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**Re: NWP-2007-855/NWP-2008-592 and Oregon Department of State Lands No. 41487.**

Please accept these comments on the U.S. Army Corps of Engineers (“Corps”) permit application number NWP-2007-855/NWP-2008-592, Department of Environmental Quality (“DEQ”) permit application number NWP-2007-855/NWP-2008-592, and Oregon Department of Land Conservation and Development (“DLCD”) permit application number 41487. We submit these comments on behalf of Friends of Living Oregon Waters (“FLOW”), Rogue Riverkeeper, Klamath-Siskiyou Wildlands Center (“KS Wild”), the Center for Biological Diversity (“CBD”), Jody McCaffree, Holly and Harry Stamper, Diane Philips, Oregon Citizens Against the Pipeline, Southern Oregon Pipeline Information Project (“SOPIP”), Ratepayers for Affordable Clean Energy (“RACE”), Pacific Environment, Umpqua Watersheds, Klamath Riverkeeper, Oregon Wild, Cascadia Wildlands, Francis Eatherington, Oregon Women’s Land Trust, Oregon Sierra Club, and the Northwest Environmental Defense Center (“NEDC”). Each organization has members who would be harmed by the proposed Jordan Cove LNG terminal and/or the Pacific Connector Pipeline. Each individual would also be harmed by construction and operation of the terminal and/or the pipeline. Members of the coalition have been recognized as parties to the proceeding and have submitted lengthy detailed comments on the 2008 Draft Environmental Impact Statement (“DEIS”), 2009 Final Environmental Impact Statement (“FEIS”), local land use proceedings in Douglas and Coos Counties, and have submitted oral and written testimony at hearings on the proposed project. Along with the following comments, the Corps, DEQ and DLCD must also consider the issues raised in each of these previous submissions, including the voluminous DEIS and FEIS comments and subsequent letters to the Federal Energy Regulatory Commission (“FERC”) which we incorporate by reference and attach here in their entirety.

## INTRODUCTION

The purpose of the Clean Water Act (“CWA”), 33 U.S.C. §1251 et seq., is to restore and maintain the chemical, physical, and biological integrity of waters of the United States. Section 404 of the CWA prohibits the discharge of fill material without a permit. The purpose of the Environmental Protection Agency’s (“EPA”) CWA §404(b)(1) Guidelines is “to restore and maintain the chemical, physical, and biological integrity of waters of the United States through the control of discharges of dredged or fill material.”

The Guidelines explain:

(f)undamental to these Guidelines is the precept that dredged or fill material should not be discharged into the aquatic ecosystem, unless it can be demonstrated that such a discharge will not have an unacceptable adverse impact either individually or in combination with known and/or probable impacts of other activities affecting the ecosystems of concern.” EPA 404(b)(1) Guidelines at 230.1(c) Moreover, “(f)rom a national perspective, the degradation or destruction of special aquatic sites, such as filling operations in wetlands, is considered to be among the most severe environmental impacts covered by these Guidelines. The guiding principle should be that degradation or destruction of special sites may represent an irreversible loss of valuable aquatic resources.

*Id.* at 230.1(d).

The Guidelines further explain:

*Special aquatic sites* means those sites identified in subpart E. They are geographic areas, large or small, possessing special ecological characteristics of productivity, habitat, wildlife protection, or other important and easily disrupted ecological values. These areas are generally recognized as significantly influencing or positively contributing to the general overall environmental health or vitality of the entire ecosystem of a region. (See section 230.10(a)(3)).

*Id.* at 230.3(q-1). Coos Bay is a designated special aquatic site, as are several other waterbodies that would suffer adverse impacts were the pipeline approved.

Under Section 401 of the Clean Water Act:

(1) Any applicant for a Federal license or permit to conduct any activity including, but not limited to, the construction or operation of facilities, which may result in any discharge into the navigable waters, shall provide the licensing or permitting agency a certification from the State in which the discharge originates or will originate, or, if appropriate, from the interstate water pollution control agency having jurisdiction over the navigable waters at the point where the discharge originates or will originate, that any such discharge will comply with the applicable provisions of sections 301, 302, 303, 306, and 307 of this title. ... No license or permit shall be granted until the certification required by this section has been obtained or has been waived as provided in the preceding sentence. No license or permit shall be granted if certification has been denied by the State, interstate agency, or the Administrator, as the case may be.

As discussed more fully below, the Corps may not grant a permit to the applicant because the State of Oregon has not and cannot certify that the project will comply with Section 303 of the Clean Water Act, which encompasses water quality standards adopted by the State of Oregon. In fact, the proposed project would do immense damage to water quality in Oregon. The proposed project would violate Oregon's antidegradation policy by causing significant temperature increases in numerous stream segments, by causing significant decreases in dissolved oxygen levels in Coos Bay, and further degrading stream segments that are already water quality impaired for temperature and sedimentation.

The proposed project would violate Oregon's statewide narrative criteria by creating conditions deleterious to aquatic species, including Coho salmon (*Oncorhynchus kisutch*), green sturgeon (*Acipenser medirostris*) and eulachon (*Thaleichthys pacificus*); by permanently converting 6.8 acres of "highly productive intertidal habitat" to "low productive deep-water habitat;" by entraining and killing fish as LNG vessels uptake massive quantities of ballast water; by discharging heated cooling water up to 19 degrees above ambient temperatures into Coos Bay; by killing and injuring aquatic life through ship-animal collisions (vessel strikes) and beaching (stranding) of animals in the vessels' wakes; and by permanently removing coastal riparian vegetation along Henderson Marsh and Coos Bay that is an essential component of the food chain for fish and aquatic life.

The proposed project would also violate Oregon's water quality standard for temperature by removing riparian vegetation that shades streams, causing stream heating along a wide construction easement. The proposed project would violate Oregon's water quality standard for turbidity by causing a more than 10% increase in natural turbidity levels in Coos Bay and stream segments impacted by pipeline installations. The proposed action would also impair beneficial uses to be protected in the Rogue, Umpqua and South Coast Basins by engaging in blasting activities that will adversely impact surface water and groundwater used for drinking, and by impairing commercial and recreational fishing in estuaries and adjacent marine waters in the South Coast Basin.

The applicant proposes to dredge 5.67 million cubic yards of sediment across 53 acres of the Coos Bay estuary for the purpose of constructing a liquefied natural gas ("LNG") import terminal, slip dock and turning basin for the LNG tankers. The project would cause a permanent loss of habitat due to maintenance dredging. Maintenance dredging will remove an additional 35,000 to 315,000 cubic yards of sediment every two to four years. The applicant also proposes to construct a 234-mile, 36-inch high-pressured gas pipeline, which will be placed through Coos Bay and cross and permanently impair streams, wetlands, and sloughs, along with causing associated deleterious impacts to upland habitat, forest, farm, recreational, and residential uses. The pipeline would cross 383 waterbodies, require clear cutting of 270 acres of the remaining old growth forests on public lands in Oregon, cross steep and remote terrain prone to landslides where emergency response is limited to local volunteers, and impact and permanently impair more than 6,000 acres of state, federal and privately owned lands. The FEIS states at 4.3-60 that the Pacific Connector Gas Pipeline (PCGP) would cross approximately 11.5 miles of wetlands. The Joint Permit Application ("JPA") states on page 23 of the wetland report that approximately 910.42 acres (comprising 658 features) of potentially jurisdictional wetlands and other waters were identified within the project corridor. According to Appendix A of the JPA, wetland

impacts from the PCGP would total 57,981 feet of wetland crossings, excavating 121,353 cubic yards of material at wetland crossings.

The Coalition requests the Corps and DEQ deny the CWA sections 404 & 401 permit requests respectively because: the permit application is incomplete and contains insufficient and inaccurate data such that a decision cannot be made at this time, practicable alternatives to the project exist that have less adverse impact on aquatic resources; the project is contrary to the public interest; the project does not comply with the EPA and Corps' joint CWA § 404(b)(1) guidelines (hereafter "Guidelines"); the project violates Oregon water quality standards and §401 implementation regulations; the project violates the Endangered Species Act ("ESA"), 16 U.S.C. §1531 et seq.; and the project is inconsistent with the Oregon Coast Management Plan and the Coastal Zone Management Act ("CZMA,") 16 U.S.C. §1451 et seq.. Furthermore, the Coalition requests DLCD deny the permit request because the application is incomplete, the applicant has yet to obtain necessary Land Use Compatibility Statements ("LUCS") from the affected counties, the project will harm the Coos Bay Estuary, and the project does not comply with applicable local, state and federal laws, including the CWA section 401 regulations and CWA section 404 Guidelines, and the CZMA.

**1. The Army Corps of Engineers must deny the applicant's request for a permit under section 404(b) of the Clean Water Act because the application fails to meet mandatory criteria of the Section 404(b)(1) guidelines**

Under 40 CFR Section 230.1(c):

Fundamental to these Guidelines is the precept that dredged or fill material should not be discharged into the aquatic ecosystem, unless it can be demonstrated that such a discharge will not have an unacceptable adverse impact either individually or in combination with known and/or probable impacts of other activities affecting the ecosystems of concern.

The following comments make it abundantly clear that the proposed action would cause unacceptable adverse impacts both individually and in combination with known and/or probable impacts of other activities affecting the ecosystems of concern.

These comments reference the Draft and Final Environmental Impact Statement ("DEIS" and "FEIS") prepared by the Federal Energy Regulatory Commission ("FERC") for Jordan Cove because they are the most comprehensive documents describing the proposal, though both fall far short of adequacy. The application makes no reference to the FEIS, instead relying on the DEIS despite the fact that significant changes to the project and to FERC's analysis have occurred between issuance of the DEIS and FEIS, as well as subsequent to issuance of the FEIS. The Corps should clarify the application and impacts analysis and incorporate analysis from FERC's FEIS and the comments to the FEIS issued by state and federal agencies and the public. Significant differences exist in the proposal described in the DEIS, the FEIS, and the application to the Corps. Because the Corps must rely on the information contained in the application in determining whether issuance of a §404 permit is appropriate, and the application references the DEIS, the Corps is not using the most recent and accurate information. Regardless, many state

and federal agencies have commented that FERC's analysis in both the DEIS and FEIS is inadequate and incomplete, including Oregon DEQ, Oregon DLCD, NMFS, USFWS and the EPA. The Corps is relying on an outdated analysis provided by the applicant that is both incomplete and inadequate and does not reflect the actual proposed project.

Moreover, the multitude of documents and cross-references to documents long since updated, is confusing for the public, and makes meaningful public input exceedingly difficult and time consuming. The public is understandably confused by the many contradictory statements in the DEIS, FEIS, subsequent filings to FERC, Applicant testimony at public meetings, and the joint application discussed here. A new comprehensive FEIS, including all of the most recent data, plans, maps and routing information, and addressing the serious concerns expressed by the affected community, local, state and federal agencies is necessary before the Corps can consider the 404 application complete.

Overall, the environmental, economic, and social harm of the LNG terminal and pipeline clearly outweigh any benefit of this proposal. 33 C.F.R § 230.10(c) states that "no discharge of dredged or fill material shall be permitted which will cause or contribute to significant degradation of the waters of the United States." Applying the factors in 33 C.F.R § 230.10(c) to the serious, diverse, and widespread negative impacts of this project clearly shows that Jordan Cove LNG and the Pacific Connector Pipeline would significantly degrade the waters of the United States.

### **1.1 The LNG Terminal and Pipeline do not comply with the Section 404(b)(1) Guidelines because they are not in the Public Interest**

The Guidelines and the implementing regulations require the Corps to deny the 404 permit "unless it can be demonstrated that such discharge will not have an unacceptable adverse impact" on aquatic ecosystems. 40 C.F.R § 230.1(c). Here, it is difficult to conceive of a project with greater unacceptable impacts to Southern Oregon. This large-scale and permanent damage is unacceptable, as explained in detail below.

The Corps must apply the following criteria when determining whether the LNG terminal and sendout pipeline are in the public interest:

- i) The relative extent of the public and private need for the proposed structure or work
- ii) Where there are unresolved conflicts as to resource use, the practicability of using reasonable alternative location and methods to accomplish the objective of the proposed structure or work; and
- iii) The extent and permanence of the beneficial and/or detrimental effects which the proposed structure or work is likely to have on the public and private uses to which the area is suited.

33 C.F.R § 320.4(a)(2).

First, as described *infra* and in the alternatives analysis section of these comments, Jordan Cove has not demonstrated a need for this project in Southern Oregon. Second, and related, the project seriously conflicts with the ecologic and economic health of the Coos Bay estuary and areas

impacted by the pipeline, and alternative locations and methods for providing natural gas to western markets exist. Unresolved conflicts abound, as evidenced by the resolution passed unanimously by the city of Shady Cove against the project. Shady Cove City Council resolution, signed by Mayor Holthusen, December 17, 2009, attached. Third, as detailed infra, the detrimental effects on protected aquatic resources, including threatened and endangered species, the economy, and public safety are great and permanent.

The applicant asks the Corps to grant a dredge and fill permit to allow the largest and most environmentally harmful project in the recent history of Southern Oregon.

The wide-scale degradation proposed by the applicant is inconsistent with the Guidelines, the purpose of which is, like the purpose of the Clean Water Act itself, “to restore and maintain the chemical, physical, and biological integrity of the waters of the United States through the control of discharges of dredged or fill material.” 33 C.F.R § 230.1(a). The Guidelines explain that “from a national perspective, the degradation and destruction of special aquatic sites as filling operations in wetlands, is considered to be among the most severe environmental impacts covered by these Guidelines.” 33 C.F.R § 230.1(d). Special aquatic sites include sanctuaries and refuges, wetlands, mud flats, and vegetated shallows, all of which occur at or near the Jordan Cove terminal and Pacific Connector pipeline and would be harmed by the project. 33 C.F.R § 230.40. State agencies including the Department of Fish and Wildlife, Department of Geology and Mineral Industries (“DOGAMI”), DLCD, DSL, and State Water Resources, have all weighed in voicing serious and myriad concerns about the considerable adverse effects of this project on the state’s water, species, habitat, and forest resources, as well as emergency response resources. *See* State of Oregon FEIS comments, May 29, 2009, attached.

The Corps must make specific findings on the potential impacts of the project on: physical substrate; water circulation, fluctuation, and salinity; turbidity; contaminants; aquatic ecosystems and organisms; disposal sites; cumulative effects on the aquatic ecosystems; and secondary effects on the aquatic ecosystems. 33 C.F.R § 230.11. These comments address each of these issues.

#### *Total Lack of Demonstrated Purpose and Need for the Proposed Project*

Jordan Cove’s purpose and need statement relies on the DEIS, not the FEIS. It ignores the substantial DEIS and BA comments from the public and state and federal agencies, which are highly critical of the DEIS & BA. The statement also relies on outdated need data, and a study Jordan Cove solicited and funded (which is obviously not neutral). *See* FLOW DEIS comments at pp. 10-36 and FEIS comments at 1-6 (demonstrating lack of need). Jordan Cove cherry picks individual conclusions from studies citing the largest gas use year, when those studies actually conclude gas demand is lower than Jordan Cove suggests. Moreover, the cited data is outdated and some of it has been revised by the same groups. App. at 13. “Natural gas prices have recently increased dramatically in the Pacific Northwest, and this trend will continue unless additional new sources of natural gas can be imported into the region.” App at 14. In fact, the latest gas demand estimates from the Energy Information Administration show demand for imported gas staying steady or falling in the next 30 years. Additionally, prices have plummeted since Jordan Cove’s JPA alternatives analysis was composed in 2007 and 2008.

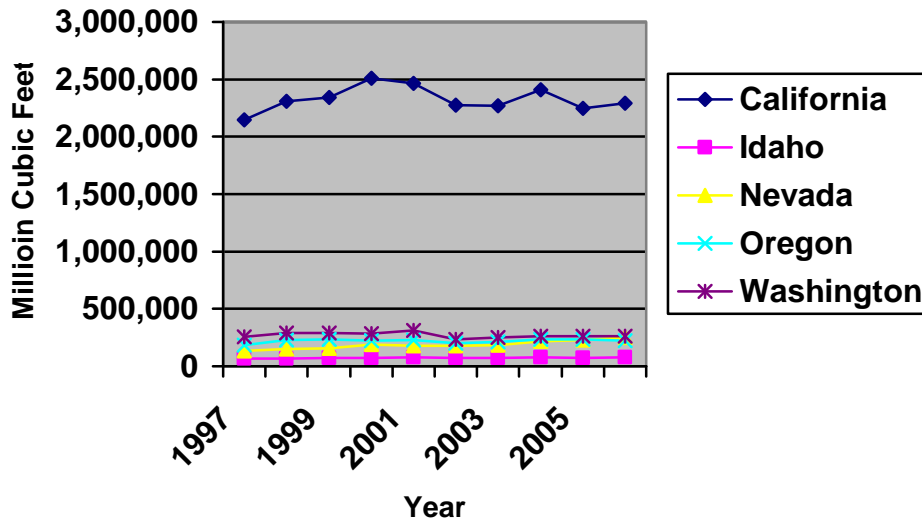
Moreover, as FLOW and others pointed out in both our DEIS and FEIS comments, the applicant's statement of purpose is tailored in an impermissibly narrow manner so as to preclude the range of alternatives required under the National Environmental Policy Act (NEPA). See FLOW DEIS comment Section XII and FLOW FEIS Comment Section I As discussed in detail in those comments, included by reference here and attached, federal law precludes a project's purpose from being designed so narrowly as to preclude all alternatives.

The "Purpose and Need" statement of the project summarizes points made in the now outdated Federal DEIS for the project. As such, we are attaching our DEIS comments. However, the Purpose and Need statement does not acknowledge the changes that have occurred in the North American energy landscape that occurred in the last year, due to evolving technologies and trends in the natural gas market. The application re-cites studies cited in the DEIS that are now several years old. A broad consensus exists that much of the information presented in these studies is now outdated and incorrect.

In its application, Jordan Cove includes information from its paid consultant ICF International dated no later than October 2008 – prior to the closing of the public comment period on the FERC DEIS. Since that time, comments submitted by FLOW, the State of Oregon, and others clearly demonstrate that the underlying assumptions of these studies are false. First, LNG is more expensive than North American Gas supplies. Secondly, readily available alternative projects for increasing gas supplies exist, such as the Ruby pipeline. Lastly, gas prices have fallen drastically since these studies were completed, and the U.S. gas market now faces a "gas glut," which severely undermines Jordan Cove's assertion that the Western market needs to import 1.0 bcf/d or more. Below is newer data which update and supplement the original information. Also included is our original filing to FERC on Purpose and Need in response FERC's insufficient DEIS purpose and need analysis.

*The region's natural gas demand will be flat for the foreseeable future.*

### Total Natural Gas Consumption, Western States



According to the applicant's purpose and need statement, "there will be increased demand for natural gas" in western energy markets. As seen from the graph below, however, California is clearly the energy market driving any LNG imports routed through Oregon. The volume of natural gas that could potentially come from Jordan Cove would overwhelm the Pacific Northwest with far more natural gas than the region uses, or could possibly use in the foreseeable future.

However, according to a joint staff presentation of the California Energy Commission and the California Public Utilities Commission, delivered in December 2008, California's natural gas usage is projected to remain flat. According to the presentation, California's natural gas utilities own projections show "long-term flat demand" of only .1 percent per year through 2030. This projection is due to the moderating effect of energy efficiency and renewable programs, the likelihood of a 33 percent renewable portfolio standard in California, and proposed solar water heating programs in California, which predicted a 1.1 percent increase. Richard Myers, "Energy Action Plan Update on Natural Gas" presentation, delivered to the California Energy Commission on December 8, 2008 on behalf of CPUC and CEC. Clearly, the purpose and need data from the DEIS is now outdated and entirely unreliable. Relying on the outdated and inaccurate DEIS information in the face of newer data would be arbitrary and capricious.

#### *Existing pipelines provide no constraining factors*

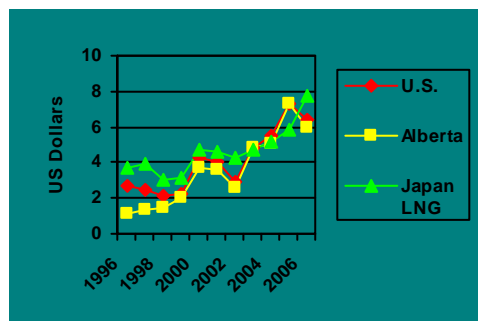
Jordan Cove's Purpose and Need statement claims "supplies through existing interstate pipeline systems serving (the Northwest, northern Nevada, and northern California) are constrained by several factors and will not be able to meet demand." The application provides no elaboration of

what is meant by this puzzling statement. For decades, the region in question has been largely served by the Gas Transmission Northwest pipeline, which has a capacity of over 2 billion cubic feet per day of natural gas. Energy Information Agency: “Western Region, State to State Natural Gas Pipeline Capacity Levels.” Spreadsheet *available at* [http://www.eia.doe.gov/pub/oil\\_gas/natural\\_gas/analysis\\_publications/ngpipeline/interstate.html](http://www.eia.doe.gov/pub/oil_gas/natural_gas/analysis_publications/ngpipeline/interstate.html). This supply supplements other high-capacity natural gas pipelines that enter California’s southern points. Nothing constrains these pipelines from delivering all of the natural gas the region uses or is projected to use in the next 20 years. Moreover, proposals to increase the region’s access to domestic natural gas supplies through new pipelines that would connect with gas-producing regions in the Rocky Mountain, including the Ruby pipeline discussed *infra*, are currently in the approval and planning process.

*The project will not “stabilize overall electricity prices” or “reduce the volatility of gas prices.”*

Since deregulation of energy markets, natural gas prices in the U.S. have been volatile in nature, but the costs for LNG on the Pacific Rim are even more volatile, and always run higher than U.S. or Canadian natural gas. The current cost for domestic natural gas, according to the Energy Information Agency, is just over \$3 per MMBTU. The current price that LNG is fetching in Japan, according to the World Bank Commodity Price Data, is about \$7.20 per MMBTU, which is down from \$15 in October 2008. *See*

<http://www.mongabay.com/images/commodities/charts/chart-lng.html>. The current boom in North American natural gas production has led to an even greater price disparity than when we filed our DEIS comments over a year ago, with North American natural gas selling for much lower rates than LNG around the Pacific Rim. Any LNG imported from across the Pacific Ocean would be more expensive, as the West Coast would be competing with other Pacific Rim countries for supplies. The chart below demonstrates that Japan has been paying more for LNG consistently since 1996, the only exception coming from a temporary disruption of natural gas production due to the 2006 hurricane season in the Gulf of Mexico.



Indeed, the price disparity between U.S. Natural gas supplies and overseas LNG supplies is so stark, the Sabine Pass LNG import terminal on the U.S. Gulf Coast has recently sold a cargo of LNG for *export* to European or Asian markets. Given the current state of the U.S. LNG market, in which LNG cargoes are being stored on U.S. shores for later export, it does not appear that LNG is providing a “stabilizing” influence on U.S. gas prices. Current U.S. prices are less than half of what they were when ICF International produced the reports that are cited in the JPA.

*The Project will decrease reliability of the region’s gas supply*

The Applicant’s Purpose and Need statement claims that the project will “increase the reliability of the gas supply.” In fact, it will do the opposite. As we detailed in our DEIS comments, importing LNG will voluntarily put the Western states power grid at the whim of international politics and events. Our comments list several areas of the world where such instability is likely to occur. As a case in point, one potential supplier listed by the company is Peru, and recent events there only add to our concern of how this project will hinder reliability in the region’s gas supply. Recent protests in Peru’s Amazon Rainforest led to the slaying of dozens of indigenous people by police. The protests were over Peru’s natural resource export policy, and how it is causing destruction in the rainforest. The protesters were attempting to shut down the Camisea natural gas pipeline, which is designed for LNG export. If Oregon and California should become reliant on LNG from Peru, it will not only be contributing to these human rights and environmental problems, but be putting the west coast grid at risk of interruptions in electricity and natural gas supplies should future protests successfully cut the flow of gas. *See Protesters Shut Down Pipeline in Peru, available at [http://www.thaindian.com/newsportal/world-news/protesters-shut-down-oil-pipeline-in-peru\\_10082824.html](http://www.thaindian.com/newsportal/world-news/protesters-shut-down-oil-pipeline-in-peru_10082824.html).*

*No projected decline in either Canada or United States natural gas production exists*

According to the Applicant’s statement of Purpose and Need, there is a “projected decline in Canadian imports,” and “in North America, much of the resource base has already been exploited.” This paints a picture of looming natural gas shortages, an assumption that was incorrect when the DEIS was written, and is certainly incorrect today.

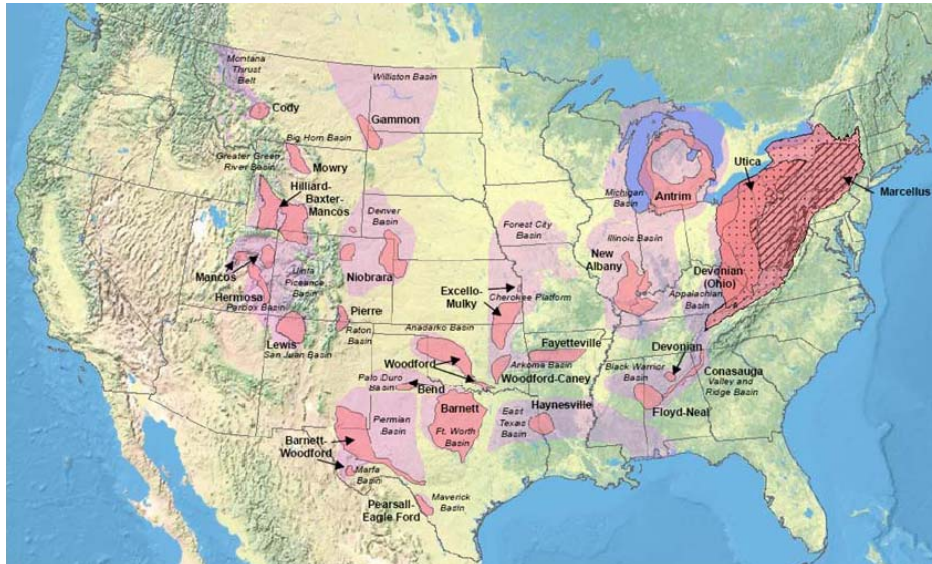
The broad consensus among natural gas producers is that new innovations in drilling technology have provided access to trillions of cubic feet of natural gas found in shale formations throughout North America.

Natural Gas Shale Formations in the Lower 48		
Shale Formation	Approximate Vertical Depth, feet	Approximate Recoverable Reserves, Tcf
Barnett	6500 - 8500	44.0
Wordford	6000 - 11000	11.4
Fayetteville	1000 - 7000	41.6
Antrim	600 - 2200	20.0
Huron	1000 - 7000	N/A
Marcellus	4000 - 8500	392.0
New Albany	500 - 2000	19.2
Bakken	>10000	N/A
Baxter	>11000	N/A
Pierre	2500 - 5000	N/A
Mancos	>13000	N/A
Haynesville/Bossier	>11000	251.0
Pearsall-Eagleford	>11500	N/A
Lewis/Mancos	3000 - 6000	20.0
<b>Total</b>		<b>799.2</b>

Source: Presentation by Leon Braithwaite, California Energy Commission. May 14, 2009

The map below demonstrates where the shale formations are in the Lower 48 states. Note that while the most robust gas field is the Marcellus field in the eastern states, this gas will displace

the volume of Rockies gas that could potentially be piped eastward via new pipelines such as the Rockies Express. This would leave an abundant volume of Rockies gas available to ship west.



*The EIA projects LNG imports to decrease, not increase*

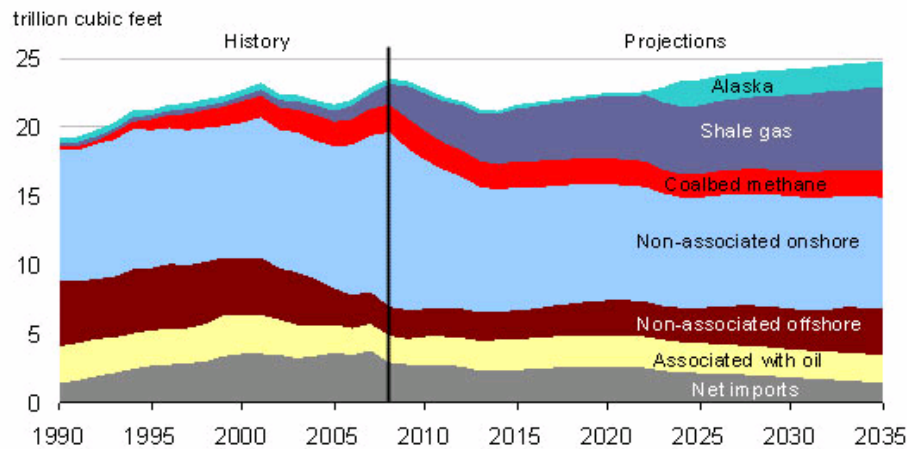
The Applicant claims “the EIA (2007a) projected that LNG imports into the United States will increase from about 584 billion standard cubic feet (Bscf) in 2006 to 4.5 Tcf by 2030.” Statement of Purpose and Need. The statement is outdated, and again, demonstrates that the project promoters are not following the current data. In the 2009 Annual Energy Outlook, released in March, 2009, the EIA makes the following projections:

From 2007 to 2030, domestic production of natural gas increases by 4.3 trillion feet (22 percent), while net imports fall by 3.1 trillion cubic feet (83 percent). Although average real U.S. wellhead prices for natural gas increase from \$6.39 per thousand cubic feet in 2007 to \$8.40 per thousand cubic feet in 2030, stimulating production from domestic resources, the prices are not high enough to attract large imports of LNG, in a setting where world LNG prices respond to the rise of oil prices in the *AEO2009* reference case. One result of the growing production of natural gas from unconventional onshore sources, together with increases from the OCS and Alaska, is that *the net import share of U.S. total natural gas use also declines, from 16 percent in 2007 to less than 3 percent in 2030.*

Energy Information Agency. *Annual Energy Outlook 2009 with Projections to 2030 (Executive Summary*, March 2009, available at <http://www.eia.doe.gov/oiaf/aeo/execsummary.html> (emphasis added).

Note that imports include those delivered by pipeline from Canada. Assuming the EIA’s projections are correct, by 2030 there would be very little use even for the LNG terminals that the U.S. already has.

Figure 3. Shale gas and Alaska production offset declines in supply to meet consumption growth and lower import needs



Source: Annual Energy Outlook 2010

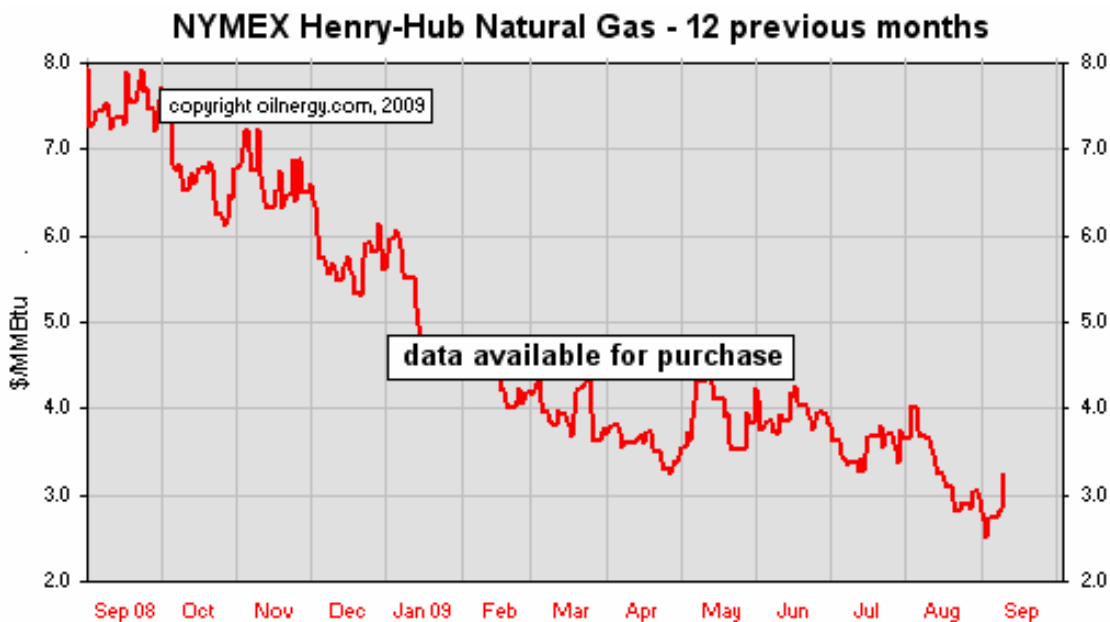
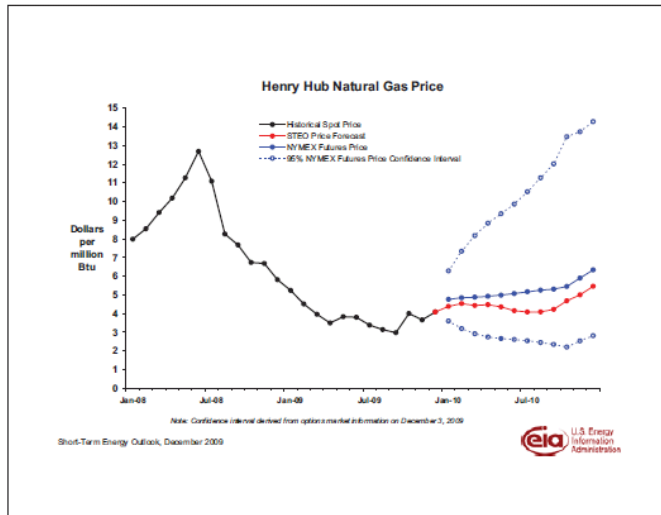
*Natural gas prices have decreased dramatically, not increased, in the Pacific Northwest*

The Statement of Purpose and Need claims, “natural gas prices have recently increased dramatically in the Pacific Northwest, and this trend will continue unless additional new sources of natural gas can be imported into the region.” No matter how one defines “recently,” this statement is absolutely false. In fact, as noted above, the complete opposite has occurred in the last year, with prices tumbling by over 50 percent, from \$8 per MMBTU to just above \$3 per MMBTU.

Additionally, current prices are blatantly inconsistent with Jordan Cove’s assertion of “dramatic increases.” According to the EIA in December 2009,

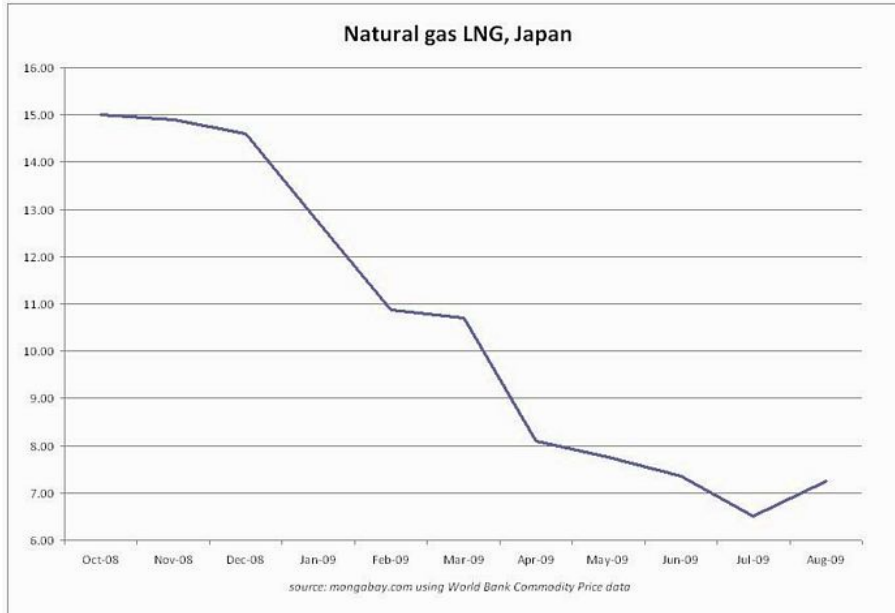
The Henry Hub spot price averaged \$3.77 per Mcf in November, \$0.35 per Mcf lower than the average spot price in October (Henry Hub Natural Gas Price Chart). Prices were depressed as warmer-than-normal weather in November reduced seasonal residential and commercial space-heating consumption by about 1.7 Bcf/d, or about 7 percent, below the projected 22.85 Bcf/d consumption in last month's *Outlook*. EIA expects prices to increase as space-heating demand rises in the coming months. However, strong domestic production, a retrenchment of electric-power-sector natural gas demand, and uncertainty about the extent of recovery in the industrial sector, should limit sustained upward price movements through the winter and well into next year. The projected Henry Hub spot price averages \$3.95 per Mcf in 2009 and \$4.62 per Mcf in 2010.

EIA available at <http://www.eia.doe.gov/emeu/steo/pub/contents.html>. 2009 Short-Term Energy Outlook at 6-7. In contrast with current prices below \$4/mmmbtu, according to EIA data, early 2008 prices exceeded \$12/mmmbtu at Henry Hub. The EIA wrote, “Projected average household expenditures on natural gas total \$778 this winter, compared with \$889 last winter.” *Id.* Jordan Cove’s alternatives and public interest analyses rely on outdated information.



Available at <http://www.oilnergy.com/1gnymex.htm>

Compare the northwest price to the price of Japanese LNG, which, in approximately the same time period, has sold for twice the northwest price; \$15 per MMBTU in October 2008 and just over \$7 per MMBTU in August 2009. As demonstrated by the graph above, the cost of LNG sold around the Pacific Rim has historically been higher than the price of North American natural gas.



Available at: <http://www.mongabay.com/images/commodities/charts/chart-lng.html>

In terms of the regional prices of natural gas, the Pacific Northwest is currently enjoying very low natural gas prices. According to Northwest Natural:

NW Natural filed for double-digit rate decrease in Oregon and Washington on August 31, 2009. The economic slowdown combined with greater gas production and generally mild weather across the country equaled a dramatic decline in prices, allowing NW Natural to buy natural gas at much lower prices and share those savings with our customers. The company files final requests in both states in early October, reflecting the most recent gas purchases. Once approved, the rate decrease will take effect Nov. 1, 2009.

See Northwest Natural website at [https://www.nwnatural.com/content\\_aboutus.asp?id=459](https://www.nwnatural.com/content_aboutus.asp?id=459).

#### *North America is now Viewed as a Potential LNG Exporter*

The recent boom in North American natural gas production, and the related drop in natural gas prices, has fueled speculation that North America may be poised to become an LNG exporter. This is seen in industry analyses such as that by Hans Linhardt of the Gerson Lehrman Group. Linhardt writes, "The dramatic increase of unconventional NG in North America has driven NG prices from last year's high of \$13/mbtu (million BTU) down to \$3.50 mbtu. Therefore construction of new import LNG terminals is becoming unnecessary and uneconomical." Lindhart, Hans *North American LNG For Export Is Now Economical*, available at <http://www.glggroup.com/>, August 14, 2009.

Linhardt goes on to conclude that exporting LNG is economically viable for North American gas producers, "Instead of \$4.3b/cfd the liquefaction addition appears to be feasible with \$1.5b/bcfd, resulting in a budget cost of \$1.5 billion for a 1 bcfd LNG terminal." *Id.* Considering a

conservative margin of \$1 to \$2 between this terminal and the Atlantic, Middle Eastern and Asian regions, the economics are overwhelming for the liquefaction addition.

The Financial Times reports that there is growing interest from around the world in North American natural gas: "A growing number of foreign energy companies eager to tap into America's vast natural gas reserves is looking to invest in independent companies, while estimates of US supplies continue to increase." The article lists the UK's BP and BG Group, Norway's Statoil, and Italy's Eni all showing interest in purchasing North American LNG. Sheila McNulty, *Foreign Energy Groups Buy Into US Natural Gas*, Financial Times, August 23, 2009, available at [http://www.ft.com/cms/s/55b24dce-9025-11de-bc5900144feabdc0,Authorised=false.html?\\_i\\_location=http%3A%2F%2Fwww.ft.com%2Fcms%2Fs%2F0%2F55b24dce-9025-11de-bc5900144feabdc0.html%3Fnclick\\_check%3D1&\\_i\\_referer=&nclick\\_check=1](http://www.ft.com/cms/s/55b24dce-9025-11de-bc5900144feabdc0,Authorised=false.html?_i_location=http%3A%2F%2Fwww.ft.com%2Fcms%2Fs%2F0%2F55b24dce-9025-11de-bc5900144feabdc0.html%3Fnclick_check%3D1&_i_referer=&nclick_check=1).

In anticipation of possible efforts to convert proposed terminals to export facilities, LNG exports are the subject of proposed legislation by Oregon Senator Jeff Merkley. The legislation would forbid federal spending on permits for LNG facilities that could export domestic natural gas.

The prior data updates our FEIS and DEIS comments on the purpose and need section. We refer you to those attached comments for more in-depth analysis. Additionally, we quote the State of Oregon FEIS comments on the purpose and need section, which highlights the serious flaws with the purpose and need statements and analysis of both the applicant and FERC:

The FEIS discussion of purpose, need and alternatives is inadequate. Although there is an expanded analysis, the FEIS still sets a very low threshold, making the purpose and need component of the FEIS relatively meaningless. FERC staff essentially relies on general market projection of the need for natural gas over time. Perhaps the most troublesome aspect of the discussion is FERC's conclusion that there is a need for importing LNG as an additional source of gas, without addressing whether this need could be met by other domestic sources and pipeline supply options. The FERC staffs overall conclusion is that more gas supply options are better and therefore needed, notwithstanding the availability of significant volumes of domestic gas.

FERC staffs analysis of domestic natural gas supply and new pipeline infrastructure concludes, without substantive analysis that "It stands to reason that a longer pipeline would not have any clear environmental advantages." This conclusion assumes that the areas proposed for pipelines contain resources of equivalent environmental and natural resource value. The analysis also ignores the significant reduction of environmental and resource effects of these projects because they do not require a ship transit, terminal infrastructure and estuarine alterations for the access channel and ship berth. Issues such as entrainment and dredging are avoided with domestic supply and pipeline options. FERC staff's response to these issues raised during the DEIS review is that each project is reviewed on its own merit. Multiple approved projects may be approved on individual merit and the "market" will determine if any project is constructed. There is still no recognition that, once sited, a terminal and pipeline will fit within a larger regional/national system of natural gas infrastructure. There is nothing other than FERC

staff's reliance on the market to determine which facility or facilities are ultimately constructed, despite the obvious observation that even minimal planning could result in a superior option that can meet a prospective need, with less long term environmental and natural resource effects. FERC staff makes no attempt to identify and evaluate the relative impacts of each project and determine whether any project is environmentally preferable. The overall need assessment of this project and the other alternatives is difficult to clearly evaluate without a more comprehensive regional/national strategy for natural gas and its supporting infrastructure.

The FEIS generally addresses national system/capacity issues, but concludes that only the Oregon terminals can meet the northwest need. The document rejects the assertion that existing unused and already approved import terminal capacity in other regions, or the potential for other new and proposed terminals on the west coast, together with appropriate pipeline infrastructure is a viable alternative to additional import terminals in Oregon.

There is substantial information available to support the conclusion that natural gas is an important energy source and will be a key component of the regional and national energy system for the foreseeable future. We agree that natural gas is a bridge fuel that will help ease our transition to renewable energy. However, projected supply and demand information relied upon in the FEIS is outdated and inaccurate. The FEIS does not adequately consider the most recent demand, supply and cost data or national/state energy policy issues. The FEIS ignores important information about supply, demand and key economic factors that support an entirely different conclusion as to the future natural gas needs. There is substantial evidence to support a conclusion that domestic and Canadian supplies of natural gas are reasonably available to meet projected regional demand without any new LNG import terminals in Oregon. The FEIS should not assume that LNG meets a different need than other forms of natural gas. While imported LNG can diversify regional natural gas supply, data suggests that this additional source is not needed in the foreseeable future, is more costly and has greater adverse environmental consequences than domestic supplies. An analysis by the Oregon Department of Energy in 2008 clearly identifies environmental and economic advantages of domestic natural gas and other alternatives to imported LNG.

Even if we presume an important role for imported LNG in the overall national energy future, the FEIS does not adequately evaluate the capacity of existing and approved LNG import terminals to meet long term domestic needs. The existence of a number of import terminals that are operating well below their design capacity, together with the potential increased capacity from other approved projects is not adequately addressed in the FEIS. Data suggests there is substantial excess capacity for LNG imports through currently operating terminals. The FEIS needs to provide a better analysis of no action and delayed action alternatives in light of this information.

Applicants for each of the proposed LNG import terminals in Oregon indicate that only one project is likely to be constructed in the Pacific Northwest even if all three projects are approved. The FERC policy is to approve multiple projects meeting the same regional

need and then let the market determine if a project is built. This approach is not consistent with NEPA requirements when there are clear differences in relative environmental consequences of projects that essentially meet the same purpose and need. Each project should be evaluated for environmental and natural resource impact. The NEPA review should clearly describe differing environmental effects of reasonable alternatives in sufficient detail to allow decision makers to select the best alternative with the fewest adverse environmental effects. The conclusion that Bradwood Landing and Oregon LNG are not alternatives to Jordan Cove because they do not supply gas to the same local markets ignores the fundamental nature of the natural gas market and the supply infrastructure delivering gas to various local, regional, national and international markets. We believe FERC staff unreasonably dismisses alternatives based on artificial and unsupported distinctions contained in the applicant's described purpose and need for a project. In its Bradwood Landing FEIS, the FERC staff dismissed the Jordan Cove and Pacific Connector project because its longer 230 mile pipeline does not have less environmental impact. Although this conclusion simply assumes that shorter is better for a pipeline regardless of the natural environment/ecosystem it crosses, it supports our call for a comparative analysis and complete assessment of regional natural gas supply and infrastructure. In its Bradwood Landing FEIS, the FERC simply concludes that the other projects do not have less environmental impact than the Bradwood Landing project. However without a detailed comparative analysis, there is no basis for this conclusion.

There is a general discussion of each project, but the FERC concludes that each will be evaluated on its own merit, without the consideration of whether one of these projects on the whole will have less environmental effects or can better meet the market demand that is the basis for FERC's need determination. The FEIS should determine which terminal or combination of terminal and pipeline infrastructure represents the best available option that can meet a prospective need, with the least long term costs and environmental effects. The FEIS makes no attempt to rigorously evaluate the relative impacts of each project and determine which LNG import terminal and pipeline infrastructure is environmentally preferable.

NEPA and FERC's "public interest" and "public convenience and necessity" standards require more than a superficial review of need and alternatives. FERC must conduct a rigorous review of supply and demand data; complete a thorough evaluation the relative merits and effects of reasonable alternatives; and select the alternative or combination of alternatives with the least adverse environmental effects. Reviewing multiple projects with significantly different environmental and natural resource effects and then allowing the market to determine which alternative is constructed is clearly not in the public interest. The market is not a substitute for completing the NEPA process and making well reasoned and scientifically supported decisions.

The FEIS includes project components that require Corps approvals (Section 404 of the Clean Water Act and Section 10 Rivers and Harbors Act). Since the Corps is a cooperating agency, we assume it had input into the FEIS. How, the Corps will use the FEIS to inform its review and demonstrate compliance with its RHA and CWA authority is not clear. The Corps is also subject to federal consistency. Nothing in the FEIS or

conditions indicates whether the Corps intends to issue a conditional approval or wait for delegated federal requirements to be completed. The Corps may treat need differently under its requirements, but again, the NEPA process only informs the federal decisions and does not necessarily address their regulatory requirements.”

State of Oregon FEIS comments at 29-31, DLCD section. The State summarizes its analysis of the purpose and need statement:

We believe that the general nature of the FERC staffs review of the project "purpose and need" and related "alternatives" analysis is inadequate. The FEIS does not sufficiently describe the basis for determining the regional and national need for an LNG import terminal and pipeline project in this location or provide a clear set of objectives that provide a rational basis upon which need or alternatives can be assessed. The analysis of alternatives is superficial. Without more detailed comparative analysis of LNG import terminal and pipeline projects currently proposed in the region, and the potential for domestic supply/pipeline alternatives, we can not determine whether the Bradwood Landing LNG import terminal and pipeline represents a superior site for such a facility from an economic, environmental and social perspective.

The FERC should not make a decision until the results of federally-delegated state reviews and federal services agency consultation are complete. These state and federal agency decisions will inform the FERC process resulting in a more complete and responsible federal action. As the lead federal agency for these energy projects, we believe public policy is best served by assuring all environmental issues are fully identified and integrated into the FERC decision.

*Id.* at 32.

Also in the State of Oregon FEIS comments, the Department of State Lands responded to the applicant's purpose and need statement:

JC and PC developed their project because of the perceived need for additional supplies of Natural Gas in the PNW, northern California, and northern Nevada. Several studies have indicated there will be increased demand sometime in the future and existing interstate pipelines may not be able to meet those demands.

Per OAR 141-085-0029(3), "the Department must determine that the proposed removal-fill activity will not be inconsistent with the protection, conservation and best use of the water resources of this state, and would not reasonably interfere with the paramount public policy of this state to preserve the use of its waters for navigation, fish and public recreation".

Purpose and need statement as presented is vague and speculative in nature, does not justify the "need" for the project. Further define the purpose and need for the project. Vol. I, section 1.5.3.2 page 1-34. ODSL-State Agency section POit resubmitted their application in April 2008. That application was also deemed incomplete due to lack of purpose and need, alternatives analysis, and mitigation (estuarine and freshwater). This project will be reviewed per OAR 141-085-0025, -0027, 0029, -0031,-0115 *et seq.* (mitigation) and ORS 196.825. That application needs to be revised and resubmitted to

DSL and COE with particular attention paid to the purpose and need for the project. Vol. I, section 2. J.1 to 2.1.2.8, pages 2-2 - 2-6.

Waterway for LNG Marine Traffic State-owned submerged and/or submersible land is managed to ensure the collective rights of the public, including riparian owners, to fully use and enjoy this resource for commerce, navigation, fishing, recreation and other public trust values. The Department would like to see the impacts to the public trust values minimized for this project.

State of Oregon FEIS comments at 11, DSL section.

These serious concerns were not remedied between issuance of the DEIS and FEIS. They have not been remedied in the JPA, nor in subsequent submissions to FERC or other federal agencies. These serious deficiencies render the JPA incomplete and fatally flawed. The Corps simply cannot reasonably find that the proposed project is in the public interest.

## **1.2 The application lacks essential information for the Army Corps of Engineers to determine whether the proposed action would comply with the 404(b)(1) guidelines**

Under 40 CFR Section 230.12(a):

On the basis of these Guidelines (subparts C through G) the proposed disposal sites for the discharge of dredged or fill material must be:

- ...(3) Specified as failing to comply with the requirements of these Guidelines where:
- ...(iv) There does not exist sufficient information to make a reasonable judgment as to whether the proposed discharge will comply with these Guidelines.

In numerous essential aspects, sufficient information does not exist to make a reasonable judgment as to whether the proposed discharge will comply with these Guidelines. It is the burden of the applicant, not the federal and state agencies, to produce such information. Jordan Cove/Pacific Connector has failed to provide the requisite information.

Examples of how the applicant has failed to provide sufficient data or has purposely ignored or omitted relevant data include:

### *The Avista Pipeline*

The FEIS, at Section 2.2.3.1, states Pacific Connector would connect with the Avista distribution system in Jackson County, OR. In order to distribute the natural gas it receives from Pacific Connector to its customers, Avista would need to construct and operate the following facilities: a regulator station, line heater, and appurtenant facilities adjacent to the meter station; approximately four miles of 12-inch-diameter high pressure natural gas distribution pipeline; and two distribution regulator stations.

The FEIS states at 2-56: “Avista has not yet designed the facilities it would need to construct to transport the gas it would receive from Pacific Connector, so we do not yet know the route of the

Avista pipeline.” No actual analysis of the clearly related impacts of this additional interconnected pipeline is found in the FEIS.

The National Marine Fisheries Service (“NMFS”) responded to the short mention of the Avista pipeline in Pacific Connector’s Biological Assessment thusly: “facilities constructed by Avista to connect at milepost 122.1...are interrelated and interdependent of the project. They would not be built but for the Pacific Connector Gas Pipeline project. Any potential effects, such as stream crossings, need to be analyzed in the Biological Assessment.” NMFS letter to FERC regarding non-concurrence and request for additional information to initiate consultation, June 24, 2009, at 3.

Months after the FEIS was released, Pacific Connector responded to NMFS, stating Avista would, “install a 6- or 12-inch diameter pipeline, approximately 4 miles long. The construction right-of-way would be 30 feet wide...Avista’s proposed route would cross 12 waterbodies: 3 perennial, 5 intermittent and 4 ephemeral. Cricket Creek, Rogue River and Indian Creek have or are assumed to have associated ESA and EFH species and habitat. The Rogue River would be crossed by horizontal directional drill. All other crossings would be completed using a dry open-cut method...” Pacific Connector response to NMFS BA comments, August 10, 2009, at 29.

Thus, the Avista tie-in, a project that would not occur absent the proposed Pacific Connector pipeline, would result in a second horizontal direction drill (HDD) of the Rogue River at an important salmon spawning area, in addition to the proposed 36-inch HDD near Trail, Oregon. HDD crossings, when successful, have impacts in areas adjacent to rivers where staging and construction areas occur. HDDs also require the disposal of materials extracted from the drill hole. Without knowing the length and width of the HDD for the Avista tie-in, it is impossible for the public to meaningfully comment on the impact of the HDD and the disposal of spoils.

Worse yet, HDD attempts frequently fail, causing drastic impacts to water quality and fish habitat. According to Williams own experience, large-diameter HDDs frequently fail (*see* discussion of Rogue River crossing at Trail *infra*). In recent history, many HDD attempts along the 12-inch Coos County pipeline failed, resulting in “frac-outs,” situations in which large amounts of sediment and bentonite clay (used as a drilling lubricant) were released into streams. Bentonite clay and sediment released through frac-outs can disrupt fish spawning habitat, increase turbidity, and potentially introduce other contaminants to impacted waterways. The FEIS states at 2-97: “...there are two problems that may occur during the use of an HDD. First, there may be an unintentional release of drilling mud, forcing its way to the surface through underground fissures. This situation is termed a ‘frac-out.’ Second, the drill may be blocked by unexpected substrata soils or geological conditions (such as gravel or boulders).”



The photographs above document a frac-out that led to sedimentation and a huge release of bentonite clay into the Coquille River during construction of the 12-inch Coos County pipeline. A similar HDD failure on the Rogue River would severely impact water quality and salmon habitat. Bentonite clay is highly detrimental to salmon spawning habitat.

Moreover, the Avista tie-in waterbody crossings referenced in Pacific Connector's response to NMFS are twelve additional waterbodies crossed in the Rogue Basin that are not mentioned or analyzed in the EIS or JPA for impacts to water quality and fish, individually or cumulatively. The PCGP would cross five tributaries to Cricket Creek, nine tributaries to Indian Creek, cross Indian Creek once and the Rogue River once via HDD. According to Pacific Connector's

response to NMFS, the Avista tie-in would cross Indian and Cricket Creeks again, and cross the Rogue via HDD a second time. The Cricket, Indian and Rogue are assumed to have associated Endangered Species Act listed species and Essential Fish Habitat (“EFH”), yet there is no analysis in the EIS or the JPA on the Avista pipeline, nor is there a cumulative impacts analysis of these crossings in the subwatersheds. The application is incomplete and relying on it would violate the 404(b)(1) Guidelines and the National Environmental Policy Act (“NEPA”), 42 U.S.C. § 4321 et seq., by ignoring interrelated project impacts.

Facilities that are likely to be constructed as part of the Avista connection and distribution system (*see* FEIS section 2.2.3.1) would also contribute to the soil impacts associated with construction and operation of the pipeline and Shady Cover Meter Station (near MP 122.1). As described in the FEIS at 4.2-23, the soil at this site is sensitive to soil erosion, compaction, and reclamation, has steep slopes, large stones, high water table, restrictive soils, and has a high shrink/swell potential. The water table at this site fluctuates between depths of 3 and 3.5 feet. FEIS at 4.2-23. The applicant ignores these additional impacts in the JPA.

The fact that this additional Avista pipeline, its impacts and associated maps, is neither disclosed nor analyzed in the EIS or the JPA renders the application incomplete. The applicant has not disclosed to the Corps or the public this obviously interconnected action with clear individual and cumulative impacts on the human environment. What are the site-specific and cumulative impacts to water quality, soil and fish populations in the Upper Rogue Basin from this associated Avista pipeline? Absent a clear and scientifically defensible answer to this question and notice to the public of these additional impacts with an opportunity to comment, the application is incomplete and in violation of the Guidelines.

#### *Extent of Road Construction*

The application provides an impermissibly vague and inadequate description of road construction activities and of the associated impacts to waterbodies that would be affected. The JPA relies on outdated information regarding temporary and permanent roads to be created or improved during construction of the pipeline. Pacific Connector has not provided the public with the most recent road information either in the JPA or by uploading it to the FERC website and noticing all parties, information that significantly changes the location and impacts of the project. The application is incomplete and in violation of the Guidelines without complete and accurate maps of roads that will be constructed or improved for the project. Road construction is likely to impact wetlands, streams, and rivers throughout the 234-mile path of the PCGP, significantly increasing the number of impacted waterbodies beyond the 388 listed in FERC’s FEIS.

The JPA inadequately addresses the aquatic impacts from road use, road modifications (including but not limited to Key Watersheds), temporary extra work area (TEWA) construction and temporary and permanent access roads.

Appendix A of the JPA includes 24 pages of “Access Roads to and Major Roads Crossed by the PCGP Project,” however, this is not the most recent or complete list of roads that will be used for

the project. Significant changes have occurred in the location of access roads. The application is incomplete and inaccurate without the most recent information.

In order to use heavy equipment on these roads, significant road modifications will be necessary, including blading/grading, widening, drainage improvements, and the construction of turnouts and roadside TEWAs. The JPA does not include detailed descriptions of what activities will be occurring that could impact wetlands, streams, and other waters. Rather, the JPA relies on blanket statements about the application of best management practices to avoid impacts to streams. By not specifying the location and nature of construction activities associated with all access roads, the JPA provides an inadequate description of the project.

Specifically, the JPA states in Appendix O that best management practices (“BMPs”) will be used for “culvert replacements that may be required along existing access roads will be completed according to the exemptions specified under OAR 141-085-0020.” However, such road work would not be exempt under the rules of OAR 141-085-0020, as this proposal does not constitute maintenance or repair, but instead expansions and modifications to facilitate a major construction project with significant environmental impacts. The Corps, DLCD, and Oregon DEQ must all evaluate the impacts of all construction activities – including culvert replacements – arising from construction of the Pacific Connector pipeline. The current application lacks site-specific information on impacts to resources for both existing and new roads to be constructed, instead relying on broad statements regarding use of BMPs. It is impossible for the public to know which special aquatic sites will be impacted without a detailed and up-to-date description of road construction activities.

Analysis of road impacts in the FEIS does not significantly resolve the lack of detailed information on impacts from roads. The FEIS states:

Most access to the pipeline construction right-of-way would be along existing roadways, and impacts on waterbodies as a result of use of these roads would be minimal, and consistent with existing road use. However, Pacific Connector has estimated that modifications to 62 existing access roads may be required outside of the existing road bed (e.g. widening corners to allow for the longer turning radius of larger vehicles), resulting in about 17 acres of disturbance. In general, roadway improvements would require a minimal amount of site disturbance and earthwork necessary to make the roads useable for access to the construction right-of-way. However, the USFS has stated that a number of additional roads that Pacific Connector has identified as construction access roads would require improvements prior to use, in some cases requiring clearing, grading, widening, and drainage improvements. *Pacific Connector has begun to identify these impacts, but much of the specific road improvement requirements would not be identified until closer to construction.* These areas would be identified and addressed prior to construction in the POD prepared in consultation with the USFS and BLM. Where road improvements would be required, Pacific Connector would use BMPs according to the ECRP to minimize potential impacts on waterbodies.

FEIS at 4.3-45 (emphasis added). Clearly, Pacific Connector has not submitted complete or adequate information for agencies or the public to comment meaningfully on the project's impacts.

The FEIS acknowledges that road construction significantly impacts waterbodies and results in permanent loss of vegetation.

New Temporary and Permanent Access Roads ["TARs," "PARs"]: Pacific Connector has identified 18 locations where it would be necessary to construct new TARs, and 16 locations where it would be necessary to construct new PARs (see table 2.3.3.1-1). Six of the 18 proposed new TARs would be located within 100 feet of a stream or ditch (table 4.3.2.5-5); three are adjacent to or within 50 feet of fish-bearing waterbodies, and two are adjacent to or within 50 feet of non-fish-bearing ditches. One proposed new TAR (TAR-93.00) is located within the South Umpqua River Key Watershed on BLM land....

Most of the 16 PARs would be located within Pacific Connector's permanent easement. Construction of the new PARs would permanently impact 2.8 acres, converting land from existing vegetation to roads (see table 4.4.2.3-4 for vegetation types). One PAR would cross a non-fish-bearing ditch.

FEIS at 4.3-46. Already, this information is out-of-date and inaccurate. Pacific Connector has amended its plan and relocated some access roads. Thus, the type of vegetation loss and impacts to both fish-bearing and non-fish-bearing streams may be significantly altered, as well. Yet, the FEIS only includes general information on measures to avoid and minimize impacts. "To minimize impact on waterbodies from construction of new temporary or PARs, Pacific Connector would install BMPs according to the ECRP. BMPs may include silt fence/straw bale sediment barriers or prefabricated construction mats to prevent rutting/compaction impacts. Construction of the TARs would temporarily impact 6.1 acres." *Id.* On steep slopes, particularly in rainy winter months, similar BMPs have failed in the past to prevent impacts to streams, creeks and ditches. Not only is road construction inadequately described, but the measures to prevent significant sedimentation and turbidity in streams are neither site-specific nor reliable.



During construction of the 12-inch Coos County pipeline in 2003, covering terrain similar to the proposed PCGP, erosion and sedimentation control measures repeatedly failed. The FEIS and JPA give little specific information to justify the assumption that, particularly in steep areas, BMPs will be adequate to prevent impacts to streams. Pictured above, a silt fence during construction of the Coos County pipeline in 2003 is overtopped by eroding soil which is then deposited directly into a small tributary stream of the Coquille River. The second photo shows a

bale of hay – an erosion control device – that has become lodged in a culvert, resulting in stream cutting through the road itself.

The FEIS acknowledges that its impact analysis is incomplete, and the JPA does not include information to resolve the deficiencies in the FEIS and related documents:

Impacts resulting from improvements required to existing access roads (including blading/grading, filling, clearing, widening, or turnouts), have not been fully evaluated. Existing access roads that are located at least 100 feet from a waterbody within Key Watersheds are listed in Table 2A-7 within Appendix 2A of Resource Report 2, filed with Pacific Connector’s application to the FERC. Acreage of impacts resulting from road improvements would be provided within the Final POD.

FEIS at 4.3-63. State and federal agencies cannot defer until later analysis of how the project will impact wetlands, streams, and rivers. The application is incomplete without the “full evaluation” that FERC notes is absent from the FEIS.

For example, one proposed new TAR, TAR-93.00, would be located within the South Umpqua River Key Watershed on BLM land. The Northwest Forest Plan states of Key Watersheds:

Refugia are a cornerstone of most species conservation strategies. They are designated areas that either provide, or are expected to provide, high quality habitat. A system of Key Watersheds that serve as refugia is crucial for maintaining and recovering habitat for at-risk stock of anadromous salmonids and resident fish species. These refugia include areas of high quality habitat as well as areas of degraded habitat. Key Watersheds with high quality conditions will serve as anchors for the potential recovery of depressed stocks. Those of lower quality habitat will have a high potential for restoration and will become future sources of high quality habitat with the implementation of a comprehensive restoration program.

Northwest Forest Plan at B-18. This TAR, and other “road improvements” yet to be disclosed for existing roads are proposed in Key Watersheds without analysis of the impacts to the areas. Additionally, the Forest Plan directs that, “[t]he amount of existing system and nonsystem roads within Key Watersheds should be reduced through decommissioning of roads. Road closures with gates or barriers do not qualify as decommissioning or a reduction in road mileage.” *Id.* at B-19. By constructing roads in key watershed areas, the Pacific Connector will harm salmon habitat and water quality. The Forest Plan concludes: “The most important components of a watershed restoration program are control and prevention of road-related runoff and sediment production, restoration or the condition of riparian vegetation, and restoration of in-stream habitat complexity.” Without adequate description of road construction activities and related impacts, the JPA fails to disclose impacts of road construction and modification, and fails to demonstrate how it meets the goals described in the Northwest Forest Plan. Significantly, the lack of adequate information also fails to meet the Corps’ Guidelines for an adequate 404(b) analysis. This failure to comply with applicable law is another example of the inappropriateness of basing the JPA on the outdated DEIS. The DEIS relies on the Western Oregon Plan Revision (“WOPR”), which replaced the Northwest Forest Plan. However, the Department of the Interior

withdrew the WOPR on July 16, 2009, and the Northwest Forest Plan was reinstated. The applicant entirely ignores this significant change in applicable law in its JPA, despite comments requesting a Supplemental EIS. See Coalition letter to FERC requesting SEIS due to withdrawal of the WOPR, July 27, 2009; Coalition letter to FERC requesting SEIS due to new information, Nov. 12, 2009, (attached).

Runoff and sedimentation from roads is a major source of pollution to the streams of southwest Oregon. The Rogue temperature TMDL states: “The potential causes of high water temperatures in the Rogue River subbasins include urban and rural residential development near streams and rivers, reservoir management, irrigation water return flows, past forest management within riparian areas, NPDES regulated point sources, agricultural land use within the riparian area, water withdrawals, and *road construction and maintenance*.” (Emphasis added). Again, without complete and detailed information on road construction, the JPA fails to demonstrate how it will meet requirements under both the 401 and 404 Guidelines in the Rogue basin.

Furthermore, the Little Butte Creek watershed, which the PCGP would cross, is 303(d) listed for sedimentation. While a TMDL was issued in December 2008 for temperature and bacteria, DEQ stated it is in the process of developing a numeric sedimentation standard, and once that is completed, the agency will establish sedimentation TMDLs for those waterways on the 303(d) list. The Rogue TMDL does state that, “Disturbances in the uplands that remove vegetation, reduce soil stability on slopes, or channel runoff can increase sediment inputs.” Such impacts should most certainly be identified well before construction and included in this JPA, as the road modifications will surely have impacts to streams. Pacific Connector has inadequately addressed the impacts from road modifications on water resources and they have even failed to accurately document which roads will be used where.

The JPA includes inaccurate information, as well, and mislabels roads as "existing" where, in fact, roads do not exist. For instance, Francis Eatherington, President of Oregon Women's Land Trust and landowner at milepost 86 on the proposed pipeline route discovered a "ghost road" on her neighbor's property: a road Pacific Connector claimed exists, that does not in fact exist. After closely inspecting road maps, Eatherington requested that Pacific Connector correct this error.

Pacific Connector admitted to the problem, and corrected the map, but then refused to release the revised revision, despite the fact that Ms. Eatherington repeatedly requested it. Pacific Connector claimed that it was proprietary. Finally, after FERC requested that Pacific Connector disclose requested information to landowners about activities on their property, Pacific Connector released the revised map. The new proposed road crosses South Myrtle Creek, an important fish-bearing stream, and then continues up a steep draw. This route was not considered in the DEIS or FEIS, nor is it reflected in the JPA. Rather, “Access Roads to and Major Roads Crossed by the PCGP Project” in Appendix A of the JPA still includes the “ghost road” at MP 86.80: East Fork Wood Creek Road (BLM 30-4-3/Private). The newly identified route that crosses South Myrtle Creek will most likely require significant modifications and must be accurately reflected in the JPA.

Additionally, use of existing access roads does not mean that these roads are anywhere close to being ready for the proposed industrial use. Many of these are old, decrepit logging spurs or Off-Road Vehicle tracks, which would require significant construction to handle heavy equipment.

As noted supra, the FEIS acknowledges that information about all of these impacts is incomplete. It is inadequate for Pacific Connector to construct modifications on existing roads in Key Watersheds without disclosing the current state of the roads and what modifications would take place. Given the length of this pipeline, cumulative aquatic impacts in key watersheds could be significant. Pacific Connector must analyze and disclose the impacts of all road work, including temporary and permanent road-building, road re-construction, road modification and roadside TEWAs, on aquatic resources.

#### *Extent of Maintenance Dredging*

The application provides an impermissibly huge range of potential required maintenance dredging in Coos Bay due to increased sedimentation after terminal and berth construction. The application states the maintenance dredging requirements could range from 35,000 to 315,000 cubic yards per year, an order of magnitude difference. This range of dredge amounts is too large for the public, the state, or the Corps to understand the project's impacts on Coos Bay. Turbidity from 35,000 cubic yards of dredging will be much different than the turbidity generated by 315,000 cubic yards. The applicant must provide better information. The Corps should require the applicant to provide more complete information as well as adequate analysis of the impact of the maintenance dredging once a realistic estimate is provided.

Furthermore, the notice states that all of this dredged material will be placed at Site F, without consideration of whether that site's capacity may be filled by other uses such as Coos Bay Channel deepening. The Department of State Lands has told the applicant that it will not consider permitting the applicant to use state lands for mitigation or storage of dredged materials until all landowners along the pipeline route have signed onto the project. Since landowners have not done so, Jordan Cove has yet to even apply for the necessary permits from DSL. Reliance on Jordan Cove's claims that it has adequate space for storage of dredged spoils, and for mitigation, is unreasonable when the proposed mitigation site is not owned or controlled by the applicant.

#### *Extent and Impact of Channel Deepening Projects*

Dredging has the potential to change the hydrodynamics of Coos Bay in the long-term. The application fails to evaluate the project in conjunction with other proposed dredging in Coos Bay. For instance, the Corps is considering a massive channel deepening project for Coos Bay, and the State of Oregon commented that some level of channel deepening will be required to accommodate LNG tankers, particularly if the LNG terminal is allowed to use larger tankers in the future. The State of Oregon commented on the DEIS to FERC in 2008:

Deepening of the existing federal navigation channel will be required to accommodate the vessels with capacities proposed to be received at the

terminal. The significant volumes of material to be removed, the geomorphic adjustments to the bay and its tributaries precipitated by deepening the channel, and all the potential impacts to water quality and beneficial uses must be included in the analysis of dredging for this proposal, particularly with regard to projected ongoing maintenance dredging.

State of Oregon DEIS comments at 50, Dec. 4, 2008.

Even after all the critical DEIS comments, many of which included suggestions on how to remedy the problems, serious deficiencies remained in the FEIS. Oregon Department of Fish and Wildlife (“ODFW”) noted that these issues were not adequately resolved in the FEIS:

In the FEIS, [Jordan Cove is] only considering the dredging at the slip and access channel into the slip as part of this project. ODFW continues to have concern over the potential ecological effects of future dredging (down to -51 feet mean lower low water and channel widening from 300 to 600 feet, plus widening the jetty opening) that is proposed to occur to further use the Port's facility ("Oregon Gateway Terminal"), even though the JCEP tenancy is not portrayed as associated with that level of dredging. Changes to salinity, ocean water exchange, water temperatures, flood/ebb rates, etc. may be expected to occur with additional deepening of the channel. Predictive modeling should be conducted to ascertain the potential impacts to the estuarine ecology from the anticipated >10 feet of additional depth from the current situation.

State of Oregon FEIS comments at 37, ODFW section, May 29, 2009.

Not only does the applicant rely on the outdated DEIS in its JPA, the FEIS does not resolve the serious problems in the DEIS. Without remedying the serious problems in the FEIS and addressing them in the JPA, the 404 and 401 permits cannot be issued. The Corps must evaluate related and reasonably foreseeable channel deepening projects that might contribute to the impacts of the Jordan Cove project.

*Inadequate Information Regarding Impacts of Excavation, Dredge Disposal and Dredging of 5.6 mcy*

The State of Oregon noted in its comments the LNG vessels could exacerbate shoreline erosion, and that this erosion risk was inadequately addressed in FERC’s analysis. However, the JPA also fails to adequately evaluate potential erosion that could occur as a result of side-slope adjustment from the dredging of the access channel and slip dock. While the slip itself will be armored, the JPA does not indicate that the access channel will be similarly stabilized. With rapid currents occurring at times in this area, it is likely that significant side-slope adjustment will result from construction of the terminal. This was a critical issue for the Bradwood LNG terminal on the Columbia River, and should be evaluated in detail for the Coos Bay project as well. Because the access channel and slip are so close to Henderson Marsh, the JPA should evaluate future impacts to intertidal and marsh areas near the terminal if erosion exceeds the applicant’s estimates.

Construction of the access channel will also result in loss of aquatic habitat, and proposed mitigation is inadequate. The JPA lacks adequate mitigation for habitat that the applicant characterizes as “deep,” up to-15 ft. MLLW. However, significant acreage will be impacted to construct the access channel and slip. This area is habitat both to ESA listed coho salmon and green sturgeon. Regardless of whether shallower areas are considered more important as habitat, the lack of mitigation for deep-water areas is a significant omission in the JPA.

The JPA also fails to provide an adequate analysis of how dredging impacts will be avoided. The State of Oregon commented that FERC’s analysis failed to adequately evaluate dredging impacts: “Total organic carbon, acid volatile sulfides, and nutrient sampling should be conducted to quantify the potential for adverse impact to oxygen levels caused by re-suspension of sediments during dredging activities. Impacts should then be evaluated utilizing hydro dynamic modeling which can capture real time tidal conditions and simulate real time tidal exchanges during the period of the project.” State of Oregon DEIS comments at 63. These issues remain unresolved in the JPA, and the massive proposed dredging and excavation will severely harm aquatic species and habitat, including protected coho salmon and green sturgeon. The JPA does not provide adequate analysis of these impacts.

#### *Lack of Endangered Species Act consultation*

The Corps’ regulations require it to consult with federal and state wildlife agencies “with a view to the conservation of wildlife resources by prevention of their direct and indirect loss and damage due to the activity proposed in a permit application.” 40 C.F.R § 320.4(c). In addition, “the Army will give full consideration to the views of those agencies on fish and wildlife matters in deciding the issuance, denial, or conditioning of individual permits.” *Id.* While the Corps must formally consult with these agencies, the Corps already has ample evidence from these agencies that the project will unacceptably harm fish and wildlife habitat. *See* ODFW and NMFS DEIS and FEIS comments; NMFS BA comments, June 24, 2009 (attached).

The JPA repeatedly rests its analysis on FERC’s DEIS and also makes reference to Jordan Cove’s Biological Assessment (BA). However, multiple agencies have noted that the description of impacts in these documents is incomplete and inaccurate. For instance, NMFS requested further information and consultation for green sturgeon based on potential dredging impacts. NMFS informed FERC: “Disturbance of substrate from project construction and biennial maintenance dredging, along with disposal at the Coos Bay ocean dredged material disposal site (Site F), will modify habitat and reduce safe passage by causing direct adverse physical effects due to physical entrainment in the discharge plume.” NMFS BA comments at 2.

Subsequent to submission of the JPA, NMFS formally designated critical habitat for the green sturgeon, including Coos Bay. On October 9, 2009, NMFS published a final rule to designate critical habitat for the threatened Southern DPS of North American green sturgeon, pursuant to section 4 of the Endangered Species Act. *Final Rulemaking to Designate Critical Habitat for the Threatened Southern Distinct Population Segment of North American Green Sturgeon*, 74 Fed. Reg. 52,300, Oct. 9, 2009. NMFS designated critical habitat for the green sturgeon in coastal waters, bays, estuaries, and river habitat from Monterey Bay, California to Grays Harbor,

Washington, including Coos Bay in Oregon. The rule took effect on November 9, 2009. An adequate analysis of the effects of dredging on the green sturgeon and its designated critical habitat must be undertaken before a permit can issue.

Within Coos Bay, the Federal Register notice explained that in-water construction or alterations, point and non-point source pollution, and LNG projects could affect the green sturgeon's PCEs within the Coos Bay estuary portion of proposed critical habitat. FEIS at 4.6-62; 73 Fed. Reg. 52,084 (2008). On November 3, 2009, the Coalition requested FERC issue a Supplemental EIS ("SEIS") taking into account this significant new information, as NEPA requires. NEPA requires preparation of a supplemental NEPA analysis when a "major federal action" remains to occur and the initial NEPA document does not adequately discuss "significant new circumstances or information relevant to environmental concerns and bearing on the proposed action or its impacts." 40 C.F.R. § 1502.9(c)(1)(ii); *Marsh v. Or. Natural Res. Council*, 490 U.S. 360, 374 (1989); *Or. Natural Res. Council Action v. United States Forest Serv.*, 2004 U.S. Dist. Lexis 59034, 24 (D. Or., Aug. 9, 2006). FERC and the applicant have yet to produce the required document.

The Jordan Cove DEIS, FEIS and JPA all fail to adequately analyze and disclose the impacts of this project on the newly designated critical habitat for the green sturgeon. Numerous questions remain, including, but not limited to: 1) the effects of the project on green sturgeon food supply in Coos Bay; 2) turbidity effects of vessels traveling in and out of the bay on green sturgeon critical habitat; 3) herbicide impacts on green sturgeon; 4) impacts of ballast water and engine cooling water uptake on green sturgeon; and 5) terminal storm water contaminant effects on green sturgeon, 6) proposed maintenance dredging effects on green sturgeon and green sturgeon food supply.

Additionally, according to the FEIS, the project is likely to adversely affect the following species listed under the ESA:

- the threatened Marbled murrelet;
- the threatened Northern spotted owl;
- the threatened coho salmon (SONCC);
- the threatened coho salmon (Oregon Coast ESU);
- the endangered Lost River sucker;
- the endangered Shortnose sucker; and
- the threatened Kincaid's lupine.

FEIS at 5-15.

The lack of consultation for the project is particularly problematic because key mitigation measures for ESA-listed species have not been determined or vetted by key agencies, such as the NMFS. Information included in the JPA, DEIS, and FEIS fail to provide an adequate assessment of how impacts of the project to key listed species will be avoided or minimized. For example, coho salmon are ESA listed as a federally threatened species and face potential impacts from the LNG terminal and its tankers. Ballast and cooling water withdrawals for the project will require the intake of over 50 million gallons of Coos Bay water, presenting a significant risk of entrainment and impingement of salmonids that is not adequately addressed in the JPA, DEIS, or FEIS. Additionally, the FEIS includes incomplete and inadequate information regarding the

discharge of cooling water for LNG tankers. These discharges could be as much as 19 degrees F higher than ambient temperatures, presenting a significant temperature stress risk to salmonids.

The measures that Jordan Cove has proposed to deal with these problems are unproven and inadequate, as NMFS itself has noted in its comments for the DEIS and FEIS. Thus, the JPA does not offer an adequate analysis of impacts to ESA-listed species. Consultation for the project is clearly warranted, and until official consultation is initiated, it is impossible for the public to know what mitigation measures will be proposed and whether they will be effective.

NOAA Fisheries, the federal agency entrusted with safeguarding marine and anadromous species, recently commented on the inadequacy of the FEIS. Because the JPA largely rests on FERC's NEPA analysis, the 404 application is inadequate until the serious issues NMFS raised are more fully addressed. NMFS used strong language to describe the inadequacies of the FEIS: "in reviewing the FEIS, NMFS has found that many of the December 1, 2008, DEIS comments have not been addressed" and further explained the nature of its comments:

The comments are based on NMFS' special expertise and responsibility to manage, conserve, and protect marine and coastal living resources as provided under the Endangered Species Act (ESA), Magnuson-Stevens Fishery Conservation and Management Act (Magnuson-Stevens Act), Marine Mammal Protection Act (MMPA), and the Fish and Wildlife Coordination Act. In all cases, the comments have relevancy, either directly or indirectly, to NMFS' responsibilities under that legislation, and are consistent with the agency's regulatory obligation to its trust resources.

NMFS FEIS comments at 2, June 8, 2009.

NMFS specifically noted problems with the lack of fish screens to prevent entrainment of threatened and endangered species:

Jordan Cove no longer proposes to include fish exclusion screens with a fixed water delivery system to the hulls of the ships. NMFS maintains that screening ballast and engine cooling water is the most effective method to minimize adverse effects to the aquatic resources. While the U.S. Coast Guard has identified some regulatory difficulties with the original screening design proposed in the DEIS, those difficulties do not preclude its implementation.

*Id.*

NMFS is also concerned with the inadequate analysis of stormwater pollution impacts in the FEIS:

Stormwater from the Jordan Cove site will be discharged into Coos Bay. The FEIS says the water will be tested before being discharged, but does not say what contaminants will be tested for and what levels will be allowed to be discharged. There is no indication in the FEIS that FERC recognizes that stormwater carries heavy metals, petroleum products and brake chemicals and compounds that are deleterious to fish and fish habitat.

*Id.*; See also more detailed discussion in FLOW FEIS comments at 14. DEQ, DLCDD, and the Corps cannot ignore the serious concerns of NMFS, an expert federal agency. Additional analysis is necessary to provide the agency and the public with adequate information about the

fish exclusion technology to be used, complete with an analysis of the effectiveness of the plan, and the stormwater testing to be employed. Without addressing these issues, and without the many other missing studies, plans, and analyses pointed out by federal and state agencies, the Coalition, and other individuals and organizations in DEIS and FEIS comments, the JPA is wholly inadequate and legally insufficient. The Corps cannot approve the application without consulting with NMFS, and given the significant concerns NMFS has raised about inadequate information on the impacts of the current project configuration, the application should be denied as incomplete.

### **1.3 Practicable alternatives to the proposed action exist which would have fewer adverse impacts on the aquatic ecosystem, and which do not have other significant adverse environmental consequences**

A critical component of the Corps' review is the CWA § 404(b)(1) alternatives analysis. Under 40 CFR Section 230.10(a):

“Except as provided under section 404(b)(2), no discharge of dredged or fill material shall be permitted if there is a practicable alternative to the proposed discharge which would have less adverse impact on the aquatic ecosystem, so long as the alternative does not have other significant adverse environmental consequences.”

Under 40 CFR Section 320.10(a)(2):

“An alternative is practicable if it is available and capable of being done after taking into consideration cost, existing technology, and logistics in light of overall project purposes.”

Under 40 CFR Section 320.10(a)(3):

"practicable alternatives that do not involve special aquatic sites are presumed to be available, unless clearly demonstrated otherwise."

The Guidelines require a finding of noncompliance when a practicable alternative to the proposed discharge exists that would have a less adverse effect on the aquatic ecosystem. The applicant has the burden of clearly demonstrating there are no practicable alternatives. *Northwest Environmental Defense Center v. Wood*, 947 F. Supp. 1371, 1374 (D. Or. 1996).

These comments demonstrate the existence of multiple practicable alternatives that the agencies must consider. Because the LNG terminal and pipeline would destroy several acres of special aquatic sites, as described below, practicable alternatives are presumed to be available.

To issue the permit, the applicant has the very high burden of overcoming the presumption that alternative sites are available. The alternative analysis Jordan Cove and Pacific Connector submitted to the agencies does not even come close to demonstrating there are no practicable alternatives. In fact, multiple alternatives exist that satisfy the basic project purpose without disturbing special aquatic sites.

### ***Alternatives to the Jordan Cove LNG Project and Pacific Connector Project***

The purpose of the terminal is to provide natural gas to the western markets. A myriad of alternatives accomplish this purpose. The primary flaw with the applicant's alternatives arguments is Jordan Cove/Pacific Connector's contention that the projects must be located in Southern Oregon to meet the region's gas needs. The true destination of the vast majority of this gas is California. The actual intended market for the majority of the gas yields multiple practicable alternatives, including siting an LNG terminal in California closer to the end users. Therefore, the proposed location is not necessary. According to Oregon's Department of State Lands ("DSL"), the project has failed to demonstrate that the proposed terminal and pipeline are necessary in Oregon:

Per OAR 141-085-0029(3), "the Department must determine that the proposed removal fill activity will not be inconsistent with the protection, conservation and best use of the water resources of this state, and would not reasonably interfere with the paramount public policy of this state to preserve the use of its waters for navigation, fish and public recreation." If Oregon were not a target market, why would it need to come through this state and impact its waters, forests and agricultural lands?

State of Oregon FEIS comments at 15, DSL section, May 29, 2009.

Not only is the project not a demonstrated necessity for Oregon, but FERC's approach to the siting of the Jordan Cove/Pacific Connector project unduly ruled out other gas supply alternatives by defining the purpose so narrowly as to prevent alternatives from meeting that purpose. *See* section 1.1 *supra*. Because the JPA largely relies on FERC's DEIS for its alternatives analysis, it also mistakenly concludes that domestic gas alternatives fail to meet the objective of diversifying supplies through LNG. FERC also states that use of domestic alternatives would not result in interconnections for the Williams pipeline and Avista, a local utility. FERC makes next to no attempt to weigh other natural gas pipeline and storage proposals, and even existing infrastructure such as the Medford lateral, in assessing how project objectives might be met. In short, FERC has unreasonably narrowed the purpose and need analysis of the project in order to foreclose other alternatives, in violation of NEPA.

The JPA refers to the alternatives and purpose and need analysis in the DEIS, despite the subsequent issuance of an FEIS and hundreds of pages of comments that were submitted prior to the FEIS. The FEIS did not address agency concerns, such as DSL's, about the lack of compelling evidence that the project is needed in Oregon.

Additionally, by including importation of foreign LNG as part of the project purpose, FERC and Jordan Cove dismissed all domestic sources for the claimed natural gas needs. Such a narrow definition presumes that importing foreign fossil fuels is somehow in the public interest. This assumption is patently false and impermissibly defines the purpose of the project so narrowly as to prevent a finding that any of the myriad alternatives are viable. Moreover, FERC and Jordan Cove fail to analyze whether a combination of the stated alternatives could meet the illegally narrow project purpose. The JPA should include additional evaluation of domestic gas alternatives to the Jordan Cove project.

Moreover, energy conservation and efficiency is a preferable practicable alternative that the application dismisses without justification. Offshore LNG terminals, particularly in California, are also practicable alternatives. Moreover, the combination of the Bradwood LNG project,

which FERC has already approved, and the Palomar pipeline, would largely serve the same market as the Jordan Cove/Pacific Connector project, has been unduly dismissed in the JPA. The alternatives analysis for this project dismisses these projects as an alternative without adequately comparing the impacts of either. We discuss the ready availability of domestic gas, renewable energy, energy efficiency, and other LNG and pipeline projects in our section 1.1 discussion of the lack of need for the project, *supra*.

By relying on FERC's alternatives analysis, the JPA does not resolve the inexcusable lack of evaluation of relevant information regarding potential alternatives in domestic gas projects and gas storage. Jordan Cove and FERC's dismissal of these issues, which were raised by NMFS, the State of Oregon, and many individuals and organizations, is not based on thorough analysis, but rather, as noted by Oregon DLCD: "FERC staff makes *no attempt* to identify and evaluate the relative impacts of each project and determine whether any project is environmentally preferable." State of Oregon FEIS comments at 30 (emphasis added).

The project's failure to both to identify a permissible purpose for the project and to adequately weigh alternatives violates the 404(b) requirement that the applicant demonstrate that no alternatives exist to the proposed project and its impacts. As the State of Oregon pointed out "The FEIS should not assume that LNG meets a different need than other forms of natural gas. While imported LNG can diversify regional natural gas supply, data suggests that this additional source is not needed in the foreseeable future, is more costly and has greater adverse environmental consequences than domestic supplies." State of Oregon FEIS comments at 29. Clearly, Jordan Cove has failed to satisfy this requirement in assessing alternatives to the project as a whole in the JPA and the FERC DEIS and FEIS. In summary, the State of Oregon commented that the FEIS "ignores FERC's obligation under NEPA to fully examine the need for the proposed LNG terminal and all reasonable alternatives to that facility," and the Corps, DEQ, and DLCD should not accept the JPA's alternatives analysis, which rests on FERC's faulty review. State of Oregon FEIS Comments at 4.

### ***Alternatives to Size and Design of Key Project Elements***

Furthermore, multiple design changes to the project offer less harmful practicable alternatives. Unfortunately, the alternatives analysis presented in FERC's NEPA documents and the JPA fail to assess important project design alternatives. For instance, the application should evaluate in detail a terminal design that involves a much smaller footprint, rather than assuming that the project must be sized for 1bcf/d and very large LNG tankers. Additionally, the Corps should evaluate an alternative in detail that uses only the 12-inch Coos County pipeline (which would entail reducing the scale of the LNG project).

The applicant should evaluate an offshore design in greater detail and describe why areas that regularly face harsh weather, such as hurricanes, are successfully sited and built. NMFS argues in its comments that the analysis, and rejection of an offshore proposal as an alternative is inadequate "[g]iven existing or proposed terminals or other similar structures located in harsh environmental conditions elsewhere (e.g. Calypso LNG terminal off the eastern coast of Florida, Troll Natural Gas Fields in the North Sea with depths of 1,100 feet)." The applicant should explain further why the placement of terminals offshore of Washington and Oregon is not

feasible. Indeed, proposals currently exist to site wind and wave energy structures off the coast of Oregon and Washington. The JPA does not adequately address this potential alternative and fails to weigh the significant reduction in public safety risks and disturbance to the Coos Bay Estuary against potential added costs.

The JPA should consider a project design that would use the Medford lateral to supply more of Avista's gas needs. The pipeline could be operated to bring in domestic gas from proposed Rockies pipelines (for instance, Ruby). This pipeline has been historically under-utilized and received little consideration in the FERC's FEIS and DEIS. The DEIS, the document Jordan Cove cites for its alternatives analysis, fails to consider this pipeline either on its own or in a possible combination with other alternative projects, such as Ruby, a Grants Pass lateral expansion, or part of the Pacific Connector pipeline. The overall objective of providing more access to natural gas sources would be achieved by using the Medford lateral, and would potentially serve Oregon's needs while potentially avoiding dozens of waterbody crossings.

FERC's analysis and the current JPA application fail to consider more specific alternatives within many specific design elements of the terminal and pipeline – areas such as specific re-routing to avoid sensitive resources, additional use of bores or HDDs to avoid sensitive resources, and alternative mitigation strategies. The application does not demonstrate that HDDs would not be practicable in additional, sensitive crossings (such as the South Fork Umpqua, Coquille River, and numerous smaller streams, creek, and rivers). The analysis of dredge disposal, in particular, lacks adequate evaluation of each alternative's impacts on threatened and endangered species such as the snowy plover and marbled murrelet. Disposal on Port property may not be the most beneficial use of dredge material, and ultimate plans for dredge spoils are unclear, with a large amount of dredged material to be temporarily "stored" for later removal to another site.

As noted above, NMFS also challenges the underlying assumptions regarding maintenance dredge disposal options, "FERC concludes that placement of maintenance dredge material at Site F would only result in short term impacts to benthic organisms. FERC failed to analyze adverse effects of turbidity, suspended sediment or mounding. Furthermore, no discussion of direct injury or mortality was assessed. These impacts also need to be addressed in the subsection on disposal of dredge material from berth construction." NMFS DEIS comments at 6. The JPA does not provide adequate information on dredge disposal alternatives if Site F is found to be unworkable. The current JPA is not based on complete information and lacks adequate analysis of alternatives for dredge material disposal.

The project does not evaluate alternatives to 5.6 million cubic yards of proposed dredging and excavation. The project design appears to be overbuilt for the size of tankers allowed to visit the terminal, and the State of Oregon FEIS comments noted that larger tankers would require additional channel deepening in Coos Bay. The JPA does not describe smaller alternatives for both the access channel and berth to the Jordan Cove project. The FERC Order notes that the project size exceeds the allowable tanker capacity:

Although Jordan Cove designed the berth facilities to accommodate LNG

carriers up to 217,000 cubic meters (m<sup>3</sup>) in capacity, the U.S. Coast Guard's (Coast Guard) Letter of Recommendation for this project limits LNG carriers serving the terminal to not more than 148,000 m<sup>3</sup> in capacity.

FERC December 17, 2009 Order at 2.

Since the FERC Order notes that tankers are size-limited, the Jordan Cove JPA should explain why the access channel and slip dock are being constructed to accommodate larger LNG tankers – tankers that cannot navigate the current shipping channel. The JPA should fully evaluate an alternative that incorporates a smaller berth.

The JPA should also evaluate an alternative that evaluates a berth that does not involve the slip dock design. As originally proposed before 2007, LNG tankers would be docked alongside the shore (not perpendicular to it in a slip dock as is now proposed). Jordan Cove must justify why alternative designs – less impactful both in location and size – are impracticable in this project.

The JPA does not provide an adequate analysis of dredging method alternatives and a clear indication of why the proposed methods will minimize impacts. The JPA indicates that both mechanical and hydraulic dredging may be used. Hydraulic pipeline dredging has the potential to impact aquatic species through entrainment and impingement. Additionally, other dredge methods will result in significant turbidity in Coos Bay. Although some specially designed hydraulic cutterhead dredges may reach 0.5 percent spillage, the JPA fails to disclose what kind of cutterhead dredge will be used for dredging. This is vitally important information for the public and the agencies to assess the veracity of the applicant's statements, because without knowing what type of cutterhead dredge will be used, the public can not begin to evaluate what kind of sedimentation will be caused by dredging activities. Furthermore, any modeling conducted on behalf of the Project is suspect until a spillage rate can be determined. All cutterhead dredges are not the same. Studies indicate that conventional cutterhead dredging "can liberate considerable amounts of turbidity and associated contaminants to overlying water." Cooke, 2005.

Selection of the proper cutterhead for the type of sediment, in addition to correct rotational speed and hydraulic suction, to obtain reduced suspension rates of sediments is rarely achieved. Herbich, 2000. Therefore, knowing not just the type of dredge used but the anticipated methods of using the dredging equipment are important factors that must be disclosed for the public and agencies to properly analyze the effects of dredging at the proposed project. The Corps must make specific findings on the types of dredging equipment. The JPA should present an analysis of alternative methods in order for the Corps to fully analyze the impacts dredging will have on turbidity and overall pollution.

The application does not adequately evaluate alternatives in timing of construction activities. The application fails to justify why specific crossings will be allowed outside of in-water work windows. The DEIS states that at least 36 crossings will occur outside in-water work windows, but does not specifically justify these exceptions for in-water work. The DEIS argues that this is necessary to avoid sensitive windows for terrestrial species, yet the DEIS also acknowledges that

there is no completed plan for scheduling; “Pacific Connector is working on a schedule to avoid the nesting season” for bald eagles and marbled murrelet. DEIS at 5-15. The DEIS is incomplete both in its assessment of alternative stream crossing timing, and in its evaluation of impacts to wildlife. Without more specific information on timing constraints for construction of stream crossings and restrictions for wildlife, the DEIS analysis of why in-stream water is necessary outside of specified approved windows is inadequate, as is the analysis of impacts to spotted owls and murrelets.

The JPA has not identified alternatives that avoid key wildlife and aquatic impacts. In assessing the impacts of the pipeline, the ODFW finds these mitigation proposals inadequate, and recommends, “in accordance with the department's Fish and Wildlife Habitat Mitigation Policy and administrative rules, ODFW recommends that JCPC either avoid the impacts to the identified Category I habitats through alternatives or that the project not be authorized.” State of Oregon FEIS Comments at 34. The current JPA does not include adequate analysis of the alternatives requested by ODFW.

The JPA application also lacks adequate information regarding the impacts of unscreened ballast and cooling water intakes. The JPA fails to present a comprehensive description of alternative fish screen designs and their impacts. The current proposal appears to dismiss fish screening, totally ignoring ODFW’s comments. “The Coast Guard's concerns should not be interpreted to mean that ballast and cooling water screening cannot occur. Screening can and should occur to reduce negative impacts to fish as a result of this project. Additional marine industry review and permitting may be necessary, but this has not eliminated the opportunity to develop and use fish screens.” State of Oregon FEIS comments at 37. The JPA should evaluate clearly fish screen alternatives and the impacts of a “no screening” alternative, which would negatively impact ESA protected coho salmon.

The JPA application does not provide adequate analysis of alternative terminal locations. The selection of the current site, which requires massive excavation and dredging of over 5.6 mcy, appears not to have been weighed against other practicable site alternatives. The State of Oregon noted this problem in its DEIS comments (which were submitted subsequent to the development of the alternatives analysis included in the JPA): “The Coos Bay terminal site alternatives are not true alternatives because they could never support an LNG terminal.” State of Oregon DEIS comments at 5. Simply put, Jordan Cove’s alternatives were narrowed to the proposed site, and other sites that were clearly unworkable. This does not satisfy the requirement for Jordan Cove to thoroughly evaluate alternative terminal locations and sizes. A smaller terminal could potentially be located in the Coos Bay area without the huge proposed impacts of the current design and location.

The JPA also fails to provide adequate information regarding alternatives for stream crossings. The application does not justify the widespread use of open-cut crossings. Additionally, the application fails to adequately evaluate alternatives that will be necessary if HDD crossings fail. Mitigation measures for HDD failures are completely inadequate, and the Williams pipeline company’s own data show that HDDs for 36-inch pipelines fail unacceptably often. *See* FLOW DEIS Comments at 102-103. In its own experience, recent HDDs for this size of pipeline have failed one out of every three attempts – that’s a full 33% of the time. *See* Williams Sept. 2007

Presentation, Williams Sept. 2007 documentation of its HDD Experience (attached). The JPA does not include adequate information on alternative measures that will be used if the proposed crossing methods are unsuccessful.

The HDD failure issue is particularly critical for the Rogue River HDD. The ODFW has repeatedly commented that the HDD contingency plan for the Rogue River crossing is inadequate, and that a wet open-cut crossing of the Rogue River is not currently permissible. The ODFW commented: "ODFW does not consider a wet open-cut to be an acceptable alternative due to the impacts to fish, fish habitat, the river, as well as impacts to the sport fishery and the economy of upper river communities. ODFW strongly disagrees with the wet open-cut as an alternative crossing method on the Rogue River." State of Oregon FEIS comments at 40. As noted in section 1.2 supra, the second potential Rogue River HDD associated with the spur pipeline to Avista obviously lacks adequate evaluation of potential crossing alternatives. We discuss problems with the Rogue River crossings in detail infra.

The JPA fails to provide an adequate analysis of mitigation alternatives. For instance, proposed mitigation measures to avoid and minimize sedimentation and erosion in stream crossings are inadequately site-specific and are generally outlined in the ECRP. FERC's analysis and the JPA indicate that details of mitigation "would depend on the source of the problem." According to the State of Oregon's DEIS comments, the lack of detailed mitigation measures and alternatives is inadequate. "In order to be effective, a mitigation measure must be supported by analytical data demonstrating why it will constitute an adequate buffer against the negative impacts that may result from the authorized activity. FERC's reliance on future modifications does not provide enough protection under this standard. The public must be able to review, in advance, how specific measures will bring projects into compliance with environmental standards." State of Oregon DEIS comments at 32. The JPA does not resolve this outstanding issue.

Given the lack of analysis on the efficacy of mitigation measures, it is also unclear whether the pipeline should have been rerouted or altered to avoid key resources. For instance, proposed measures may be inadequate to avoid increased turbidity, temperature discharges, erosion and sedimentation in the proposed crossing of the Coquille River and other streams and rivers. The JPA does not show that riparian clearing has been avoided and minimized in all areas. The ECRP includes general methods, but does not justify why limitations on construction activities in riparian areas cannot be increased. The State of Oregon noted that the DEIS did not include adequate analysis of avoiding impacts to waterbodies. "At some crossings, PC would reduce the construction ROW width to 75 feet at the crossing of forested and scrub shrub wetlands to minimize impacts to these resources. Alternative methods of crossings with less or no impact must be explored and presented. Boring underneath the forested wetlands could avoid impacts to high functioning wetlands." State of Oregon DEIS comments at 95. These issues remained unresolved in the FEIS, and have not been adequately addressed in the alternatives analysis for stream crossings and mitigation measures in the JPA.

The JPA application does not provide adequate information to justify its route selection through Coos Bay. Because the JPA refers to the alternatives analysis in the DEIS, it is unclear how the proposed route is supported by the analysis. But even considering subsequent FEIS analysis, it still appears that the selection of the route through Coos Bay unduly impacts the Coos Bay

Estuary and Haynes Inlet, a sensitive area for both shellfish and fish habitat. The State of Oregon recommended, “Find another (upland) route to avoid impacts to the Coos Bay estuary to the maximum extent possible. This proposal maximizes impacts to waters of the state. More thorough alternatives analysis is required.” State of Oregon DEIS comments at 94. The current proposal does not minimize impacts to the Bay, including investigation of an HDD alternative to avoid impacts to the Estuary. It also does not explain why an alternative involving a significantly reduced construction impact area would not be practicable.

In summary, the applicant does not provide sufficient reasoning or detail to justify its dismissal of many design and project alternatives that could have a less adverse impact on the aquatic ecosystem. In particular, little consideration of the relative costs, technologies, and logistics is present in the alternatives rejected or disregarded by the project proponents. The applicant provides cursory and inaccurate analysis of the impacts of its dredge/fill activities, and the Corps must find that practicable alternatives exist to severely degrading the Coos Bay Estuary, wetlands and rivers impacted by the terminal and pipeline. “An alternative is practicable if it is available and capable of being done after taking into consideration cost, existing technology, and logistics in light of overall project purposes.” 40 C.F.R. § 320.10(a)(2). The alternatives analysis fails to address many alternatives, and some alternatives are given such cursory consideration that it is impossible to realistically conclude they are not practicable. This includes changes to terminal design, turning basin size and design, alternative LNG sites, and both major and minor route variations on the pipeline route.

#### **1.4 The proposed action would cause or contribute to violations of Oregon State water quality standards**

Under 40 CFR Section 230.10(b)

“No discharge of dredged or fill material shall be permitted if it:

(1) Causes or contributes, after consideration of disposal site dilution and dispersion, to violations of any applicable State water quality standard”

The proposed action would cause or contribute to violations of Oregon State water quality standards. Please see our comments in Section 2 infra discussing the applicant’s request for Certification under Section 401 of the Clean Water Act that the proposed action would comply with State water quality standards.

#### **1.5 The proposed action would jeopardize the continued existence of species listed as endangered or threatened under the Endangered Species Act or result in the likelihood of the destruction or adverse modification of critical habitat under the Endangered Species Act**

Under 40 CFR Section 230.10(b):

“No discharge of dredged or fill material shall be permitted if it:

...(3) Jeopardizes the continued existence of species listed as endangered or threatened under the Endangered Species Act of 1973, as amended, or results in likelihood of the destruction or adverse modification of a habitat which is determined by the Secretary of Interior or Commerce, as appropriate, to be a critical habitat under the Endangered Species Act of 1973, as amended.”

In several alarming ways, the proposed action would jeopardize the continued existence of species listed as endangered or threatened under the Endangered Species Act or result in the likelihood of the destruction or adverse modification of critical habitat under the ESA. Foremost, the dredging and filling of prime estuarine habitat will jeopardize the struggling populations of salmonids and the threatened North American green sturgeon.

### *Coho Salmon*

As noted by the National Marine Fisheries Service: "The FERC determined the proposed projects would adversely affect Southern Oregon/Northern California Coasts (SONCC) coho salmon, Oregon Coast (OC) coho salmon ... SONCC coho salmon critical habitat [and] Oregon Coast (OC) coho salmon critical habitat." NMFS FEIS comments at 1.

Coos Bay is designated as Essential Fish Habitat (EFH) for salmon. Even Jordan Cove's own inadequate and highly criticized BA concludes that the potential direct, indirect, and cumulative effects of the proposed project actions are "*likely to adversely affect*" identified EFH for several Coastal Pelagic Species (CPS), West Coast Groundfish, and Pacific Salmon. Application at 9. Dredging for the Jordan Cove terminal will result in the permanent destruction of acres of prime salmon habitat, and maintenance dredging, as discussed supra, will resuspend toxins and create turbidity that will continue to impair the EFH. A portion of the dredged area is critical shallow water habitat.

The proposed dredging is the antithesis of salmon recovery and restoring estuarine habitats, as described in every local, state, and federal management plan. Quite simply, we cannot recover threatened salmon while simultaneously permitting this huge dredging project. Jordan Cove is a prime example of an unacceptable project due to its size, scope, and location in critical salmon habitat.

The project will destroy habitat for multiple salmon ESUs, the threatened green sturgeon, the threatened Marbled murrelet, Northern spotted owl, Kincaid's lupine, and the endangered Lost River sucker and Shortnose sucker. The FEIS found these species are likely to be adversely affected by the project. FEIS at 5-15. Additionally, multiple non-listed salmon and other species that rely on the estuary for rearing and migration will be adversely affected. Each fish species likely passes directly through the proposed site. The Corps cannot rely on the DEIS's faulty analysis of aquatic life because the DEIS fails to adequately consider all salmon species, sturgeon, lamprey, and other resident species.

Twenty four additional special status fish species may be present along the LNG carrier transit route, or in the waters of Coos Bay potentially affected by construction of the proposed LNG terminal or Pacific Connector pipeline, or in waters crossed by the proposed pipeline. Of these

species, 12 are anadromous and 12 are non-anadromous. These include 15 species listed by the FWS (2006a and 2006b) and NMFS (2006) as federal species of concern. Thirteen state special status fish species are known or suspected to occur within the Project area based on species distributions (ORNHIC 2006c and 2006a), of which eight are also considered federal species of concern. Within the four BLM districts crossed by the proposed Pacific Connector pipeline, 18 BLM special status fish species could occur within the Project area, of which 15 are also considered FWS species of concern or state special status. Finally, the USFS identified additional sensitive fish species which are known or suspected to occur within its districts and which may occur within the Project area, of which seven are also considered federal species of concern or state special status. FEIS at 4.6-117.

As discussed supra, the proposed hydraulic cutterhead dredge method will entrain juvenile fish, including threatened salmonids, as well as benthic organisms critical to salmon diets. The JPA asserts Jordan Cove plans to “go slowly” to avoid entrainment of fish. No science is cited demonstrating this method will be at all effective. Mechanical dredging would not have the same fish entrainment impacts, but is not seriously considered as an alternative dredge method.

The Corps must analyze the impacts of fish entrainment due to dredging. The Corps must also consider the fact that the fish killed will include salmonids listed as threatened under the federal ESA and the Oregon ESA. The Corps must also look to the effect dredging would have on food sources for the threatened green sturgeon. The Corps must consider cumulative impacts on aquatic life, including the impacts from dredging, terminal construction and operation, pipeline construction and operation, as well as the impact of the channel deepening dredging and maintenance dredging.

The pipeline construction will disrupt fish passage by damming the streams during the trenching and pipeline placement. It is unclear how long fish passage would be interrupted. The mitigation of capturing and removing fish behind the dams is historically ineffective, and will result in the take of threatened salmonids. This is particularly troubling and unacceptable for large crossings proposed on the Coquille, Umpqua, and potential crossings of the Rogue and Coos if proposed HDDs fail. *See* discussion of HDD failure supra. ODFW commented to FERC that the FEIS “fails to address in-water timing, ODFW Fish Passage Rules, and compliance with ODFW’s Fish and Wildlife Habitat Mitigation Policy, all of which ODFW repeatedly mentioned in earlier comments.” State of Oregon FEIS comments at 37, ODFW section. Clearly, the underlying analysis of impacts to fish and fish habitat is inadequate, and the application should be rejected.

### *Green Sturgeon*

Please see the Green Sturgeon impact discussion, *infra*. The NMFS concluded: “Based on these adverse effects, the project has more than a discountable probability of adversely affecting proposed DPS green sturgeon critical habitat.” NMFS FEIS comments at 2.

Under 40 CFR Section 230.30(b):

The major potential impacts on threatened or endangered species from the discharge of dredged or fill material include: ...

### (3) Facilitating incompatible activities.

The proposed action would facilitate incompatible activities in the form of a 234-mile-long, 36-inch-diameter welded steel underground interstate natural gas pipeline that would run through and degrade critical habitat for endangered species, including the Northern Spotted Owl (NSO) and the Marbled murrelet.

#### *Northern Spotted Owl*

The proposed action would jeopardize the continued existence of the Northern Spotted Owl and critical habitat supporting this species. The FEIS for the proposed action admits:

Given the potential for adverse consequences by construction and operation of the Pacific Connector pipeline, as currently proposed, to NSOs, the proposed Pacific Connector pipeline overall is likely to adversely affect NSOs.

FEIS at 4.6-58

In May of 2009, the FERC released a Biological Assessment (“BA”) of the proposed action, requesting initiation of formal consultation with the National Marine Fisheries Service and the U.S. Fish & Wildlife Service under the Endangered Species Act (“ESA”) and under section 305 of the Magnuson-Stevens Fishery Conservation and Management Act (“MSA”). As discussed above, these consultations are still underway and are not complete. However, in reviewing FERC’s BA, the U.S. Fish & Wildlife Service has stated:

The BA presents a very mixed picture of the scope and significance of the impacts of the Project to NSO. At face value, the BA indicates that no single occupied or projected occupied NSO site will be subject to large quantifies of habitat removal or degradation (range from 0.2 - to 2.0% of suitable habitat in an occupied or predicted site). However, the *sheer number of NSO sites impacted* (>90) coupled with the already questionable long-term viability of some of the sites and the regional population as whole (as indicated in the recent range-wide demographic analysis), with the escalating threats from fire and barred owls, and with the uncertainty to the recovery/conservation analytical context posed by ongoing RP and WOPR issues (see Federal Land Management and Northern Spotted Owl Recovery Plan above) *do not provide a solid foundation for supporting the overall conclusion of the BA that disturbance and habitat removal impacts and resulting incidental take will not be significant with respect to the long-term survival and recovery of the species.* In addition, significant amounts of currently unoccupied but suitable habitat will be removed and/or degraded, including some very high-quality interior habitat. This could not only potentially reduce the physical/geographic connectivity between habitat/population reserves, but also the demographic connectivity between these areas via reduced landscape support for non-territorial NSOs. *The BA presents only the most minimal discussion and assessment of these latter issues related to connectivity and unoccupied habitat.”*

FWS BA comments at 4, July 2, 2009 (emphasis added).

#### *Marbled Murrelet*

The proposed action would also jeopardize the continued existence of the Marbled murrelet (“MAMU”) and critical habit supporting this species. The FEIS for the proposed action admits:

Given the presence of MAMUs within the proposed action area, there may be effects to MAMUs directly due to noise generated from timber clearing and construction activities, as well as indirect effects associated removal of suitable murrelet nesting habitat including increased fragmentation and predation and secondary effects associated with increased human presence and use of the permanent right-of-way. For these reasons, the proposed action may impair the suitability of seasonally or permanently occupied habitat, or impair or degrade unoccupied habitat necessary for the survival of MAMUs locally. Incidental take due to those impact sources is expected. Based on these evaluations and with implementation of the proposed conservation measures, the proposed action is likely to adversely affect MAMUs.

Based on removal and potential degradation of principal constituent elements defined in the Final Rule designating critical habitat for the MAMU (FWS 1996), the proposed action is likely to adversely affect designated MAMU CHU OR-06-d.

FEIS at 4.6-40, 4.6-41.

In reviewing FERC’s BA, USFWS further clarified the severity of the project’s impact on the Marbled murrelet:

The Marbled Murrelet Recovery Plan (Plan) identifies reductions in amount and quality of MAMU habitat, in combination with high MAMU predation levels associated with habitat fragmentation, habitat removal, and other human activities, as the greatest threats to MAMU population viability..... Based on information available to the Service through this BA and other sources, it appears that the Project could result in activities and impacts that are not consistent with the Plan and that could exacerbate current MAMU population declines.

The Project proposes to remove habitat or disrupt/degrade habitat at 73 occupied MAMU stands. The Project will cross a MAMU critical habitat unit five times, and remove approximately 7 acres of suitable habitat and 11 acres of recruitment habitat from the critical habitat unit, with an additional 10 acres of suitable habitat in the critical habitat unit impacted by establishment of Uncleared Storage Areas (UCSA). Some of these habitat removal and disruption events will occur within the MAMU critical nesting period.

The Project's habitat removal would represent a substantial deviation from the Plan and from the long-term management strategy that has guided conservation of this species in the region in that it would result in removal of occupied MAMU habitat on BLM land.

USFWS BA comments at 6.

### *Marine Mammals and Sea Turtles*

The LNG terminal and the tankers will harm marine mammals due to habitat destruction and vessel strikes.

In addition, multiple ESA-listed mammals and turtles are also present, including, green leatherback. The NMFS is currently preparing proposed critical habitat for the leatherback which will likely include Coos Bay and areas part of the LNG tanker routes. All of these ESA-listed species, as well as the non-ESA-listed species, will be adversely affected by the proposed project.

The large increase in deep draft vessels due to the LNG terminal will increase the risk of vessel strikes of marine mammals and turtles. The NMFS' unpublished compiled data indicates nine whale vessel strikes of were either reported in the region or detected during necropsy by the NW Marine Mammal Stranding Network between January 2002 and January 2007. Fin whales (6) were encountered most frequently, with individual strikes reported for blue, sei and humpback whales. Seven of the strikes were reported from Washington and two from Oregon, during the four year period (start of 2002 through start of 2007). The closest strikes to the proposed action area involved a fin whale that came into the Port of Portland on the bow of a vessel in September 2002, and a blue whale that was reported struck and killed off Tillamook, Oregon, in January 2007. Far more actual strikes occur than are reported. The Corps must assess the impact of these strikes to individuals and populations. The Corps must fully understand the tanker route to Jordan Cove and the tanker routes in the Exclusive Economic Zone.

**1.6 The proposed action would cause or contribute to significant degradation of the waters of the United States by causing significantly adverse effects on fish, wildlife, and special aquatic sites.**

Under 40 CFR Section 230.10(c):

Except as provided under section 404(b)(2), no discharge of dredged or fill material shall be permitted which will cause or contribute to significant degradation of the waters of the United States. Under these Guidelines, effects contributing to significant degradation considered individually or collectively, include:

...(2) Significantly adverse effects of the discharge of pollutants on life stages of aquatic life and other wildlife dependent on aquatic ecosystems, including the transfer, concentration, and spread of pollutants or their byproducts outside of the disposal site through biological, physical, and chemical processes;

(3) Significantly adverse effects of the discharge of pollutants on aquatic ecosystem diversity, productivity, and stability. Such effects may include, but are not limited to, loss of fish and wildlife habitat or loss of the capacity of a wetland to assimilate nutrients, purify water, or reduce wave energy.

The JPA fails to address salinity changes and resulting impacts to fish resources in Coos Bay. The JPA likewise does not address the impacts of fertilization in riparian areas and nutrient loading impacts on water quality.

Jordan Cove will introduce or allow the proliferation of invasive species to Coos Bay, the terminal site, and along the pipeline route. First, ships from foreign ports will transport exotic species on multiple surfaces and in water releases from ballast or engine cooling water. These

species may harm the aquatic ecosystem. Second, the removal of vegetation, and long-term disturbances at the site will allow the introduction and proliferation of exotic species, which will harm native ecosystems and may require herbicides and pesticides to manage. Third, a large swath of clearing and ground disturbance across Oregon for the pipeline will create an ideal site for exotic species to thrive and harm native ecosystems, forestland, and farmland.

Furthermore, Jordan Cove proposes to introduce a non-native invasive species as part of its mitigation plan. The National Parks Service has spent hundreds of thousands of dollars eradicating this very species from beaches in California. The application states: “The Port Site for the interim sand storage stockpile will be temporarily disturbed to accommodate 3.3 MMCY of sand and a sorting area. This area will be stabilized by European beach grass, which is the best method of stabilizing sands to prevent the material from becoming windblown onto adjacent properties.” JPA at 9. According to the National Parks Service, European Beach Grass is a serious threat to natural dune ecosystems. What makes it a "bad" plant?

- European beachgrass is an aggressive colonizer of beach areas that forms a dense mat of grass and rhizomes, unlike any of the native dunemat species.
- The beachgrass captures sand, decreasing natural sand movement, and causing the dunes to increase in height.
- As the dunes increase in height and the normal ocean breeze diminishes behind the dunes, a new microclimate develops that is no longer suitable for dunemat species. Succession ensues toward more inland native coastal vegetation types and colonization by other exotic plant species, until the integrity of the entire native dunemat ecosystem is threatened.
- Areas heavily infested with beachgrass are unsuitable as habitat for nesting snowy plovers. These marine birds require areas of open sand or low, native dunemat vegetation for nesting. The snowy plover is a federally listed, threatened species.
- Areas infested with beachgrass are unsuitable as habitat for three (CNPS List 1B) sensitive plant species: beach layia (*Layia carnosa*) [also federally listed as endangered], Wolf's evening primrose (*Oenothera wolffi*) and pink sand verbena (*Abronia umbellata* ssp. *brevifolia*).

See <http://www.nps.gov/archive/redw/beach-gr.htm>.

## **1.7 The proposed action would alter wetlands that perform functions important to the public interest**

Under 33 CFR Section 320.4(b):

- (2) Wetlands considered to perform functions important to the public interest include:
  - (i) Wetlands which serve significant natural biological functions, including food chain production, general habitat and nesting, spawning, rearing and resting sites for aquatic or land species;
  - (ii) Wetlands set aside for study of the aquatic environment or as sanctuaries or refuges;

- (iii) Wetlands the destruction or alteration of which would affect detrimentally natural drainage characteristics, sedimentation patterns, salinity distribution, flushing characteristics, current patterns, or other environmental characteristics;
  - (iv) Wetlands which are significant in shielding other areas from wave action, erosion, or storm damage. Such wetlands are often associated with barrier beaches, islands, reefs and bars;
  - (v) Wetlands which serve as valuable storage areas for storm and flood waters;
  - (vi) Wetlands which are ground water discharge areas that maintain minimum baseflows important to aquatic resources and those which are prime natural recharge areas;
  - (vii) Wetlands which serve significant water purification functions; and
  - (viii) Wetlands which are unique in nature or scarce in quantity to the region or local area.
- ...(4) No permit will be granted which involves the alteration of wetlands identified as important by paragraph (b)(2) of this section or because of provisions of paragraph (b)(3), of this section unless the district engineer concludes, on the basis of the analysis required in paragraph (a) of this section, that the benefits of the proposed alteration outweigh the damage to the wetlands resource.

Here, the wetlands proposed for destruction are important, as defined by 33 C.F.R § 320.4(b)(2) because the wetlands serve significant biological functions, contain important environmental characteristics, and are scarce in quantity in this region.

The application fails to consider impacts to nearby wetlands from erosion, etc. Wetlands to the west of the slip are likely to be impacted, but ignored in the application. In addition, the estuarine wetlands provide a nursery for young salmon and other aquatic life. The combination of losing shallow water habitat from dredging and losing shallow water habitat from filling wetlands is a devastating blow to the estuary ecosystem. The Corps must analyze the habitat loss of the dredge and fill cumulatively. The wetland fill will also degrade habitat utilized by birds, amphibians, mammals, and invertebrates.

Jordan Cove states that it will mitigate the impacts to the species affected by destruction of habitat through its Mitigation Plan. Nonetheless, the Mitigation Plan will be insufficient to mitigate the adverse impacts of filling the wetlands. The filling of the wetlands and their resulting destruction will be certain, permanent, and imminent. In contrast, the measures to be implemented in the Mitigation Plan and the effectiveness of such measures are highly uncertain. Furthermore, even if the measures of the Mitigation Plan are successfully implemented, the benefits from the measures may accrue slowly while the endangered and threatened species are put in further jeopardy by a lack of essential habitat. The Corps should take these factors under consideration and require the applicant to provide a more thorough analysis concerning the effectiveness of the Mitigation Plan.

The State commented on the total absence of, and inadequate nature of existing mitigation plans in it FEIS comments: “For about 2.5 miles in the bay, [the applicant] indicated it would use about a 250-foot-wide construction ROW. This is a 250-foot-wide swath for 2.5 miles in estuarine waters/wetlands with no mention of turbidity controls, timing of construction, and tidal variations during construction etc.” State of Oregon FEIS comments at 14, DSL section. The

State expressed further concern and issued recommendations: “Avoid, minimize, then look into suitable compensatory mitigation options for waters and wetlands (estuarine and freshwater). DSL recommends that adequate CWM be identified. If PFO is being converted, the mitigation needs to be "in-kind" replacement. Compensatory mitigation is required for projects within both wetlands and waters of the state. Compensatory wetland mitigation (OARI41-085-0 121, -0126, -0136, -0141, -0151), Compensatory mitigation (OARI41-085-0115) and mitigation for temporary impacts (OAR 141-085-0171) are needed. Per OAR 141-085-0121 (4), for projects over 0.2 acres, on-site CWM first has to be considered.” *Id.* at 16. Jordan Cove has not followed the required process, instead assuming it can mitigate away all adverse impacts or ignore those impacts entirely. The application is incomplete and insufficient. The Corps simply cannot issue a 404 permit on the basis of this application.

### **1.8 The application fails to incorporate practicable steps that will minimize potential adverse impacts of the discharge on the aquatic ecosystem.**

Under 40 CFR Section 230.10(d):

Except as provided under section 404(b)(2), no discharge of dredged or fill material shall be permitted unless appropriate and practicable steps have been taken which will minimize potential adverse impacts of the discharge on the aquatic ecosystem.

ODFW stated in its FEIS comments that the draft Compensatory Mitigation Plan: does not follow the direction of the Mitigation Policy by avoiding Category 1 habitat impacts. As written, the CMP does not address mitigation for non-federal lands...Mitigation levels produced by the Habitat Equivalency Analysis model do not seem appropriate and are often close to 1:1, and sometimes below 1:1....The FEIS mentions that further work will occur on this, but ODFW believes the document and proposed mitigation is inadequate until a complete mitigation plan is put forward and accepted by the natural resources agencies.

Similarly, NMFS highlighted the inadequacies of the Draft Compensatory Mitigation Plan: The compensatory mitigation plan is a draft document that will need to be negotiated and approved by multiple entities. It is reasonably likely that the final approved plan will be significantly different from the draft supplied in the BA. Until the plan is finalized, the effects of the mitigation actions, both adverse and beneficial, cannot be accurately assessed in the BA or analyzed by NMFS in a biological opinion. In the absence of a final mitigation plan that identifies non-discretionary commitments for mitigation, NMFS cannot assume mitigation will occur. Provide a final mitigation plan.

NMFS BA comments at 5.

Additionally, the ESC Plan fails to disclose specific information for adequate evaluation of the mitigation designs and procedures to be used mitigating these environmental impacts. The Corps and the public can not possibly evaluate the effectiveness of any mitigation plans proposed by Jordan Cove without the specifics of the plans. Simply stating that Best Management Practices (“BMPs”) will be used is insufficient for evaluation of mitigation measures specific to this site. This listing of BMPs to be used is inadequate for a proper analysis of the effectiveness of the proposed sediment control measures.

The description of a general BMP without site specific considerations is worthless to the public, and FERC, for proper evaluation of the measures to be used for mitigation of environmental impacts caused by construction activities.

- lack of specifics regarding the water quality and habitat impacts of the improvements to roads
- lack of design specifics used to justify lack of complete ESC
- failure to assess how much of an increase in impervious surfaces will result from road improvements, and how surface flow runoff will be affected by said road improvements. Increased storm water runoff resulting from greater areas of impervious surfaces from road construction will possibly increase pollution into the bay. These forms of pollution could be increased sedimentation due to the increased surface flow runoff, or debris and hydrocarbons such as oil washed from the road surfaces during storm events. The Corps and DEQ should evaluate the effects of greater impervious areas and changes in storm water drainage dynamics resulting from road widening and construction, and also evaluate the potential from increased pollutants entering Henderson Marsh and Coos Bay from resulting increased storm water runoff.
- failure to analyze the potential for releasing contaminants from the soil during road construction. The Corps should require Jordan Cove to provide a plan on dealing with any soil contaminants encountered during road construction activities and analyze the possible environmental effects from the release of any such contaminants.

The proposed mitigation projects do not offset the tremendous damage that the LNG terminal and pipeline would cause. First, the mitigation violates the fundamental tenant of the Corps' mitigation sequencing by failing to avoid adverse impacts. As described in these comments and by NMFS and Oregon, there are practicable alternatives to the Jordan Cove location with fewer adverse impacts.

EPA describes the mitigation sequencing as follows:

In 1990, the Environmental Protection Agency (EPA) and the Department of Army entered into a Memorandum of Agreement (MOA) to clarify the type and level of mitigation required under Section 404 regulations. The agencies established a three-part process, known as mitigation sequencing to help guide mitigation decisions:

1. Avoid - Adverse impacts are to be avoided and no discharge shall be permitted if there is a practicable alternative with less adverse impact.
2. Minimize - If impacts cannot be avoided, appropriate and practicable steps to minimize adverse impacts must be taken.
3. Compensate - Appropriate and practicable compensatory mitigation is required for unavoidable adverse impacts which remain.

*Available at* <http://www.epa.gov/owow/wetlands/pdf/CMitigation.pdf>.

The MOA describes the legal requirements:

*Avoidance.* Section 230.10(a) allows permit issuance for only the least environmentally damaging practicable alternative. The thrust of this

section on alternatives is avoidance of impacts. Section 230.10(a) requires that *no discharge shall be permitted if there is a practicable alternative* to the proposed discharge which would have less adverse impact to the aquatic ecosystem, so long as the alternative does not have other significant adverse environmental consequences. In addition, Section 230.10(a)(3) sets forth rebuttable presumptions that 1) alternatives for non-water dependent activities that do not involve special aquatic sites are available and 2) alternatives that do not involve special aquatic sites have less adverse impact on the aquatic environment. *Compensatory mitigation may not be used as a method to reduce environmental impacts* in the evaluation of the least environmentally damaging practicable alternatives for the purposes of requirements under Section 230.10(a).

Memorandum of Agreement Between the Department of the Army and the Environmental Protection Agency, 1990 (emphasis added).

Jordan Cove flips this sequence on its head by siting the terminal and pipeline where it will have tremendous adverse impacts, but then attempting to mitigate those impacts. For example, the pipeline is routed through the Bay affecting 53 acres, as well as creating over two miles of pipeline disturbance. As the MOA states, compensatory mitigation may not be used as a method to reduce environmental impacts. The Corps must deny the permit because it violates the mitigation sequencing requirements.

Second, even were Jordan Cove properly avoiding adverse impacts, the mitigation does not adequately compensate for the damage. The 58 acres of prime estuarine salmon habitat that would be destroyed are irreplaceable. In addition, adequate mitigation must replace habitat values with “in-kind” and “in-place” habitat. The MAO states:

Generally, in-kind compensatory mitigation is preferable to out-of-kind.

There is continued uncertainty regarding the success of wetland creation or other habitat development. Therefore, in determining the nature and extent of habitat development of this type, careful consideration should be given to its likelihood of success.

*Id.*

In the JPA, much of the proposed mitigation is not “in-kind” or “in-place,” as NMFS and the State of Oregon noted in BA, DEIS and FEIS comments. The construction and operation of the terminal will cause immediate, severe, deleterious impacts to salmon, critical habitat, and essential fish habitat. Jordan Cove has understated the extent and severity of impacts that will need to be mitigated, and so the analysis of how mitigation will offset these problems is thus inherently flawed. Most importantly, the mitigation measures put forth by Jordan Cove do not necessarily offset the types of habitat being destroyed by dredging, damaging wetlands, streams, and riparian areas at the terminal and along the pipeline. NMFS has raised these issues as well as the problem that the effects of the mitigation will take hold at best several years after damage occurs along the pipeline and at the site. Perhaps most starkly, Jordan Cove has proposed no mitigation for benthic disturbances in the Bay below 15 feet in the dredging area. Jordan Cove must describe more thoroughly how proposed mitigation efforts will address this problem during construction and early operation of the terminal and pipeline.

Expert agencies have roundly criticized the Jordan Cove mitigation plans. For example, NMFS stated “The value of the compensatory mitigation plan and how it relates to the populations and critical habitat units is not clear.” NMFS BA comments at 5. When the state and federal agencies in charge of salmon both expressly state that the mitigation is inadequate, the Corps must find that the project is not in the public interest. The Corps must place great weight on the review of these expert agencies when evaluating the efficacy of the mitigation.

Jordan Cove and Pacific Connector have made conflicting statements in their submittals to FERC and other federal and state agencies and testimony by their representatives at various hearings about their plans to employ herbicides. If Jordan Cove/Pacific Connector intend to use chemical control measures, the impacts of these control measures must be assessed on salmon that may use the restored areas.

Additional problems with proposed mitigation, including construction, stormwater, and operational mitigation, are discussed in the section addressing those activities.

### 1.9 The JPA Fails to Adequately Address Cumulative Impacts

33 C.F.R § 320.4(a) requires the Corps to consider the cumulative impacts of the proposal, including the cumulative effects of “conservation, economics, aesthetics, general environmental concerns, wetlands, historic properties, fish and wildlife values, flood hazards, floodplain values, land use, navigation, shore erosion and accretion, recreation, water supply and conservation, water quality, energy needs, safety, . . . considerations of property ownership and, in general, the needs and welfare of the people.” 40 C.F.R § 320.4(a). The Corps’ analysis, therefore, is not limited to the region directly adjacent to the terminal and pipeline. Nor is the review limited to short-term impacts, but it must consider the long term impacts on the estuary and the entire length of the pipeline. The terminal, along with the proposed pipeline and potential lateral pipelines, will have a tremendous adverse impact on each of the factors listed above.

Quantifying incremental change is feasible. The project’s application to the Corps does not even attempt to acknowledge important past, ongoing, and future actions that will continue to hamper recovery of sensitive wildlife, fish, and their habitats. The cumulative impacts analysis also omits the obvious impact that logging and road-building have had in National Forests. For instance, since the Western Oregon Plan Revision has been withdrawn, the underlying analysis of cumulative impacts for the Pacific Connector is also flawed. *See* Coalition letter to FERC re: Significant New Information and Necessary SEIS, November 12, 2009. This issue must be incorporated into a consideration of how Pacific Connector impacts the quality of habitat for the Northern Spotted Owl and other species.

As part of the cumulative effects analysis, the Corps must also consider the project’s degradation of fish habitat in light of the already tenuous state of salmon, sturgeon and groundfish in the Pacific Northwest. First, the wetland and shallow water habitat in Coos Bay has been significantly degraded over the last century. The remaining habitat, therefore, takes on added importance. ODFW and NMFS have commented that the projects eelgrass mitigation proposals are inadequate. In the future, massive channel deepening will fundamentally alter the Bay,

further eroding and undermining the integrity of shallow water habitats. The Pacific Connector pipeline will also disturb these habitats, and the Corps must consider each of the cumulative effects on salmon. In addition, the Corps must consider the cumulative economic effect of the project on the fishing and oyster industry and communities dependent upon fishing and shellfish revenue. The direct harm to the Bay will harm the fishing and shellfish industries, as will the lack of access to traditional fishing areas.

#### 1.9 CWA § 404 Conclusion: the Corps cannot and should not issue the permit

Once again, federal and state agencies lack sufficient information to make a reasonable judgment on this JPA. 40 C.F.R. § 230.12(a)(3)(iv) requires a finding of noncompliance with restrictions on discharge when the application does not contain sufficient information. The Corps does not have sufficient information on the practicable alternatives and the impacts on the proposed project.

The application contains blatant factual errors. In addition to errors, the application and the attachments simply do not contain adequate information to assess the impact on aquatic resources and to conduct a legally sufficient alternatives analysis. The application materials contain inadequate information on the site of stream crossings due in part to the fact that the applicant has not visited many of the locations in which they plan to conduct major work. The JPA does not demonstrate a need for the project. Pipeline route information is missing, and the revised road plan has not been made available to the public. Local land use approvals are absent and the applications for those permits have been met with stiff opposition and legal challenges. The applicant's ability to secure these necessary permits is far from certain. How can the Corps, DEQ and DLCD assess the impact on aquatic resources if no one has conducted a field assessment of the specific site?

The Corps may not approve the permit if it "jeopardizes the continued existence of species listed as endangered or threatened under the Endangered Species Act of 1973, as amended, or results in likelihood of the destruction or adverse modification of . . . critical habitat" 33 C.F.R § 230.10(b)(3). As discussed in detail above, the dredging and filling of prime estuarine habitat will jeopardize the struggling populations of salmonids and the threatened North American green sturgeon. In addition, the proposal will significantly increase in deep draft ship traffic, which will increase wake stranding of juvenile fish and increase vessel strikes and other harassment of endangered and threatened marine mammals.

The application also contains stunning discrepancies with more recent submissions by the applicant. The JPA relies on the DEIS, though more than a year of submission have been made to FERC since the comment deadline on the DEIS, including issuance of the FEIS more than six months ago. The Corps simply cannot make a decision without accurate information about the design and operation of the facility. The project has dramatically changed since the application was submitted. The Corps must request a new application to reflect these changes. If the Corps issued the permit now, it would be unclear which project the Corps is approving. The project has changed even more since the 404 application was submitted, and the project is still poorly defined. The Corps must make a finding of noncompliance due to insufficient information, 40 C.F.R. § 230.12(a)(3)(iv), or request an accurate, new application.

The Corps and the state should have recognized and rejected the errors contained in the application. It is not clear why the Corps did not pick up on the serious errors and misstatements, and require a new application at that time. Regardless, the Agencies now have a duty to require a new application that presents accurate information and legitimate answers.

The Agencies can only rely on information presented in the application. If the application is incomplete or inaccurate, the Agencies do not have sufficient information to issue permits. The Agencies' choices are to deny the permit or request a new and accurate permit application. The Agencies cannot simply glean information from other documents or private meetings with the applicant.

**2. The Oregon Department of Environmental Quality must deny the applicant's request for a certification under Section 401 of the Clean Water Act that the proposed action would comply with State water quality standards**

These comments demonstrate that the State cannot issue a water quality certificate for this project. The project violates nearly every provision of state and federal law governing issuance of a 401 certification.

**2.1 The application for certification fails to contain the mandatory minimum information**

Under 340-048-0020(2):

An application filed with the department must contain, at a minimum, the following information: ...

(c) A description of the activity's location sufficient to locate and distinguish existing and proposed facilities and other features relevant to the water quality effects of the activity;

...

(e) A complete written description of the activity, including maps, diagrams, and other necessary information;

(f) The names of affected waterways, lakes, or other water bodies.

*Identification of impacted waterbodies*

The application materials do not consistently specify the number of waterbodies that would be crossed. The DEIS for the proposed action states that 379 waterbodies would be affected. DEIS at page 4.3-12. The FEIS states that the pipeline would cross 218 waterbodies. FEIS at 4-3.13 The Joint Permit Application states that proposed action would cross 232 perennial and intermittent streams, affecting 383 waterbodies.

Unless and until the applicants provide a consistent and complete list of waterbodies that would be affected by the proposed action, and name each affected waterbody (*see* section 1.1 of these comments on the Avista tie-in pipeline *supra*), the application fails to contain the mandatory

minimum information required under 340-048-0020(2)(c), (e) and (f) and must therefore be rejected as incomplete.

*Sources and impacts of hydrostatic testing*

The DEIS and FEIS states that 58 million gallons of water will be needed for hydrostatic testing of the pipeline, yet the sources and disposal of this water are not fully determined. The DEIS and FEIS also state that water will be used for dust control and other construction-related activities. The uptake and release of these substantial amounts of water for hydrostatic testing could negatively impact waterbodies, transport invasive species to other watersheds and cause erosion.

The DEIS contains general information about the scope of the proposed hydrostatic testing:

Permission to discharge the hydrostatic test water would be applied for concurrently with the request for coverage under the ODEQ General Stormwater Discharge Permit and permitted through a separate letter of approval. Hydrostatic test water would be discharged in upland settings, into erosion control devices, to minimize the potential for scour, erosion, and sedimentation into nearby wetlands and waterbodies, in accordance with Pacific Connector's ECRP. Straw bale barriers and silt fence would typically be used to retain sediment and reduce velocity. Discharge rates would range from several hundred gallons per minute to several thousand gallons per minute, depending on the length of the test section, profile, topography, vegetation cover, and soil type, as reviewed by the contractor and the EI.

DEIS at 2-89. Additionally the DEIS states:

Where possible, test water would be released within the same basin from which it was withdrawn. However, cascading water from one test section to another to minimize water withdrawal requirements may make it impractical to release water within the same basin where the water was withdrawn in all cases.

Pacific Connector would apply for permission to discharge the hydrostatic test water concurrently with its request for coverage under the ODEQ General Stormwater Discharge Permit and permitted through a separate letter of approval. State withdrawal permits require review by the ODWR, ODEQ, and ODFW to ensure potential impacts from the withdrawal do not occur. The review includes volume, timing and duration of the withdrawal. The withdrawal permit ensures that the proposed withdrawal does not impact existing water rights or beneficial uses of the waterbody. All hydrostatic test water would be discharged to upland areas at a rate to prevent scour, erosion, and sediment migration to sensitive resources such as wetlands and waterbodies as detailed in Pacific Connector's ECRP and all permit conditions would be implemented. ....

*Id.* at 4-35. And:

The USFS has expressed concern that details for hydrostatic test water withdrawal and discharge are not adequately defined to ensure erosion is prevented, stream flows and aquatic organisms would not be affected, and that inter-basin transfer of undesirable

organisms would not occur. Pacific Connector is proposing methods for hydrostatic test water withdrawal and discharge that we believe are consistent with industry practices, and that have been shown, through use on many similar pipeline projects to adequately minimize impacts on waterbodies. However, to ensure that USFS concerns for impacts to watersheds within its jurisdiction are addressed, we are recommending that Pacific Connector continue to consult with the USFS and BLM regarding specific plans for hydrostatic test water withdrawal and discharge on USFS and BLM lands, and include additional detail for mitigating potential impacts from hydrostatic testing as requested by the USFS.

*Id.* at 5-10.

Numerous Federal and State environmental and natural resource protection agencies have raised alarms about the lack of information that applicants have provided about discharges associated with hydrostatic testing. In its DEIS comments NMFS stated:

Discussion of hydrostatic test water within Section 2.4.2.1 explains that it will be discharged into upland settings. *However, the description implies that discharge water will run into waterbodies.* Explain whether this is true. *If water is allowed to flow out of the erosion control devices, across the ground and into waterbodies, adverse impacts to NMFS trust resources will be greatly increased and need to be detailed in the effects sections.* Furthermore, the applicant-prepared draft biological assessment explained that metallic cations, oil, and grease were often elevated in discharge water. Please address the following concerns: (1) Potential discharge of chemicals from inside the pipe; (2) potential of introducing non-native species from a different basin; (3) potential of causing changes in small stream channels due to the increased flow; and (4) fish stranding due to quickly ramping flows up and then down. Discharging water in a manner to allow it to fully infiltrate into the ground would eliminate most of these concerns.

NMFS DEIS comments at 2-3 (emphasis added).

In its DEIS comments, Oregon DEQ was even more pointed about the lack of information provided about the proposed hydrostatic testing:

*The above passages are vague and contradictory about whether hydrostatic test water will reach the surface waters or not. If hydrostatic test water will reach surface waters, the DEIS should have a complete listing of all hydrostatic test discharge points with the name of the receiving stream and location on that stream.* The discharge of pollutants into a water quality limit water body would be very difficult if not impossible to permit. If the total maximum daily load has already been issued, the project would need to comply with the TMDL requirements.

*If hydrostatic test water will not reach surface waters, the DEIS should have a complete listing of the infiltration areas. Such a list should include a location where the water would drain if it were released.*

Hydrostatic test water cannot be discharged under the DEQ general storm water discharge permit.

State of Oregon DEIS comments at 67, (emphasis added).

The FEIS for the proposed action addresses none of these concerns regarding the lack of information about discharges associated with hydrostatic testing. In responding to ODEQ DEIS comments, the FEIS regurgitates material from the DEIS, stating:

As stated in the final EIS, the pipeline would be tested in approximately 74 sections, each with varying lengths and water volume requirements. During the test, it may be necessary to discharge water at each of the section breaks; however, discharges would be minimized and water would be conserved as much as practical by cascading water between test sections when feasible (pumping from one segment to the next). When discharged, the test water would be released adjacent to the construction right-of-way through an energy dissipating device and straw bale filter or sediment bag. Test water would not be discharged directly into surface waters.

FEIS Appendix J at J.SA-71.

Thus, for purposes of determining whether the proposed action complies with State water quality standards, the applicants have still not provided essential details of proposed hydrostatic testing requested by the Oregon DEQ, including a complete listing of all hydrostatic test discharge points with the name of the receiving stream and location on that stream and/or a complete listing of the infiltration areas, including the location where the water would drain if it were released. Therefore, the application fails to contain the mandatory minimum information required under 340-048-0020(2)(c), (e) and (f) and must therefore be rejected as incomplete.<sup>1</sup>

## **2.2. The proposed action would violate Oregon’s antidegradation policy**

Under 340-041-0004:

(1) Purpose. The purpose of the Antidegradation Policy is to guide decisions that affect water quality such that unnecessary further degradation from new or increased point and nonpoint sources of pollution is prevented, and to protect, maintain, and enhance existing surface water quality to ensure the full protection of all existing beneficial uses. The standards and policies set forth in OAR 340-041-0007 through 340-041-0350 are intended to supplement the Antidegradation Policy.

(3) Nondegradation Discharges. The following new or increased discharges are subject to this Division. However, because they are not considered degradation of water quality, they are not required to undergo an antidegradation review under this rule:

(c) Temperature. Insignificant temperature increases authorized under OAR 340-041-0028(11) and (12) are not considered a reduction in water quality.

(d) Dissolved Oxygen. Up to a 0.1 mg/l decrease in dissolved oxygen from the upstream end of a stream reach to the downstream end of the reach is not considered a reduction in water quality so long as it has no adverse effects on threatened and endangered species

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<sup>1</sup> The FEIS mentions the existence of an incomplete draft Hydrostatic Testing Plan. The FEIS states: “Pacific Connector’s draft Hydrostatic Testing Plan includes measures to prevent the transfer of aquatic invasive species and disease. We expect this plan to be refined and finalized after further consultations between Pacific Connector and federal land managing agencies.” FEIS at 5-7. However, this draft Hydrostatic Testing Plan has not been provided to the public. Therefore, it cannot be a basis for supplying mandatory minimum information required under 340-048-0020(2)(c), (e) and (f).

(7) Water Quality Limited Waters Policy: Water quality limited waters may not be further degraded except in accordance with section (9)(a)(B), (C) and (D) of this rule.

The FEIS states:

Clearing and grading of streambanks, removal of riparian vegetation, instream trenching, trench dewatering, and backfilling could result in streambank modification; increased sedimentation; turbidity; increase in temperature, decreased dissolved oxygen concentrations; releases of chemical and nutrient pollutants from sediments; and introduction of chemical contaminants, such as fuel and lubricants. An increase in soil compaction and vegetation clearing could potentially increase runoff and subsequent streamflow or peak flows. Surface waters could be impacted due to alteration of groundwater flow where the pipeline intersects waterbodies.

FEIS at 4.3-31.

ODEQ has also expressed strong concern that the proposed action would violate Oregon's antidegradation policy. In its DEIS comments, DEQ stated:

The project proponent cannot be allowed to further degrade a water quality limited waterbody. According to Oregon Administrative Rule (OAR) 340-041-0004(7) 'Water quality limited waters may not be further degraded except in accordance with section (9)(a)(B), (C) and (D) of this rule.' Section (9)(a)(B), (C) and (D) specify very limited circumstances where further degradation can be allowed. It is unknown whether this project could qualify for any exception...

The project cannot cause or contribute to water quality standard violations nor discharge pollutants to a stream that already is in violation. If a TMDL has been issued, the project needs to comply with all requirements of the TMDL. If they cannot comply with a TMDL, no discharge is possible and the project probably cannot go forward.

State of Oregon DEIS comments at 48.

In at least the following three respects, the proposed action violates Oregon's antidegradation policy.

#### *Temperature*

As discussed in more detail in Section 2.4 of these comments (the proposed action would violate Oregon's water quality standards for temperature) the proposed action would result in 'obvious stream heating.' The temperature increases the proposed action would cause could not be authorized under OAR 340-041-0028(11) or (12). Therefore, the temperature increases associated with the proposed project would constitute degradation that violates Oregon's antidegradation policy.

#### *Dissolved Oxygen*

The proposed action involves dredging that will decrease dissolved oxygen in Coos Bay because dredging increases the oxygen demand by disturbing sediments. As explained in the DEIS:

Dredging activities would temporarily stir up sediment and degrade the water quality in the area of the dredging, which in turn, may extend out into the Coos Bay. .... The suspension of organic materials and sediments could cause an increase in the total suspended solids (TSS) in the area of the slip and access channel. Lower dissolved oxygen concentrations could cause a decrease in available dissolved oxygen within the affected area.

DEIS at 4-3.19.

Oregon DEQ has expressed strong concerns about lowered dissolved oxygen levels that the proposed action would cause. In its DEIS comments DEQ stated:

Total organic carbon, acid volatile sulfides, and nutrient sampling should be conducted to quantify the potential for adverse impact to oxygen levels caused by resuspension of sediments during dredging activities. Impacts should then be evaluated utilizing hydro dynamic modeling which can capture real time tidal conditions and simulate real time tidal exchanges during the period of the project.

State of Oregon DEIS comments at 63.

The FEIS for the proposed action cursorily dismisses DEQ's concerns, stating:

We do not agree that the requested additional studies are required. As stated in section 4.5.2.2, any affect from encountering high oxygen demand sediment during dredging would be temporary and tidal exchange would be expected to replenish oxygen. In most cases, where dredging and disposal occurs in open coastal waters, estuaries, and bays, localized removal of oxygen has little, if any, effect on aquatic organisms (Bray et al. 1997). In addition, prior to dredging, sediment characteristics would be further analyzed to determine if any additional risks are present from removal of sediment, and a final dredging plan considering the outcome of these studies would be developed.

FEIS Appendix J at J.SA-67 (SA2-198).

What FERC failed to understand, and what the Oregon DEQ must consider in deciding whether to certify the proposed action as complying with Oregon's water quality standards, is that construction dredging lowers dissolved oxygen levels in estuarine waters not only by re-suspending sediment, but by deepening an estuarine channel where *hypoxic conditions can occur due to reduced circulation in deeper waters*. A perfect illustration of this impact is the Weaver's Cove Energy Offshore Berth Dredging and Trenching Project located in Mount Hope Bay in waters between Rhode Island and Massachusetts. A recent study calculated the long-term changes in dissolved oxygen that can occur after constructing a deep channel in a marine inlet.

The study states:

During dredging operations, the introduction of suspended sediments into the water column has the potential to temporarily impact dissolved oxygen (DO) levels in the bay. The potential extent of this effect is a function of the concentration of dredge induced suspended sediments together with the concentration of oxygen consuming constituents in the dredged sediments. As a construction impact, this effect is temporary. Once the dredging is completed, there also is the potential for reduced circulation in the deeper portions of the new 550 ft wide approach channel. *In combination with other factors, reduced circulation has the potential to result in lower DO levels in the deeper waters. ...*

The impacts of deepening the water column were projected using a control volume approach. Water column depth was increased and the observed SOD rates were varied to determine the projected steady-state conditions for DO at the location of the proposed approach channel. ....

The model was run with the post construction water depth of 41 ft below MLLW and with the SOD rate increased to the largest observed value from field studies in Mount Hope Bay (a conservative assumption which will yield higher estimates of DO sag). *An absolute decrease in the DO concentration of approximately 2 mg/L was computed at a depth of 16 ft (which corresponds to the existing average depth at the channel location). If the depth is increased to 41 ft within the modeling system, the steady-state DO concentration decreased by approximately 3.5 mg/L when the largest observed SOD rate was used as an initial condition. Conservative initial model results based on the maximum SOD rate observed in the field in Mount Hope Bay coupled with post construction depths indicate that the DO concentration could fall below the current Massachusetts SA and SB water quality criteria of 6 and 5 mg/L, respectively at the bay floor.* However, these initial numerical analyses are extremely conservative in that they do not account for the strong tidal movement and resultant flushing that occurs twice a day in the Bay.

A fine resolution hydrodynamic and mass transport model system was then used to estimate the amount of time required for the water present at the start of the tide cycle to flush out of the Mount Hope Bay turning basin and the approach channel. ... When the approach channel area is increased to 41 ft below MLLW, approximately 97.3% of the original water circulates out of the area within 3 hrs. ... Accordingly, DO concentrations will not significantly decrease in the deepened approach channel and turning basin footprint since its waters will be mixed relatively quickly.

*Weaver's Cove Energy Offshore Berth Dredging and Trenching Program, Dissolved Oxygen and Water Circulation Analysis*, January 2009, available at [http://www.weaverscove.com/files/Jan30\\_RR\\_WEC\\_SUBMIT\\_TO\\_FERC/Jan30\\_Exhibit\\_F/Jan30\\_RR\\_3/PUBLIC\\_Appendix\\_3F.pdf](http://www.weaverscove.com/files/Jan30_RR_WEC_SUBMIT_TO_FERC/Jan30_Exhibit_F/Jan30_RR_3/PUBLIC_Appendix_3F.pdf) (emphasis added).

The applicant is proposing to deepen a federal navigation channel in Coos Bay from its existing depth of -37 feet to -51 feet MLLW from the ocean entrance to the railroad bridge, widening the channel from its existing width of 300 feet to 600 feet. *In the absence of tidal flushing, it is likely that reduced circulation in the deeper channel will decrease dissolved oxygen by several milligrams per liter.* Oregon's antidegradation policy allows only a 0.1 mg/L decrease in dissolved oxygen. Therefore, the applicant must prove that actual hydrodynamic conditions in Coos Bay would not result in a 0.1 mg/L decrease in dissolved oxygen levels caused by reduced circulation in the deeper channel.

*Water quality limited waters*

The project would cross 32 waterbodies that are listed on the 303(d) list as impaired for various parameters, including temperature, dissolved oxygen and sedimentation. An approved TMDL exists for the South Umpqua and Rogue.

The 2008 Rogue TMDL covers temperature and bacteria. As discussed in more detail in Section 2.4 the proposed action would result in 'obvious stream heating.' The Rogue TMDL allocates reserve capacity to accommodate future growth as well as to provide an allocation to any existing source that may not have been identified during the development of the TMDL. The applicant has not demonstrated that there is sufficient reserve capacity in the Rouge TMDL for increased temperatures to accommodate this project and allow for anticipated growth and development of the Rogue Valley, one of the fastest growing areas in the state.

In addition to temperature, West Fork Trail, Indian and Lick Creeks in the Rogue Basin are listed on the 303(d) listed for dissolved oxygen. The pipeline would cross all three of these creeks. The 2008 EPA approved Rogue Basin TMDL states:

At the time of the writing of this TMDL, there were insufficient data to address the Rogue River Basin dissolved oxygen listings...DEQ intends to re-visit the Rogue River Basin dissolved oxygen impairments when the temperature and bacteria TMDLs are reviewed, on a 5 year basis.

DEQ does however expect that improvements in dissolved oxygen levels will occur as a result of implementing the Temperature TMDL. Stream temperature has a significant impact on the dissolved oxygen level in a stream in two ways. As stream temperatures decrease, the amount of oxygen that can remain dissolved in water increases, and as temperatures decrease the amount of oxygen consumed by biological processes decreases.

There are a number of causes of increased stream temperatures in the Rogue River Basin...It is anticipated that decreasing stream temperatures as required for nonpoint source heat load allocations in the Temperature TMDL will also reduce dissolved oxygen impairments. Surrogate measures to reduce nonpoint source heat loads include percent effective shade targets and hyporheic flow percentage targets. DEQ encourages the long-term monitoring of dissolved oxygen on the 303(d) listed streams in the Rogue River Basin.

*Available at <http://www.deq.state.or.us/WQ/TMDLs/rogue.htm#rb>.*

In addition, South Fork Little Butte Creek is also 303(d) listed as impaired for sedimentation. The 2008 Rogue TMDL states:

At the time of the writing of this TMDL, DEQ is in the process of developing a sedimentation assessment methodology that could be used for implementing the narrative sedimentation standard. When the methodology and associated guidance is completed, the agency will establish sedimentation TMDLs for those waterways on the 303(d) list. DEQ also intends to re-visit the Rogue River Basin sedimentation impairments when the temperature and bacteria TMDLs are reviewed, on a 5-year basis.

DEQ does however expect to see decreases in sedimentation as a result of implementing the Temperature TMDL...Sedimentation results from either stream channel or upland erosion. Disturbances that change riparian vegetation, increase the rate or amount of overland flow, or destabilize a stream bank may increase the rates of stream bank erosion and result in sedimentation increases. Disturbances in the uplands that remove vegetation, reduce soil stability on slopes, or channel runoff can increase sediment inputs (DEQ 2003, DEQ 2007). Sediment created from upland erosion is delivered to a stream channel through various erosional processes. Wide mature riparian vegetation buffers filter sediment from upslope sources as well as stabilize stream banks from erosion. System potential riparian vegetation measured by percent effective shade is a surrogate measure that has been used in other TMDLs to address sedimentation (DEQ 2003). Percent effective shade targets for the Rogue River Basin were set in the Temperature TMDL. DEQ encourages the long-term monitoring of sediment related parameters on the 303(d) listed streams in the Rogue River Basin.

*Id.*

Furthermore, with regard to peak flows in the Rogue Basin, the FEIS states that streams already listed on the 303(d) list will be further impacted:

The greatest disturbance within the transient snow zone on a percentage basis would occur within the Trail Creek Watershed. The pipeline would disturb a total of 191.32 acres within the transient snow zone in this 28,867-acre watershed....When considering forest vegetation disturbance within the transient snow zone, the pipeline would also have the highest percentage of forested disturbance within the Trail Creek Watershed, disturbing 171.81 acres of forested vegetation types within the Trail Creek Watershed.

The Little Butte Creek Fifth Field Watershed would have the largest area of disturbance within the transient snow zone with 514.8 acres.

FEIS at 4.3-43

The FEIS states:

Fluvial erosion represents potential hazard to the proposed pipeline where streams are capable of exposing the pipe as a result of channel migration, avulsion, widening, and/or streambed scour. The principal hazard resulting from channel migration and streambed scour is complete or partial exposure of the pipeline within the channel from streambed and bank erosion or within the floodplain from channel migration and/or avulsion...two crossings were identified that require additional field reconnaissance; West Fork Trail Creek and North Fork Little Butte Creek.

FEIS at 4.3-36. It is unclear what additional reconnaissance has been completed.

Furthermore, the FEIS states at 4.3-37, "the assessment recommended burial of the pipeline at least 5 feet below the surface at Indian Creek (MP 128.6) due to channel migration concerns." The JPA contains no such condition.

TMDLs for the Coos, Coquille, Upper Klamath and Lost River subbasins have not been completed.

The applicants have failed to prove the necessity of this project, and therefore DEQ cannot determine that the benefits of the diminished water quality outweigh the environmental costs of the reduced water quality in those basins where TMDLs are in place. Furthermore, TMDLs have been deemed necessary but have not yet been developed for four of the impacted waterbodies and the sedimentation and dissolved oxygen parameters for the Rogue Basin. DEQ cannot approve further impairment of these streams.

### **2.3. The proposed action would create conditions that are deleterious to fish or other aquatic life in contravention of Oregon's statewide narrative criteria**

Under 340-048-007 (11):

The creation of ... conditions that are deleterious to fish or other aquatic life ... may not be allowed.

The proposed action would create many conditions that are deleterious to fish and/or other aquatic life that may not be allowed.

#### *Impacts to threatened and endangered fish and aquatic species*

Section 1.5 supra discusses how the proposed action would jeopardize the continued existence of species listed as endangered or threatened under the Endangered Species Act, or result in the likelihood of the destruction or adverse modification of critical habitat under the ESA. These impacts to threatened and endangered species include impacts to coho salmon, green sturgeon and eulachon. All of the impacts to Coho salmon, green sturgeon, and eulachon associated with the proposed action and described in Section 1.4 of these comments are, within the meaning of 340-048-007 (11), conditions deleterious to fish or other aquatic life that may not be allowed.

The FEIS states on 4.5-111: “A pipeline break could result in soil, sediment, and debris being thrown from the area of the break, destruction of streambank vegetation, and, in the case of ignition, explosion or fire potentially resulting in destruction of nearby fisheries.” Furthermore, there is no discussion in the FEIS of turbidity or hydrostatic testing impacts on amphibians, as requested by ODFW.

#### *Permanent loss of high-quality benthic communities*

Benthic organisms that are vital to the aquatic ecology of Coos Bay reside in high-quality, intertidal land that would be permanently altered by the proposed action. According to the DEIS:

Prey species that are important for local EFH fish species rely on many of the same habitat conditions as the EFH fish species. The food web components including phytoplankton, zooplankton, detritus, epiphyton, and SAV (e.g., eelgrass, macrophytic algae) are all important in supplying the habitat and food base for EFH species within Coos Bay. For example, submerged grasses or SAV are important habitat for small prey species of adult lingcod (in Appendix B-2 of PFMC 2008). Forage items that are habitat

components for the managed species do depend to some extent on estuarine systems. Many species of groundfish and salmonids occupy inshore areas of the lower bay during juvenile stages (e.g., Chinook salmon, coho salmon, English sole) where they feed on estuarine-dependent prey, including shrimp, small fishes, and crabs. As they mature and move offshore, their diets in many cases change to include fish, although estuarine dependent species (e.g., shrimp, crabs) can still constitute an important dietary component....

About 6.8 acres of SAV would be modified during the dredging process, being changed from shallow inter and subtidal habitat to a deepened channel....

The proposed dredging would also directly remove benthic organisms (e.g., worms, clams, starfish, and vegetation) from the dredged area. Mobile organisms such as crabs, many shrimp, and fish could move away from the region during the process, although some could be entrained during dredging so that direct mortality or injury could occur. Based on 1978 maps of shellfish (Gaumer et al. 1978), shrimp, softshell clams, bentnose clams, and cockles are located within the intertidal areas near the slip and within proposed dredge areas (west of the Roseburg Forest Products Company site). ODFW captured Dungeness crab and red rock crab in this area during 2005 seining efforts. These species could be injured or killed during dredging operations.

The proposed area for dredging is adjacent to the existing shipping channel, which is subject to periodic maintenance dredging. It is reported (Newell et al. 1998) that benthic communities on mud substrates in Coos Bay, when disturbed by dredging, recovered to pre-dredging conditions in 4 weeks. Thus, it is anticipated that the benthic communities in the areas to be dredged would recover in a similar time period, resulting in short-term effects to these benthic populations. The dredged areas would also be subject to periodic maintenance dredging and the same cycle of disturbance and recolonization (to an unknown extent) would likely occur. All primary dredge material would be placed at upland sites and would not be discharged into the marine environment.

DEIS at 4.5-57 – 4.5-64.

State and Federal environmental and natural resource agencies have expressed deep concern about the loss of the 6.8 acres of submerged aquatic vegetation that would result from the dredging process. These same State and Federal environmental and natural resource agencies have been highly critical of the claims in the DEIS that benthic communities in the submerged aquatic vegetation would ever recover. In its DEIS comments NMFS stated:

The discussion of construction effects of the dredging in Section 4.5.2.2 makes an incorrect assumption. FERC anticipates that the benthic communities in the dredged area would recover to pre-dredge conditions. The literature cited by FERC discusses maintenance dredging, where the type of habitat is not altered by the dredging. Dredging for the berthing slip will change the habitat type from highly productive intertidal habitat to low productive deep-water habitat. The benthic communities will be vastly different. The effects of this change must be fully analyzed.

NMFS DEIS comments at 5.

These comments resulted in a substantial change regarding how these impacts were portrayed in the FEIS for the project. The corresponding section of the FEIS states:

The proposed area for dredging is adjacent to the existing shipping channel, which is subject to periodic maintenance dredging. It is reported (Newell et al. 1998) that benthic communities on mud substrates in Coos Bay, when disturbed by dredging, recovered to pre-dredging conditions in 4 weeks. Thus, it is anticipated that the benthic communities in the areas to be dredged would recover in a similar time period, resulting in short-term effects to these benthic populations. *However, the new community would be less productive deeper water habitat than what is currently there, so some long-term reduction in benthic production would occur. Some of this net loss would be offset by added annual benthic production from the newly formed 47-acre slip habitat, even though it would likely be of poor quality. We would also expect increased organic matter production to the Coos Bay system (at 3:1 habitat replacement) from the mitigation site.* The dredged areas would also be subject to periodic maintenance dredging and the same cycle of disturbance and recolonization (to an unknown extent) would likely occur. All primary dredge material would be placed at upland sites and would not be discharged into the marine environment.

FEIS at 4.5-72.

The permanent loss of 6.8 acres of “highly productive intertidal habitat” that would be converted to “low productive deep-water habitat” is, within the meaning of 340-048-007 (11), a condition deleterious to fish or other aquatic life that may not be allowed.

#### *Entrainment of fish by LNG vessels*

The mammoth LNG vessels that would dock in Coos Bay under the proposed action would be filled with massive quantities of ballast water as these vessels unload LNG. Without the use of screens, filling these vessels with massive quantities of ballast water would entrain, fish and other aquatic life, killing them. The DEIS states:

During operation of the proposed LNG import terminal, two sources of water intake would occur for vessels arriving at the slip that may entrain marine organisms: ballast water for vessel stability and cooling water needed for carrier power plant operations. Vessels delivering liquefied natural gas to the LNG terminal would take in ballast water as they unload. Additional water would be added once they have left the facility. These carriers are estimated to take in about 13.2 million gallons of water for ballast. The LNG carriers would also use water for engine cooling while unloading LNG at the berth. The intake would be approximately 2.5 million gallons to 4.6 million gallons for cooling (less than 1 percent of the slip volume), depending on vessel size. For perspective, the slip area would contain approximately 595 million gallons of water.

To reduce the potential for entrainment of fish, Jordan Cove has developed an external screening system that would be used on vessels for both the ballast and cooling water intakes when they are at port. The screening system was designed to meet NMFS screening criteria.

DEIS at 4.5-66, 67.

However, a substantial change in the proposed action occurred after FERC submitted the DEIS: the project proponent has abandoned its commitment to use screens to prevent the entrainment of fish and has not proposed an alternative that is demonstrably effective to prevent the entrainment of fish. The corresponding section of the FEIS states:

To reduce the potential for entrainment of fish, Jordan Cove *originally proposed to develop an external screening system that would be used on vessels for both the ballast and cooling water intakes when they are at port.* Water would have been prescreened and then pumped to the vessel through a temporary external pressure attachment to the vessel's water intake. The screening system was designed to meet NMFS screening criteria. The system consisted of a wedgewire screen intake system, shoreline storage for filtered water, and a floating delivery system. The design philosophy of the screen system was to provide the required quantities of water at the LNG carrier sea chests that have been screened for organisms that would have impinged on the LNG carrier's screens or been entrained in the ballast water system. The screen systems for the water to be supplied to the vessel would consist of stainless-steel wedge bar screen fabric of a mesh size suitable for preventing the passage of particles greater than 2.0 mm in size. The intake for the water supply would be located in the back of the berthing area to reduce the chance of entraining or impinging small larvae, fish eggs or zooplankton on the screen. The screen size and low velocity was designed to ensure no juvenile salmon would be impinged or entrained. *Since publication of the draft EIS, the Coast Guard has raised concerns about the viability of an external attachment to the vessel water intake of LNG vessels.* To successfully employ an external water supply attachment at the proposed terminal, the system would have to be tested and approved for use by each LNG vessel arriving at the proposed terminal. Because the testing and approval process would be beyond the control of Jordan Cove, Jordan Cove does not believe such a system would be viable. Because of these issues, Jordan Cove has proposed to develop a shore-based delivery system that would still utilize the screening water intakes to attempt to minimize or eliminate entrainment of pelagic organisms. This system had been initially proposed prior to the direct screening system described above. The approach would be to develop a pre-filtered water system that pumps a high-velocity stream of water toward the sea chest intake without directly contacting the ship. The velocity of the jet would exceed that of the ship's intake system. The distance this stream would originate from the ship is not currently known. The intent is for the high-velocity stream to displace the in-situ water, containing planktonic and pelagic fish and shellfish, from the water intake pathway near the sea chest. The high velocity should impede organisms from actively or passively entering the intake. *However the effectiveness of this method have not been tested and managing agencies who attended the Joint Agency Workgroup meetings have not agreed that this method is acceptable to protect marine resources.*

FEIS at 4.5-75, 76 (emphasis added).

State and Federal agencies have expressed concerns that the proposed action would now result in unnecessarily high levels of entrainment. In its DEIS comments NMFS stated:

Jordan Cove no longer proposes to include fish exclusion screens with a fixed water delivery system to the hulls of the ships. *NMFS maintains that screening ballast and engine cooling water is the most effective method to minimize adverse effects to the aquatic resources.* While the U.S. Coast Guard has identified some regulatory difficulties

with the original screening design proposed in the DEIS, those difficulties do not preclude its implementation.

The analysis of impacts due to ballast water and engine cooling water uptake is incomplete. The FERC states that the overall abundance of organisms in the slip will be relatively low compared to the main channel. The NMFS knows of no literature to support this assumption. In fact, it is more likely that the abundance of organisms, including OC coho salmon juveniles and southern DPS green sturgeon, especially smaller life stages, may be greater in the slip area as they use it for refuge from the higher velocities of the main channel. Secondly, the FERC analysis minimizes the potential for effects to resources based on the percentage of Coos Bay water that will be taken aboard ships. The analysis incorrectly assumes that resources are evenly distributed throughout the bay. Provide an effects analysis that incorporates the likely heterogeneity of resources in the estuarine environment.

NMFS DEIS comments at 2.

The unnecessarily high levels entrainment of fish and other aquatic life in ballast water and engine cooling water for LNG vessels is, within the meaning of 340-048-007 (11), a condition deleterious to fish or other aquatic life that may not be allowed.

#### *Strikes and strandings by LNG vessels*

At a minimum, 80 LNG tankers will dock at Jordan Cove each year. At capacity, that number is closer to 125 tankers. Movement of these massive vessels will injure fish and aquatic life by ship-animal collisions (vessel strikes) and beaching (stranding) of animals in the vessels' wakes. Wake stranding of juvenile salmon is common. Wake stranding will increase greatly due to the additional deep draft ships. Further, turning of the LNG tankers with high thrust tugs will increase wake stranding and disorientation of salmon.

With regard to these impacts, the DEIS sanguinely states:

The incremental LNG carrier traffic of 80 carriers per year plus the three attending tugs over the existing approximate number of 50 ships would, logically, result in a higher probability of potential incidents of ships hitting mammals and turtles in the water. However, most species would be able to avoid interaction with moving objects in the waterway. In addition, Jordan Cove would include as part of its Terminal Use Agreement with LNG carrier operators the NMFS Vessel Strike Avoidance Policy, in the event that NMFS in the Northwest develops or adopts such a policy. In addition, LNG carriers would transit to the slip at slow speeds (approximately 5 knots or less) which would result in minimal wakes, such that marine mammals and sea turtles would not be affected by the wakes of passing LNG carriers.

DEIS at 4.5-50. The DEIS also notes:

Potential direct effects of the proposed terminal would include injury and/or mortality due to ship-strikes and potential adverse effects from a carrier spill and/or release of LNG at sea.....

Assuming the statewide population could be anywhere within the EEZ along the 326 nautical mile (nmi)-long Oregon coast between the California and Washington borders (from Crescent City to the Columbia River), the density of Steller sea lions in that 65,200 nmi<sup>2</sup> (86,250 mi<sup>2</sup>) area is 1 per 10 nmi<sup>2</sup> (1 per 13.5 mi<sup>2</sup>). Consequently, the chance for a Steller sea lion to be struck by an LNG carrier is more likely than for strikes to cetaceans, based only on density estimates. However, records of ships striking Steller sea lions have not been found and, due to their greater maneuverability than large cetaceans, Steller sea lions are assumed to be capable of avoiding collisions with large ships, including LNG carriers. ...”

*Id.* at 4.5-4. And:

There is an ongoing threat of ship strikes to whales; however, from available accounts (Laist et al. 2001; Jensen and Silber 2003) whale collisions with ships occur fairly infrequently. Ship strikes of blue whales averaged 0.6 deaths or injury per year (1 death or injury per 1.67 year) in California waters between 2000 and 2004 (Carretta et al. 2007). During 6 years, from 2002 to 2007, one blue whale was struck and killed by a ship off the coast of Oregon (Barre 2008). That computes to 0.17 blue whale death per year due to ship strikes in Oregon and Washington coastal waters. The likelihood of colliding with ships varies by species. Researchers have found that fin and humpback whales collide with ships relatively often (Laist et al. 2007), while killer whales have only rarely been documented as being injured or killed by a collision (Jensen and Silber 2003; NMFS 2008). Table 4.6.1.1-1 illustrates these variable ship strike rates based on one study along the Pacific Coast between 2000 and 2004 (Carretta et al. 2007), and the second within Oregon and Washington waters between 2002 and 2007 (Barre 2008). However, it is assumed that many ship strikes with cetaceans are unknown and unreported

*Id.* at 4.5-8.

State and Federal agencies have expressed concerns that vessel strikes and wake strandings associated with the proposed action would cause significant adverse impacts. These agencies have criticized the presentation of these impacts in the DEIS and FEIS. For example, in its DEIS comments NMFS stated:

In Section 4.6, the analysis of ship strike on whales should be expanded to estimate the risk by species per year and cumulatively over the life of the project. The analysis includes discussion of vessel speed for tug barges during EEZ transit but LNG carrier speed is not discussed except for within the confines of Coos Bay. ...

New information on migratory use of Pacific coastal waters is being compiled for analysis of leatherback sea turtle critical habitat. Data indicate leatherbacks are entering the US EEZ from the west as well as transiting coastally. NMFS unpublished data on sea turtle strandings shows that in addition to leatherback turtles sighted during surveys, 26 sea turtles were reported stranded, alive or dead, in Oregon and Washington from the beginning of 1997 through 2007. Of these, 15 were green turtles (*Chelonia mydas*), five were olive ridley turtles (*Lepidochelys olivacea*), two were loggerhead turtles (*Caretta caretta*), and the remaining four were unidentified. This information needs to be considered in the EIS....

“Gray whales have been involved in ship strikes on the west coast. NMFS recommends including similar strike analysis for gray whales as for the other large whale species....

“Coos bay is home to several hundred harbor seals. Data from the Oregon Department of Fish and Wildlife indicates that a large haulout (100-500 seals) occurs at Clam Island approximately 3 miles to the south, with additional haulouts to the south and east of the proposed site. It is likely that harbor seals will be present in the project area on a daily basis. Effects of construction (in water and airborne noise) and operation of the proposed facility on harbor seals and resting/birthing haulouts and rookeries in the bay should be analyzed.

NMFS DEIS comments at 8.

The killing and injuring of whales, leatherback sea turtles, harbor seals and fish caused by strikes with vessels or wake stranding, is, within the meaning of 340-048-007(11), a condition deleterious to fish or other aquatic life that may not be allowed.

#### *Injury to fish caused by noise from LNG vessels*

Increased noise from LNG ship traffic creates conditions that are deleterious to fish or other aquatic life. The noise emitted from LNG ships is above the NMFS's noise threshold for physical harm to fish. LNG ships are considered cargo vessels and cargo vessels are known to emit high levels of low frequency sound (6.8 to 7.7 hertz (Hz) at 181 to 190 dB, re: 1  $\mu$ Pa) capable of traveling long distances (Richardson et al., 1995). See Bradwood Landing LNG Terminal DEIS at 4-224. The NMFS' current noise thresholds for fish are a peak pressure of 180 dB re: 1  $\mu$ Pa for physical harm and an impulse pressure, or root mean square (rms), of 150 dBrms re: 1  $\mu$ Pa for behavioral disruption. Noise from LNG vessels can adversely affect whale behavior.

#### *Permanent loss of coastal riparian vegetation*

Removal of vegetation near the shorelines will adversely affect aquatic species by removing a source of food. It is well established by numerous studies that riparian vegetation provides a valuable food source for fish, especially juveniles. Wipfli, 1997. The food is the result of invertebrates in the detritus, understory, and canopy of riparian vegetation. Many of these invertebrates find their way into the water and are subsequently eaten by fish.

Clearing vegetation along the edge of Henderson Marsh and Coos Bay will destroy this habitat for invertebrates, thus destroying a valuable food source for fish along the stretches of these waterbodies. The analysis of food source impacts due to removal of vegetation conducted in the DEIS is limited to possible increases in food in the form of microorganisms and aquatic invertebrates in the water due to increased temperatures. Any increases in food by increased production of microorganisms and aquatic invertebrates will further be offset by losses of invertebrates along the shoreline due to the removal of vegetation. The impacts to fish and other aquatic organisms resulting from the removal of a valuable food source, in the form of invertebrates, through the destruction of terrestrial vegetation along the shores of Coos Bay and Henderson Marsh, would be detrimental to resident biological communities.

## **2.4. The proposed action would violate Oregon’s statewide and basin-specific water quality standards for temperature**

Under 340-041-0028 Temperature:

(4) Biologically Based Numeric Criteria. Unless superseded by the natural conditions criteria described in section (8) of this rule, or by subsequently adopted site-specific criteria approved by EPA, the temperature criteria for State waters supporting salmonid fishes are as follows:

(a) The seven-day-average maximum temperature of a stream identified as having salmon and steelhead spawning use on subbasin maps and tables set out in OAR 340-041-0101 to 340-041-0340: Tables 101B, and 121B, and Figures 130B, 151B, 160B, 170B, 220B, 230B, 271B, 286B, 300B, 310B, 320B, and 340B, may not exceed 13.0 degrees Celsius (55.4 degrees Fahrenheit) at the times indicated on these maps and tables;

(b) The seven-day-average maximum temperature of a stream identified as having core cold water habitat use on subbasin maps set out in OAR 340-041-101 to 340-041-340: Figures 130A, 151A, 160A, 170A, 180A, 201A, 220A, 230A, 271A, 286A, 300A, 310A, 320A, and 340A, may not exceed 16.0 degrees Celsius (60.8 degrees Fahrenheit);

(c) The seven-day-average maximum temperature of a stream identified as having salmon and trout rearing and migration use on subbasin maps set out at OAR 340-041-0101 to 340-041-0340: Figures 130A, 151A, 160A, 170A, 220A, 230A, 271A, 286A, 300A, 310A, 320A, and 340A, may not exceed 18.0 degrees Celsius (64.4 degrees Fahrenheit);

(d) The seven-day-average maximum temperature of a stream identified as having a migration corridor use on subbasin maps and tables OAR 340-041-0101 to 340-041-0340: Tables 101B, and 121B, and Figures 151A, 170A, 300A, and 340A, may not exceed 20.0 degrees Celsius (68.0 degrees Fahrenheit). In addition, these water bodies must have coldwater refugia that are sufficiently distributed so as to allow salmon and steelhead migration without significant adverse effects from higher water temperatures elsewhere in the water body. Finally, the seasonal thermal pattern in Columbia and Snake Rivers must reflect the natural seasonal thermal pattern;

Furthermore, under Under 340-041-0028(11):

(a) Except as described in subsection (c) of this rule, waters of the State that have summer seven-day-average maximum ambient temperatures that are colder than the biologically based criteria in section (4) of this rule, may not be warmed by more than 0.3 degrees Celsius (0.5 degrees Fahrenheit) above the colder water ambient temperature. This provision applies to all sources taken together at the point of maximum impact where salmon, steelhead or bull trout are present. ....

(c) The cold water protection narrative criteria in subsection (a) do not apply if: (A) There are no threatened or endangered salmonids currently inhabiting the water body;

(B) The water body has not been designated as critical habitat; and (C) The colder water is not necessary to ensure that downstream temperatures achieve and maintain compliance with the applicable temperature criteria.

The proposed action would impact: 1) Streams identified as having salmon and steelhead spawning use in the Rouge Basin and South Coast Basin<sup>2</sup>; 2) Streams identified as having core cold water habitat use<sup>3</sup>; 3) Streams identified as having salmon and trout rearing and migration use<sup>4</sup>; and 4) Streams identified as having migration corridor use.<sup>5</sup>

In numerous instances, the proposed action would cause temperature increases that violate the standards contained in OAR 340-041-0028(4)(a)-(d).

The proposed action would cause stream temperature increases by removing riparian vegetation across a wide construction easement. Removing riparian vegetation will increase water temperature by decreasing shade in numerous streams identified as having salmon and steelhead spawning use, having core cold water habitat use, having salmon and trout rearing and migration use, or having migration corridor use. According to the FEIS:

In response to requests from the USFS, Pacific Connector submitted the results of a water temperature impacts assessment for this project (North State Resources 2009). The assessment looked at 6 waterbody crossings that would occur on USFS managed lands. Five of the locations modeled occur in the Upper Umpqua River sub-basin; two on East Fork Cow Creek and three small tributaries to East Fork Cow Creek. The sixth modeled location was on the South Fork Little Butte Creek in the Upper Rogue River sub-basin. The analysis used two models to estimate instream temperature effects that would occur as a result of vegetation clearing for pipeline construction immediately after construction and after 5, 10, and 20 years based on conditions that could be expected on the hottest summer days. The conceptual model for the analysis assumed that for a given stream temperature at base flow, the main source of heat load is direct and indirect solar radiation and that effective shade from topographic features and vegetation is a dominant influence of stream temperatures regimes. The analysis is conservative in that it assumed a maximum amount of anticipated disturbance at each crossing based on 95-foot construction right-of-way, while Pacific Connector would actually reduce the construction right-of-way to 75 feet at stream crossings.

Most of the streams that were modeled were small streams; three were tributaries to East Fork Cow Creek that are 3 feet wide or less with baseflows estimated at 0.9 cfs to practically zero. Two streams were between 5 and 6 feet wide with baseflows estimated between 0.18 and 0.48 cfs. The sixth stream, South Fork Little Butte Creek, is about 22 feet wide and has an estimated baseflow of 4.2 cfs. The results of the analysis indicated that the greatest effect would occur in the smallest and slowest waterbodies immediately

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<sup>2</sup> Subbasin maps and tables set out in OAR 340-041-0101 to 340-041-0340: Figure 271B (Rouge Basin) and Figure 300B (South Coast Basin)

<sup>3</sup> Subbasin maps and tables set out in OAR 340-041-0101 to 340-041-0340: Figure 300A (South Coast Basin).

<sup>4</sup> Subbasin maps and tables set out in OAR 340-041-0101 to 340-041-0340: Figure 271B (Rouge Basin) and Figure 300B (South Coast Basin)

<sup>5</sup> Subbasin maps and tables set out in OAR 340-041-0101 to 340-041-0340: Figure 300A (South Coast Basin).

following disturbance. *For the three smallest streams, the model predicted initial average temperature changes of 1.0° to 8.6° C (1.8° to 15.4° F).* The highest predicted increase (8.6° C) was in a very small drainage that is frequently dry in the summer, but occasionally has water present from phreatic groundwater and any water present infiltrates back into the ground shortly downstream of the proposed crossing location. Just as these very small waterbodies are modeled to warm quickly in response to clearing, they would likely also have rapid temperature reductions downstream of the affected reach; thus there would be no measurable effect on stream temperatures in East Fork Cow Creek. At the two modeled crossing locations on East Fork Cow Creek, the creek would be about 5 to 6 feet wide. Average Temperature changes in East Fork Cow Creek as a result of pipeline construction and maintenance were predicted to be up to 0.5° C (0.8°F) immediately following disturbance. The predicted temperature increase in the largest stream, 22 feet wide, was 0.1° C (0.1° F). All temperature impacts were predicted to decrease with time as vegetation returns to provide shade; with significant recovery occurring between 5 and 10 years following disturbance. Most of the values presented here are well below the uncertainty of the model (1 to 2°C). For comparison to the modeled crossings, about 62 percent of the perennial and intermittent dry open-cut stream crossings would occur on streams 10 feet wide or less.

FEIS at 4.3-43 (emphasis added).

Commenting on the above results of the FEIS water temperature impacts assessment for this project, the Oregon DEQ observed:

Streams temperature increases were discussed in the FEIS on pages 4.3-42 through 4.3-45. The last paragraph on page 4.3-43 notes that for the smallest streams modeled 'predicted initial average temperature changes of 1.0 to 8.6 degrees C.' *This is obvious stream heating and may be on streams with relatively steeper gradients than valley floor streams.* The valley floor streams crossed might have slower times of travel and thus subjected to increase times of solar radiation.

State of Oregon FEIS comments at 24, DEQ Section (emphasis added).

The DEIS and FEIS for the proposed action do not provide information about baseline temperatures in stream that would suffer removal of riparian vegetation and stream shading. Therefore, it is impossible to undertake a systematic analysis of the extent to which modeled increases in stream temperatures would cause violations of numerical temperature limits specified in 340-041-0028(4). However, numerous stream segments that would be impacted by the proposed action already suffer high temperatures that violate State water quality standards. Many of these streams are on the State's list of water quality limited waters under Section 303(d) of the Clean Water Act. These streams are: North Fork Coquille River, Middle Creek, East Fork Coquille River, Elk Creek, Upper Rock Creek, Middle Fork Coquille River, Olalla Creek, Rice Creek, South Umpqua River, North Myrtle Creek, South Myrtle Creek, Fate Creek, Days Creek, South Umpqua River, North Fork Little Butte Creek, South Fork Little Butte Creek, and Spencer Creek. *See FEIS Table 4.3.2.2-2 - 303(D) Category 5 Listed Waterbodies Crossed by the Proposed Pacific Connector Pipeline.* Therefore, any temperature increases in these streams attributable to the proposed action would result in exacerbations of existing violations of state water quality standards. The Ninth Circuit Court of Appeals recently made clear that new dischargers may not add a pollutant into a water body that is water quality limited. *See Friends*

*of Pinto Creek v. United States Environmental Protection Agency*, No. 05-70785, (9th Cir. Oct. 4, 2007).

Under 340-048-0042(5)

Upon completion of the department's evaluation, including consideration of public comment and, if applicable, coordination through a HART in accordance with OAR 340-048-0037, the Director must issue a decision approving or denying certification for the activity, containing:

(g) If certification is approved, conditions the Director determines are necessary to assure compliance with applicable standards and requirements set forth in sections (2) through (4) of this rule for the duration of the federal license or permit.

However, there is no realistically achievable set of conditions that the Oregon DEQ could impose on the applicant to assure that the proposed action would be in compliance with numerical temperature limits specified in 340-041-0028(4). The DEIS and FEIS discuss the following mitigation measures that relate to stream temperature increases.

Pacific Connector proposes mitigation measures to help ensure that the Core Cold-Water Habitat temperature criteria is not exceeded at the maximum point of impact. These measures are designed to *speed up the rate of riparian area recovery* and provide more effective shade immediately following construction. Pacific Connector would increase the post project effective shade within the construction right-of-way by planting conifer and hardwood tree saplings and small pole sized trees of sufficient size (i.e. 15-20 feet tall with full crowns) to increase riparian area canopy closure and placing large woody debris and boulders to create micro-topography within the wetted stream channel. Shading from transplanted vegetation and micro-topographic features incorporated into the final grading plan are likely to reduce the heat load enough to reduce the likelihood of measurable water temperature increases....

To minimize the potential effects of the Pacific Connector pipeline on stream temperature by the removal of riparian vegetation, Pacific Connector has incorporated the following mitigation measures into its project design:

1. narrowing the construction right-of-way at waterbody crossings to 75 feet where feasible based on site-specific topographic conditions;
2. locating TEWAs 50 feet back from waterbody crossings to minimize impacts to riparian vegetation, where feasible; and
3. replanting the streambanks after construction to stabilize banks and to re-establish a riparian strip across the right-of-way for a minimum width of 25 feet back from the streambanks.”

FEIS at 4.3-44, 4.3-45 (emphasis added).

However, all of these mitigation measures would require the passage of several years to achieve reductions in stream temperatures. According to the FEIS:

Also plantings and regrowth in riparian areas, as was suggested by these modeling results, would help moderate potential temperature increases in the short term (a few years). Much of the riparian area would be allowed to regrow from plantings with herbaceous plants (only 10 feet wide would be maintained without some growth) and conifer and other trees (all but 30 foot width). On small streams and to a lesser extent larger streams even 10 to 15 foot high trees would supply shade reducing solar heating effects on streams. So, slight effects of solar heating from clearing would gradually be reduced or completely eliminated over time, based on the model most *between 5 and 10 years*.

FEIS at 4.5-105 (emphasis added). In its BA comments, NMFS noted:

The BA found that pipeline crossings would elevate stream temperatures within vicinity of the crossing 0.4 to 0.5oC. The analysis states that this magnitude of change is not measurable. The NMFS believes that is measurable and significant. Many of the streams crossed by the pipeline are at or above the optimal temperature for salmonids. An increase this large will increase stress and disease, and decrease fitness of rearing juveniles.

Incorporate these impacts into the analysis.

NMFS BA comments at 4.

Stream temperature increases cause *acute* stress that has an immediate impact on salmon and other temperature-dependent fish. The DEIS and FEIS for the proposed action only discuss what the applicant might be able to do to reduce the extent of stream heating *several years* after temperature increases have occurred - well after the damage caused by stream temperature increases has occurred. At that point, the damage will be irreparable.

## **2.5. The proposed action would violate Oregon's water quality standard for turbidity**

Under OAR 340-041-0036 (Turbidity):

No more than a ten percent cumulative increase in natural stream turbidities may be allowed, as measured relative to a control point immediately upstream of the turbidity causing activity. However, limited duration activities necessary to address an emergency or to accommodate essential dredging, construction or other legitimate activities and which cause the standard to be exceeded may be authorized provided all practicable turbidity control techniques have been applied and one of the following has been granted:

(1) Emergency activities: Approval coordinated by the Department with the Oregon Department of Fish and Wildlife under conditions they may prescribe to accommodate response to emergencies or to protect public health and welfare;

(2) Dredging, Construction or other Legitimate Activities: Permit or certification authorized under terms of section 401 or 404 (Permits and Licenses, Federal Water Pollution Control Act) or OAR 14I-085-0100 et seq. (Removal and Fill Permits, Division of State Lands), with limitations and conditions governing the activity set forth in the permit or certificate.

Put more simply, a violation of Oregon's water quality standard for turbidity occurs when an activity causes a more than 10% increase in natural turbidity levels, unless the activity is necessary to accommodate essential dredging, construction or other legitimate activities AND all practicable turbidity control techniques have been applied.

It is certain that the proposed action would cause a more than 10% increase in natural turbidity levels. With respect to construction dredging activity in Coos Bay, the DEIS states:

Jordan Cove submitted its Report on Turbidity Due to Dredging that included a modeling analysis of the turbidity that would be generated by the proposed dredging operation at the slip and access channel, which showed that the proposed dredging for the slip would be unlikely to have significant adverse effects on Coos Bay. The model was developed on the basis of a sediment analysis conducted at the site of the dredging and took into consideration wind, tidal currents, and seasonal flows. The ambient turbidity levels in the water (generated by flows, waves and ship traffic) create a background level of turbidity, ranging by season from 3.7 to 18.1 nephelometric turbidity units (NTUs), thereby reducing the relative impact of dredging-related turbidity. The model indicated that for the hydraulic cutterhead dredge the TSS levels would be a maximum of 500 mg/l in the vicinity of the dredge and would rapidly reduce to a maximum of 14 mg/l by a distance of 60 meters (200 feet).

DEIS at 4.3-19. Further:

A model of potential sediment concentration was developed for the dredging of the slip for the LNG terminal that supplies some guidance as to possible concentrations that may occur from lying of the pipeline, although location and methods of bottom removal differ (Moffatt and Nichol 2006). Based on the estimated of highest disturbance method for bottom removal activities for the LNG terminal slip, maximum concentrations of suspended sediment modeled at the dredge location were 6,000 mg/l but decrease to 50 mg/l an estimated 660 feet away. Other modeled estimates using different bottom-disturbing methods had estimates of concentration in the plume from 25 to 50 mg/l as a maximum, based on typical channel maintenance dredging. Likely concentrations would be less than the upper value because bottom sediment would just be moved and placed next to the dredge channel/pipeline trench, not taken out of water, which exposes the sediment to greater disturbance and flushing. Assuming the greatest disturbance method, as noted above, during construction, concentrations in the range of 150mg/l could extend over a distance of 1.2 to 1.9 miles during peak ebb and flow tides. Along this route, elevated concentrations would be a very narrow band, a few meters wide. Based on the model this could occur for a maximum of about two hours, after which concentrations outside of the dredge area would not exceed 10 to 30 mg/l, which are typical background concentrations. As noted, these impacts are based on the estimates of the highest disturbance mechanical method and are likely greater than what would occur during mechanical excavation for pipeline installation.

*Id.* at 4.5-82.

With respect to maintenance dredging activity in Coos Bay, the DEIS states:

During maintenance dredging activities, the proposed dredged material is assumed to be primarily fine particles (mud, clay, silt). Soil concentrations predicted with the DREDGE

model for the open “clamshell” dredge were lower than during the construction stage with the maximum of 830 mg/l in the vicinity of the dredge and decreasing to 125 mg/l at approximately 660 feet.

*Id.* at 4.3-22.

These predicted changes in sediment levels - concentrations in the range of 150mg/l over a distance of 1.2 to 1.9 miles during peak ebb and flow tides (for construction dredging activities) and concentrations up to 830 mg/l in the vicinity of the dredge and decreasing to 125 mg/l at approximately 660 feet (for maintenance dredging activities) - represent much more than a 10% cumulative increase in natural stream turbidities in Coos Bay (10 to 30 mg/L).

In commenting on this material in the DEIS, the Oregon DEQ observed that these predicted changes in sediment levels represent violations of Oregon's water quality standard for turbidity: “The discussion in this section related to turbidity and sedimentation impacts [DEIS Section 4.5.2.3] *clearly indicates that the project has the high potential to exceed the states turbidity standard, even when limited duration exceedances are allowed via the 401 Certification.*” State of Oregon DEIS comments at 63 (emphasis added).

Regarding the biological significance of these turbidity increases, the ODFW noted:

The DEIS states "because the dredging would occur over 4 to 6 months, the turbidity created would be relatively short-term and localized." Six months of turbidity could be disastrous for the life-cycle of several different organisms. If the turbidity affects the ability of outmigrating salmonid smolts to feed, and causes gill abrasion to the point of reduced survival, or condition at ocean entrance, nearly an entire brood of outmigrants could be lost. Six months of turbidity may affect the entire spawn of clams or oysters.

*Id.* at 22, ODFW Section.

With respect to pipeline installations across waterbodies, the DEIS and FEIS contains a murkier analysis that still nevertheless indicates violations of Oregon's water quality standard for turbidity are likely to occur. For example, the FEIS states:

To minimize increases in turbidity and suspended sediment at waterbody crossings, Pacific Connector would utilize the dry crossing methods (i.e., flume and dam-and-pump) for most of the flowing waterbodies crossed by the proposed pipeline (94 of the 102 perennial waterbodies). The remainder would be crossed by conventional bore, diverted open-cut, HDD, and one instance of wet-open cut in the Coos Bay estuary. *Turbidity and sedimentation impacts associated with dry open cut methods are generally minor and are associated with 1) installation and removal of the upstream and downstream dams used to isolate the construction area; 2) water leaking through the upstream dam and collecting sediments as it flows across the work area and continues through the downstream dam; 3) movement of in-stream rocks and boulders to allow proper alignment and installation of the flume and dams; and 4) when streamflow is returned to the construction work area after the crossing is complete and the dams and flume are removed.* Both “dry” techniques produce much less sediment in the water than alternative “wet” open cut methods (Reid and Anderson 1999; Reid et al. 2002; Reid et al. 2004). Dry methods have been reported to produce at least seven times less suspended sediment in streams than “wet” methods (Reid et al. 2002).....

*There would also be short-term turbidity increases during portions of the installation and removal of the diversion structure(s) for the proposed diverted open cut crossings of the South Umpqua River (MPs 69.02 and 94.73). Trenching within Coos Bay and Cooston Channel would result in elevated levels of fine-grained mineral and organic particles, or turbidity plumes for short-term periods during the dredging operations.....*

Construction of the pipeline across the Coos Bay and Haynes Inlet would span about 2.4 miles. *Turbidity impacts would be similar to those related to the dredging of the Jordan Cove LNG terminal slip.....*

FEIS at 4.3-32 (emphasis added).

Regarding pipeline construction and turbidity, the FEIS states:

The clearing and grading of vegetation during construction could increase erosion along streambanks and turbidity levels in the waterbodies. ... Alteration of the natural drainage ways or compaction of soils by heavy equipment near streambanks during construction may accelerate the erosion of the banks, runoff and the transportation of sediments into waterbodies.

FEIS at 4.5-109.

The FEIS also states: “ Potential impact to waterbodies by deep-seated landslides and shallow-rapid hazards on unchannelized slopes is difficult to evaluate. Slope failure near the waterbody during pipeline operation could result in soil and sedimentation falling into the waterbody.” *Id.* at 4.5-110. NMFS commented:

The analysis of temporary suspended sediment from crossings is inadequate. The analysis assumes that juveniles will be capable of moving out of the plume. Many of the streams crossed will have riffles too shallow to allow downstream movement. The analysis needs to assume that movement in small streams will not be possible. Please revise the analysis to include this assumption. Furthermore, the analysis considers death of juveniles as the only outcome of suspended sediment exposure. Exposure to levels above 17 milligrams per liter (mg/l) is known to cause injuries, which could reduce the health and fitness of exposed juveniles. Incorporate the loss of fitness of juveniles exposed to levels greater than 17 mg/l in the effects analysis.

NMFS BA comments at 3.

In the event that the proposed HDD crossing fails at the proposed Klamath or Rogue Rivers, Pacific Connector’s contingency crossing plans would be wet open-cut crossings at approximately the same location as the proposed HDD crossings. *Wet open-cut methods produce more suspended sediments and turbidity than dry open-cut methods, as it would be completed in the flowing waterbody.* Should either of these HDD crossings fail, Pacific Connector would be required to obtain all necessary permits and authorizations for in-water construction from the appropriate agencies prior to commencing an open cut crossing. .... As an alternative, or in the event of a failure of these HDD crossings, Pacific Connector could evaluate an aerial crossing. This contingency has not been proposed by Pacific Connector and would require numerous approvals. There are some clear benefits of aerial crossings (such as decreased impacts to water quality and aquatic species compared to the wet open-cut method). However, there are trade offs

with impacts to other resources increasing (e.g., visual impacts recreation, and pipeline safety and security).

Because it is certain that the proposed action would cause a more than 10% increase in natural turbidity levels, DEQ must find that the proposed action violates Oregon's water quality standard for turbidity unless the activity is necessary to accommodate essential dredging, construction or other legitimate activities AND all practicable turbidity control techniques have been applied. Even if we grant that the proposed action were necessary to accommodate essential dredging, construction or other legitimate activities, the proposed action violates Oregon's water quality standard for turbidity because all practicable turbidity control techniques have not been applied. In fact, in numerous instances, the proposed action rejects practicable turbidity control techniques that Federal and State agencies have recommended. For example, in commenting on the DEIS and practicable turbidity control techniques for maintenance dredging, NMFS noted:

On page 4.6-70, under the conservation measures, FERC claims that impacts from dredging activities have been minimized by choice of dredge equipment. This is not true, because a clamshell dredge is proposed to be used during maintenance dredging. A clamshell dredge results in greater impacts than a suction dredge.

NMFS DEIS comments at 10.

Also, in commenting on the DEIS and practicable turbidity control techniques for waterbody crossings, the ODFW noted:

Pacific Connector has stated that bridging the pipeline over the river is not acceptable due to security and aesthetic concerns. The Palomar Pipeline is proposing a bridge (or aerial) crossing method for their crossing of the Deschutes River. ODFW recommends use of the bridge crossing method for the Rogue River instead of use of HDD, with its potential for failure, and instead of use of a wet open cut method.

State of Oregon DEIS comments at 24, ODFW Section.

These are two of many examples of the applicant's failure to apply all practicable turbidity control techniques. Under these circumstances, DEQ is required by OAR 340-041-0036 to find that the proposed action violates Oregon's water quality standard for turbidity.

## **2.6 The proposed action would impair beneficial uses to be protected in the Rogue, Umpqua and South Coast Basins**

Under 340-041-0271: Beneficial Uses to be protected in the Rogue Basin

(1) Water quality in the Rogue Basin must be managed to protect the designated beneficial uses, which can be found at <http://www.deq.state.or.us/wq/rules/div041tblsfigs.htm#t1>. Designated beneficial uses include domestic water supply, fish and aquatic life, wildlife and hunting, fishing, water contact recreation and aesthetic quality.

(2) Designated fish uses to be protected in the Rogue Basin are shown in Figures 271A and 271B.

Under 340-041-0320: Beneficial Uses to be protected in the Umpqua Basin

(1) Water quality in the Umpqua Basin must be managed to protect the designated beneficial uses, which can be found at <http://www.deq.state.or.us/wq/rules/div041tblsfigs.htm#t1>. Designated beneficial uses include domestic water supply, fish and aquatic life, wildlife and hunting, fishing, water contact recreation and aesthetic quality.

(2) Designated fish uses to be protected in the Umpqua Basin are shown in Figures 320A and 320B.

*Blasting will harm water supplies*

The FEIS states: “Blasting may be required for pipeline construction in areas where hard, non-rippable bedrock occurs within the trench profile.” FEIS at 4.3-34.

The JPA states:

In areas where blasting may be necessary, Pacific Connector will attempt to use other mechanical or hydraulic techniques such as hammering to excavate the trench to design depths. Where blasting is required in streambeds, Pacific Connector proposes to utilize the dam and pump crossing method so that blasting activities can be completed in the dry to avoid potential impacts to aquatic species during in-water blasting. If a dam and pump crossing method cannot be used and in-water blasting is required, Pacific Connector would implement other techniques such as scare charges to temporarily clear aquatic organisms from the area. It is anticipated that the preparation of the rock for blasting (drilling shot holes) would cause enough disturbance to displace most aquatic organisms from the immediate vicinity of the blast. Immediately following blasting, equipment would remove any shot rock that could impede stream flow. Appropriate federal, state, and local permits would be acquired and agencies would be notified according to permit requirements.

JPA at 2.1.8.7.

The FEIS states: “Blasting could alter the in-channel characteristics and hydrology of the stream, potentially decreasing flows due to increased infiltration where bedrock would be fractured.” FEIS at 4.3-34.

The FEIS also states:

In general, vibration effects to wells would be expected to be limited to the immediate proximity of the blasting. . . . Nearly all households in the Shady Cove area obtain water from wells already impacted by the relatively high density of nearby development . . . . Should it be determined after construction that there has been an impact on groundwater supply (either yield or quality), Pacific Connector would work with the landowner to ensure a temporary supply of water, and if determined necessary, Pacific Connector would replace a permanent water supply. . . . Yields from perennial springs could decrease if blasting vibrations damaged the related aquifer.

FEIS at 4.1-43.

Furthermore, the FEIS states:

Any turbidity in wells or springs caused by the blasting vibrations would be expected to be temporary and would likely dissipate shortly after blasting or after the well was pumped several times. Water quality impacts to groundwater or springs from blasting agents, if any, would be expected to be temporary and localized because only small amounts of these agents generally would be needed for trench excavations.

*Id.* at 4.1-44.

The FEIS also states “Blasting could potentially redirect surface water and groundwater flows to and from wetlands. In addition, turbidity and blasting agent by-products could possibly temporarily degrade surface water and groundwater quality.” *Id.*

The FEIS contains a summary of blasting potential at 4.1-42, but nowhere is there information on the wetlands and waterbodies that may be impacted by blasting. This issue demonstrates a clear threat to the beneficial uses of domestic water supply, as well as fish and aquatic life, and is an example of the inadequate nature of the JPA.

*Construction outside ODFW in-water work period will harm fish*

The FEIS states:

General project activities potentially impacting aquatic resources include estuarine in-water construction, freshwater in-water construction activities, terrestrial/riparian habitat modification, accidental spills or leaks of hazardous materials, and periodic maintenance of the pipeline.

Construction of the proposed Pacific Connector pipeline would coincide with juvenile out-migration and upstream adult migration for most anadromous fish species in most river basins; however, following ODFW recommended in-water construction windows should minimize the coincidence of pipeline construction with upstream adult salmonid migration and minimize impact during sensitive spawning periods in the streams.

FEIS at 4.5-90.

ODFW recommendations for timing of in-water work to minimize impact to fish resources, including the threatened coho (Oregon Coast ESU) and critical habitat, listed threatened coho (SO/NCC ESU) and designated critical habitat, and EFH for coho and chinook salmon.

The JPA states that construction *will* take place outside of the ODFW in-stream work period on several streams, threatening fish and aquatic resources. The JPA states, “Except where noted below, construction across waterbodies will occur within the ODFW-recommended in-water work timing windows, although the majority of bridges, where required, will be installed prior to and removed after the in-water work timing window.”

The JPA continues:

The ODFW-recommended in-water work timing window for the Coos River, where a HDD crossing is proposed, is from October 1 through February 15. Pacific Connector, however, will perform the HDD crossing prior to the in-water work timing window sometime between July 1 and October 31 of Year One to take advantage of drier weather and ensure access to the work site because the HDD location on the south side of the river is located in an emergent floodplain wetland that will be saturated in the winter months. The proposed timing for the HDD coincides with chinook upstream migration and during the peak of Oregon Coast ESU coho upstream migration.

The ODFW-recommended in-water work timing window for the Rogue River (MP 122.65), where a HDD crossing is proposed, is from June 15 through August 31. Pacific Connector proposes to perform the HDD crossing from May 15 to October 15 in Year One.

The ODFW (2000a) recommended in-water work timing window for Klamath River, where a HDD crossing is proposed, is from July 1 through October 31. Pacific Connector will perform the HDD crossing from June 1 through October 15 of Year One.

The ODFW in-water work periods are designed by the expert agency to minimize impact to fish resource. This project threatens the designated uses of these watersheds by proposing to perform major construction outside ODFW work windows. Such activity is unacceptable.

*Loss of forested wetlands will harm fish and aquatic life*

The FEIS states on 4.3-61 that the PCGP will cross 1.2 miles of wetlands in the Big Butte Creek and Little Butte Creek fifth field watersheds, resulting in 15.4 acres of wetland impacts. The ODFW expressed concern that the FEIS is lacking in detail concerning mitigation for permanent impacts to these forested wetlands, which may take a long time to re-establish after disturbance.

*USFS LRMP amendments threaten beneficial uses*

The Rogue River/Siskiyou, Umpqua and Winema National Forests are pursuing amendments to their Land and Resource Management Plans (LRMP) to allow for pipeline construction. Scoping took place in July 2009, and an EIS is expected in early 2010. The current LRMP would not allow the pipeline construction, and therefore amendments are being proposed to eliminate protections for old-growth forests, riparian areas and visual resource objectives.

On the Rogue River/Siskiyou National Forest, the proposed amendment would allow the pipeline to cross South Fork Little Butte Creek, which is currently designated as "Restricted Riparian." The LRMP states that, "Hotspots and *transmission corridors should be located outside this management area.*" LRMP at 4-308 (emphasis added).

Little Butte Creek is home to anadromous fish species including Chinook salmon, steelhead trout, pacific lamprey and coho salmon. Overall, the aquatic and riparian habitat in Little Butte Creek and its major tributaries are in poor condition and well below their potential for producing diverse ages and species of anadromous fish and large resident trout. See Little Butte Creek Watershed Analysis at 170.

The riparian areas surrounding South Fork Little Butte Creek that would be affected by the proposed amendments are currently highly functioning, and will be irreparably damaged by a PCGP crossing.

The RRNF states in its LRMP that the goal of “Restricted Riparian” is to, “Protect the unique riparian habitats associated with perennial streams for wildlife, fishery and other beneficial uses. Protect perennial streams from detrimental changes in water temperature, blockages of water courses and deposits of sediment.” The LRMP continues: “When conflicts exist between restricted riparian and other resources, *the conflict will be resolved in favor of the riparian resources*, subject to rights under law and regulation,” RRNF LRMP at 4-298 (emphasis added).

Late-Successional Reserves (“LSRs”) are intended to protect late successional habitat. The PCGP would impact 280 acres on the RRNF, all of which are within LSR 227. Of that, 104 acres is old-growth. See FEIS Table 4.4.1.4-2. The PCGP would create a linear 90-foot wide clearcut with associated habitat fragmentation. The LRMP does not allow the development of a gas pipeline through a LSR due to the significant impacts. The FEIS does not address the impacts to the LSR either in a site specific or cumulative analysis. The proposed LRMP amendment to transfer 600 acres from matrix to LSR 227 to mitigate the adverse impact of the PCGP on LSR 227 is highly suspect.

Based on field reviews in July 2009, we are very concerned that the lands that are currently matrix and are proposed for addition to LSR 227 are of significantly lower ecological value than the existing LSR acreage that will be adversely affected by the PCGP. What is the ecological value of the 600 acres of matrix and how can that mitigate the impacts of a linear clearcut that permanently bisects a LSR? The 600 acres of matrix appear to have a significant amount of rock/grass/shrub habitat and is heavily impacted by roads. The FEIS fails to analyze the site-specific impacts of degrading 280 acres within this LSR and what those impacts would be on late-successional-dependent species.

ODFW submitted FEIS comments stating that the project proponents should, “either avoid the impacts to the identified Category 1 habitats through alternatives or that the project not be authorized.” State of Oregon FEIS comments at 34, ODFW Section. ODFW Category 1 habitats that would be impacted by PCGP include all 561 acres of LSRs on National Forests, including the 280 acres on the RRNF, as well as vernal pool wetlands, mature oak woodlands and rare plant habitat. FERC did not consider avoiding the high quality habitat found in LSRs.

The Northwest Forest Plan does not allow for the type of degradation in LSRs that this project would cause and therefore the pipeline route should be re-routed to avoid LSRs and Restricted Riparian allocation. The proposed plan amendments would allow for the degradation of wildlife habitat, fish habitat and aesthetic qualities, thereby harming the watershed’s beneficial uses.

Under 340-041-0300: Beneficial Uses to be protected in the South Coast Basin

- (1) Water quality in the South Coast Basin must be managed to protect the designated beneficial uses, which can be found at

<http://www.deq.state.or.us/wq/rules/div041tblsfigs.htm#t1>. Designated beneficial uses include fish and aquatic life, fishing, boating and aesthetic quality.

(2) Designated fish uses to be protected in the South Coast Basin are shown in Figures 300A and 300B.

*See* section 2.3: “The proposed action would create conditions that are deleterious to fish and other aquatic life” for reasons as to why this project harms the beneficial uses in the Coos watershed.

The cumulative impacts of this project on coho and other salmon further threatens fishery resources that are already in severe decline in all targeted watersheds. Fishing, both commercial and recreational, are designated beneficial uses for estuaries and adjacent marine waters in the South Coast Basin. Both would be negatively impacted by this development.

The FEIS states: “Coos Bay is the third most important harbor in the state of Oregon in terms of total personal income generated from commercial fishing... Commercial landing data compiled by ODFW indicate that a total of \$20.1 million worth of fish and shellfish were landed at Charleston in 2006.” FEIS at 4.8-8.

The FEIS states:

The coastal marine waters off Coos Bay along the shipping route support important recreational and commercial fisheries including Dungeness crab, salmon, and bottom fish. While no commercial harvest of vertebrate fish occurs in Coos Bay, recreational fishing is common. Recently, however, some commercial bait fishing has occurred in the bay. Additionally, commercially important marine fish species are produced in the bay and many anadromous fish migrate through Coos Bay to Coos River; many spend part of their juvenile life stages rearing in Coos Bay.

*Id.* at 4.5-52.

The FEIS further states:

Clams, crabs, oysters, and shrimp make up important components of these invertebrates in the bay. Some of the most abundant and commercially important of these species include bentnose clams, Pacific oyster (which is grown commercially), Dungeness crab, and ghost shrimp. Distribution varies along the route from the proposed LNG terminal to the bay mouth. Principal subtidal clam beds are found in the lower bay and South Slough. Clam Island, located at the mouth of Coos Bay, has a high abundance of recreationally important clams. At the mouth of Coos Bay itself, are located some of the highest recreational harvest of clams and crabs. Razor clams are an important commercial and recreational species. Within Jordan Bay, ghost shrimp, commonly harvested bait shrimp, is found in the fine sediment and eel grass beds.

*Id.* at 4.5-51.

Additionally, the FEIS states:

The shellfish fishery includes commercial and recreational harvest within the bay. The main harvest species are clam, oyster, crab, and shrimp, and they are of significant

economic importance to the Coos Bay area. Additionally there are commercial oyster beds within the bay, which include seeding of beds with young Pacific oysters and later commercial harvest of these areas. Commercial harvest includes spot prawn, urchins, and abalone. In addition to the commercial fisheries for shellfish, recreational clamming and crabbing brings year-round tourist income to the region. Crabbing occurs primarily during slack tide in the main channel areas from the Southern Oregon Regional Airport to the river mouth. Recreational crabbing occurs year-round while commercial crabbing occurs September through December. The much larger ocean commercial crab season is generally December through April.

*Id.* at 4.5-53.

In DEIS comments, the Oregon DEQ stated:

Page 4.5-63, Dredging for the Slip and Access Channel (DEIS section 4.5.2.2) - This section states, ‘Based on 1978 maps of shellfish (Gaumer et al. 1978), shrimp, softshell clams, bentnose clams, and cockles are located within the intertidal areas near the slip and within proposed dredge areas (west of the Roseburg Forest Products Company site).’ No mitigation measures are identified that address loss of this clam habitat. Mitigation for this habitat loss should be addressed.

State of Oregon DEIS comments at 62, DEQ Section.

In the FEIS FERC responded to DEQ’s comments as follows: “During project scoping the need for mitigation for loss of clam habitat was not identified, and therefore Jordan Cove has not proposed mitigation for loss of clam habitat. The EIS acknowledges loss of this habitat.” FEIS Appendix J at SA-67.

This clearly admits that the proposed action would not protect the designated beneficial use of recreational fishing in estuaries and adjacent marine waters in the South Coast Basin. And the fact that the need for mitigation for loss of clam habitat wasn’t identified during the scoping process is not an excuse for not mitigating this loss later in the process.

The FEIS states:

Recreational boaters took 30,996 boat trips in Coos Bay in 2005 and engaged in 36,547 use-days of boating activity....The majority of these use days (88 percent) were fishing related. Most of the remainder (9 percent) involved pleasure-cruising, with small number involving sailing and waterskiing....In addition, boaters took 8,954 boat trips from Coos Bay to the ocean and engaged in 6,196 use-days of this activity. All of these trips involved fishing...During operation of the Jordan Cove LNG terminal, when an LNG carriers is transiting in the waterway to the terminal, other boats in or near the channel would be required to move away and those seeking to approach the channel would have to delay doing so until the LNG carrier had passed.

FEIS at 4.8-7.

The FEIS also states “In the event of an LNG spill from an LNG carrier in transit to the Jordan Cove terminal, and a related pool fire if there was ignition, there could be impacts on commercial ships or fishing boats.” FEIS at 4.8-8. And again: “Recreational boaters, fishermen, crabbers and clammers could be affected in the unlikely event of an incident resulting in an LNG spill from a

carrier in transit in the waterway, and an associated pool fire if there was ignition of released LNG vapors.” *Id.* at 4.7-5.

Furthermore, the FEIS states impacts to aesthetic qualities for recreational facilities on the Bay: “A potential impact on users of recreation facilities would be visual effects as LNG carriers transit in the waterway to and from the Jordan Cove LNG terminal,” and “An LNG spill could affect recreational facilities within the Zones of Concern, depending on the location, extent and timing of the spill.” *Id.* at 4.8-6.

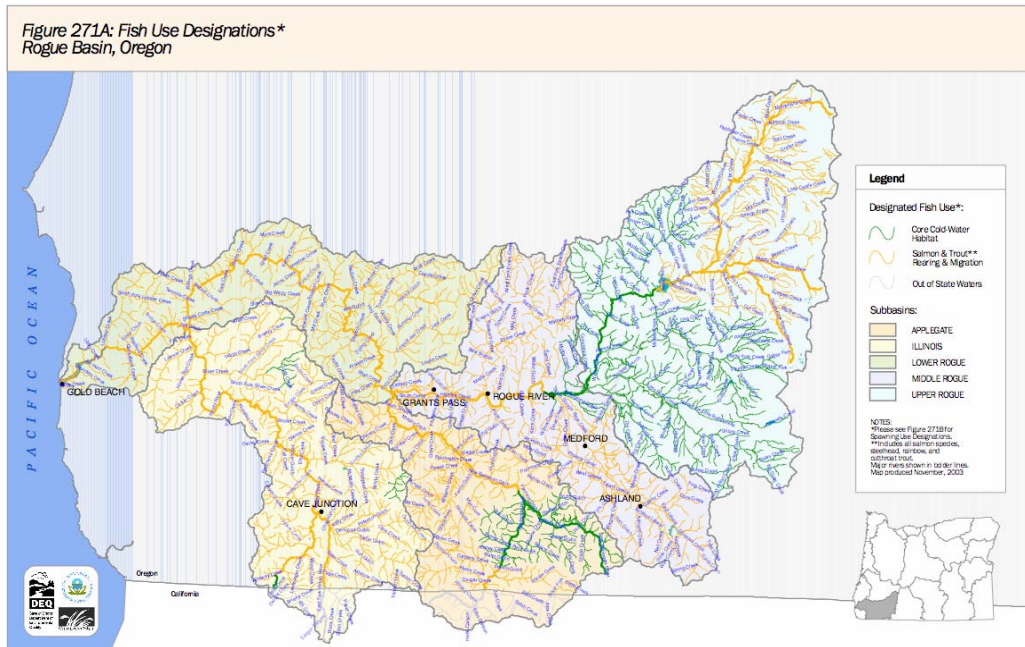
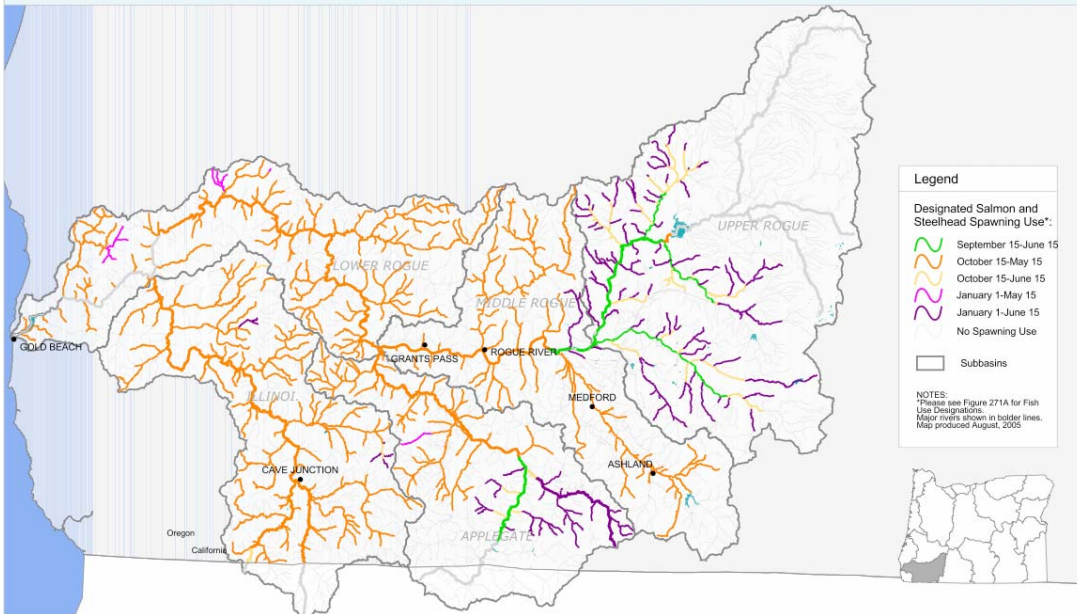


Figure 271B: Salmon and Steelhead Spawning Use Designations\*  
Rogue Basin, Oregon



Draft Revised Figure 300A: Fish Use Designations\*  
 South Coast Basin, Oregon

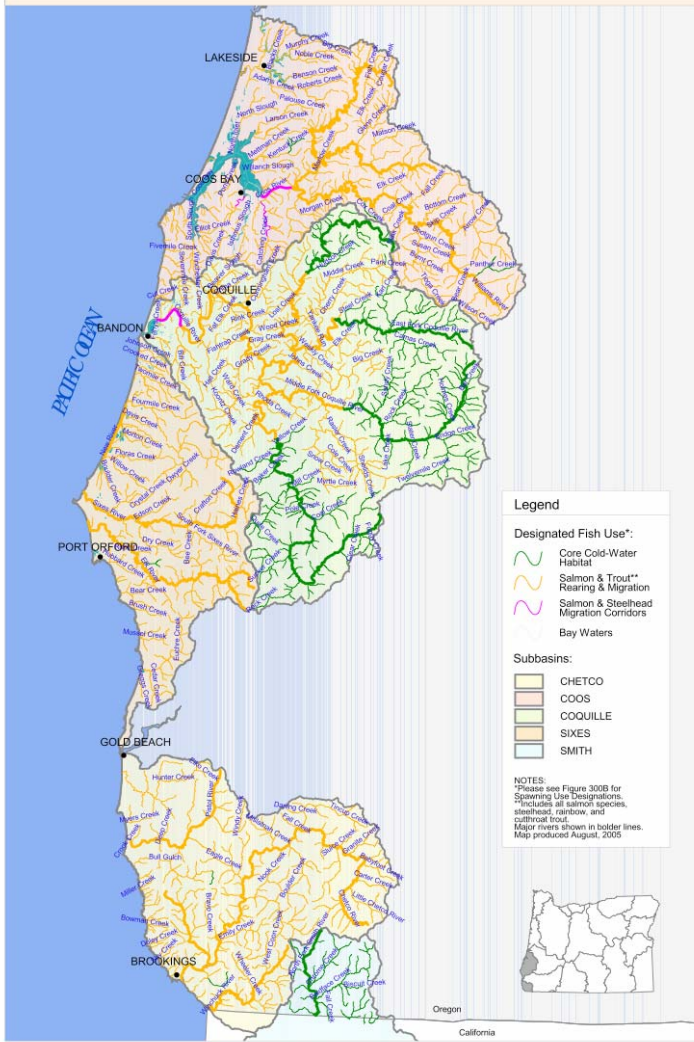


Figure 300B: Salmon and Steelhead Spawning Use Designations\*  
 South Coast Basin, Oregon

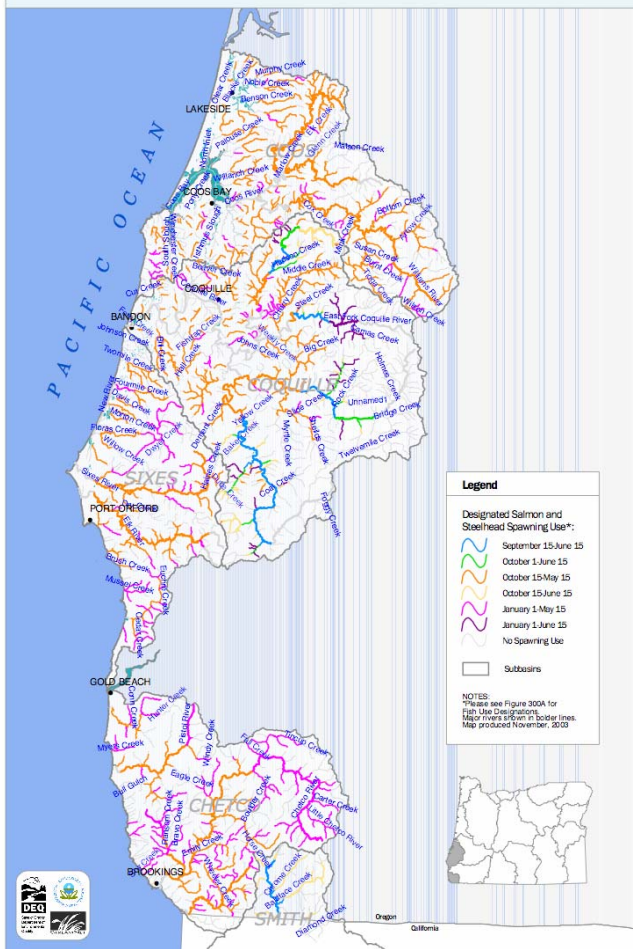
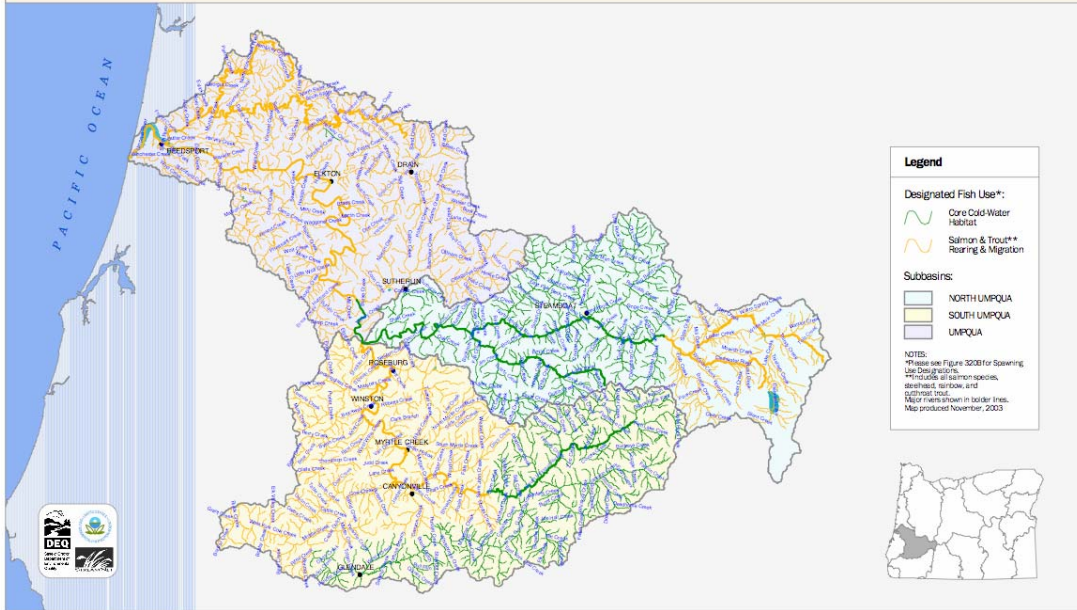
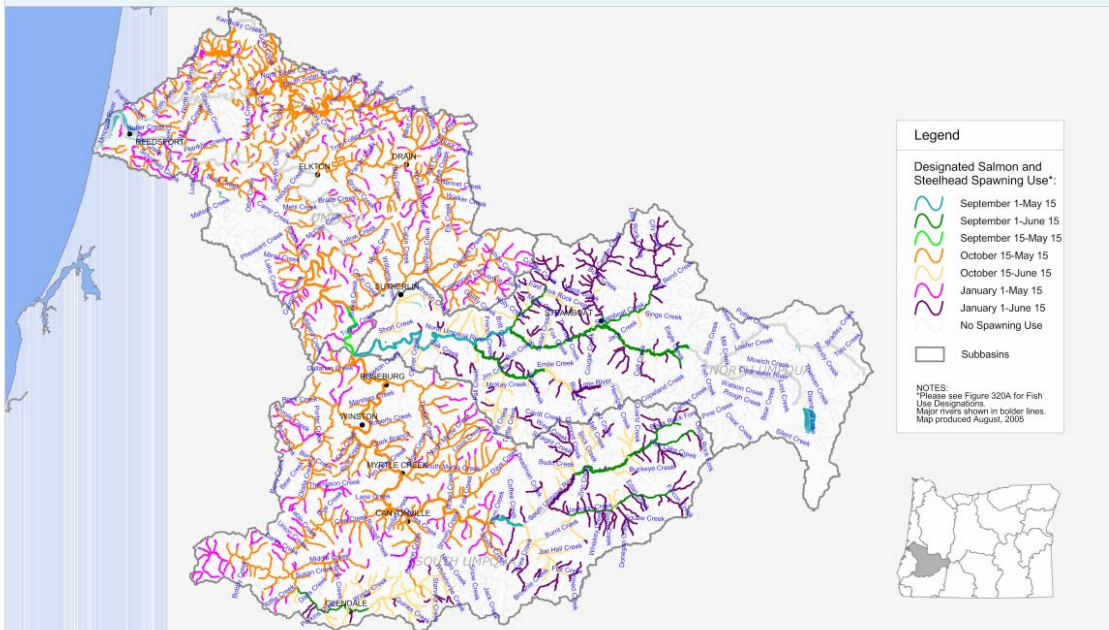


Figure 320A: Fish Use Designations\*  
Umpqua Basin, Oregon



Draft Revised Figure 320B: Salmon and Steelhead Spawning Use Designations\*  
Umpqua Basin, Oregon



These serious, long-term, and cumulatively devastating impacts demonstrate that the any supposed benefits of the project do not outweigh the significant harms. DEQ simply cannot issue a 401 certificate for this misguided project.

### **3. The JPA Application Fails to Demonstrate Compliance with the Coastal Zone Management Act**

The JPA does not demonstrate compliance with the Coastal Zone Management Act (“CZMA”). The application is both incomplete and inadequate. The application is premature, lacking complete applications to other key agencies and adequate analyses of impacts to sensitive resources. Additionally, the project has clearly failed to obtain local approvals for the terminal and pipeline necessary for the project to demonstrate compliance with the CZMA. As described above, the application to the Corps, DEQ, and DLCD lacks key information. The lack of adequate information for all of these agencies, including DEQ, renders the CZMA application incomplete because the CZMA requires key state authorizations be received as part of the application. For all the reasons detailed supra demonstrating incompleteness of the section 401 application to DEQ, the application to DLCD is also incomplete under the CZMA.

The application is also incomplete because it does not show that the project complies with local land use regulations, despite a false assertion to the contrary in the JPA. On page 11 of the JPA, the Coos County Planning Director asserted that the project has been approved by Coos County. On the contrary, key approvals have been overturned by the Land Use Board of Appeals in Oregon, and final permits were not issued before June 1<sup>st</sup> for all elements of the terminal and its mitigation proposals, the date when Patty Evernden of Coos County Planning, and Jeffrey Bishop of the Port of Coos Bay, asserted that the project had received necessary approvals. Furthermore, the project has yet to apply for necessary Coastal Zone Permits (likely conditional use permits) for the proposed PCGP in Coos County. The JPA is therefore inaccurate and the public notice is misleading and premature.

Additionally, Oregon DEQ and DLCD cannot process applications under the Clean Water Act 401 Certification and Coastal Zone Management Act without a completed and approved Land Use Compatibility Statements (“LUCS”) from both Douglas and Coos Counties. Pacific Connector has failed to obtain necessary local permits for Douglas County. The Douglas County Commission has yet to make a final decision on the issue. We have attached our submittals to Douglas County to these comments and incorporate them by reference. Multiple comments to Douglas County have argued the pipeline is not allowed as a conditional use in certain areas within the coastal zone management area.

Furthermore, the pipeline fails to meet riparian protections in Douglas County’s coastal zone. In fact, ODFW’s FEIS comments describe potential negative impacts to riparian areas as a major problem with the proposed pipeline. The ODFW commented to FERC that setbacks are necessary, and that current plans are inadequate for meeting the riparian setback requirements of state and local agencies:

In spite of ODFW's numerous comments to date, riparian vegetation buffers for the PCGP are still inadequate for nonfederal land. 25-foot replanting zones on private and state lands will not meet county or state requirements for riparian

areas. The Douglas County Land Use and Development Ordinance (LUDO) requires ODFW to complete an inspection for any land use action that will affect the Riparian Vegetation Corridor Overlay §3.32.200 (50 feet from high bank) and Significant Wetlands Overlay §3.32.700 (50 feet). Other counties that the pipeline passes through have similar riparian vegetation-related ordinances. The Douglas County ordinance requires ODFW to grant approval to reduce the setback or, if that is not possible, there is an appeals process through the county planners. ODFW strongly recommends that riparian vegetation buffers be implemented on nonfederal lands that at least meet County requirements.

State of Oregon FEIS comments at 33, ODFW Section. ODFW added: “Hence, until the pipeline can demonstrate that it complies with local land use laws, the application is premature and incomplete Oregon’s rules implementing both the Clean Water Act and the Coastal Zone Management Act.” We absolutely agree, and our attached Douglas County comments demonstrate that the PCGP does not comply with necessary wetland and riparian protections in Oregon’s coastal zone. Furthermore, DLCD noted to FERC in its FEIS comments that the review and appeal processes should be resolved before the application can be considered complete: “The OCMP integrates the process for review of local land use decisions as an element in order to provide a conflict resolution mechanism required by the CZMA. Until the appellate review process is complete, portions of the county’s decision are not yet approved. Until these issues are fully resolved, state agencies applying OCMP enforceable policies will have difficulty in completing their review.” State of Oregon FEIS comments at 26, DLCD Section.

As described in previous sections, the project description is not comprehensive enough to demonstrate compliance with the CZMA. Key project components for the terminal are unclear, such as the location of disposal areas for excavated and dredged material. Site F, located in Oregon’s Coastal Zone, may not be an acceptable disposal location because of impacts to green sturgeon, for which NMFS recently designated critical habitat in Coos Bay. The species is listed as threatened under the Endangered Species Act. Moreover, according to Coos County wetland maps, some areas designated as disposal sites are considered wetlands under the Coos Bay Estuary Management Plan. These maps remain inconsistent with the JPA materials.

Additionally, as discussed supra, the nature and extent of maintenance dredging for the slip dock is poorly described. The application states that maintenance dredging requirements could range from 35,000 to 315,000 cubic yards per year. The range of dredge amounts is too large for the public to understand the project’s impacts on Coos Bay. Turbidity from 35,000 cubic yards of dredging will be much different than the turbidity generated by 315,000 cubic yards. Furthermore, the notice states that all of this dredged material will be placed at Site F, without consideration of whether that site’s capacity may be filled by other uses such as Coos Bay Channel deepening. DLCD itself noted to FERC that the application lacks an evaluation of the capacity for proposed disposal sites to accept dredged material. *See* State of Oregon FEIS comments at 28, DLCD Section.

Moreover, mitigation proposals for the project are inadequate. As described in previous sections supra, the applicant only proposes to mitigate impacts to certain shallow-water impacts, defining shallow areas as less than 15 feet in depth. The JPA is required under the CZMA to propose comprehensive mitigation for estuarine resources, which it has failed to do. For instance, the project will harm benthic invertebrates and sensitive areas that are critical habitat for coho

salmon, green sturgeon, and potentially eucalalon. The applicant proposes to conduct restoration in a golf course several miles from the terminal site. The applicant's study of estuarine mitigation is inadequate, and does not ensure that key habitat functions will be replaced. Additionally, the application fails to characterize potential chemical contamination due to the use of herbicides and pesticides at the Kentuck Golf Course site. Without this information, DLCD cannot conclude that the proposed mitigation is adequate.

Furthermore, impacts to shellfish resources in Coos Bay are largely unmitigated. The project does not minimize its impact to these sensitive resources in the Bay. Because the applicant has failed to apply for local approvals of the pipeline segments through Coos Bay, the project has not demonstrated that it is complying with requirements to protect estuarine resources as outlined in the Coos Bay Estuary Management Plan (CBEMP). Impacts to shellfish resources are also relevant to the public interest determination since shellfish are a major income source for the region.

The JPA does not include adequate information on key measures to avoid impacts to protected resources. For instance, both ODFW and DLCD noted that plans to prevent impingement and entrainment of juvenile salmonids were inadequate, and that lack of screening on ballast and cooling water intakes would be unacceptable. DLCD wrote that information in the FEIS "related to entrainment of salmonids and other aquatic organisms was "inadequate" in FERC's analysis. Furthermore, DLCD noted the FEIS "does not contain sufficient assurances to address regulatory agency and either ESA or MSA consultation requirements. We believe measures should be designed to avoid and minimize effects. Mitigation should only be used for unavoidable adverse effects." State of Oregon FEIS comments at 29, DLCD Section. We agree with these comments, and note that these issues remain entirely unresolved in the JPA.

Furthermore, as described in detail supra, the JPA fails to demonstrate that the project and its associated impacts on the Coos Bay Estuary and other coastal zone resources are necessary for meeting Oregon's energy needs. Indeed, as Oregon agencies commented on several occasions, the project has not demonstrated that other less environmentally harmful alternatives including energy efficiency, renewable energy, domestic gas resources, and alternative LNG sites are impracticable. The CZMA requires that the applicant demonstrate that the project is in the public interest. DLCD wrote in June 2009:

FERC staffs analysis of domestic natural gas supply and new pipeline infrastructure concludes, without substantive analysis that "It stands to reason that a longer pipeline would not have any clear environmental advantages." This conclusion assumes that the areas proposed for pipelines contain resources of equivalent environmental and natural resource value. The analysis also ignores the significant reduction of environmental and resource effects of these projects because they do not require a ship transit, terminal infrastructure and estuarine alterations for the access channel and ship berth. Issues such as entrainment and dredging are avoided with domestic supply and pipeline options. FERC staff's response to these issues raised during the DEIS review is that each project is reviewed on its own merit. Multiple approved projects may be approved on individual merit and the "market" will determine if any project is constructed. There is still no recognition that, once sited, a terminal and pipeline will fit within a larger regional/national system of natural gas infrastructure. There is nothing other than FERC staff's reliance on the market to determine which facility or facilities are ultimately constructed, despite the obvious observation that

even minimal planning could result in a superior option that can meet a prospective need, with less long term environmental and natural resource effects. FERC staff makes no attempt to identify and evaluate the relative impacts of each project and determine whether any project is environmentally preferable.

State of Oregon FEIS comments at 30. We strongly agree that the FEIS is deficient. Because the JPA alternatives analysis largely rests on the same information and analysis as the FERC DEIS and FEIS, the current JPA application does not demonstrate that the project the avoids unnecessary economic and natural resource impacts to the Coos Bay estuary.

Lastly, it is clear that the JPA is not complete in terms of its mitigation proposals. The final mitigation plan was submitted in November 2009 – months after the JPA itself was issued. The public lacked adequate time and access to key mitigation plans in order to comment on the project. Because the mitigation scheme was omitted from the original JPA as submitted in late summer of 2009, the public cannot be expected to consider it part of the current application. Furthermore, the lack of consultation under the Endangered Species Act renders these mitigation measures highly suspect and likely to change. DLCD wrote in June 2009 that “unavoidable impacts will require mitigation. Although mitigation is generally addressed in the FEIS and addressed in more detail in the BA, significant changes to the mitigation for the project are likely, following a complete review of the project effects and information in the BA.” State of Oregon FEIS Comments at 32. Again, these issues, which DLCD and others have repeatedly presented to the applicant, remain unresolved. We urge DLCD to deny the application because of the obvious gaps in the application and the inadequate analysis of impacts to key natural resources presented in the JPA.

#### **4. The Notice for the JPA Comment Period was Insufficient in Violation of NEPA**

The Corps should issue a new public notice because the current notice has significant errors and inconsistencies that preclude adequate public participation. For the reasons discussed in the preceding sections, the public lacks sufficient information to adequately participate in the permit review.

For example, the process has been flawed because:

- \* The application included an incorrect agency contact address (On August 21, 2009, the Coos Bay World newspaper re-printed the Corps inaccurate address with the wrong zip code)
- \* Agencies have not yet scheduled repeatedly requested public hearings in the affected counties
- \* The Corps changed the staff contact person and office, left the old representative not forwarding correspondence, and issued no public notice of the change.
- \* There remains a lack of access to the JPA in rural areas directly affected by the project, despite repeated complaints and requests over several months
- \* The application includes an incorrect email address for submitting comments
- \* The application includes unreadable maps, and the public has little access to key maps

The widespread errors in the public notice are easily blamed on the applicant. But the Agencies cannot simply take the applicant’s word for it that the public notice is accurate. The Agencies must conduct at least some basic level of due diligence to insure that the notice is accurate. The public deserves far better from our agencies than simply publishing whatever the applicant provides. As we have detailed supra and in previous comments, application materials are

inadequate, unavailable, and often in error. The public should be able to rely on agencies to provide a meaningful opportunity to comment on a project with such significant impacts.

In addition to the significant inaccuracies, the Corps' public notice fails to provide enough information for adequate public review. The public notice contains only eight pages of text describing this large and incredibly complex project. The attached rough maps and diagrams contain far too little detail to understand the impact of the project. Even if the public dug deeper and obtained the Joint Permit Application Form from the Corps, which was not attached to the public notice and only available upon specific request from the Corps, the public was still left with an inaccurate description of the project, as discussed in the preceding sections. For instance, the application repeatedly references the DEIS for its alternatives analysis although significant project changes have occurred in the subsequent FEIS, applicant filings with FERC, and FERC Order.

Many frustrated citizens have expressed confusion to the Corps and DEQ about the notice. To comply with its regulatory requirements and to satisfy the due process and NEPA rights of public participation, the Corps must issue a new public notice that accurately and fully describes the project.

#### *Public Hearing*

The Coalition requested a series of public hearings in our September 18, 2009 letter to the Corps, DEQ and DLCD, which adequately described the substantial issues to be raised and the valid public interest. Multiple other individuals and organizations affected by this proposal also requested a public hearing. "Requests for a public hearing shall be granted unless the district engineer determines that the issues raised are insubstantial or there is otherwise no valid interest to be served by a hearing." 33 C.F.R. § 327.4(b).

The valid interest public hearings will serve is that the public can supply information to the agencies that is missing from the application on the following issues: practicable alternatives; impacts to aquatic life, including threatened salmon, impacts on economy of the local communities and the state of Oregon; protection of public trust rights and traditional fishing grounds; public safety concerns; compliance with water quality standard; discharge of toxic pollutants; existing roadways, and pipeline impacts on more than three hundred waterways. This project is so large, complex, and far-reaching that many local residents have information on components that is not otherwise available to the agencies.

An additional public interest served is allowing citizens the opportunity to express their concerns to the agencies. It is poor public policy to avoid the public when projects are controversial, especially in the case of Jordan Cove when the agencies have been fully informed of the incomplete and inaccurate nature of the information Jordan Cove has provided the public.

#### *Inadequate notification of landowners*

The JPA includes in Appendix J a list of labels with names and addresses, presumably affected landowners that were notified of the JPA public comment period.

However, there are at least 20 landowners (listed below) that are not included in Appendix J, but would be affected by the proposed action. The Old Ferry Road Committee is an intervenor in the FERC process, and submitted comments on the DEIS. In response to those comments, the FEIS states at 4.9-15 that, “Pacific Connector now believes the entire length of the road would not need to be widened as previously assumed, and that improvements would be limited to installing eight small TEWAs at six locations along the 1.6 miles (totaling 0.26 acre) to accommodate turn-outs, widen a sharp curve, and add a staging area.”

The landowners who hold easements on Old Ferry Road are very concerned about the use of the road for the construction of the HDD at the Rogue River and how proposed road modifications on Old Ferry Road might impact their use of the road and the adjacent Rogue River. The use of Old Ferry Road would require that Pacific Connector negotiate agreements with these landowners to use the road, yet all affected landowners were not notified of this permit application.

The use of Old Ferry Road would require modifications to handle heavy equipment, which could impact landowners and water resources (see attached photos that exemplify the aquatic resources impacted by this one road,) when none of the road modifications proposed for use in this project have been specified or analyzed for aquatic impacts. Many of the proposed roads are likely not maintained as well as Old Ferry Road. *See Extent of Road Construction* in section 1.2 of these comments. Also *see* attached photos of water resources that will be impacted by construction and widening of Old Ferry Road.

List of affected landowners not notified of the JPA public comment period:

Marsha Fuerst  
2121 W. Garvey Ave  
West Covina, CA 91790  
TL: 341W03A 2000

Billie Brozovich & Elinor Bailey  
2695 Old Ferry Road  
Shady Cove, OR 97539  
TL: 341W03A 2100

Edward J. Plume, Trustee  
P.O. Box 35  
Trail, OR 97541  
TL: 341W03A 2200

Monte J. Seus  
2751 Old Ferry Road  
Shady Cove, OR 97539  
TL: 341W03A 1900

Florence N. Hutchinson  
649th Ave  
Isle of Palms, South Carolina 29451  
TL: 341W03A 1801

Abraham Weinrich, Trustee  
4916 Llano Dr.  
Woodland Hills, CA 91364  
TL: 341W03A 1802

Betty Bowling  
4559 Bixby Dr.  
Laverne, CA 91750  
TL: 341W03A 1800

John M. Roberts, Trustee  
2525 Old Ferry Road  
Shady Cove, OR 97539  
TL: 341W03D 200

Donald and Ines Oyler  
2363 Old Ferry Road  
Shady Cove, OR 97539  
TL: 341W03D 300

Kathleen Ann Erickson  
P.O. Box 982  
Shady Cove, OR 97539  
TL: 341W03D 400

Patricia J. Erickson  
P.O. Box 1327  
Shady Cove, OR 97539  
TL: 341W03D 500

Kim Haesook  
3765 Topaz Rd.  
West Sacramento, CA 95691  
TL: 341W03D 600

Bob and Barbara Rowe  
2181 Old Ferry Road  
Shady Cove, OR 97539  
TL: 341W03D 700

John and Charllot Stribling (4 parcels)

P.O. 795  
Shady Cove, OR 97539  
TL: 341W03D 800  
TL: 341W10 800  
TL: 341W10 701  
TL: 341W10 700

Darin and Chana May  
P.O. Box 443  
Shady Cove, OR 97539  
TL: 341W10 600

Robert Farris, Trustee  
P.O. Box 1080  
Shady Cove, OR 97539  
TL: 341W10 500

Clifton and Judy Belknap  
P.O. Box 823  
Shady Cove, OR 97539  
TL: 341W10 400

David Kinyon, Trustee  
P.O. Box 233  
Medford, OR 97501  
TL: 341W10 300

Robin and Jennine Smith  
112 The Trees Dr.  
Williams, OR 97544  
TL: 341W10 200

Elva Tepper, Trustee (2 parcels)  
1415 Old Ferry Road  
Shady Cove, OR 97539  
TL: 341W10 1500  
TL: 341W10 1502

The JPA is wholly inadequate and undermines the ability of the public to participate meaningfully as well as stretching the good faith of the public in the transparency and adequacy of the public review process. An adequately comprehensive notice must be issued, public hearings must be scheduled before comment deadlines elapse, and all affected parties must be notified. Without adequate notice, the agencies violate the letter and intent of legal public notice requirements.

## CONCLUSION

For the foregoing reasons, the Coalition urges the Corps, DEQ and DLCD to deem the JPA legally and factually insufficient and deny the CWA §401, §404 and CZMA permit requests for this misguided and destructive project.

Dated this 24 day of December, 2009.



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***On behalf of:***

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(541) 890-5107

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San Francisco, CA 94108-4530  
(415) 399-8850

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P.O. Box 101

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1821 SE Ankeny St.  
Portland, OR 97214

Jody McCaffree, Executive Director  
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P.O. Box 1113  
North Bend, OR 97459

Diane Phillips, Director  
Oregon Citizens Against the Pipeline  
PO Box 179  
Azalea, OR 97410  
(541) 817-3993

Southern Oregon Pipeline Information Project (SOPIP)  
2640 E Barnett Rd. Suite E-417  
Medford, OR 97504  
866-211-7335

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PO Box 11648  
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