Arkansas	7-Jul-201	http://www.youtube.com/watch?v=ENrqJ8NBFsU	
You Tube/ KETV Newswatch 7		Coal Train Derails in Denison, Iowa		http://www.youtube.com/watch?v=g710EMuDw1Q	