



February 1, 2019

Bob Lobdell, Coordinator
Oregon Department of State Lands
775 Summer St. N.E., Ste 100, Salem, Ore. 97301

Re: Public Comment on Jordan Cove Energy Project Removal-Fill Permit--DSL Application Number 60697 NWP-201741—**Oppose**

Dear Mr. Lobdell:

We provide these comments on the abovenamed removal-fill permit application representing the League of Women Voters of Coos County, LWV of Umpqua Valley, LWV of Rogue Valley, and LWV of Klamath County. We herein present information we believe is pertinent and compelling specifically regarding the application submitted to the Oregon Department of State Lands (DSL) by the Jordan Cove Liquefied Natural Gas (JCLNG) and Pacific Connector Gas Pipeline (PCGP), [commonly referred to collectively as the Jordan Cove Energy Project (JCEP)]. Our comments specifically respond to the issues DSL must consider under ORS 196.825 and implementing regulations in order to determine whether to approve or deny said permit. **Through these comments, we convey our deliberative opinion that DSL should deny the application.**

We are grassroots nonpartisan, political organizations operating in the four counties in Oregon that will be directly affected by the construction and operations of the proposed project. Our detailed review of the application and attached documents for the JCEP shows that the project is in direct conflict with many state and national League of Women Voters policies. These policies are based on studies and resultant consensus positions regarding natural resources, water quality and quantity, climate change, offshore and coastal management, land use, energy conservation, and seismic risks.

Since the 1950s, the League has been in the forefront of efforts to protect air, land, and water resources. The League of Women Voters of the United States (LWVUS) “believes that natural resources should be managed as interrelated parts of life-supporting ecosystems. Resources should be conserved and protected to assure their future availability. Pollution of these resources should be controlled in order to preserve the physical, chemical and biological integrity of ecosystems and to protect public health.” The League of Women Voters of Oregon (LWVOR) “. . . opposes degradation of all of Oregon’s surface and ground water. . . .” and declares that climate change is the greatest environmental challenge of our generation. And finally, at the 2018 National LWV Convention, the following resolution passed almost unanimously: “The League of Women Voters supports a set of climate assessment criteria that ensures that energy policies align with current climate science. These criteria require that the latest climate science be used to evaluate proposed energy policies and major projects in light of the globally-agreed-upon goal of limiting global warming to 1.5 degrees C, informed by the successful spirit of global cooperation as affirmed in the UN COP 21 Paris agreement.” We, as

local Leagues, are part of the national and state LWV. Based on these positions and our understanding of the likely impacts of the proposed JCEP on critical environmental resources and communities in our areas, the four abovenamed local LWV submit jointly this comment in opposition to JCEP's applications for a removal-fill permit.

Our comments and analyses are based on provisions of ORS 196.825, as well as implementing regulations at OAR 141-085 and guidance in DSL's *A Guide to the Removal-Fill Permit Process* (hereinafter *Guide*). In an overall sense, our comment responds to the provisions of ORS 196.825(1) as they lay out the criteria for issuance of the permit as follows:

The Director of the Department shall issue a permit applied for under ORS 196.815 if the Director determines that the project described in the application:

- (a) Is consistent with the protection, conservation and best use of the water resources of this state as specified in ORS 196.600 to 196.905; and
- (b) Would not unreasonably interfere with the paramount policy of this state to preserve the use of its waters for navigation, fishing and public recreation.

We believe this project does not meet these criteria for issuance, and that the project fails to meet requirements in other parts of the code, regulations, and guidance for reasons that follow.

I. The permit application should be denied because the project described in the application does not have independent utility as required by OAR 141-085-0565(3)(a)(1).

OAR 141-085-0565 (3)(a) states that the department will issue a permit if the project described in the application,

- 1) Has independent utility;
- 2) Is consistent with the protection, conservation and best use of the water resources of this state as specified in ORS 196.600 to 196.990; and
- 3) Would not unreasonably interfere with the paramount policy of this state to preserve the use of its waters for navigation, fishing and public recreation, when the project is on state-owned lands.

It is our position that this project *has not* achieved independent utility.¹ There are a number of factors contributing to that conclusion.

First, this project has changed direction over more than a decade, beginning with a shift from an import to liquefaction, storage, and export purpose, as well as through different ownership and myriad modifications resulting from extensive communications with regulators in attempts to obtain required permits and approvals. Across time, multiple consultants have prepared numerous reports and other documents regarding the various aspects of the design. The current application includes many of these materials, even though some are years old and were

¹¹ "Independent Utility" as used in the definition of "project," means that the project accomplishes its intended purpose without the need for additional phases or other projects requiring further removal-fill activities. OAR 141-085-0510(43).

prepared for earlier iterations of the project. As a result of this long history, the application includes a confusing set of often outdated, disjointed, and conflicting information. We will discuss some examples of missing information. Moreover, we believe that these iterations and ownership changes have affected the independence of impartial considerations of alternatives and have resulted in a plan that does not fit well into the existing site.

One example of this is a discussion in application materials of the North Point Workforce Housing Project. Therein, the Applicant provided details found in various components of the project, almost all of which have been changed in the current design:

The site of the proposed North Point Workforce Housing Project (located on east of the airport on the south bank of Coos Bay), is owned by Al Pierce Lumber Company, and would be leased by Jordan Cove. It is zoned for heavy industry according to the North Bend Municipal Code and is classified as industrial land. The site is currently unoccupied and undeveloped. Previously, the site was used for dredged material disposal on the western portion and log storage on the eastern portion.²

This area is no longer being considered for workforce housing, rather is now the proposed site for placement of dredge spoils referred to as APCO sites 1 and 2. Moreover, prior to that detail, that same source as above discusses the placement of sands on the outer area of the spit. Are these to be considered as evaluations of alternatives or is this material placed into the document because of poor screening—or incomplete understanding—of the tens of thousands of pages developed for older project iterations?

An even more compelling demonstration of the lack of *independent utility* of the project described in the application is the long-term and ongoing presence of, and interaction with the International Port of Coos Bay. For example, in 2018, JCEP paid \$4 million to the Port of Coos Bay to support the evaluation of a plan submitted by the Port to deepen and widen the Federal Navigation Channel in the Coos Estuary. This Port-proposed project is currently under review by the US Army Corps of Engineers (USACE) and awaits issuance of a Draft Environmental Impact Statement (DEIS). Among their consultants are those who also provide assistance to the Jordan Cove Project. Details regarding their contracts are provided in the Commissioner's reports, e.g., the information package for the December 10, 2018 Commission meeting. These relationships continue with direct communications between the Port and JCEP, as well as reimbursement by JCEP of expenses incurred by the Port for their project.

The Port's proposed project contains a request for channel deepening and widening with three elements that result in an estimated dredging of up to 15 million cubic yards (CY) of sediment and bedrock from the Coos Estuary and disposal of dredged material on the seabed in or near the boundary of the state territorial sea. The elements are as follows:

1) The Port proposes widening and deepening of the channel by dredging the navigation channel from approximately 0.8 miles west of the channel entrance to approximately river mile (RM) 8.2. These channel modifications would not extend beyond the existing railroad bridge at RM 9. The proposal would alter the existing navigation channel with authorized width of 300 feet from RM 2 to RM 9 and authorized nominal depth in the

² DSL Application APP0060697, Section 1 JCEP, Attachment F.1, "CENWP-EC-HR (Sediment Quality) 19 January 2016 addressed MEMORANDUM FOR FILE, Portland District, Regulatory Branch, (CENWP-OD-G, Krug)," PDF page 1004.

same area of -37 feet to a nominal width of 450 feet from RM 2 to RM 8.2 and an authorized depth in the same area of -45 feet.

2) The Port project would add a vessel-turning basin at the upper end of the proposed channel modification. The proposed vessel-turning basin would be 1,400 feet long and 1,100 feet wide, with an authorized depth of -37 feet.

3) The Port project would add relocation of aids to navigation with revised channel shifts of the centerline alignment of every reach from the entrance range through the Jarvis Turn. This would require relocating all corresponding range markers and the relocation of fixed and floating channel markers.

Moreover, the Port of Coos Bay clearly states in their meetings and planning documents that the proposed widening and deepening of the navigation channel would not occur unless the Jordan Cove project goes forward, as the major funding for it would come from Jordan Cove as a private partner. For these reasons, we strongly believe that the project described in DSL APP0060697 does not have independent utility under [OAR 141-085-0565 (3)(a)(1)] and therefore the removal-fill permit application should be denied.

II. The application should be denied because the Applicant has failed to demonstrate a public need for either the overall project or the removal and fill activities for which the permit is sought and consequently, we contend that the absence of a public need calls for denial of the permit application [ORS 196.825(3)(a)].³

The Applicant at (3) PROJECT PURPOSE AND NEED, where asked to address those aspects of the “whole project,” states,

The Project is a market-driven response to the burgeoning and abundant natural gas supply in the U.S. Rocky Mountains and Western Canada markets, and the growth of international demand, particularly in Asia. The overall Project purpose *and need* is to construct a natural gas liquefaction and deep-water export terminal capable of receiving and loading ocean-going Liquefied Natural Gas (LNG) carriers, in order to export natural gas derived from a point near the intersections of the GTN Pipeline system and Ruby Pipeline system [emphasis added].

The Applicant does not state the project need clearly, but they imply that there is a market or demand in Asia for natural gas that is available in certain locations in Canada and the U.S. and the Applicant wants to perform a series of activities to facilitate connection of the supply with the demand and needs the project activities to accomplish that. But the existence of a market does not constitute a *public need*. We note that the project in no way meets any public need there may be for natural gas delivery in the Oregon, the Pacific Northwest, or anywhere in the U.S.

³ We note in DSL’s *Guide* that the agency does not concern itself with the “need” for the project, rather with the “need” for the removal and fill activities the Applicant proposes to be able to fulfill the project’s purpose. However, our understanding of the issue of balancing public need with the provisions in ORS 196.825(1) and matters discussed in *Coyote Island Terminal, LLC, Port of Morrow*, Office of Administrative Hearings State of Oregon for the Department of State Lands, OAH Case Nos.: 1403883 and 1403884 Agency Case No.: APP0049123-RF and *Citizens for Responsible Development in the Dalles v. Wal-mart Stores, Inc., and the Department of State Lands*, Court of Appeals of the State of Oregon, DSL APP0043798RF; A158346 motivate our focus on *public need* and the social, economic or other public benefits referenced in ORS 196.825(3)(a).

Other removal-fill permit applications considered by DSL have relevance to this issue. First, in denying a removal-fill permit application to Coyote Island Terminal, LLC to construct a new loading dock, walkway, conveyor, and associated facilities at the Port of Morrow near Boardman, Oregon, DSL based its decision on the absence of a public need. Some important circumstances described in the Coyote Island denial are similar to those under consideration in JCEP's removal fill application. In the Coyote Island denial, DSL stated, "The permit Applicant is a private company proposing this as part of a commercial enterprise; therefore, the fill would not directly meet a public need The low public need for the proposed fill does not support issuance of the permit."⁴ It is unclear whether the fact that the Applicant in the Coyote Island Terminal case was proposing to load coal mined in Montana and Wyoming (i.e., out-of-state) for export to Asia was considered by DSL in its finding of low public need. If it was, this is an additional parallel with JCEP, although in the latter case, the situation is even more problematic. Not only would the U.S. gas be sourced in other states, recent information from the Applicant's parent company quantifies the extent to which Canadian gas producers would benefit vastly more significantly than those in the U.S. An account of a recent meeting in Grand Junction, CO, attended by Stuart Taylor, a Jordan Cove/Pembina spokesperson, indicated that,

Jordan Cove plans to specifically hold space in the project for Rockies producers. That space currently may amount to about 75 million to 150 million cubic feet a day, which Taylor acknowledged doesn't sound like a lot in the context of a project that could initially ship 1.3 billion cubic feet a day.⁵

The above quotation indicates that, despite hopes by Rocky Mountain producers and their boosters for vast new, Asian markets spurring a resultant resurgence of the industry boom, a maximum of only 12 percent of the total gas transported across southern Oregon for export overseas would benefit the U.S. natural gas industry. Colorado, Utah, and Wyoming supporters may still find that small window of sales welcome, but why should Oregon's waterways and wetlands, existing coastal industries, and communities be impacted for the benefit of Canadian corporations? This scenario does not serve a public need in Oregon.

In considering an application by Wal-mart Stores, Inc., for a removal-fill permit, DSL granted the permit, but referenced the same point with regard to failure of either the existence of a market or desire by a private company to tap into it. DSL stated in the Wal-mart permit approval,

While there may be a market demand for the products and services offered by Walmart, the desire of Walmart to enter the market does not necessarily constitute a public need. As with many commercial endeavors that don't address a public need, this consideration was not a factor in support of this affirmative determination.⁶

In our view, JCEP is another "commercial endeavor that [doesn't] address a public need" and therefore, DSL should deny the application.

The bulk of the narrative in (3) PROJECT PURPOSE AND NEED is devoted to the need for the removal-fill activities for which the permit is sought, none of which pertains to a public need.

⁴ *Coyote Island Terminal, LLC, Port of Morrow*, p. 5.

⁵ Dennis Webb, "Geopolitical case for Jordan Cove," *Grand Junction Sentinel*, September 12, 2019, https://www.gisentinel.com/news/western_colorado/geopolitical-case-for-jordan-cove/article_cd728716-b64a-11e8-9ed7-10604b9f7e7c.html.

⁶ *Citizens for Responsible Development in the Dalles v. Wal-mart*, p. 312

Instead, those activities are designed to accommodate the fact that the existing landscape features at the proposed project site are not compatible with the proposed size and configuration of this project. We provide below detailed assessments regarding specifics of proposed dredge and fill activities in the Coos Bay estuary location.

Here, as an example of the failure to demonstrate need, we address one activity that demonstrates the lack of consideration of the geographical limitations of the area they are proposing for this operation. The Applicant proposes to expand the size of the existing Federal Navigation Channel with the Navigation Reliability Improvements (NRI). This activity includes dredging and relocation of approximately 590,000 CY of material from four areas along the Federal Navigation Channel in the bay. The Applicant makes it clear that *they* need these modifications, but not so that they can accomplish the purpose of exporting LNG to Asia. The proposed dredging of the navigation channel is for the sole purpose of allowing achievement of a financially-driven goal of exporting 7.8 million tons per annum (MTPA) of LNG per year, a less than 1% increase over what could be achieved without the economic and environmental harm and disruption the proposed NRIs would cause. The need of a private corporation to realize a higher profit from a costly investment decision does not constitute a public need.

We do not believe that DSL can find affirmatively that there is a public need for the project, therefore the application does not meet the requirements for approval of a removal-fill permit as provided in ORS 196.825(3)(a).

III. The Applicant fails to demonstrate adequate social, economic or other public benefits that would result from the proposed removal and fill, either in their JCLNG (Section 1) or their PCGP (Section 2) application.

In *Citizens for Responsible Development in the Dalles v. Wal-mart Stores*, Wal-mart put forward short-term jobs as a major economic benefit in its removal fill permit application. However, the Oregon Court of Appeals found in that case that the record showed, “. . . short-term economic benefit derived from project and infrastructure construction. However, as to long-term net economic benefit to the public from the development of this retail project, the information in the record is inconclusive.”⁷ A similar, although more egregious situation exists regarding the proposed Jordan Cove Project and argues for denial of the permit application. We contend that existing fishing, boating, water contact recreation, tourism, and other existing and long-standing activities in both the Coos Bay area and along the 230-mile pipeline route with which JCEP would conflict are of more significance in terms of “long-term net economic benefits” than the public benefits that may be derived from the largely temporary jobs associated with the proposed removal-fill activities—or the overall project.

Jobs at risk with this project are those related to industries that would be disrupted or lost as a result of project activities. These include anyone employed in the fishing industry, in the many forms of recreation, including tourism, pertaining to Coos Bay or any of the five major rivers to be affected by PCGP construction. The economic value of tourism in Coos County in 2017 was estimated at \$261 million with fishing the strongest contributor. Timber companies, including individual family-owned forest properties point out the potential loss of revenue due to competition from timber harvested in the construction zone for the pipeline.

⁷ *Ibid.*

The Applicant does not mention, let alone attempt to measure, the loss of existing or long-standing jobs and other forms of income production due to the reduced productivity of land caused by installation and operation of the 229-mile pipeline. In fact, numerous landowners have pointed out that they have already lost the ability to utilize and benefit economically and socially from their land as soon as the first iteration of this project was announced over a decade ago, due to Oregon disclosure laws. The two year-long pipeline construction schedule would bring with it increased risk of mudslides and landslides, noise pollution from heavy equipment operation and blasting, disruption of water resources, and wildfires from construction activities in our increasingly climate stressed terrain. We believe these public detriments must be weighed against the limited social, economic, and other public benefits granting this permit would bring.

The Applicant promises increased tax revenues to each of the four counties where portions of the project would be sited. As we understand the statute, those benefits cannot be considered for purposes of assessing benefits of the removal-fill project since they would be operational effects. But we note that the Applicant does not disclose any of the new or additional costs that would accrue to counties during construction or operation. Many social and economic costs and public detriments are a fact of life played out throughout history and across the nation: the negative impacts of what might be called Boomtown Syndrome. In this case, an economic event that results in over 2,000 workers moving temporarily into a small community unavoidably brings with it at least increased crime, substance abuse, traffic, road infrastructure, and pressure on housing, health, emergency, and other services. These impacts are difficult to quantify in terms of cost, but no Boomtown situation has escaped them. A totally different, but equally negative set of impacts occurs when the Boom busts.⁸ Furthermore, the Applicant is currently negotiating an Enterprise Zone Agreement with the International Port of Coos Bay and the cities of North Bend and Coos Bay that provides a 7 to 15-year property tax exemption⁹ for a project that has a 25 to 30 year life as stated by the applicant.¹⁰

We discuss a number of risks associated with project construction that carry with them the potential for significant costs to counties slated to receive tax revenues if the project goes forward. The Jackson County Commission considered the project application materials and submitted a description of their concerns in a comment to DSL unanimously recommending denial of the permit. For example, they said, “. . . the State or County are offered no assurances that environmental damages to sensitive wetlands and waterbodies would be restored or funded. Beyond emergency protocol, there needs to be a restoration action plan that adequately addresses these concerns with financial assurance by way of bond or other means so that State and Jackson County agencies will not be left to deal with, and pay for, necessary restoration and reclamation.”¹¹ The county’s comment goes on to enumerate several additional concerns.

We do not believe that the Applicant has demonstrated that the social, economic or other public benefits likely to result from the proposed fill or removal outweigh the social, economic, or other

⁸ Numerous studies support this contention, for example Bret A. Weber, Julia Geigle, and Carenlee Barkdull, “Rural North Dakota’s Oil Boom and Its Impact on Social Services,” *Social Work*, January 2014, pp. 62-72 and Ruth Seydlitz, Shirley Laska, “Social and Economic Impacts of Petroleum ‘Boom and Bust’ Cycles,” U.S. Department of the Interior, Minerals Management Service University Research Initiative, June 1994.

⁹ Intergovernmental Agreement Plan for Distribution of Community Service Fee Jordan Cove Energy Project. http://coosbay.org/uploads/PDF/cc_agenda/2016/11-22-2016_Joint_CC-URA_WS/Agenda_Item_2c_Council_Committee.pdf

¹⁰ DSL Application APP0060697, Section 1 JCEP, Attachment E: Dredge Material Control Plan, PDF p. 892.

¹¹ Jackson County Board of Commissioners to Bob Lobdell, Oregon Department of State Lands re: Comment on Jordan Cove Energy Project, Application APP0060697, January 22, 2019.

public costs the project would exact. Therefore, the application does not meet requirements for approval of a removal-fill permit as provided in ORS 196.825(3)(a).

IV. The economic benefits likely to result from the project do not justify the extent to which the project described in the application is in conflict with the ongoing and successful efforts to restore the Coos Bay and estuary into a functioning aquatic system to support sustainable fisheries and shellfish recovery and increased recreation and quality of life for the residents of, and visitors to, the region [ORS 196.825(1) and (2)].

The proposed project is in conflict with restoration efforts by the DSL's own South Slough National Estuarine Research Reserve (SSNEER). The SSNEER, located in Coos Bay estuary, was created as the first of now 29 reserves in the nation and is the only reserve in Oregon. The National Estuarine Research Reserve System was designated to protect and study estuarine systems. Established through the Coastal Zone Management Act (CZMA), the reserves represent a partnership program between the National Oceanic and Atmospheric Administration (NOAA) and entities in the respective coastal states. NOAA provides funding and national guidance, and each site is managed on a daily basis by a lead state agency or university with input from local partners. The partner for the SSNEER is the Oregon Department of State Lands.

The SSNEER agreement between Oregon and the federal government was the first estuarine sanctuary in the United States created under Section 312 of the CZMA of 1972 (P.L. 92-583) and redesignated as the South Slough National Estuarine Research Reserve by federal law (P.L. 99-272). The management policy for the reserve is to:

- Maintain the integrity of the estuary;
- Protect the estuary from uses and activities, both within and beyond its boundaries, that may alter or affect the ecosystem and its natural dynamic processes; and
- Preserve the area for long-term scientific and educational uses.

The strategic plan for the SSNEER provides an assessment of climate vulnerability. A report by Trueblood and colleagues on climate sensitivity of the National Estuarine Research Reserve (NEER) System showed that the Reserve and its surrounding area ranked very high on social sensitivity to climate change impacts, but also ranked high in ecological resiliency.¹² The high social sensitivity ranking stems from the area's low per capita income and other socioeconomic barriers, including dependency on natural resources. This dependency may limit the community's ability to rapidly respond to climate impacts as they occur, and estuaries are an integral component of the array of diverse coastal habitats providing nursery habitat for fish and shellfish while buffering many of our coastal communities from the impacts of coastal storms and sea level rise.

The climate vulnerability report documented that the social sensitivity ranking of the community surrounding the SSNEER was high because of the 1) high percentage of the population that is American Indian; high employment in natural resource-dependent extractive industries; high

¹² Trueblood, D., Robinson, P., Curtis, K., Gao, J., Genskow, K., Jones, J., Veroff, D., Leight, A.K., Martino, E., and Wood, B. (2013). "Climate Sensitivity of the National Estuarine Research Reserve System." Report to NOAA's Climate Program Office., 79 pp.

percentage of the population receiving public assistance; low per capita income; high percentage of the population living in mobile homes; and high percentage of population that has been in their home for less than one year.

With funding from the National Estuarine Research Reserve System's (NERRS) Science Collaborative Program, a collaborative effort over the past five years among public- and private-sector citizens in the Coos Bay community has worked to develop locally-driven approaches to responsible development, and to help prepare for climate-related changes on Oregon's south coast. This collaboration including Coos County and South Slough NEER provided data to assist Coos County's Planning Department to update environmental and community data related to the Coos Bay Estuary Management Plan (CBEMP) last revised in 1984. Data from this partnership project, named the Partnership for Coastal Watersheds (PCW),¹³ have provided considerable detailed information about the increased restoration of ecosystem services that the bay has achieved over the past several decades. Some of these data are used to support our comments in this document.

V. Dredging, filling, and associated activities within wetlands and waters of the State of Oregon in benthic systems of estuaries lead to direct mortality of any organisms and plants in the treatment area and negatively alter the exchange of waters and nutrients, horizontal salinity gradients, and tidal current amplitude and resulting sediment transports [ORS 196.825(1) and (2)].

Work is proposed by the Applicant within wetlands and waters of the State of Oregon associated with the project components in the section below. Dredging and filling and associated activities in benthic systems of estuaries leads to direct mortality of organisms and plants in the treatment area, but also alters the exchange of waters and nutrients, horizontal salinity gradients, tidal current amplitude, and resulting sediment transport. According to many scientific studies, dredging can trigger ecological succession such that more opportunistic invertebrate species are likely to dominate shortly following a dredging event and other effects can be observed on feeding, and mobility and reproduction.

Coos Bay is considered part of the critical habitat for the threatened distinct population of Green Sturgeon *Acipenser medirostris* and provides important summer habitat for subadults and adults. According to the NOAA plan for recovery of sturgeon, "Road building (resulting in sedimentation), a proposed liquefied natural gas (LNG) project, dredging, urbanization (resulting in pollution and increased peak flows), commercial shipping, stream channelization, wetland filling and draining, and development and silviculture (resulting in the loss of large woody debris and forested land cover)" are threats to recovery.¹⁴

The permit application addresses the following components of the Jordan Cove Facility. Although these are interrelated in details and concerns, we address each separately.

(1) Access Channel (to Slip) and Pile Dike Rock Apron

¹³ Partnership for Coastal Watersheds, "Coos Estuary Land Use Analysis Project," <https://www.partnershipforcoastalwatersheds.org/coos-estuary-land-use-analysis-project/>

¹⁴ NOAA National Marine Fisheries Service, *Final Green Sturgeon Critical Habitat Biological Report*, September 2009, p. 32.

Access channel dredging would result in the permanent conversion of approximately 12.9 acres of unvegetated shallow subtidal habitat to deep subtidal habitat and the Applicant notes that the activities would permanently impact approximately 1.91 acres of vegetated shallows (eelgrass habitat). They imply that these impacts are necessary because the LNG Terminal facility requires a safe harbor to load LNG carriers and the size and safety requirements of the LNG carriers necessitate a marine slip and berth of the proposed size and set off from Coos Bay at the proposed location. No alternative is suggested to support a smaller sized design. The proposed dredging of the Access Channel to a 45-foot depth would result in removal of tidal and subtidal habitat including eelgrass. The removal of 1.9 million CY of substrates from the existing tidal and subtidal habitat would occur. The Applicant proposes to restore eelgrass habitat at an area on the south side of the estuary near the airport runway.

The efficacy of this removal is discussed below under the **(9)** Eelgrass Mitigation site, but there is no mention of the loss of access for recreation from removal of the tidal areas in the Access Channel region. Recreational boating, and clam and crabbing access would not be possible from the nearby Bureau of Land Management (BLM) boat launch during some of the dredging operations, and if access is possible, noise and interference from the activities would hamper most activities. The public access for hunting and access to open water areas is focused out of the BLM launch. Many recreationalists walk with their family and pets along the tidal areas. The access to the important clamming areas upstream and downstream is secured from the BLM boat launch. The proposed Access Channel dredging is just upstream from this important area with proposed channel alterations affecting 22 acres of tidal and subtidal habitat, 15 of which are deep subtidal habitat.

The removal of benthic material to depths greater than the existing navigation channel would affect the hydrology in the area, particularly with tidal seawater flows, creating a low spot. As stated earlier, although each activity and project detail are discussed separately, the cumulative effects of multiple dredge and fill activities are extensive and represent long-term disruption in the hydrology and biological function. The 47-foot-deep excavation into the highly permeable sand substrate of the spit would provide new pathways for groundwater from the wetlands within the spit to move toward that excavation. Though sheet piles would be placed on both sides and the end of the slip, use of sheet piles as proposed is not watertight and the hydraulic gradient created by the 47-foot-deep excavation (covering more than 20 acres), in combination with a very shallow water table, would draw water toward and into the slip during construction. This disruption of groundwater hydrology would likely have a harmful impact on wetlands immediately adjoining the JCEP terminal site. This potential outcome is not described, or

the extent of the likely impact determined and accounted for in the application for a removal-fill permit.

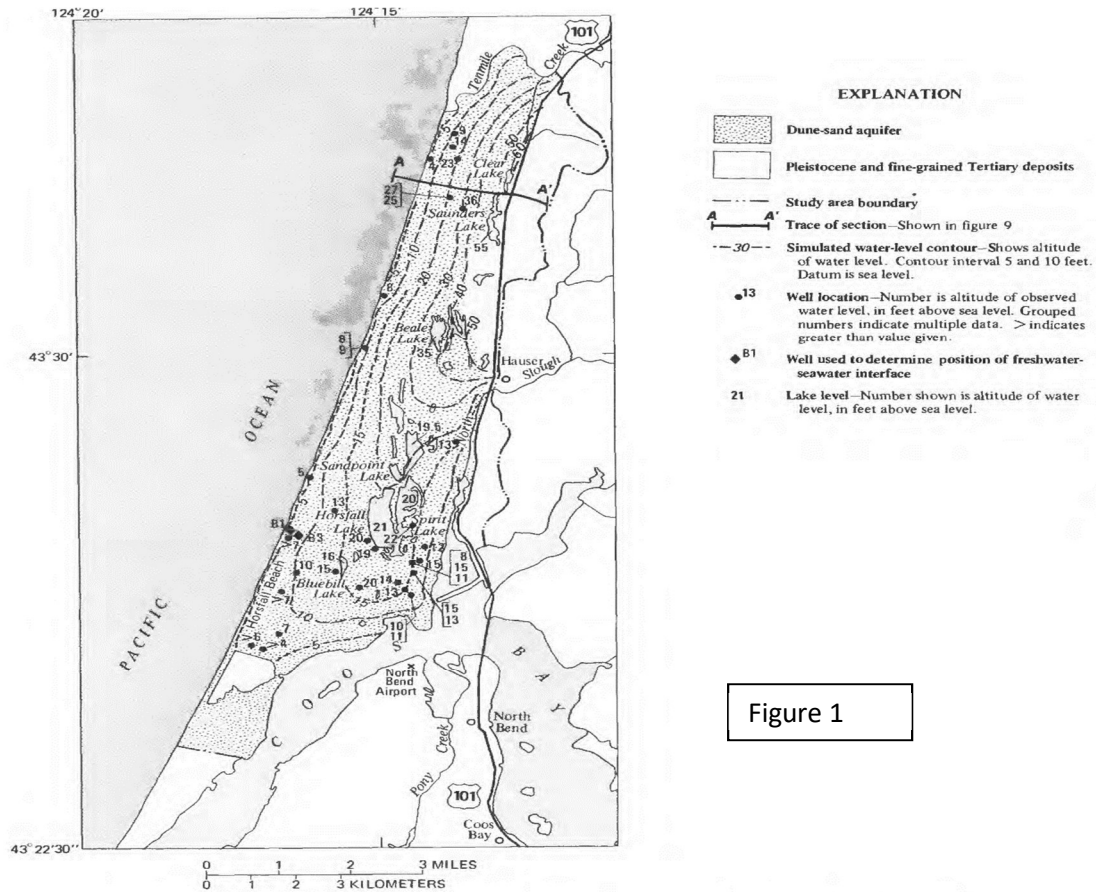


Figure 21.--Average observed water levels in wells and lakes, and contours of the simulated water levels in the upper layer of the model in the dune aquifer for the 1984 water year.

These proposed dredging and removal activities have the potential to affect wells and aquifers. The wells on the sand spit range in depth from 90 to 120 feet below ground surface, from which non-potable water is withdrawn from the Dune-Sand Aquifer. From our examination of information about the Aquifer, there is a high potential that the land filling, road building, and excavating activities of the site would affect these wells. The report and modeling by U.S. Geological Survey (USGS)¹⁵ of water levels in wells across this aquifer (see Jones's Fig. 21 as Figure 1 below) show the contours of the water table and the shallow water tables surrounding the location of the marine slip and laydown areas. The general flow of the water table is toward the north and west; the aquifer is highly permeable. The substrate permeability and slopes appear to support that runoff from the site, and changes in water flow would likely influence and infiltrate the groundwater and groundwater related surface water resources of the spit.

In addition to dredging to levels of greater than 45 feet deep, the Applicant proposes construction of **(10) Pile Dike Rock Apron** because of fears that the hydrology from the

¹⁵ Jones, M. A. 1992. Ground-water availability from a dune-sand aquifer near Coos Bay and North Bend, Oregon. U.S.G.S. Open-File Report 90-563

Access Channel excavation would put the existing pile dike system, specifically Pile Dike 7.3, at risk. The Pile Dike Rock Apron proposed for protection would basically act as a barrier to sediment transport, provide very different habitat characteristics from the other components of this area, and provide unusual rocky substrate for an area that is dominated by sands and soft substrates. The Pile Dike Rock Apron design would require the placement of angular stone over an area 50 feet wide by 3 feet thick by 1,100 feet long. The Applicant provides inadequate details for any reviewer to understand the exact placement and rise from the substrate. The resulting fill provides a major change in the project even from that provided previously in applications submitted to USACE and the Oregon Department of Environmental Quality (DEQ). The total estimated rock volume for the Pile Dike Rock Apron is approximately 6,500 CY. According to their proposal, the Applicant would try to approach this deployment with an over water floating platform, and some work with wide track/low ground pressure equipment in the intertidal zone during low tides. The size of rock is estimated at 6-inch to 22-inch angular stone with a median size of 14 inches. The area includes deep subtidal, eelgrass, intertidal mudflat/sands, and shallow subtidal habitats, but the details regarding methods of construction are unclear. The Applicant indicates that construction of the Pile Dike Rock Apron would take place over one unspecified in-water work window of October 1 to February 15. Would this occur after all excavation of the Access Channel is complete or at another time in the sequence of the proposed disturbances?

To allow for the marine slip excavation via land-based operations, the Applicant states that a berm would be retained between the excavation for the slip and the Access Channel, thereby implying there would only be freshwater effects to address, not disruption of the estuarine environment during construction. This is likely inaccurate. The logistics of this design are such that effects to the Coos Bay estuary would result from a change in hydrology when removing substrates from the bay and the sand spit and then connecting these two areas. The hydrology of the sand spit may be so altered as to allow directional sub surface water flows in the aquifer, providing the opportunity for salt water intrusion at some periods during the year.

The proposed removal of the berm to open the slip with a cutter suction dredge would also be a source of sediments and turbidity that would affect fish and shellfish resources as these sediments move upstream and downstream with the tidal surges.

(2) Material Offloading Facility (MOF) and Temporary Materials Barge Berth (TMBB)

The Applicant intends for this facility ultimately be a way to allow cargo traffic to berth without interrupting LNG vessel traffic or in the event an LNG vessel is disabled. The 450 feet of dock face would be used throughout construction as well as during operations. The MOF would be constructed with sheet pile wall system as the LNG marine slip and the emergency lay-berth. The top of the MOF would attain an elevation +13.0 feet and the bottom of the exposed wall is at the access elevation of -45 feet. The intent of their creating the MOF is to provide approximately 450 feet of dock face for the mooring and unloading of a variety of vessel types. In order to facilitate construction of the MOF, they propose cutting approximately 30,000 CY of sand from the southern portion of the existing dune and placing this into the waterway and extending 30 feet outside of the final MOF footprint to allow piling and construction of the MOF to be completed in a dry environment outside the in-water work window. It is difficult to comprehend how this work can be accomplished and even why it is necessary at all.

The Applicant states that sheet piles would be installed as a land-based activity in order to reduce acoustic impact to the marine environment. Driving piles from land into the water would not reduce acoustic impact since the piling is placed into the shoreline water area. Furthermore, the Applicant states, "Riprap or equivalent shore protection will be temporarily placed on the face of the slope to protect sandy material from tidal erosion while it remains in place for two to three years."¹⁶ We question the need for creation of temporary riprap for shoreline protection. Were alternatives examined? The methods proposed for its removal are not clear. The habitat of the estuary will be affected when the riprap is laid down and then again, at the time of removal.

Evaluation of the approach above reveals that the MOF is directly tied to activities at the TMBB. The permit request includes a proposal to build a TMBB excavated into the side of the spit, 65 feet wide and extending 500 feet into the Access Channel footprint from the back of the berth perpendicular to the berm to facilitate material deliveries prior to construction of the MOF. This dredging would comprise approximately 45,000 CY of material, which would be placed in the slip area to be re-handled during dredging and excavation of the slip. Why is there a need for this temporary offloading when they are building the MOF site? The Applicant rationalizes the construction of the TMBB by indicating that it would result in fewer truck trips to the site, thus reducing project-related road traffic. What were the decision criteria that weighed the road traffic against additional disruptions in the estuary? As with so many elements of this project, the evaluation of alternatives was not conducted with a balanced and neutral process of evaluation of multiple criteria.

We urge DSL to review the Applicant's approach to omit counting impacts related to the MOF placement and removal of sand fill and riprap or the TMBB because they are associated with the Access Channel. Impacts are additive and this is most certainly an issue where there are impacts repeated through multiple removal and fill operations. The loss of tidal mudflats is significant, and operations would disrupt areas surrounding this operation over a period of two or more years. The Applicant indicates that the disturbance of these activities will likely not affect recreational or commercial fisheries because anglers do not target the fill areas for fish.¹⁷ Statements such as this are ignorant of the crabbing, clamming, and recreational access that will be affected by sediments and other disruptions associated with dredging and filling activity described in the application.

(3) Access and Utility Corridor

The freshwater emergent wetlands identified within the Access and Utility Corridor are characterized in summary tables, and these wetlands in the spit are connected to the sand aquifer. The Energy Terminal is near the Coos Bay-North Bend water wells. These water rights are part of the infrastructure of the region for industrial water and even drinking water sources and represent an extensive shallow aquifer that is highly interconnected.

Moreover, industrial wastewater contaminants from prior activities at the site should be carefully considered as the drainage and porosity of the aquifer and surface is altered. In our review of this application, JCEP apparently fails to address issues relating to the

extent and risk that previous industrial contamination at the proposed site and neighboring areas would be released in water as a result of major dredging, soil compression, and filling. The potential exists for the project's proposed dredging and excavation to expose the surface and groundwater to several subsurface chemical contaminants directly or by altering the hydrology around the site, mobilizing sequestered contamination to move into the aquifer. The proposed deep soil mixing and sand-compaction sitework to be conducted in the access and utility corridor is likely to alter the horizontal groundwater patterns and affect existing wetlands and their associated functions and wildlife values components.

(4) South Dunes Site and Meter Station

The 136-acre South Dunes site and the corridor contains numerous wetlands of various sizes interspersed in the landscape and estimated at 22 acres. This site would receive the fill and spoils from multiple activities to elevate it to 63 to 70 feet. The proposal to stack and dewater dredged sediments above the water table at the South Dunes Terminal areas would most certainly affect infiltration and seasonal groundwater recharge dynamics that support wetlands in the vicinity of the project. The hydraulic dredge pipeline (HDP) would extend from the Access Channel to South Dunes. Portions of the 2-foot diameter pipe would be installed below highest measured tide (HMT). An approximately 1-mile-long permanent access and utility corridor would be constructed between Ingram Yard and the South Dunes site to provide a conduit for the underground feed gas supply to the LNG Terminal. The temporary housing site associated with the project is slated for the area, as well as multiple underground utilities. The elevation of the areas against tsunamis for the permanent facilities, including fire and water, would change drainage patterns for all nearby wetlands. Finally, this site would be the area that receives the hydraulic directional drilling (HDD) infrastructure under-bay pipeline to the Jordan Cove Meter Station at Mile Post (MP) 0.00. At the Jordan Cove Meter Station, the pipeline is approximately 0.2 mile south of the Weyerhaeuser North Spit Landfill leaking underground storage tank (LUST) site. This is the same site as the Weyerhaeuser Containerboard/Mill property. The pipeline proceeds for a short distance to the west then utilizes an approximate 5,200-foot HDD to cross the Coos Bay estuary from the North Spit from about MP 0.12 to MP 1.11 south of North Point on the west side of Highway 101. There are no details about where this would be accommodated. Additional sections of our comment address risks of the HDD crossings of the Coos Bay and the Rogue and Klamath Rivers.

(5) Navigation Reliability Improvements

The proposed dredging of four areas of the existing Federal Navigation Channel in the lower Coos Bay are in areas of high value for wildlife and fisheries sustainability and are important recreational resources with public access to fishing for fish and shellfish.

Four locations are identified as sites for significant substrate removals to enhance the ability for ships to navigate under all conditions out of the bay. These proposed dredging areas have different underlying geology, and the estimated quantity of materials to be removed varies with the largest amounts in areas 1 and 2. These are located in Channel Mile (CM) 3 to 5 that have rock surfaces according to USACE reporting in 1994¹⁸. The

¹⁸ Department of the Army. 1994. *Coos Bay Navigation Improvements Final Feasibility Report and Environmental Impact Statement*, Portland. OR. 97206.

largest quantity of substrate is proposed to be removed from the first area, and that is 350,200 CY of which 345,900 CY is considered rock. This would likely be blasted. Within this area are also fault lines, and the risks that blasting can harm wildlife are well known.

The second largest removal area is area 2, also surrounded by the important clam resources, and that removal is estimated at 184,000 CY not 18,400 CY as reported in (3) PROJECT PURPOSE AND NEED of the project applications. Of this, 159,400 CY was estimated as rock. All areas of the bay proposed for dredging for NRI are near important populations of fish and shellfish populations, are used extensively by sea birds and marine mammals, and are important recreational and boating areas. Information about these areas was presented to the region and the county as part of the PCW program discussed above. These resource reviews from the PCW project provide important information that is relevant to document the impacts that the dredging would have on these recreational and fish and wildlife resources.

The Jordan Cove Applicant indicates that, after the completion of initial construction dredging, the side slopes would continue to evolve over a period of time (estimated 5 to 10 years depending on depth of dredge cut, slope material properties, hydraulic forces acting on slope, and other factors) until they reach a stable slope angle, after which sedimentation patterns may reach a quasi-equilibrium state. There is an inherent level of uncertainty in estimating the long-term equilibrium side slope configuration and the amount of time until long-term equilibrium is reached. Construction side slopes were



Figure 2

used as the starting point in the sediment transport analysis to better show the potential changes in sedimentation patterns associated with the JCEP.

The Oregon Department of Fish and Wildlife (ODFW) clam study areas are associated with the lower bay proposed NRI dredging sites (Figure 2). In particular, the dredge sites 1 and 2 are surrounded by important populations of recreationally important clams: gaper clams, butter clams, littleneck clams, and cockles. The butter and gaper clam abundance has shown improvement over the years of monitoring and concentrations are in the lower bay (Figure 3 next page).



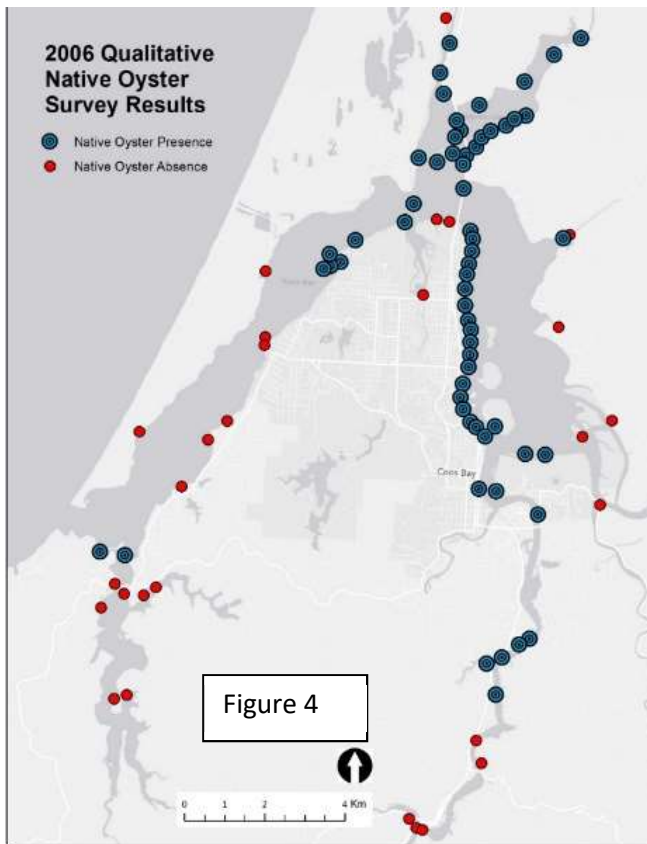
Figure 3

The Applicant considers the two main vehicles for dredging (1) mechanical dredging via clamshell or excavator; and (2) hydraulic cutter suction dredging (CS). The Applicant estimates the types to be used, but also indicates that the final means and methods would depend on the equipment available to different contractors and the contractors' individual experience. How can the impacts of these two methods be evaluated when the precise tools are not presented? There are very different attributes and risks associated with each of these. From drawings, it appears most likely that the Applicant is proposing hydraulic dredging. The Applicant indicates Dredging Areas 1 and 2 would be accomplished with a 27-30-inch hydraulic dredge (depending on available equipment on the West coast) and assumes sufficient cutter-

head power for cutting into the rock.

The Applicant mentions that for transport of the material to the APCO Sites from the NRI improvement areas 1 and 2, at least one booster pump (potentially two) may be required to pump dense slurry up to eight miles to the upland sites located at Channel Mile (CM) 10. The temporary dredge transfer line would be elevated at fixed locations to feed booster pumps, located at approximately CM 4 and CM 6. The booster pumps would be located on barges, moored on the eastern side of the Federal Navigation Channel and used to move the dredge slurry toward the upland sites for disposal. They state that the remaining pipeline could be either floating along the shoreline or placed on land. Again, how can one evaluate this with two potential approaches? Both of these methods and approaches have potential risks to access by recreationists and have implications on the biota using the habitat of the bay. The Applicant suggests that the APCO sites would be able to accommodate all material from the NRI and maintenance dredging (including slip and Access Channel maintenance dredging) over a 30-year planning horizon. They do not provide any assessment of the risks to the surrounding area from transport and dewatering of this material. They also state that they would need to confirm geotechnical stability and the logistical feasibility of the dredged material offload mechanisms prior to disposal. Again, to understand the effects of these operations, more clarity is needed to show they have considered and can protect the surrounding natural resources. The Applicant's concerns are stated only in logistics such as the ability to use booster pumps to elevate dredged material above elevations of +50 feet and the ability to provide safe access, egress, and maneuvering space for heavy equipment to work material within the

containment berm following discharge. They do also acknowledge that the risks of applying dredged materials is progressively more difficult as the footprint increases above +50 feet. Of particular interest in the dredging and transport of dredged materials is the proximity of the APCO site to Native Olympia oyster populations. Access is near eelgrass beds and a designated wetlands area separates the two areas APCO 1 and 2. The exact location of the proposed dredge transfer lines is not clear given the uncertainty of the method and materials that are presented. The Applicant states these options with regard to disposal, “Discharge of a hydraulically dredged slurry from a temporary dredge transfer line, pumped directly from the dredge areas or pumped offloading of dredged material from a scow (with the material dredged using either a hydraulic cutter suction dredge or using a clamshell) and hydraulically dredged (or offloaded) material would be transported via temporary dredge transfer line and discharged within containment berms at both sites. The containment berm would be constructed around the perimeter of both sites, with earthmoving equipment using onsite material and, where practical, incoming dredged material to build up the perimeter berms.”¹⁹ Additional reference to the lack of a solid plan is provided in the same section, where references are made to the eelgrass and associated wetlands.²⁰ Disruption or spill



onto these areas would result in sediments that affect the survival of eelgrass beds and released sediments could suffocate the native oyster beds nearby (See Figure 4). These native oyster populations have been a target of recent restoration efforts by the Community-based Restoration Program and the National Estuarine Research Reserve’s Science Collaborative Program. Native oyster populations are increasing in the bay and are present on the East side of the bay near where potentially land application of dredged lines may occur. The conservation of oysters is recognized as an important goal of providing ecosystem services of water filtration, shoreline stabilization, and habitat for other species. The filtration from oysters reduces nutrients loading. Such features have been highly important in reducing harmful algal blooms.

(6) TPP/101 Intersection Widening

The TransPacific Parkway (TPP) and U.S. Highway 101 Intersection Widening part of the project description calls for activities to provide a wider turning radius from southbound US-101 onto TPP. It would result in two 12-foot travel lanes, a 14-foot left-

¹⁹ DSL Application Section 1, JCEP, Attachment E. PDF p. 892.

²⁰ *Ibid.*, p. 895.

turn lane, 6-foot shoulders with guardrail, and a 2-foot gravel shoulder on the north side of the guardrail. With the increased travel and access needed to the construction site, the Applicant indicates that the current configuration is totally inadequate. A riprap embankment would be built in unvegetated mudflats on the north side of the TPP at the US-101 intersection, to allow fill to be placed while maintaining traffic flow.

We agree with the Applicant that the current configuration at this intersection cannot safely handle traffic-related challenges, but we do not believe that this proposed plan will solve the problem. The entire site and development proposal are too extensive for this remote area on the south coast of Oregon. Worker access and equipment transport to and from this site would create disruption of traditional activities to and from the North Spit. The TPP is a two-lane road, as is US-101, and is the roadway that links the site with proposed housing and infrastructures in either direction of the TPP. There are several major recreational assets that would be affected by the traffic and access problems. Providing this one improvement in the turning area is required by the Department of Transportation, but it is not an adequate solution to the problem.

The widening would affect the Bay. A sheet pile wall and turbidity curtain would be used at the TPP/101 intersection to isolate the work area from Coos Bay and minimize turbidity impacts from the filling of the area to widen the intersection. Clearly, though, there would be impacts on the bay. The Applicant indicates that the in-water work would occur during ODFW in-water fisheries window of October 1 through February 15. But access road completion would not be restricted. Recreational use on the North Spit of Coos Bay is heaviest during the summer and fall months, but crabbing and clamming is popular year-round as is fall fishing and hunting access.

(7) APCO Site 1 and APCO Site 2

The total reason for the APCO sites and associated dredge spoil mounds is to provide a dumping location for the materials from the NRI and maintenance dredging from that point. This area is also the location for the critical HDD pivot between two lines under Coos Bay. The APCO area is bordered by wetlands and the bay. The mechanism of dewatering the dredge spoils carried by hydraulic pumping to the site is poorly addressed. The plan to use this site for HDD as well as dredge spoils is not covered in any detail at all. The site is also suggested for spoils from maintenance dredging after construction is completed. We envision a large pile of dredge spoils that may weight down the existing wetlands, pipelines, and provide a site for invasive non-native species.

In addition to these considerations, the impact on the visual landscape coming from the Historic McCullough Memorial Bridge would be substantial. The two APCO sites are bounded by water and wetlands, and access would affect the tidal areas. The project proposes a bridge development between the two sites and does not explain effective ways to protect adjacent Pony Slough and eelgrass habitats from compaction. The HDD drilling construct combined with the use for deposit of dredge spoils would make this area one of the most degraded habitats on the south side of the bay.

(8) Kentuck Project Site

The 100-acre site is proposed to serve mitigation sites for the loss of wetlands from the entire project of PCGP pipeline and LNG terminal. The PCGP component of the Kentuck

project would enhance degraded emergent wetlands within the golf course to forested wetlands at a ratio of 3:1.

The compensatory mitigation plan is designed to conform with USACE and DSL compensatory wetland mitigation requirements, but the 100-acre proposed Kentuck mitigation project already contains substantial wetland values that would be affected or destroyed by the project. We question why this approach is being considered. The mitigation project at Kentuck is also proposed to receive a 300,000 CY of unconsolidated sand and silty sand sediments from dredging operations at the time of removal of the berm from the marine slip area. The mitigation project goals are to restore habitat for Coho Salmon (*Oncorhynchus kisutch*) and mitigate for the loss of all wetlands throughout the disruption of wetland, riparian and associated areas as a result of the 229-mile pipeline project across the state. The mitigation put forth contains no discussions of alternatives to this approach for the project or any other potential mitigation along the pipeline swath. Moreover, the Kentuck site has freshwater wetland values as palustrine wetland/forest and its vegetative cover is used by migratory and resident wildlife and game and associated hydrological values. Where is the actual accounting of wetland loss and gain with this proposal?

The concept of reconnecting Kentuck Creek and slough within the Kentuck watershed to provide a wider wetland area rather than the narrow corridor that exists is a reasonable proposal, but the methods and design of the project fail to capture the full potential of this mitigation opportunity to further upstream mitigation. The fill of 4.3 acres proposed through construction of a high elevation dike or permanent levee around the area is not clear. The Applicant should provide the rationale for the need to reconstruct the dike and impact these wetlands to accomplish a re-connection of this area with the waterway. The Applicant indicates that the area would be re-graded to allow for re-connection of water flow and distribution, but no details are provided as to how this activity would be done. If this change in slopes were to be accomplished using dredge materials, there are significant differences between the sediments from the dredge material and those of the existing wetlands they are altering and reconnecting. There are other confusing components of the proposal such as the new levee approximately 50-foot wide and 1,100-foot long across the northwest portion of the Kentuck Project site. This proposed action appears to be coupled with a plan to remove an approximately 1,500-foot long segment of the existing Kentuck levee upstream from the proposed new levee. The Applicant application materials do not provide any rationale for this proposed action.

Moreover, the entire project poses a large risk from transporting the dredge material across the bay and navigation channel via scow, then through the temporary dredge transfer line, and then hydraulically pumped to the Kentuck mitigation site. There are no details for the protection of water resources during this activity and a total absence of consideration of alternative sites or methods. The application states that sediments destined for the Kentuck Project site would be transported using scows that would be moved to a location east of the Coos Bay Channel. The sediments on the scows would then be hydraulically pumped to the Kentuck mitigation site via a 1.3-plus mile-long pipeline. The pipeline route would traverse intertidal and shallow subtidal portions of the estuary between the Coos Bay Channel and the Kentuck Project Site. The lack of details and inherent risks of water movement and pipelines poses threats to any of the resource values in the region of the transfer. There are mariculture operations in the bay area nearby the Kentuck Inlet, and other fish and shellfish habitats and other wildlife habitats

that can be affected by disruptions associated with transfer and logistics of sediment movement and dewatering, not to mention the proposed HDD pipeline crossing.

(9) Eelgrass Mitigation Site

Eelgrass beds have an important role in the life cycles of fish, invertebrates and wildlife species. Because eelgrass is a rooted plant, it performs a vital function of stabilizing coastal sediments, preventing erosion. The eelgrass community provides direct and indirect food and cover for many marine species. Because the proposed Access Channel development permanently destroys 1.9 acres of eelgrass, the Applicant proposes to mitigate this through development of a larger eelgrass habitat across from the project that is currently an estuarine tideflat area south of the western tip of the North Bend Airport runway. The Eelgrass Mitigation site chosen already has eelgrass associated with it and there are wetland values associated with the mud flats area proposed to be altered from its existing slope draining toward the north east (see Figure 5). What will the Applicant do about the losses of existing productive habitat that is destroyed to create this new eelgrass area? The existing zoning of the Coos Bay Estuary Management Plan prohibits the proposed dredging activity as this is a Natural Aquatic zone. Moreover, the eelgrass communities are all along the banks of the habitat near to the proposed navigation reliability improvement project. However, at this important site in the bay by the airport, the proposed removal of sediments to change

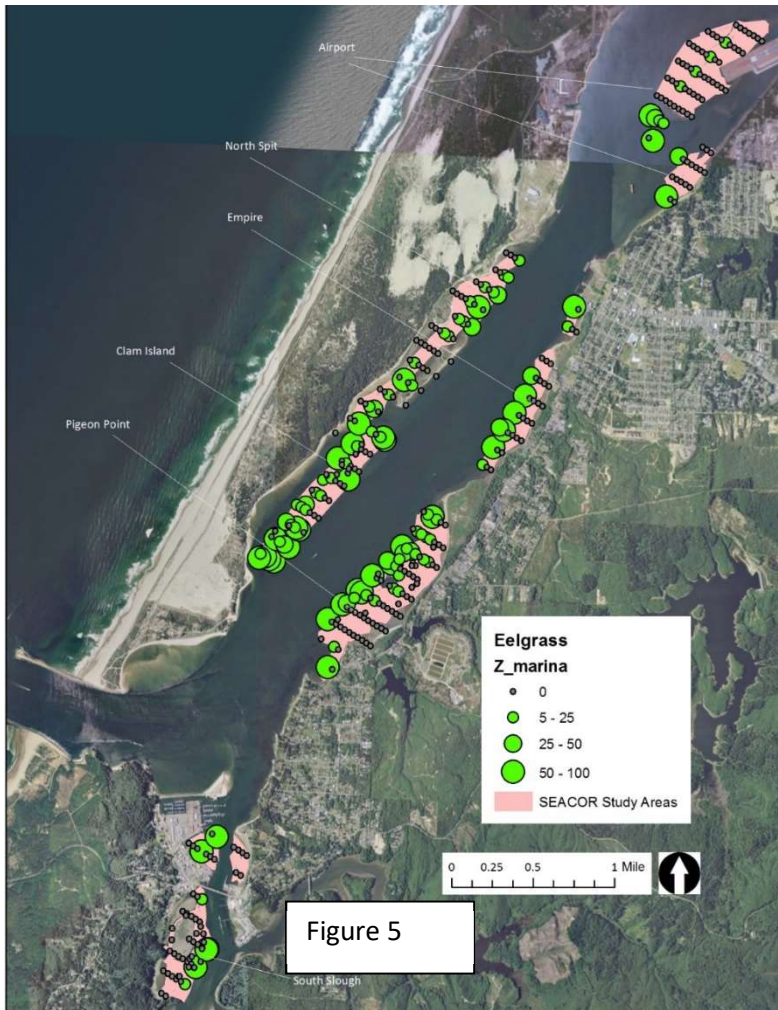


Figure 5

slope to provide a more tidal exposed area for eelgrass would destroy any biota and infauna in that habitat. The shape of the structure proposed appears to be more of a pond environment with sharp slopes to a depth of -2 feet below mean tide. Likely that feature would provide a trap for invertebrates or vertebrates with tidal receding. Where would the sediments removed from this be placed? What procedures would be used to change the slope and develop this site? What basis is there for this design? Furthermore, what source of eelgrass would be used to seed this area to provide transplant shoots and plugs? Are they going to recover the eelgrass

removed from the North Spit area and place it at this location? The biology and habitat requirements and constituents of eelgrass communities are complex and the biologists in the bay have been working to restore and reestablish these communities throughout the bay and estuary. The project needs to consider carefully the cumulative effects of destruction of eelgrass and how restoration practices should be accomplished using a careful scientific approach.

VI. The application should be denied because the Applicant has failed to perform an effective analysis of alternatives to the project for which the fill or removal is proposed [ORS 196.825(3)(c)]. To ensure a full review of available alternatives, administrative rules require a removal-fill permit application to describe alternative sites that could avoid or minimize adverse impacts to state waters, and to explain why such alternatives are not “practicable” in light of the project’s purpose and need.²¹ Deficiencies in this regard result in the Director lacking the information needed to determine whether the proposed project is arguably the best alternative to meet the purpose of the project while protecting, conserving, and ensuring the best use of the water resources of this state [196.825(1)(a)].

DSL’s *Guide* states that, “In making a permit decision, DSL must consider alternatives and determine the approved project is the practicable alternative with the least impact to wetlands or waterways. Therefore, applications must include an alternatives analysis.”²²

A. The Applicant has failed to perform a genuine alternatives analysis, rather they provide an alternatives analysis discussion that constitutes little more than justification for a site location and design that was decided over a decade ago.

The result of this is not just that the Applicant ignored direct instruction against this approach in the *Guide*, “The alternatives analysis is a tool to help identify the practicable alternative with the least impact, and as such, should be introduced early in project design. It should not be used as a means to justify what has already been decided upon.”²³ Because they began with a highly vested conclusion that the proposed location best meets the criteria, the Applicant has both inadequately assessed positive potential to meet the project purpose offered by other current-day alternatives and paid little attention to serious deficiencies that have emerged with regard to the time-worn proposed location and design. In the process, neither DSL nor the public has been provided with a genuine evaluation of alternatives to this highly impactful project nor adequate informational means to do so.

B. The Applicant provides a purpose statement that is overly narrow, such that it appears to preclude identification of alternatives that could be considered practicable, including those that would potentially be less harmful to our water and wetlands.

²¹ Oregon Administrative Rules [OAR 141-085-0550(5)(o)], <https://secure.sos.state.or.us/oard/viewSingleRule.action?ruleVrsnRsn=238572>

²² DSL, *Guide*, p. 4-30.

²³ *Ibid.*, Appendix, p. 14.

DSL's *Guide* stresses the importance of an effective purpose statement to serve as the foundation of the alternatives analysis.²⁴ The Applicant at (3) PROJECT PURPOSE AND NEED of the removal-fill permit application, provides this purpose statement:

The overall Project purpose and need is to construct a natural gas liquefaction and deep-water export terminal capable of receiving and loading ocean-going Liquefied Natural Gas (LNG) carriers, in order to export natural gas *derived from a point near the intersections of the GTN Pipeline system and Ruby Pipeline system* [emphasis added].

Language in a subsequent paragraph in that section of the application and in some other places where the purpose statement is provided appears to add an annual minimum export figure of 7.8 million tonnes per annum (MTPA). Furthermore, the Applicant states that "at least 1,200,000 dekatherms (a unit of energy used to measure natural gas, approximately equal to one thousand cubic feet) per day (dth/d)" is the volume of natural gas from producing fields required to meet the annual export goal.

First, we find that, by specifying that the natural gas to be exported is to be "derived" near Malin, OR, the Applicant has adopted an unreasonably narrow description of the project's purpose. The Applicant indicates in discussion that the gas fields to be served are in western Canada and the Rocky Mountain states of the U.S., but by framing the project purpose to restrict the access point to the intersection of two specific pipelines, they have severely limited the practicability of any other potentially viable alternatives to the proposed sites of both the LNG facility and export terminal, as well as the general pipeline route. DSL's *Guide* cautions against overly narrow purpose statements precisely because they thwart effective alternatives analyses in this way.²⁵

Second, we question whether a statement specifying a criterion related to desired level of output is appropriate in a purpose statement. As we discuss below, 7.8 MTPA is the singular justification for that portion of the removal-fill permit. However, we believe this inclusion of a corporate financial goal in the project purpose is improper.

Third, since it is now clear that the parent corporation, Pembina, intends that the vast majority of the gas to be exported is planned to come from the Montney field in Canada, it calls into question why the Ruby Pipeline is mentioned in the purpose statement at all?²⁶ The capability of the Montney field to provide adequate gas is not discussed, but unless it is somehow limited, it seems that Pembina could meet its LNG export goal with Canadian gas alone and fully intends to do so. If this shift is a result of a change in the business model of Pembina since taking over the project previously pursued by Veresen, it is surprising that the Applicant persists in carrying forward the current project proposal. But since they have chosen to do so, we contend that they have still erred by dismissing all existing or proposed LNG export projects on the Canadian coast from its evaluation of practicable alternatives and provided no information to allow the Director to determine either the effectiveness of the alternatives analysis or whether the proposed siting is the least harmful to Oregon's waters and aquatic resources.

C. The Applicant's discussion of the No Action Alternative is flawed.

OAR 1410085-0550(5)(o) indicates that an application must include among alternatives analysis discussion information needed, "to derive the practicable alternative that has the least

²⁴ *Guide*, p. 5-14, Appendix, pp. 15-16.

²⁵ *Guide*, p. Appendix, p. 16.

²⁶ Dennis Webb, "Geopolitical case for Jordan Cove," *Grand Junction Sentinel*, September 12, 2019.

reasonably expected adverse impacts on waters of this state.” We expect that such discussion should address what is designated in the National Environmental Policy Act (NEPA) process the “No Action Alternative.” The Applicant directs DSL and the public in Section (5) PROJECT SPECIFIC CRITERIA AND ALTERNATIVES ANALYSIS to Attachment B-1, “Alternatives Analysis – FERC Resource Report 10” (dated September 2017). Therein, the Applicant contends that, “Under the No Action Alternative, the Project would not be constructed, and the Project’s purpose and need would not be met.”²⁷

First, by indicating that “the Project’s purpose and need would not be met,” the Applicant underscores the inadequacy of their overly narrow purpose statement. The Applicant’s central purpose is clearly to export Canadian LNG to Asian markets. It could accomplish that purpose *without this particular project* in various ways we discuss below, except that they have prescribed that the natural gas must come from one specific site where, for an unstated reason, a small amount of U.S. gas could be obtained.

Second, the Applicant goes on to claim that the No Action Alternative would not eliminate adverse impacts to state waters, but could instead lead to even greater impacts than JCEP. They state,

Whether the LNG Terminal is built or not, the site will likely be used for industrial purposes resulting in environmental impacts that could be similar to, or greater than, those that would be associated with the Project. Adoption of the No Action alternative would not eliminate the potential for environmental impacts as development of the proposed site for the LNG Terminal or an alternate development concept would likely occur—although possibly later in time, thereby delaying any environmental impacts.²⁸

This prediction is unsupportable. The mere fact of industrial zoning for the properties proposed on the North Spit in no way destines any future use to any level of environmental impacts, particularly not a higher level. On the contrary, in our opinion, it would likely be a rare future use that would come close to matching of the extent of the JCEP’s environmental impacts on water resources in the Coos Bay area, not to mention the project’s negative impacts to existing social and economic endeavors in the Coos Bay area. What project would require not only the dredging, deepening, and/or widening of the channel described in the current removal-fill permit application, but also the impacts of the clearly related Port of Coos Bay dredging project currently awaiting issuance of a DEIS by the USACE?

Additionally, it would likely be a rare future use of the properties that would require off-premises supportive constructs carrying their own extensive environmental impacts, including to waters of the state. Of all possibilities, how many would require a 95-foot-wide, 229-mile clearcut swath to install a buried pipeline that would cross 485 waterbodies? All environmental impacts associated with the construction of the proposed Pacific Connector Gas Pipeline (PCGP) would be eliminated from any future project’s footprint by almost any other use of the industrial site proposed for the terminal site. While it is conceivable that, if the JCEP is not built, another developer would seek to install an LNG export project on the proposed location and connect it to a gas supply equally distant, critical deficiencies that have emerged with JCEP’s project design and current siting may be beyond solution. The existence of those challenges would seem to at least make a future attempt at an LNG export project here unlikely.

²⁷ DSL Application APP0060697, Section 1 JCEP: Attachment B.1, FERC Resource Report 10, PDF p. 228.

²⁸ *Ibid.*

The Applicant goes on to claim that, “Selection of the No Action Alternative could also result in the use or *expansion* of other existing or proposed LNG facilities and associated interstate natural gas pipeline systems, or the construction of new infrastructure to meet the purpose and need of this proposed Project (i.e., to make other sources of natural gas available for LNG export to Asian markets) [emphasis added].”²⁹

The use of another facility may not, by itself, create additional damage to waterways or habitat and, depending where it was located, that could result in significantly less damage, including to Oregon resources. Use of a facility in Kitimat for the bulk of the product, Canadian gas, or of a Gulf Coast facility for Rocky Mountain gas, would meet the purpose of exporting LNG to Asian markets and simultaneously avoid *all* impacts to the waters of Oregon associated with the JCEP. Under this scenario, Pembina would have to develop its own project, rather than recycling the one developed years ago by Veresen, but that would not only greatly increase Oregon’s chances to conserve and protect its water, aquatic, cultural and other resources in Coos Bay and across southern Oregon, it would obviate the need to grapple further with issues such as those raised by the Federal Administration Authority (FAA) and limiting factors of Coos Bay for safe tanker transport and unreasonable disruption of existing local economic and social uses of the Bay.

Finally, the contention by the Applicant that the “no action alternative” would require expansion of other LNG terminals to make up for unmet need without JCEP is not necessarily true. The Kitimat facility planned by Canada LNG appears to have adequate capacity to meet export needs. It is our understanding that Gulf coast facilities are likewise able to handle additional export volumes.

In summary, we do not find that the Applicant has presented a convincing argument for dismissing the “no action alternative.” DSL is urged to look carefully at this, including their treatment of this part of their alternatives analysis does not meet Oregon’s statutory requirements for a thorough and factual effort. We believe it reveals again that JCEP has biased its analysis to convince DSL to approve the proposed location, the one that would fulfill the time-worn design Pembina obtained in its Veresen takeover and all negative impacts we outline in this comment.

D. The Applicant references, but then dismisses, all Canadian alternative locations as incapable of meeting the project purpose, apparently thereby justifying their failure to provide any of the information the Director needs to be able to determine that “the proposed project that represents the practicable alternative that would have the least impact on the water resources.”³⁰

Years ago, when the JCEP was converted from an import to an export project, the options for locating LNG processing and export sites were quite different from what is available or under development now.³¹ The Applicant has not updated its alternatives analyses discussion for the benefit of agencies required by law to consider them.

In response to large volumes of natural gas Canadian producers are looking to sell to Asian markets, a number of projects have been proposed, including on the coast of British Columbia. The Woodfibre LNG project has received an initial “final investment decision,” and

²⁹ *Ibid.*

³⁰ *Guide*, p. 5-16.

³¹ Natural Resources Canada, “Canada LNG Projects,” <https://www.nrcan.gc.ca/energy/natural-gas/5683>

preconstruction activities have begun at the site.³² Royal Dutch Shell and other backers are moving forward by granting a final investment decision for the much larger LNG Canada project in Kitimat, BC.³³ TransCanada has begun preconstruction activities for the pipeline that would supply the Canada LNG project.

To the extent that the Applicant is interested in providing access to Asian markets for U.S. gas, there are potential alternatives on the Gulf Coast. Cheniere Energy's Sabine Pass LNG terminal is already operational and expanding.³⁴ LNG plants in Corpus Christi, TX and Freeport, TX are under construction. Other Gulf Coast LNG terminals have been approved.³⁵ Producers in the Rocky Mountain states could access these terminals with less significant new gas pipeline construction.³⁶

However, DSL has not been provided with any information about relative impacts to Oregon's waterways and other pertinent resources because the Applicant dismissed them and around 30 other possibilities as impracticable and therefore ineligible for evaluation. With regard to Canadian options, they provide this sweeping rationale:

Specific, detailed information on the individual projects is insufficient, because project sponsorship and commercial efforts have continued to be in flux. Most projects are perceived to be on the back burner due to high costs and the formidable environmental challenges of constructing pipelines from the gas-producing regions to the coastal terminal locations over the Canadian Rockies. In addition, the processes of resolving issues with the First Nations have been and continue to be prolonged.³⁷

As noted earlier, the Applicant's choice to excessively narrow the project purpose by inseparably specifying that gas must be derived near Malin, OR further unreasonably restricts consideration of Canadian LNG terminal use and causes Gulf Coast options to be hardly mentioned. "In sum, existing U.S. East Coast and *Gulf Coast projects* and the Kenai LNG Plant cannot meet the purpose and need of the Project. They therefore cannot be considered reasonable system alternatives and are not discussed further in this analysis [emphasis added]."³⁸

The final rationale the Applicant provides for disallowing Canadian West Coast LNG export project is no longer valid. They state that, ". . . if developed, [those projects] could serve the same Asian markets as the proposed Project, [but] none are currently authorized, as required by U.S. Department of Energy (DOE) Order 3639 (2015), to export U.S.-sourced natural gas."³⁹ To be fair, this conclusion may have been true at the time it was written; however, on December 19, 2018, DOE issued a policy statement discontinuing the practice of including an "end use" reporting provision in orders authorizing the export of domestically produced natural gas.⁴⁰ Gas

³² Woodfibre LNG, "Project Updates," <https://www.woodfibrelng.ca/category/project-updates/>

³³ LNG Canada, "The Companies behind LNG Canada," <https://www.lngcanada.ca/about-lng-canada-2/the-companies-behind-lng-canada/>

³⁴ Federal Energy Regulatory Commission (FERC), "North American LNG Import/Export Terminals—Existing," <https://www.ferc.gov/industries/gas/indus-act/lng/lng-existing.pdf>

³⁵ FERC, "North American LNG Import/Export Terminals—Approved," <https://www.ferc.gov/industries/gas/indus-act/lng/lng-approved.pdf>

³⁶ U.S. Energy Information System (EIA), State Profiles and Energy Estimates," <https://www.eia.gov/state/maps.php>

³⁷ DSL Application, Part 1 JCEP: Attachment B-1, Resource Report 10, PDF p. 230.

³⁸ *Ibid.*, PDF p. 229.

³⁹ *Ibid.*, PDF, p. 230.

⁴⁰ US Department of Energy, 10CFR Part 590, "Eliminating the End Use Reporting Provision for the Export of

sourced in the U.S. can now be processed and exported from any LNG terminal in Canada, including to non-Free Trade Agreement (FTA) countries.

E. The Applicant's evaluation of what it has identified as reasonable site alternatives is flawed, as well as reveals ways in which the proposed location on the North Spit of Coos Bay fails to meet selection criteria.

The Applicant deemed five locations as reasonable alternatives and provided their evaluation in Resource Report 10: the proposed location on Coos Bay, plus Astoria, Wauna, and Port Westward in Oregon and Grays Harbor in Washington.⁴¹

The Applicant states that each of the sites evaluated meet the first four of the following five initial project screening criteria:⁴²

1. Land Availability - Is a single parcel or combination of adjacent parcels equal to 200 acres available that is consistent with existing industrial land uses?
2. Channel Depth - Does the port site have reasonable access to an existing channel depth of -36 feet mean lower low water (MLLW)?
3. Navigational Accessibility - Is the site navigationally accessible to LNG vessels (e.g., shoaling, swift currents, bridges, existing high levels of ship traffic, and other berths)?
4. LNG Vessel Travel Distance - Is the site a reasonable distance from the sea buoy?
5. Pipeline Length and Costs - Does the site result in a natural gas transmission pipeline within a reasonable distance from the intersection of the GTN Pipeline system and Ruby Pipeline system, while minimizing expansion of the existing transmission system to the extent possible?⁴³

The Applicant's claims regarding the Coos Bay location's satisfaction of Criteria 1 & 2 are factually incorrect, and the requirements of Criterion 5 are problematic in light of the flawed purpose statement.

1. Land Availability. The Coos Bay location on the North Spit includes 200 acres; however, the space available is highly compromised in meeting the project's needs. The FAA has issued a Notification of Presumed Hazard due to the height of storage tanks and other facilities and has indicated that JCEP must either reduce tank height or abandon the project. The Applicant doesn't specifically acknowledge the FAA's position in the removal-fill permit application, but in their alternatives analysis regarding project design, they evaluated partial burial to lower tank heights to create less of an obstruction to the airport, but were unable to do so due to the water table. The 200-acre size of the property matched, but the configuration of the property where the storage tanks are to be located precludes widening the circumference of the tanks to allow their height to be lowered without violating safety regulations. We do not see adequate information about the other four sites that were evaluated to know if similarly unacknowledged deficiencies exist, but at least a present, it appears that the proposed location does not meet the

Liquefied Natural Gas," *Federal Register*, Vol. 83, No. 243.

⁴¹ DSL Application APP0060697, Section 1 JCEP, Attachment B.1, "Screening of Site Alternatives," PDF p. 231.

⁴² *Ibid.*, Attachment B.1., "Reasonable site alternatives," PDF p. 231.

⁴³ *Ibid.*, Attachment B.1., "Site Evaluation Criteria," PDF pp. 230-231.

actual land availability selection criterion. The Applicant has informed the Federal Energy Regulatory Commission (FERC) that they are investigating the issue.

2. Channel Depth. Does the port site have reasonable access to an existing channel depth of -36 feet mean lower low water (MLLW)?

Although the above channel depth criterion was developed by the Applicant and the existing channel does, in fact, meet it, a major activity included in the removal-fill permit application currently before DSL is to widen the channel and deepen it to -45 feet MLLW. At its current depth of -37 feet MLLW—even one foot deeper than the criterion specifies—the Applicant states that it does not provide “sufficient channel depth for LNG vessels and navigational accessibility.”⁴⁴ The answer to this seemingly contradictory statement is related profit margin from the number of ship visits possible. The Navigation Reliability Improvements (NRI), the justification for which constitute the bulk of the discussion in the removal-fill permit application sections (3) PROJECT PURPOSE AND NEED and (5) PROJECT SPECIFIC CRITERIA AND ALTERNATIVES ANALYSIS, are required to ensure that a minimum of 7.8 MTPA of LNG are able to be exported. This is stated clearly in several places, including,

Modeling showed that without the NRIs in place, the greater delays imposed by the Pilots on LNG ship transits of the channel due to environmental conditions would result in a *potential* annual loss of production at the facility equal to about 38,000 tonnes of LNG [emphasis added]. This would equate to a direct loss of revenue of about \$8.0 million per year for the facility.⁴⁵

The Applicant estimates that the existing channel without modification would allow export of 7.762 MTPA of LNG, but insists that the project requires 7.8 MTPA. Thus, the massive dredging project that would remove 580,000 CY of material from Coos Bay, resulting in the loss of aquatic habitat and species, risk the of release of contaminants, disrupt fisheries, tourism, and recreational water uses, would occur for no other reason than that the existing channel depth *may* result in LNG output of 0.5 percent less than desired. Again, we cannot determine whether or not the other four alternatives evaluated would turn out to need deepening, as well, but although the proposed location in Coos Bay meets the criterion for “Channel Depth,” it is not deep enough. On this point, too, the alternatives analysis is flawed.

The Applicant also states in its rationale for a deeper channel that “*in 2015, Asian customers*” have called for the specifications described in the NRI.⁴⁶ These customers are not identified. This is not adequate justification for the proposed dredging by this project or the related project proposed by the Port of Coos Bay and the subsequent harm to aquatic and other resources described in the applicable statute.

5. Pipeline Length and Costs. Does the site result in a natural gas transmission pipeline within a reasonable distance from the intersection of the GTN Pipeline system and Ruby Pipeline system, while minimizing expansion of the existing transmission system to the extent possible?

We discussed this problem above regarding the overly narrow project purpose statement. By specifying where the natural gas for the project must be derived, the Applicant ensures that a

⁴⁴ *Ibid.*, Attachment B.1., “Proposed Site,” PDF p. 236.

⁴⁵ DSL Application APP0060697, Section 1 JCEP, (3) Project Purpose and Need, PDF p. 2.

⁴⁶ *Ibid.*

limited number of harbors would be appropriate for development, but there are other options such as Humboldt Bay, California.

In addition to the above elements, environmental criteria were examined as summarized in the assessment in Table 10.3.3. They include the freshwater and estuarine wetlands affected at the site, endangered species and existing residences within 1 mile. These are factors that are highly relevant to DSL. With this assessment, Wauna, Oregon along the lower Columbia River appears to have several important factors that would be assets. The Wauna, OR site has low estuarine in-water issues, and very low level of existing residences within a 1-mile area. The Wauna location is also next to the Federal Navigation Channel of the Columbia River that is already 43 feet deep and most is 400 feet wide. A quick view of the land characteristics and development to compare the two sites shows the exceptionally different density of human development and infrastructure nearby, not only in the 1 mile but over the 2-4- mile extent.

Table 10.3-3 Environmental Analysis of Potential Sites

Location	Construction Area (ac)	Area existing industrial (ac)	Freshwater Wetlands (ac) ⁶	Estuarine / In-water (ac) ⁷	Major Water Bodies (#) ⁸	Natural and Scenic Hwy (#) ⁹	Endangered or threatened species habitat ¹⁰ (#)	Federal Land Crossed (ac) ¹¹	State Land crossed (ac) ¹²	Existing Residences w/in 1 mile (#) ¹³
Coos Bay, Or	412	90	83	35	1	0	9	0	0	116
Astoria - Warrenton, OR	519	251	143	130	2	1	10	0	365	975
Wauna, OR	321	47	49	35	1	0	15	0	0	5
Port Westward, OR	336	72	51	60	1	0	16	0	0	828
Grays Harbor, WA	272	209	61	42	1	1	9	0	0	1637

Moreover, there exist several options within the Pacific Northwest Pipeline infrastructure of existing pipeline within a close distance to the Wauna site on the lower Columbia River. These sources do not include the Ruby Pipeline, but we question why the alternative sources are not included in an assessment of the distance to the nearest pipeline as a criterion.

VII. Planned hydraulic directional drilling (HDD) as the method to cross the Coos Bay and three rivers poses risks to water quality for fish and other aquatic life [ORS 196.825(1) and (2)].

HDD operations are proposed at four locations.⁴⁷ Two crossing are proposed beneath the Coos Bay and Estuary and one under the Coos River. The length estimates for the first leg is 5,200

⁴⁷ We are aware that HDD operations entering and exiting in uplands do not require a removal-fill permit unless a “frac-out” occurs as a result of the boring activity, in which case “the discharge and removal of the drilling mud may be considered removal or fill subject to the volume thresholds” and such situations would be handled as an emergency authorization (Guide, p. 2-16) However, we are including discussion of our concerns with the HDD operations planned for the JCEP due to the elevated risk of frac-out occurring on this project due, in part, to the excessively large diameter of the pipe and bore that will be required and the inadequate investigation of site conditions that the Applicant has performed.

feet and for the second leg a 9,000-foot HDD will be utilized to drill beneath Coos Bay. The Applicant proposes a 1,600-foot long leg for crossing the Coos River. Other crossings are proposed for HDD to install the pipeline beneath the Rogue River; and 4) Klamath River. In addition, a Direct Pipe® (DP®) crossing method has been incorporated in plans to cross the South Umpqua River (MP 71.27).

The HDD operations along the pipeline are not detailed to any extent, despite the fact that at each location there are potential risks to the water quality and environment from placement of the spoils and from risks inherent in drilling operation. There is no indication of where the drilled-out sediments brought to the surface will be placed. HDD operations generally require a suite of drilling fluids, the systematic release of which places water quality and organisms in the environment at risk. Moreover, in these drilling operations, there are risks of failure that can lead to accidental release of contaminated sediments and drilling fluids. The Applicant indicates that,

. . . a berm *may* be built around the entire drilling site area. Hay bales or silt screen *may* be part of the berm on the river side of the drilling area [emphasis added]. To contain and control drilling fluid surface releases on the land area, there will be earthmoving equipment such as backhoes or small bulldozers, portable pumps, hand tools, sand, silt fences, and hay bales available at each of the drilling sites. Drilling fluid will be contained and isolated using dirt berms, hay bales, or silt screens. Drilling fluid releases will be cleaned and hauled or pumped to one of the drilling mud storage pits at the closest drilling site.⁴⁸

This description of planned responses is vague and lacks adequate assurance that the Applicant has carefully thought through this system. The concept articulated in the Coos Bay section on safety indicates that, since the bay has relatively shallow areas during low tides, a drilling fluid release would likely settle “onto the bay floor, where it may be contained and removed.”⁴⁹ There is no specificity about how or when this would be done. The plan also disregards conditions such as wind, rain, quantity of mud release, or other events that would affect containment and removal. The Applicant states little more than that they would handle eventualities that may arise.

Similar problems with installation are evident with the lack of details regarding the proposed DP® approach to crossing the South Fork of the Umpqua. This technique will require deep and large pits to be excavated for launching and receiving the pipe, as this DP® approach is a nearly straight-across drilling. The Applicant provides no details about the logistics for this at the proposed site nor any information regarding protection and mitigations during and after drilling.

VIII. The Applicant has not provided adequate information to allow the Director to determine whether wetlands or waterways that would be crossed by the pipeline would be conserved and protected and best use [ORS 196.825(1) and (2)] and [OAR 141-085-0550(2)].

A. Installation of a buried pipeline that crosses over 400 wetlands and waterways must be expected to “cause substantial adverse effects on aquatic life or aquatic habitat, calling pursuant

⁴⁸ DSL Application APP0060697, Section 2 PCGP, Attachment C: Affected Water Resources (Excerpts from FERC Resource Report 2), C.14 HDD Drilling Fluid Contingency Plan (Appendix H.2), PDF p. 3115.

⁴⁹ Ibid.

to ORS 196.825(12)(b)(E) for “documentation of existing conditions and resources and identification of the potential impact if the project is completed.”

The Applicant has not complied with the documentation requirements. There are at least 83 un-surveyed parcels along the proposed pipeline route for a total of 20.88 miles impacted.⁵⁰ The fact that the Applicant lacks information because landowners have denied access does not change the fact that the information is essential to meet statutory and regulatory requirements for permit issuance. Existing conditions and resources on each of these parcels are, in fact, not known and therefore, cannot be assessed and potential impacts cannot be determined. Likewise, there is no information regarding flowing water or Endangered Species Act (ESA) and Essential Fish Habitat (EFH) species that may be present in un-surveyed areas.

B. Across the pipeline route, the Applicant has failed to provide the cross-section drawings for water crossings that are required by the project drawings criteria.

According to OAR 141-085-0550(5)(g) and amplified in DSL’s *Guide*, the permit application must include cross section drawings for each wetland and waterbody where removal or fill activities are to occur:

Cross section drawings are required to illustrate the vertical extent of removal and fill activities relative to existing elevations. To be meaningful, the location of cross sections on the plan view should be in the area of greatest extent of removal-fill activity. Cross sections must be of a scale sufficient to evaluate proposed removal-fill activities and must include:

- A vertical and horizontal scale
- The existing and proposed ground elevations on Jurisdictional boundaries (e.g., OHW [ordinary high water] or wetland boundary)
- The proposed water elevation, if applicable
- Any structures or construction limits⁵¹

The Applicant failed to provide specific cross-section drawings, instead relied on indicating that Best Management Practices (BMP) would be followed depending on conditions encountered on the ground at construction time. This approach by the Applicant falls short of not only DSL’s informational needs, but also those of the DEQ for its consideration of the Section 401 Water Quality permit. In that regard, DEQ noted in a communication with the Applicant in December 2018 that,

Citing potential BMPs by themselves is insufficient. DEQ recognizes BMPs as one part of a broader strategy that must also consider existing water quality, local environmental conditions, the anticipated magnitude of project-related effects, and appropriate engineering controls to mitigate negative effects on water quality. Proposed BMPs must be well-supported using quantitative analyses such as modeling, manufacturer’s technical specifications, results of pilot tests, or other quantitative data to support their site-specific use to effectively achieve water quality objectives. Please provide a plan

⁵⁰ *Ibid.*, Section 2 PCGP, Attachment C.2, Table 2.3-1, PDF pp. 2564-2566.

⁵¹ *Guide*, p. 5-20.

that demonstrates how proposed BMPs or other engineering controls will protect water quality at each location where project actions may directly or indirectly affect waters of the state. *The plan should provide a site-specific analysis of each proposed activity and technical justification for each proposed remedy as discussed more fully in the following section [emphasis added].*⁵²

We urge DSL to review the concerns expressed by DEQ regarding the lack of site-specific information for the project. We believe DSL should deny the permit because the application fails to provide adequate information including required site-specific cross-section drawings.

IX. Project construction activities pose risks to drinking water, the single most important use of water the state must conserve and protect. Jeopardy to drinking water must also be considered by the Director under the provisions of ORS 196.825(3)(e) as degradation clearly interferes with public health.

Water is essential for life, so project activities that would present potential threats to drinking water quality and supply are among the most urgent reasons for our opposition to the JCEP. In our view and as we understand project parameters, there is little to assure that existing private water rights and water supplies would be protected. The absence of details on specific stream crossings, the soils and slopes in the near vicinities, and methods of excavation across the pipeline corridor leave considerable uncertainty as to both the methods and the protections that would be needed to protect Oregon's drinking water use at each specific location. We do not find that the Applicant gives adequate assurance that they have planned or would reliably implement those protections.

A. Hydraulic directional drilling (HDD) planned to cross Coos Bay and major rivers along the pipeline route has too great of a potential to experience "frac-outs" and foul drinking water to risk granting the permit.

HDD is planned as the pipeline crossing method for two locations in the Coos Bay and on the Rogue and Klamath Rivers. The consequences of a "frac-out" during HDD in any location can be significant; frac-outs are known to occur relatively frequently.⁵³ It is disconcerting that the Applicant's acknowledgment of that is minimal. For example, at one proposed HDD site where the Rogue River would be crossed north of Shady Cove OR, the soils are known to contain mercury and arsenic. If a frac-out were to occur at this crossing, both of these naturally-occurring toxic substances and drilling pollutants could easily find their way into this critical river. Shady Cove is a community of approximately 3,000 residents, most of whom obtain drinking water from private wells. These wells (and many others along the PCGP route) provide the only source of drinking water to residents. There are an estimated 150 wells within a mile of the planned HDD crossing of the Rogue River. Several hundred residents obtain drinking water from a private water company that takes water from the Rogue to serve its customers. The Rogue River is also the back-up water supply for the City of Medford. Historically, Shady Cove has had challenges with private wells going dry as the population grew. The aquifer into which

⁵² Department of Environmental Quality, RE: Supplemental Information Request Response to October 8, 2018 Jordan Cove Correspondence, 20 December 2018. Attachment A: Response to Jordan Cove's October 8, 2018 Information Filing, p. 1.

⁵³ Jessica Dickers, "What is a Frac-out in HDD?" *Utility Magazine*, May 4, 2016; State of Oregon, DEIS comments, 2015, p. 102.

private wells are drilled has pockets of water that are interconnected in ways that are difficult, if not impossible, to discern. Any HDD activity that fouls a well in one location could have widespread detrimental effects on wells throughout the system. This is key among concerns that have motivated the Shady Cove City Council to pass several resolutions opposing the JCEP.⁵⁴

Klamath County also offers a disturbing example of potential impacts from an HDD frac-out. Below we discuss soil contaminants at the Collins Company site on the banks of the Klamath River and under a mile from the HDD location for the river crossing. DSL should not consider approving the removal-fill permit application involving an HDD crossing at this site until a thorough investigation of potential interplay between planned activities and known and unknown potential contaminants has been conducted in any case, but especially given the proximity of a planned HDD crossing.

We have reviewed the Applicant's "Drilling Fluid Contingency Plan"⁵⁵ and find it unsatisfying in terms of both acknowledgment of potential impact and evidence of preparedness. The fact that a major additive to drilling mud, bentonite, is "naturally occurring" does not reduce the potential impact on safety of drinking water, not to mention on the health of fish and other aquatic life, in the event that hundreds of gallons of tainted mud would be released into the water.

GeoEngineers in their assessment reports admitted that they did not perform any hydraulic fracture analysis.⁵⁶ DSL and the public have no way of assessing the potential danger that a frac-out would occur, carrying with it the harm to drinking and all other uses of Oregon's rivers. One of the consultant's primary recommendations was that the Applicant should hire a qualified contractor. Frac-outs are a known risk. Their frequency and difficulty of avoidance is well acknowledged. GeoEngineers' report, "Failure Mode Procedure for the HDD Pipeline Installation Method," provides a generic discussion of the numerous ways the HDD process can fail. The report makes clear that the larger the pipe to be installed, the greater the risk that those failure scenarios will occur. A 36" diameter pipeline like that planned for the PCGP would require a 48"-54" hole to be bored under the target waterbody.⁵⁷ The Applicant has not provided the caliber of evidence of planning that we believe would allow DSL to be assured that water contaminating frac-outs would be avoided. Instead, the Applicant seems to plan to make decisions as they go and assumes that impacts would be short-lived and therefore, acceptable.

B. Negative Impact on Drinking Water from Other Pipeline Construction Activities.

Other project activities risk unacceptable impairment of drinking water quality and supply, as well. For example, Oregon's volcanic geologic formation means that blasting through rocky terrain to accomplish pipeline burial would be a routine procedure along the entire route, including at water crossings. The fracturing of rock has the potential to disrupt underground aquifers on which families rely for drinking water and agriculturalists rely for stock watering and irrigation. The potential for these critically important unintended consequences and strategies to avoid them are not adequately addressed in the application. Offers to provide bottled water are not adequate.

⁵⁴ "A Resolution of the City Council of the City of Shady Cove, Oregon Opposing the Jordan Cove Pacific Connector Natural Gas Pipeline," October 19, 2017 is the most recent version.

⁵⁵ DSL Application APP0060697, Section 2 PCGP, Attachment C: Affected Water Resources (Excerpts from FERC Resource Report 2), C.14 HDD Drilling Fluid Contingency Plan (Appendix H.2), PDF pp. 3111-18.

⁵⁶ Ibid., C.13: Feasibility Analysis Rogueer (Appendix G.2), PDF p. 3035.

⁵⁷ DSL Application APP0060697, Section 2: PCGP, C.15: Failure Mode Procedure for the HDD Pipeline Installation Method (Appendix I.2), PDF pp. 3119-3124.

Withdrawing large volumes of freshwater for activities such as hydrostatic testing would also potentially impair water quality and quantity, thus impacting public and private domestic water supply, as well as disrupt recreational, agricultural, and other aquatic needs. The Applicants do not provide specificity regarding when, where, how much, or how often water would be withdrawn for hydrostatic testing.

In summary, there are several risks to drinking water posed by in-water work planned by the PCGP and the potential negative impacts are extreme. In Resource Report 2, the Applicant states that the pipeline would cross 12 Public Drinking Water Surface Water Source Areas (DWSAs). At a minimum, this would impact approximately 116,000 people and the number may be closer to 150,000. Further, the report identifies multiple sites where a potable water intake is located less than three miles downstream from the proposed pipeline crossings. There are a number of private potable water intakes less than three miles downstream from proposed pipeline crossings. The Applicant's insufficient contingency plans demonstrate lack of specificity and evidence of preparation. We urge the Director to consider carefully how this project could jeopardize this most essential beneficial use of Oregon's water resources and deny the removal-fill permit application.

X. The permit application should be denied because the project activities would conflict and interfere with important uses for the water resources of the state that the Legislature has named as designated uses [ORS 196.925(1) and OAR 340-041-0300, 0320, 0271, and 0180].

Designated beneficial uses for Oregon's waters are specified separately for the state's watersheds and the uses deemed critical for purposes of the state's water quality standards. Industrial water supply, fish and aquatic life, wildlife and hunting, fishing, boating, water contact recreation, aesthetic quality, commercial navigation and transportation, public and private domestic water supply, irrigation, livestock watering, and hydropower would all be affected by activities proposed by the Applicant. From our review, the JCEP would challenge protection of Oregon's designated uses. We also find that the Applicant fails to demonstrate how they would protect these many beneficial uses that exist throughout the regions affected.

Federal law requires that state water quality standards, ". . . shall consist of the designated uses of the navigable waters involved and the water quality criteria for such waters based upon such uses. Such standards shall be such as to protect the public health or welfare, enhance the quality of water and serve the purposes of this chapter. Such standards shall be established taking into consideration their use and value for public water supplies, propagation of fish and wildlife, recreational purposes, and agricultural, industrial, and other purposes, and also taking into consideration their use and value for navigation."

We see DSL's and DEQ's interests in their respective water-related missions as entirely compatible and wish to share our views concerning the following beneficial uses at risk if the JCEP goes forward:

A. Fishing.

JCEP pipeline construction activities would impair fishing uses in the Coos Bay and the Coos, Rogue, Umpqua, and Klamath River Basins. Disruptive activities include blasting, tree-felling, and heavy equipment operations along rivers and fishable tributaries including for trenching and

fill. Since the JCEP's plan is to launch and carry out pipeline construction simultaneously in all five "spreads," recreational fishing anywhere in southern Oregon within a miles-wide proximity of the pipeline route would be disrupted, if not impossible, throughout the construction period. In many areas, the aesthetics would be compromised and discourage these activities.

Underlying concerns about disruption of fishing as a designated beneficial use are those related to the effect on water quality and related aquatic and riparian habitat from these proposed activities that would affect the viability of fish and shellfish populations and their habitats.

B. Fish and aquatic uses.

We believe JCEP activities and operations would negatively impact the designated beneficial use in the various waterbodies affected by the project. The construction of the terminal and pipeline, including dredging and fill, removal of riparian vegetation, pipeline stream and river crossings, and the risk of damage to aquatic habitat due to construction-related wildfire combine to create unacceptable harm to aquatic life and disruption of this designated beneficial use. Application materials indicate that 64 waterbodies reported to have ESA designated species present would be affected, and that project activities would negatively impact water temperature, sedimentation, turbidity, and toxicity.

Indian Tribes, NOAA fisheries, and the State of Oregon have spent millions of dollars on efforts to restore and protect the salmon populations in the south coast. The State has invested significant amounts of Oregon taxpayer money to restore water quality and salmon populations in all six of the sub-basins that would be affected by the JCEP—the Coos, Coquille, South Umpqua, Upper Rogue, Upper Klamath, and Lost River sub-basins. The Western Environmental Law Center (WELC) determined total expenditures by the Oregon Watershed Enhancement Board (OWEB) of over \$37 million. The ESA Coho Salmon Recovery Plan produced by NOAA National Marine Fisheries Service (NMFS) outlines major threats,

NMFS' analysis of current threats in this recovery plan has identified the following as currently contributing to the destruction, modification, or curtailment of habitat or range: dams and diversions, channelization and diking, agricultural operations, timber harvest, climate change, roads, urban/industrial/residential development, high severity fire, mining and gravel extraction, invasive species, hatcheries, and fishing and collecting.

Degraded water quality, including high water temperatures, reduced water quantity, and increased fine sediment levels affect Coho Salmon production in several populations. Increased water temperature is the primary source of water impairment for Oregon Coast Coho Salmon, and rising water temperatures due to climate change could add to this problem. Land use activities have contributed to increased water temperatures in coastal streams by removing riparian vegetation, disconnecting streams from floodplains, and reducing streamflow through water diversions.⁵⁸

The LWV of Umpqua Valley conducted a study of water issues on the Umpqua River in 2009. The South Umpqua River is one of the nearly 500 waterways that would be impacted by the PCGP. The League found that over the last 100 years of forest management of both private and public lands, the South Umpqua River riparian zones have been severely degraded. The Umpqua is one of Oregon's most important producers of Spring and Fall Chinook, Winter and

⁵⁸ NOAA National Marine Fisheries Service, *Final Recovery Plan for the Southern Oregon/ Northern California Coast Evolutionarily Significant Unit of Coho Salmon* (Oncorhynchus kisutch), 2014, p. 3-40.

Summer Steelhead, Coho, and sea-run Cutthroat Trout. The Umpqua system accounts for more total and wild Coho spawners than any other river system in Oregon and about 15% of Coho spawners coast-wide. Anadromous fish, such as Coho and Chinook Salmon and Steelhead (and resident Rainbow and Cutthroat Trout), swim, feed and spawn in the rivers and streams of the Umpqua National Forest. In the 1930s, the entire South Umpqua watershed was inventoried, and the results illustrate significant changes over time to present conditions. Historically, the South Umpqua was a larger producer of salmon than the North Umpqua. By the time of the study in 2009, the South Umpqua was too warm to support salmon in the summer. Coho, once abundant there, had declined significantly. Juvenile salmon spend two to three years in their natal streams before migrating to the ocean. They must have adequate stream flows and acceptable quality of fresh water. Any construction associated with the PCGP in the South Umpqua River basin would almost certainly further degrade this already at-risk river and watershed and place the fish in even greater jeopardy.⁵⁹

C. Navigation/boating. If constructed, the enormity and unique needs of an LNG export operation of this nature can be expected to take precedence over all other uses of the channel. The only two LNG export facilities in use in the US are located in areas with easy marine access and wide channels and are not in close proximity to residential areas and critical structures such as airports, hospitals, and schools. Navigation in and around the project facilities during construction and operations in the Coos Bay by all other users would necessarily be curtailed and disrupted. The Port of Coos Bay hosts several forest product export facilities that use bulk carriers to move renewable forest products such as chips and logs out of the bay throughout the year. The details of dredging operations and associated booster pumps, laydown operations will affect all other navigation uses during construction. During operation, additional risks and disruptions would occur related to traffic in the bay. Other carriers in the bay are smaller than those proposed as LNG carriers. In addition, numerous recreational trips are provided on a range of vessels, including the historic Tall Ships, Lady Washington and Hawaiian Chieftain, that visit frequently for extensive tourist opportunities including adventure and evening sails and special events in the bay.

In addition to these boating and shipping uses, the fishing fleets stationed in Charleston would be using the same entrance to the bay, and the operations in Charleston Harbor are a highly important part of commercial and recreational fishing, boating, and charter activities in the state. Seafood processors in Charleston are dependent on the regional fishing fleets' access to dock areas, and delays in passage due to LNG tanker activity could affect their schedules and successful business operations. The Applicant does not own nor does the Applicant plan to operate any of ships that call for LNG at the slip, yet when regional fishers showed concern regarding traffic and safe transit, assurances were made by the Applicant that these would not be in conflict.

D. Recreation.

Water contact recreation is a critical component of southern Oregon's economy and lifestyle. Including recreation as a designated beneficial use in the state's Water Quality Standards attests to this reality. Communities near the major rivers that would be impacted by the JCEP from the Coast to Malin enjoy and rely on various non-fishing aquatic recreation including rafting, kayaking, canoeing, and swimming. Project activities at least during construction appear

⁵⁹ League of Women Voters of Umpqua Valley, *Local Water Study Phase One Report*, 2009

highly likely to disrupt this designated use and we see no realistic means of mitigating location-specific harm.

E. Irrigation and livestock watering.

Agricultural use of water is a concern for many landowners along the pipeline route. Bill Gow, a landowner and rancher in Douglas County, filed a comment to FERC on the DEIS for the last iteration of the JCEP. Therein, he stated that he had been offered \$14,000 by the PCGP in exchange for disrupting his lifelong ranching operation and diminishing the future prospects for his heirs. Irrigation and stock watering are central to his ranching activities.⁶⁰ Dredging and blasting could potentially disrupt groundwater of all kinds on which landowners and communities within impacted water systems along the pipeline route rely for domestic drinking water, livestock watering, and irrigation. Disruption of gravity driven spring flow across the pipeline right-of-way would preclude use of acres of pastureland for his cattle at least during construction if not beyond. The Applicant states in their Groundwater Monitoring and Mitigation Plan that, “Should it be determined after construction that there has been an impact on groundwater supply (either yield or quality), PCGP will work with the landowner to ensure a temporary supply of water, and if determined necessary, PCGP will replace a permanent water supply.” The disruption of any water user’s water supply is a serious matter, but while this solution may possibly serve for something the scale of a domestic well or spring, it would fall far short for the volumes and timeliness needed for agricultural uses. It does not appear that the Applicant has considered or made plans for such an eventuality.

XI. The permit should be denied because the Applicant fails to adequately identify, assess, inform, and demonstrate that their removal and fill activities would not result in the release of soil contaminants into waters of the state.

The matter of toxic and contaminated materials that would potentially find their way into the numerous water bodies to be crossed by the PCGP is largely dismissed as insignificant by the Applicant. We contend that their investigation and description of potential contaminants is insufficient. The Applicant acknowledges that contamination exists at some project sites, but claims use of Best Management Practices (BMP) would eliminate significant impacts. As we explain below, our review of project information indicates that they understate, underreport, and under-evaluate numerous potential issues and inadequately describe their response. For that reason alone, we do not believe it is possible to have reasonable assurance that the removal and fill operations proposed by the Applicant would not pollute our waters and threaten the health of the public and aquatic life.

“Attachment E: Contaminated Substances Discovery Plan” (of the Section 404 Permit Application for the PCGP) has the stated intent: “to outline practices to protect human health and worker safety and to prevent further contamination in the event of an unanticipated discovery of contaminated soil, water, or groundwater during construction of the [PCGP].”⁶¹ We have several concerns with the thrust of this document and believe DSL should find reason thereby to deny the removal-fill permit PCGP seeks.

⁶⁰ Bill Gow to FERC, Comment on DEIS, February 2, 2015.

⁶¹ DSL Application APP0060697, Section 2: PCGP, Attachment E: Contaminated Substances Discovery Plan, October 2017, PDF p. 3484.

A. Significant known contamination on properties where the JCLNG facilities would be located could potentially be released in the process of proposed dredge and fill activities.

In an Oregon DEQ 2006 Environmental Cleanup Site Information (ECSI) Database Site Summary Report---Details for Site ID 4704, Weyerhaeuser Ingram Yard under heading: "Status of Investigative or Remedial Action", DEQ provided Weyerhaeuser strategy recommendations for their environmental assessment work as part of facility closure. But surface soils appear to have exclusively been the focus of Weyerhaeuser's assessments and the company "concluded that residual contaminants do not exceed DEQ's acceptable risk levels." Further on in the report, DEQ states: "However, while surface soils at the Ingram Yard Site meet human and ecological screening criteria, they contain low levels of potentially bioaccumulating chemicals and must not be placed in waters of the state." The application does not allow the public or DSL to determine how much of those types of contaminants (which could be dioxins, dioxin-like PCBs, or furans) could accidentally "be placed in waters of the state" by the massive dredging activities planned.

We were unable to find data for water sampling wells that Weyerhaeuser monitored for water quality around the wastewater treatment lagoon or any independent studies, other than the limited general environmental report on the site ("Conservation Prospectus and Environmental Review: Weyerhaeuser Settling Pond Site, Coos Bay, Oregon" by Katalyst, Inc., commissioned by the Cape Arago Audubon Society). Those databases and studies appear to be proprietary to Weyerhaeuser Corp. Overall, there is a notable lack of information available about this significantly contaminated site where mill effluent was pumped, but much more about the Ingram Yard and the mill site itself. In the past, DEQ has found mineral spirits, hydraulic oil, diesel, heavy-oil-range petroleum hydrocarbons, heavy metals, butylated tin compounds, polynuclear aromatic hydrocarbons, polychlorinated biphenyls, and dioxins.

B. The Applicant has under-stated and inadequately investigated the potential for the release of contaminants in the process of pipeline construction.

Although in Attachment E, PCGP purports to have evaluated "sites within construction areas" and "sites in proximity to pipeline project area" by consulting DEQ's Environmental Cleanup Site Information Database (ECSI), they conclude "no risk of impact" for each one. The rationale most often provided is that the areas would only be used as pipe yards. Looking only at the construction phase, we are not assured by the Applicant's promise that, when "unanticipated contaminated soil, water and/or groundwater is encountered during construction All construction work in the immediate vicinity of areas where hazardous or unknown wastes are encountered will be halted" and a long list of measures will be implemented before construction resumes.⁶²

More concerning is that Attachment E is silent on sites of known contamination in close proximity to the pipeline construction route. The Applicant has not investigated and reported on the most enduring industry across southern Oregon--timber and wood products--beyond the former Weyerhaeuser Containerboard/Mill property in the Jordan Cove area (ECSI Site #1083).

The Applicant claims that "The Jordan Cove Meter Station (MP 0.00) is the only location associated with the pipeline where excavation would have the potential of encountering known contamination."⁶³ They go on to list nine ECSI or LUST sites, none of which they expect would

⁶² *Ibid.*, PDF pp. 3491-92.

⁶³ *Ibid.*, PDF p. 3484.

pose problems. Whether or not they are correct in that assessment warrants further investigation, but what is missing is any mention of seriously contaminated sites that have been under investigation by the EPA and DEQ for decades to the east of the last site PCGP addresses, the Thomason Mining Property near MP 109-10. They leave almost 100 miles (over 40 percent of the total pipeline) without mention, let alone investigation.⁶⁴

There are conceivably several unknown sites of contamination within that segment of proposed pipeline, but there is at least one known site of significance PCGP failed to identify and discuss: a 660-acre site in Klamath Falls formerly owned by Weyerhaeuser and now owned by Collins Company. This site is located near MP 198 and bounded on the south side by the Klamath River. It is on DEQ's database (ECSI #655). The site includes an old landfill, storm water outfall, a sawmill and powerhouse, and sediment. Limited testing has been done and most is over a decade old. But extant test results show that all areas contain multiple contaminants that DEQ summarizes as "petroleum hydrocarbons and constituents; volatile organic compounds; metals." Named contaminants include lead, chromium, manganese, nickel, copper, selenium, zinc, TPD, acetone and methyl-ethyl ketone, methylene chloride, solvents (including trichloroethylene - TCE and perchloroethylene - PCE), 1,1-dichloroethene, TCE, PCE, vinyl chloride, Bis(2-ethylhexyl)phthalate, and arsenic. An excerpt from the ECSI states,

It should be noted that this segment of the Klamath River is listed as water-quality-limited. In particular, total maximum daily load (TMDL) limits for pH, dissolved oxygen, temperature, ammonia toxicity, and chlorophyll-a are exceeded. The primary reasons for this are thought to be unrelated to point sources, and include algae entering the river from Lake Ewauna and Upper Klamath Lake, agricultural runoff, and historic storage and transfer of logs on the river. The Klamath River National Wildlife Refuge is across the river from the plant.⁶⁵

The ECSI database entry for the site indicates that appropriate cleanup measures have not been executed due to a disagreement over distribution of responsibility between the former and current owner. The alignment maps are not entirely helpful because MP 198.6-198.8 are missing, but the fact that the Applicant presents no information about this only marginally tested, but clearly contaminated ECSI site so close to the HDD crossing site for the Klamath River is deeply concerning.

In addition to the potential release of industrial contaminants into the waters of the state, Release of mercury contamination from mining sites at or near pipeline water crossings is another potential by-product of PCGP activities. The pipeline would be routed near the Red Cloud, Mother Lode, Nivinson, and Elkhorn mining groups in, posing the potential for mercury contamination from historic cinnabar mines. The Applicant's consultant, GeoEngineers, conducted sampling and produced a report on their findings in 2007. At section 6.2.2 Ecological Health Risk Screening, the report notes, "Mercury was detected in soil and stream sediment samples at concentrations that exceed ecological risk screening criteria at each of the sampling areas, except in presumed background areas. However, the proposed construction should not alter or adversely affect ecological health at the site or downstream areas because appropriate erosion and sediment control measures at upland and in-stream areas would be rigorously implemented in accordance with the PCGP Erosion Control and Re-vegetation Plan (ECRP) and the site-specific erosion and sediment control plan." GeoEngineers concluded: "It is our

⁶⁴ *Ibid.*, PDF pp. 3484-3483.

⁶⁵ Department of Environmental Quality, Environmental Cleanup Site Information (ECSI) Database Site Summary Report - Details for Site ID 655, Weyerhaeuser - Klamath Falls.

opinion that the relatively low concentrations of mercury in sediment in the EFCC channel at the proposed pipeline crossing, along with the limited disturbance area (less than 95 linear feet), does not pose a significant risk to downstream human and ecological receptors.”⁶⁶ We cannot assess the accuracy of Geoenvironmental Engineers’ now very much outdated findings or conclusions. However, the extent of disturbance required for this project coupled with factors such as the terrain, the potential for collapsing mining structures, and weather conditions over time suggest that at least more thorough study and consideration of operations and cumulative impacts is needed before any in-water work should be allowed in this vicinity.

Finally, we are uncomfortable that the “self-reporting” approach taken by the Applicant in its “Contaminated Substances Recovery Plan” would adequately safeguard the waters of the state. State agencies are not adequately staffed to conduct monitoring to guard against violations. Responding to degradations with fines and enforcement actions after the fact is not a prudent approach to protect ecosystem services. The critical importance of our water resources and the threats posed by the JCEP are a central reason for our opposition to this project.

XII. Pipeline in-water construction activities, many of them highly fire hazardous, are planned to take place almost entirely during southern Oregon’s increasingly intense fire season, thereby posing a serious risk of sparking wildfires and resultant costs to public health and safety [ORS196.825(3)(e)] and water quality.

The Applicant plans for pipeline construction to begin in January 2021 and be completed in December 2022, with peak work during the summer of 2021. They anticipate a total of 1,500 workers across the five crews.⁶⁷ Construction of a buried pipeline requires the use of heavy equipment and explosives, activities that carry with them significant risk of starting wildfires. For example, to create a 95-foot-wide clear-cut right-of-way, trees would be felled using chain saws and feller-bunchers; brush would be cleared, including by bull-dozing across rocky ground; 10-foot-deep trenches would be dug, using where necessary rock-saws, rock drills, and blasting; and pipe would be laid and welded. Trenches would then be backfilled to bury the pipeline, again with heavy equipment in rocky terrain.

To comply with Oregon’s Fish Passage Law and Oregon Department of Fish and Wildlife (ODFW) guidelines, the company has agreed to confine pipeline construction activities in almost all water crossings to ODFW’s “fisheries in-water construction windows.” These windows are set so impacts to fish through damming, dredging, removal and fill, and blasting occur when key fish species are least likely to be present.⁶⁸ These windows also correspond to fire season. The construction windows for the pipeline route indicate that 90% of highly hazardous work at water crossings in Coos, Douglas, and Jackson County would occur primarily when fire danger is “high” to “extreme.” Using Jackson County as an example, all but one of 77 crossings would occur between June 15 and September 15.⁶⁹ In 2017, the Oregon Department of Forestry (ODF) instituted “high danger” level in Jackson and Josephine Counties from June 30 to

⁶⁶ “Mine Hazards Evaluation and Mercury Testing at the Red Cloud, Mother Lode, Nivinson, and Elkhorn Mining Groups, Jackson and Douglas Counties, Oregon, August 23, 2007.” At Appendix R.2 of PCGP FERC application.

⁶⁷ DSL Application APP0060697, Section 2 PCGP, Attachment A.2, Resource Report 1, General Project Description, “Construction Procedures,” PDF p. 2138.

⁶⁸ *Ibid*, PDF p. 2139; ODFW, *Oregon Guidelines for Timing of In-Water Work to Protect Fish and Wildlife Resources*, June 2008.

⁶⁹ DSL Application APP0060697, Section 2 PCGP, Table B.3-4, “Fish Utilization, EFH, Crossing Techniques/Rationales, In-Water Work Windows, and Bridges for Waterbodies,” PDF pp.1525-85.

September 17-- “extreme danger” ran for 52 days from July 24 to September 14. In 2018, “high danger” level ran from July 3 to September 30—fire danger was “extreme” for 54 days from July 20 to September 12.⁷⁰ PCGP’s Construction Procedures do not discuss the above ODF compliance in terms of their overall work schedule so it is not clear when they intend on performing out-of-water construction activities.

The proponent would need to obtain permits or authorizations to operate heavy equipment from landowners, including the ODF, the U.S. Forest Service, and the BLM. For example, ODF requires a Permit to Operate Power Driven Machinery (PDM). Authorizations require the Applicant to agree to comply with prescribed practices to minimize the risk of a fire being ignited and be prepared to respond in the event of fire.⁷¹ ODF evaluates requests for waivers of restrictions by fire danger level on the basis of conditions at the time and place of work and the willingness of the operator to agree to take precautions to make the operation fire safe.⁷² PCGP can be expected to commit to comply with necessary procedures, but fire officials can expect public apprehension about all summertime pipeline construction, let alone waivers allowing work during Industrial Fire Prevention Level IV periods when work stoppage is generally enforced. In recent years, due at least to climate change caused increased temperatures and drier conditions, the risk and incidence of accidental, human-caused fires getting out of hand is increasing. More fires are becoming conflagrations. Circumstances in the wake of the two most recent destructive and deadly fires in California may suggest liability issues could be raised.

The last step of the pipeline construction process is reclamation. Among other activities, an average of 1 ton per acre of slash left by the original clearcutting would be spread over the right-of-way, adding to already existing fuel loads. This amount exceeds the FERC’s “Upland Plan;” the Applicant has indicated that they will seek a waiver.⁷³

Southern Oregon communities already endure months-long summertime periods when wildfire smoke makes air quality unhealthy and makes outdoor activities unsafe. These conditions are having a heavy economic impact. The state and impacted counties are struggling to pay for the fires that are getting out of hand with just the risky circumstances of human-caused fire we now face. Concerns about this reality are among those raised by the Jackson County Commission in its January 22, 2019 comment to DSL, urging denial of the current removal-fill permit application we are considering.

XIII. Environmental Justice considerations relevant to the charge and purpose of the Oregon Environmental Justice Task Force.

The *Guide* discusses how to coordinate with other state, federal and local agencies and consultants in the removal-fill permitting process and stresses the importance of including working with Environmental Justice Communities and the Environmental Justice Task Force (EJTF). The League of Women Voters has strong positions on the need for governmental

⁷⁰ Email Herb Johnson, ODF Forest Officer/Prevention Coordinator to Ron Garfas-Knowles, Ashland Fire & Rescue, January 29, 2019.

⁷¹ Oregon Department of Forestry, “Industrial Fire Precaution Levels (IFPLs) for Oregon Department of Forestry Protection west of the Cascades.”

<https://www.oregon.gov/ODF/Fire/Documents/2017%20IFPL%20for%20Web.pdf>

⁷² Email from Dave Lorenz dated 1.8.2019.

⁷³ DSL Application APP0060697, Section 2, PCGP, Attachment A.2 (RR1 General Project Description), “Construction Procedures,” PDF pp. 2146-47.

decisions to be based on open processes that are inclusive of all people, most especially low-income and minority populations. We supported creation of the EJTF by the 2007 Legislature (SB 420) to help protect Oregonians from disproportionate environmental impacts on these populations. The EJTF encourages state agencies to give all people knowledge and access to decisions that affect environment and the health of all Oregonians. The League greatly appreciated the public hearing opportunities Director Walker provided during January 2019 in all four counties that would be affected by the JCEP, as well as in Salem, and her insistence that the voices of Oregon's tribal communities be heard.

From our observations, opposition to the JCEP by tribal leaders and members at those hearings was almost universal and in large part, a key consideration was the potential harm to the precious, life-giving waters of the state and all living things that rely on them. Likewise, The Environmental Justice Task Force, in its consideration of the JCEP proposal on June 8, 2018, found it not to be in Oregon's best interest. Tribal leaders from four tribes testified at that meeting in Klamath Falls, voicing their concerns and opposition. The Klamath Tribes, the Yurok and the Karuk have all come out in strong opposition to the proposed project, and six Tribes have filed as intervenors in the federal regulatory process. The pipeline route and LNG liquification facility and LNG shipping channel work would impact the traditional homelands and culturally significant landscapes of six federally recognized tribes. The rivers, streams, wetlands, shoreline, intertidal resources, and subtidal habitats continue to be used as locations for fishing, gathering and transportation by native American and low-income residents. Local Native American communities, in particular the Confederated Tribes of Coos, Lower Umpqua, and Siuslaw Indians and have Tribal holdings and development plans in Empire at the Hollering Place and in Coos Head in Charleston. Traditional subsistence would be affected, and the cultural resources of the Coos Indians are likely to bear the most significant impact.

Indeed, this project holds potential to disproportionately impact minority and low-income populations. The impacted resources are important to minority populations and low-income residents in the vicinity of the proposed work. The JCEP remains the only remaining LNG export project in Oregon and it is notable that this remaining proposed project holds potential to differentially impact low-income, minority, and linguistically challenged populations. Coos County, where the vast majority of the impacts would be felt, has a higher than average proportion of people at or near poverty. The considerable health and safety risks associated with this project would be disproportionately borne by communities identified by the EJTP and Executive Order 12898. Hazards of concern to environmental justice of this project include the risks of spill, explosion and fire, particularly for the areas along the pathway of dredging, filling, and ship operations when the facility is under construction and operation. The extensive habitat alterations of the project to create a footprint for the facility and navigation has consequences from the dredging and fill operations that consume and release emissions from fossil fuels. The public consequences of these operations would dramatically enhance Oregon's CO2 footprint and have been estimated and evaluated for other projects (Anderson and Barkdoll 2010).⁷⁴ These comments are without consideration of the emissions from operation, as the facility would require a 60-megawatt chiller to cool the gas running 24 hours per day. The community of Malin, OR where a large compressor station would subject the surrounding community to unhealthy levels of noise pollution is over 70% Latino/a, while the rest of Klamath county is only about 13% Latino/a, placing a disproportionately harmful burden on people of color. The consequences of exported gases would result in increasing the global emissions during transportation and use in Asia. A 2018 study of lifecycle project emissions found that the JCEP

⁷⁴ Anderson, MJ and Barkdoll, BD. 2010. Incorporation of air emissions in dredging method selection. *Journal of Waterway, Port, Coastal, and Ocean Engineering*, Vol. 136, No. 4, July 1

would result in a global GHG emissions of 36.8 million metric tons of CO₂e per year, or the annual equivalent of 7.9 million passenger vehicles.⁷⁵

In addition to the fact that all pipelines and natural gas operations experience fugitive leakage, including with negative health effects for nearby residents, the results of increased CO₂ in the oceans ready have affected our local and regional fishermen. Fishing is often their only source of livelihood. Elevated concentrations of CO₂ are promoting toxic algae growth and increasing ocean acidity. Elevated ocean temperatures have reduced growth of many species and these three factors resulted in the delay in the Dungeness crab season again this year. The review of this issues, consequences, and summary of the multi-nation coastal effort in ocean acidification and its urgency are provided in the Oregon Ocean Coordinating Council report⁷⁶. Just this year a law suit from the Pacific Coast Federation of Fisherman was filed against major oil companies.⁷⁷ The consequences of elevated CO₂ on crabs are shown in a recent peer reviewed study on closely related European brown crab that the growth and behavior of individuals is altered by decreased pH resulting from CO₂ content of the oceans.⁷⁸

Elements of the project bear the signature characteristics that are the focus of the Governor's Executive Order 12898 on Environmental Justice. The astoundingly voluminous, disjointed, and highly technical manner in which material is presented in the application severely limits review and comprehension by individuals across the spectrum of educational levels, including those with no technical, intellectual, language, or literary challenges. People with any of those challenges are almost automatically excluded from participating in the process. The insistence on using acronyms, each set specific to its own agency or field of expertise, is in conformance with the times and desire for efficiency—we all err in this regard—but it is exclusionary. This application, at over 3,000 pages, is not accessible to any audience, and impossible to review, evaluate, and respond to within a 60-day period, let alone one including individuals with average or below average English proficiency. It is certainly inaccessible to those groups the Legislature had in mind when it established the EJTF and committed to give them a voice in matters with an outsized impact on them.

CONCLUSION

It is essential that DSL conduct comprehensive and collaborative reviews of the potential impacts of the proposed JCEP to fully assess whether or not the proposed project can comply with the statutory and regulatory provision that govern Oregon's Removal-Fill permitting process. **As a result of our review of the JCEP project proposal, we conclude that the project activities described in the application fail to comply with the requirements of ORS**

⁷⁵ Oil Change International, "Jordan Cove LNG and Pacific Connector Pipeline Greenhouse Gas Emissions Briefing," January 2018, p. 5.

⁷⁶ Barth, J.A., C.E. Braby, F. Barcellos, K. Tarnow, A. Lanier, J. Sumich, S. Walker, F. Recht, A. Pazar, L. Xin, A. Galloway, J. Schaefer, K. Sheeran, C. M. Regula-Whitefield. 2018. The Oregon Coordinating Council on Ocean Acidification and Hypoxia. First Biennial Report. September 2018. oregonocean.info/index.php/ocean-acidification.

⁷⁷ Benjamin Hulac, "Fishermen Sue Oil Companies Over Rising Ocean Temperatures," *E&E News*, November 15, 2018, <https://www.scientificamerican.com/article/fishermen-sue-oil-companies-over-rising-ocean-temperatures/>

⁷⁸ Wang, Y. Wang Y, Hu M, Wu F, Storch D and Pörtner H-O (2018) Elevated pCO₂ Affects feeding behavior and acute physiological response of the Brown Crab Cancer *pagurus*. *Front. Physiol.* 9:1164.

196.825, as well as implementing regulations in OAR 141-085 and guidance in DSL's Guide to Removal-Fill Permits.

The LWV believes that governmental bodies must protect the people's right to know by giving adequate notice of proposed actions, making public records accessible, and providing adequate and appropriate opportunities for the public to provide input on matters that would affect them. While the application is not accessible or user-friendly, nor does it contain much important information needed by the agency or the public to enable a full understanding or evaluation of the project, we applaud and thank the Director and her staff for their efforts to accommodate public involvement.

The League of Women Voters is a volunteer organization without any motive other than to work for the best interest of all our citizens. Thank you for accepting and considering our thoughts and concerns and thank you for your service.

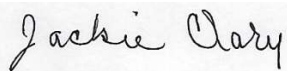
Sincerely,



Susan Thornton, President, League of Women Voters of Coos County
PO Box 1571, Coos Bay OR 97420



Jenny Carloni, President, League of Women Voters of Umpqua Valley
PO Box 2434, Roseburg OR 97470



Jackie Clary, President, League of Women Voters of Rogue Valley
PO Box 8555, Medford OR 97501



Leslie Lowe, President, League of Women Voters Klamath County
8880 Tingley Lane, Klamath Falls OR 97603

Cc: Governor Kate Brown
Secretary of State Dennis Richardson
Treasurer Tobias Read
Senator Ron Wyden
Senator Jeff Merkley
Congressman Greg Walden
Congressman Peter DeFazio
Oregon Senator Dallas Heard

Oregon Senator Jeff Golden
Oregon Senator Dennis Linthicum
Oregon Senator Floyd Prozanski
Oregon Senator Arnie Roblan
Oregon Representative Kim Wallen
Oregon Representative Cedric Hayden
Oregon Representative Gary Leif
Oregon Representative Pam Marsh
Oregon Representative Mike McLane
Oregon Representative E. Werner Reschke
Oregon Representative David Brock Smith
Oregon Representative Caddy McKeown
Coos County Commissioners John Sweet, Bob Main, Melissa Cribbens
Douglas County Commissioners Chris Boice, Tim Freeman, Tom Kress
Jackson County Commissioners Rick Dyer, Colleen Roberts, Bob Strosser
Klamath County Commissioners Donnie Boyd, Derrick DeGroot, Kelley Minty Morris
Coos Bay Mayor Joe Benetti
North Bend Mayor Rick Wetherell
Shady Cove Mayor Tom Sanderson
Myrtle Creek Mayor Ken Brouillard
Canyonville Mayor Jake Young
Winston Mayor Sharon Harrison
Riddle Mayor William Duckett
Klamath Falls Mayor Carol Westfall
Jason Miner, Governor's Natural Resources Policy Advisor
Kristen Sheeran, Governor's Climate and Energy Policy Advisor
Tom Byler, Director, Oregon Water Resources Department
Lisa Sumption, Director, Oregon Parks and Recreation
Brad Avy, State Geologist, Oregon Department of Geology and Mining Industries
Janine Benner, Oregon Department of Energy
Jim Rue, Director, Department of Land Conservation and Development
Vicki Walker, Director, Department of State Lands
Curt Melcher, Director, Oregon Department of Fish and Wildlife
Meta Loftsgarnden, Director, Oregon Watershed Enhancement Board
Peter Daugherty, State Forester, Oregon Department of Forestry
Alexis Taylor, Director, Department of Agriculture
Matt Garrett, Director, Oregon Department of Transportation
Richard Whitman, Director, Oregon Department of Environmental Quality
Chris Carson, President, LWVUS
Norman Turrill, President, LWWOR