August 31, 2019

Tyler Krug
U.S. Army Corps of Engineers
North Bend Field Office
2201 North Broadway, Suite C
North Bend, OR 97459-2372

Re: U.S. Army Corps NWP-2017-41/Oregon Dept. of State Lands APP0060697 Jordan Cove Energy Project and Pacific Connector Pipeline Supplemental Information for Clean Water Act Section 404, Rivers and Harbors Act Section 10/Section 14 (408)—**Public Comment Requesting Denial of All Applications**

Dear Mr. Krug:

We write representing the League of Women Voters of Coos County (LWVCC), LWV of Umpqua Valley (LWVUV), LWV of Rogue Valley (LWVRV), and LWV of Klamath County (LWVKC). We are grassroots nonpartisan, political organizations operating in the four counties in Oregon that would be directly affected by the construction and operations of the proposed Jordan Cove Liquefied Natural Gas (JCLNG) and Pacific Connector Gas Pipeline (PCGP), commonly referred to collectively as the Jordan Cove Energy Project (JCEP). Our detailed review of the proposed activities and documents for the JCEP shows that the projects are in direct conflict with many of the state and national League of Women Voters positions. These positions are based on League studies and resultant consensus deliberations and pertain to natural resources, water quality and quantity, climate change, offshore and coastal management, land use, energy conservation, public health and safety, and seismic risks.

Our comments are provided in response to the Public Notice issued on July 26, 2019 inviting comments on certain additional and revised impacts to waters of the United States identified by JCEP since issuance of the original Public Notice on May 22, 2018. We first update and add to our comments with regard to USACE permitting criteria, Clean Water Act Section 404(b)(1) Guidelines, and other matters relating to the evaluation of this project for permitting purposes. We then address each of the additional issues. We submitted substantive comments in response to the Corps' May 22, 2018 public notice for this project; we incorporate those comments in their entirety herein by reference (Appendix A).

Our study and review of JCEP application materials submitted to this and other federal, state, and local agencies convinces us that the USACE cannot approve the Applicant's Clean Water Act and Rivers and Harbors Act permits.[1] We state this for several reasons that we summarize here and explain further in our comments:

[1] U.S. Army Corps of Engineers Permitting Process Information, pp. 2-4, https://www.lrl.usace.army.mil/Portals/64/docs/regulatory/Permitting/PermittingProcessInformation.pdf.

1) There is not adequate public or private need for the proposed work.
2) The proposed project is contrary to the public interest.
3) JCEP has not demonstrated that dredged or fill materials would not be discharged into wetlands and other waters without having unacceptable adverse impacts on those waters.
4) The Oregon Department of Environmental Quality (DEQ) denied JCEP's Section 401 Water Quality permit, in part because the applicant failed to provide essential information to allow assurance that the project would not violate the state's Water Quality Standards. This same deficiency characterizes the DEIS, and essential and integral resource for these and many other permitting processes. Inadequacy of information precludes issuance of all other permits that require similar assurances that state or federal laws would not be violated by project activities.
5) The Corps cannot issue permits unless or until the Applicant holds permits from other Federal, Tribal, state, and local agencies. Currently JCEP holds almost none of the 21 additional federal permits or approvals and 15 state permits or approvals. They also lack many required local land use permits.[2]

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: "*The League of Women Voters supports a set of climate assessment criteria that ensures that energy policies align with current climate science. <u>These criteria require that the latest climate science be used to evaluate proposed energy policies and major projects</u> (*emphasis added*) 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 LWVCC, LWVUV, LWVRV, and LWVKC submit jointly this comment on JCEP's applications for a Clean Water Act Section 404 and Section 408 of the Rivers and Harbors Act permits under consideration by the USACE.

For reasons we provide in this comment, we respectfully but strenuously urge the USACE to deny the abovenamed permit applications.

COMMENTS SUMMARY

I. USACE Permitting Consideration Criteria
II. Comments on Additional Project Components and/or Revisions
    A. Jordan Cove Terminal and Liquefaction and Associated Facilities
    B. Pacific Connector Gas Pipeline
III. Conclusion—Constraints on Permit Issuance
    A. Information Deficiencies
    B. Regulatory Limitations

[2] FAST-41 Initiation Notice, October 13, 2017.

C. Cumulative Impacts and Legacy

I. USACE PERMITTING CONSIDERATION CRITERIA

According to the Corps' "Permitting Process Information" publication, in considering whether to approve or deny an application, the USACE must consider: *"1. The relevant extent of public and private need for the proposed work; 2. Where unresolved conflicts of resource use exist, the practicability of using reasonable alternative locations and methods to accomplish the objective of the proposed structure or work; and 3. The extent and permanence of the beneficial and/or detrimental effects the proposed structure or work is likely to have on public and private uses to which the area is suited."* The publication goes on to state that, "*No permit is granted if the proposed project is found to be contrary to the public interest*."[3] **We have considered each of those criteria and conclude that all permits should be denied.**

"#1. Relevant extent of public and private need for the proposed work."

We have concluded that the JCEP is intended to serve the needs of a private, foreign corporation and it is inappropriate for the resources and interests of the State of Oregon, federal public lands, businesses, private landowners, and the public to be sacrificed to that end. Any public need the project may serve is incidental and temporary and—in comparison to the detriments and costs to the state, its resources, and its people—inconsequential.

The July 26, 2019 Public Notice doesn't restate the Project Purpose, but it would be the same as that stated in the Public Notice of May 22, 2018: ". . . to export natural gas derived from a point near the intersections of the Gas Transmission Northwest Pipeline system and Ruby Pipeline system."[4] In other words, the Applicant seeks permission to execute all of the activities described on pp. 2-9 of the original Public Notice and pp. 2-6 of the current Public Notice, and in JCEP's application to the Federal Energy Regulatory Commission (FERC) and subsequent application materials to facilitate the export of natural gas for the benefit of a private, for profit corporation whose goal is to enrich its shareholders. We contend that there is *no public interest* or common good *need* or *purpose* intended to be served here.

The Project Purpose does not include providing energy to any Oregon or U.S. residents. It is all destined for export to foreign countries.

Furthermore, while application materials indicate that the PCGP would open Asian markets to both U.S. and Canadian gas producers, since we commented in response to the original Public Notice, Pembina, the parent company, has publicly declared that as little as six percent of pipeline capacity would be devoted to gas from U.S. producers. At a meeting last fall in Grand Junction, CO, Stuart Taylor, a Pembina Senior Vice President, indicated that initially,

> 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

[3] "U.S. Army Corps of Engineers Permitting Process Information."
https://www.lrl.usace.army.mil/Portals/64/docs/regulatory/Permitting/PermittingProcessInformation.pdf., p. 2.
[4] "U.S. Army Corps of Engineers Permitting Process Information," p.2.
https://www.lrl.usace.army.mil/Portals/64/docs/regulatory/Permitting/PermittingProcessInformation.pdf.

> 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]

We note that there is nothing in the JCEP application to FERC to prohibit Pembina, the Canadian parent company, from booking up to 100 percent of the pipeline's capacity from the landlocked Montney gas field in British Columbia once beyond the "initial" phase. This means that, even if U.S. decision-makers believe it is acceptable to retain a national energy policy focused on fossil fuel development—despite clear evidence that this is neither a wise nor a prudent course—JCEP is potentially *not in the national interest*. But regardless of where the fracked gas is sourced, JCEP offers very little in terms of short-term benefits, and even less for the long term, to balance against the extensive detriments to the people of Oregon and the American public.

"# 2. **Practicability of using reasonable alternative locations and methods to accomplish the objective of the proposed structure or work."**

NEPA raises the expectation that a Draft Environmental Impact Statement (DEIS) will provide a clear, thorough, and well-considered analysis of reasonable alternative locations and methods; however, FERC fell far short of the task in the DEIS issued on March 29, 2019. We will not repeat our comments to FERC here, but incorporate them by reference and attach as Appendix B and summarize the concerns we raised about the alternatives process as follows:

- FERC staff should have recommended the No Action Alternative—thereby recommending denial of the project—because the Applicants' now stated intent to export the vast majority of Canadian natural gas causes the proposed project to defy common sense and reveals that the human and natural environmental costs associated with the entire proposed project are unnecessary to accomplish the true purpose and need of the project as it has evolved.
- Related to the above, FERC staff erred in its consideration of the no action alternative by simply adopting the approach put forward by the Applicant.
- The DEIS fails to follow in its execution of the alternatives analysis the criteria therein stated on which the determination of alternatives to be analyzed is to be based. Those criteria to be utilized are 1. does the alternative meets the stated purpose of the project;
- 2. is it technically and economically feasible and practical; and 3. does it offers a significant environmental advantage over a proposed action.[6]
- The systematic alternatives analysis DEIS performs regarding LNG terminal locations compares the proposed location and four others—ignoring again Criterion #1 that would make the latter irrelevant as alternatives—but the process reveals, in our view, the fact that the proposed location itself fails to meet the conditions the Applicant selected for the analysis alternatives for siting.
- We are all faced with considering alternatives analyses for a proposed project that appears to constitute little more than justification for a pipeline and site location and design that was decided over a decade ago.
- The DEIS evaluation of what FERC staff has identified as reasonable site alternatives includes sites that do not meet the conditions required by the purpose and need statement, but beyond that, it rejects at least one site that would involve significantly less

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

[6] DEIS. p. 3-2.

serious impacts on the human environment than the prescribed site. FERC staff appears to have forgotten that the *human* environment is an essential consideration required by NEPA. A reasonable alternative that appears to pose an equally negative impact on the *natural* environment as the proposed alternative, but is located in a far less populated area and therefore guaranteed to pose a far less egregious negative impact on the *human* environment, should not be dismissed in favor of a project with the negative impacts on the communities of North Bend, Coos Bay, Empire, and Charleston, OR.

"# 3. The extent and permanence of the beneficial and/or detrimental effects the proposed structure or work is likely to have on public and private uses to which the area is suited."

The USACE's "Permitting Process Information" publication stresses the "central role" of public involvement in the Corps' regulatory program and states that, "The Corps public interest review is the main framework for the overall evaluation of projects . . . . [which evaluation] requires the careful weighing of all public interest factors relevant to each particular permit application."[7] The original Public Notice and the current one to which we are responding now verifies that those same factors will be utilized by the USACE in its consideration of JCEP's application for a permit under Section 404 of the Clean Water Act. This is said about project evaluation under Section 408 of the Rivers and Harbors Act of 1899: "If the potential detriments are found to outweigh the potential benefits, then the [U.S. Army Corps of Engineers Portland] District may determine the proposed alteration [of a Federally Authorized project] is injurious to the public interest."[8] We offer the following discussions of pertinent factors outlined in the USACE's "Public Interest Review." Some of the information summarizes more detailed discussion in our comments on the 2019 DEIS.

- **Conservation**.

  Invasive species. The control of invasive species is a required practice for all public land managers. A U.S. Forest Service directive states,

  > "The Executive Order on Invasive Species, signed by the President on February 3, 1999 states that, federal agencies will use relevant programs and authorities to prevent the introduction of invasive species, and *not authorize or carry out actions* that are likely to cause the introduction or spread of invasive species *unless the agency has determined and made public documentation that shows that the benefits of such actions clearly outweigh the potential harm* and all feasible and prudent measures to minimize risk of harm will be taken in conjunction with the actions [emphasis added]."[9]

  Construction of this 229-mile, 36-inch pipeline that would require denuding a 95-foot-wide swath of vegetation promises the spread of invasive species.

[7] "U.S. Army Corps of Engineers Permitting Process Information," p. 3, https://www.lrl.usace.army.mil/Portals/64/docs/regulatory/Permitting/PermittingProcessInformation.pdf.
[8] "U.S. Army Corps of Engineers Permitting Process Information," p. 11, https://www.lrl.usace.army.mil/Portals/64/docs/regulatory/Permitting/PermittingProcessInformation.pdf.
[9] USFS, "Direction for the development of noxious weed prevention and management practices," *National Policy Forest Service Manual* (FSM) 2080 Noxious Weed Management, citing Executive Order on Invasive Species (Feb. 3, 1999) and "Stemming the Invasive Tide, Forest Service Strategy for Noxious and Nonnative Invasive Plant Management," PCGP, Resource Report 7.

The DEIS and Applicant materials indicate that the PCGP right-of-way maintenance procedures would include application of highly toxic treatments including 2,4-D, glyphosate, and triclopyr.[10] Indeed, there is reason for concern about the spread of invasive plant species as a result of pipeline construction practices—despite the great care to prevent this promised by the Applicant. This, by itself, is a clear negative impact of the 229-mile pipeline that would bring harm to Oregon if the project is approved. But the cure for invasive species spread—injecting poisonous herbicides into the fragile environment, including waterways—piles on yet another adverse impact that would be carried forward for the life of the pipeline. We find this to be a highly risky practice.[11]

Ballast water is certain to introduce invasive species to Coos Bay waters. Of all detected non-indigenous marine species (NIMS) of all major animal, plant, and algal phyla, macroalgae not only constitute a large component of the globally introduced biota, but also cause significant economic and environmental damage over which we have only limited post-invasion control and management options. Commercial shipping is an important invasion vector, making ports and harbors among the most vulnerable environments to biological invasions.[12]

In addition to risks from ballast releases, there are serious risks from invasive species introduced by biofouling. World-wide estimates suggest that biofouling is responsible for between 55.5% and 69.2% of the currently established NIS in coastal waters globally.[13] Because biofouling accumulates on ships, it poses risks to all ports visited. The management of biofouling is complex and not well harmonized.[14]

Wildfire. Another conservation issue relates to prevention of timber and habitat loss due to destructive wildfire. The substantial increase in human and equipment activity in heavily timbered areas during pipeline construction can by itself be expected to increase the risk of fire; 62 percent of the pipeline route is forested. PCGP plans to construct 229 miles of pipeline (more, if the FERC recommended Blue Ridge Variation is adopted) simultaneously in five sectors. To comply with ODFW recommendations, the Applicant indicates that the bulk of pipeline construction would take place during the "dry season." In an average year in southern Oregon, that would put the construction phase for the majority of the pipeline from mid-May or early June through October. It seems unavoidable to conclude that, in order to meet company timelines and stay within budget, pipeline construction—involving the use of feller-bunchers, chainsaws, bull-dozers, track-hoes, and other heavy equipment, as well as blasting—would need to take place across four southern Oregon counties under high to extreme wildfire risk conditions. The various entities that work to prevent, control, and fight wildfires have restrictions on far less aggressive and concentrated activities than pipeline construction

[10] DEIS, p. 4-224.
[11] DEIS, p. 4-224.
[12] See also discussion of this concern in ODFW section of Oregon State Agency Comments on FERC's Draft Environmental Impact Statement for Docket Nos. CP 17-494-000 and CP 17-495-000 (Jordan Covey Energy Project LP and Pacific Connector Gas Pipeline LP) DOJ File No.: 0ES456-ES456. Oregon Department of Justice. 3 July 2019, pp. 72-73.
[13] Scianni, C., Falkner, M. DeBruyckere, L. 2017. Biofouling in the U.S. Pacific States and British Columbia. Coastal Committee of the Western Regional Panel on Aquatic Nuisance Species.
[14] Davidson, I., C. Scianni, C. Hewitt, R. Everett, E. Holm, M. Tamburri, G. Ruiz. 2016. Mini-review: Assessing the drivers of ship biofouling management – aligning industry and biosecurity goals. Biofouling 32: 411-428.

during a growing number of summer months. The Applicant can be expected to apply for waivers.

PCGP's "Fire Prevention and Suppression Plan" demonstrates the Applicant's inadequate grasp of the fact that the landslide-prone and heavily wooded terrain across which this pipeline would be built constitutes a recipe for rupture, explosion, and wildfire. Landslides are one of the most common geohazards in Oregon and contribute over $10 million of economic losses every year.[15] The proposed route crosses four regional physiographic provinces in Oregon: the Coast Range, Klamath Mountains, Cascade Range, and Basin and Range. The Coast Range is especially vulnerable to slides and erosion, as it has relatively soft marine sedimentary rocks that overlie basalt, and the frequency of slides and erosion is high and well known. Seismically induced landscapes have been modeled for Oregon and show the highest risk in areas of southern Oregon that combine marine sediment and slopes with seismic risks to provide an overlay.[16] None of this is even mentioned in the plan, as can be seen by the following:

> During pipeline operation, the risk of fire danger is minimal. The primary causes of fire on the right-of-way result from unauthorized entry by individuals utilizing the right-of-way for recreational purposes and from fires started outside of the right-of-way. In the latter case, the right-of-way can be used by authorities as a potential fire break provided that the grade is not altered above the pipeline. During maintenance operations, PCGP will equip personnel with fire-fighting equipment including fire extinguishers and shovels. Maintenance crews will also carry fire suppression contacts as listed in Table 4-1.2.[17]

Further, once the pipeline is installed, it seems likely that their presence would inhibit standard wildfire fighting practices involving the use of heavy equipment. Oregon and other western states are already facing increasing wildfire occurrence and intensity and are suffering increasing monetary, resource, and private property losses, as well as negative health consequences and loss of life due to fires exacerbated by current drought and rising temperatures. Governor Kate Brown declared drought emergencies for a number of Oregon counties in 2018, including Douglas and Klamath Counties. Thus far in 2019, the project area is classed as "abnormally dry."[18] It is contrary to the public interest to allow this project that so clearly would dramatically increase the risk of wildfire.

- Economics. We believe there is ample reason to find that, on balance, JCEP stands to result in more economic detriments than benefits. The Applicant cites jobs as a benefit. We agree that there is a need for good jobs in our state and local communities. However, we are not confident that this project would result in employment circumstances the Applicant describes. The majority of jobs would be temporary and the

[15] Mahalingam, R., Olsen, M.J., O'Banion, M.S. 2016. Evaluation of landslide susceptibility mapping techniques using lidar-derived conditioning factors (Oregon case study), Geomatics, Natural Hazards and Risk, 7:6, 1884-1907.
[16] Sharifi-Mood, M., Olsen, M. J; Gillins, D. T., Mahalingam, R. 2017. Performance-based, seismically-induced landslide hazard mapping of Western Oregon. Soil dynamics and earthquake engineering 103:38-54.
[17]DEIS, Attachment 1, p. 3 of Appendix K – Fire Prevention and Suppression Plan in Appendix F.10_PCGP_POD-Part 3-22.PDF.
[18] Oregon Governor's Office, "Governor Kate Brown Declares Drought Emergencies for Baker and Douglas Counties," Press Release, June 18, 2018. Holly Dillemuth, "Gov. Brown signs drought declaration," *Herald and News,* March 14, 2018; Plant Maps, "Oregon Drought Conditions Map - July 30, 2019," https://www.plantmaps.com/interactive-oregon-drought-monitor-map.php.

number of those claimed has been elevated from 2,000 in the previous submittal to up to 8,000 in the 2017 application. The reason for the increase is unclear, since this project lacks the jobs associated with construction of a power plant sector included in the earlier version. Around 100 permanent jobs are claimed. The Applicant implies, and supporters appear to believe, that these jobs would go to local, or at least state, residents. Over the decades, communities across the nation have learned that oil and gas projects don't necessarily deliver on those promises. One of the primary reasons is that the necessary skill sets workers need for a project of this magnitude and complexity must be gained by specialized training and experience. We question why Pembina would hire and pay the costs to train thousands of Coos County residents or southern Oregonians to lay 229 miles of 36-inch pipe through extremely challenging terrain when there are thousands of experienced pipefitters, welders, etc., in North and South Dakota, Pennsylvania, eastern Colorado, Texas, and so on who are looking for work?

But full discussion of the claimed job creation benefit must also include factor in jobs lost as a result of the JCEP. Many existing industries have potential to be harmed, e.g., oyster and other fishing, tourism, and private timber companies. The recreational fishing industry in Oregon has broadscale economic impact and is tied to trips out of regional bays. Recreational angling for finfish contributes substantially to coastal economies. Trip spending generated $66.7 million in 2013 of total personal income to coastal economies and $68.9 million in 2014. These numbers do not include shellfish harvesting trips that are more tied to the bays.[19] In addition, the commercial fisheries and working waterfronts are essential sources of jobs and economic growth, according to the Oregon Coastal Zone Management Association (OCZMA), which conducts studies of Oregon's coastal economy and provides information to an extensive network of government and other agencies, aiming to improve the region's standard of living.

> Fisheries also provide part of the overall ambience folks want to experience when visiting the Oregon coast or opting to live there. They help attract artists, writers and others, including a growing number of retirees, who in turn make their own contributions to an ever-changing diverse economy and culture. Travelers spend time watching and photographing the fishing fleets, and visitors often show up at the coast seeking fresh, locally caught seafood.[20]

According to a recent report by Travel Oregon, visitor spending in Coos County supports more than 3,300 jobs—more jobs than Bay Area Hospital and the forestry/wood products industry combined. It generates $1.5 million in local tax revenues. [21] To the extent that the JCEP would disrupt the above activities, the area would suffer losses in both jobs and tax revenues.

Tax revenue to counties is the other project benefit cited by the Applicant. No doubt, additional money would help the affected counties. However, the equation is far more complicated than just dollars-in. The costs to county government directly and indirectly related to JCEP activities—especially Coos County where the majority of construction

[19] *Oregon Marine Recreational Fisheries Economic Contributions in 2013 and 2014, Revision 2.2,* prepared by The Research Group, LLC for Oregon Department of Fish and Wildlife and Oregon Coastal Zone Management Association, September 2015.
[20] Terry Dillman, "Oregon Ports Stimulate Coastal, State Economy," *Fisherman's News,* May 1, 2013.
[21] Nicolas, A. Johnson, "Visitor spending data released by Travel Oregon," *The World,* July 16, 2018.

would occur—would be significant; these must be factored into any responsible balancing of benefits and detriments.

Socioeconomic studies and law enforcement records show that boom projects of this type can lead to community disruption of many sorts that put strains on local and state government budgets and service capacity, e.g., domestic violence, drug and alcohol abuse, increased crime, and homelessness. Communities that host boom and bust economic events such as in Wyoming, Utah, Colorado, the Dakotas, and Louisiana, have found their economic development has down sides. During the boom phase, they struggle, often unsuccessfully, to meet adequately the shared and disparate needs of both temporary and permanent residents. FERC admits that the JCLNG project would foment an affordable housing crisis and names it as one of the few "significant" impacts of the entire project.[22] The costs of housing shortages mount as they produce a ripple effect that moves far beyond homelessness. When boom projects end, there are employment constrictions and other economic complications.

And project-wide, the expected costs can include lost forest and agricultural productivity on the pipeline route, decreased property values, increased fire danger and costs, landslide events and road repair, water resource loss and quality degradation, invasive species risks, and damage to fish and other ecosystem services. There is the potential for additional costs later in the life of the project that may have to be borne by local governments, as well. One notable example is costs to eventually decommission and clean up the site. We have not seen evidence that JCEP has completed binding agreements with local governments and other government agencies to accomplish that. Those costs could exceed tax revenues and even constitute a sizable net loss to communities and taxpayers.

The JCEP would provide no energy to U.S. customers, but it may raise domestic gas prices. Industrial Energy Consumers of America (IECA) has submitted detailed communications to FERC in opposition to the project, including this concern. IECA is an association of energy-intensive, trade-exposed (EITE) manufacturing companies. They stated in one filing, "EITE industries use 75 percent of the natural gas and 73 percent of electricity consumed by the manufacturing sector and would be negatively impacted if natural gas prices increase as a result of exporting LNG. EITE industries account for over 40 percent of all manufacturing jobs."[23]

- **Aesthetics.** Besides an affordable housing crisis noted above, the DEIS acknowledged few of the many negative impacts of the JCEP as being "significant," but the visual impact was an exception.[24] They referred to the installation of the massive liquefaction, storage, and export facilities on what is currently largely a wetland and wooded area. We agree, but the impact is understated. The negative visual impact of this high-profile industrial facility is in conflict with the public interest in a growing residential community that has been progressively building a viable economy based on tourism and recreation. Contrary to the public interest are major effects including reduction in the recreational

[22] DEIS, p. 4-621; U.S. Department of the Interior to Kimberly D. Bose, Federal Energy Regulatory Commission, "Comments—Jordan Cove Energy Project Draft Environmental Impact Statement, CP17-494-000 and CP17-495-000," July 3, 2019, p. 3, http://elibrary.FERC.gov/idmws/file_list.asp?accession_num=20190703-5127.
[23] Filing with Federal Energy Regulatory Commission of Paul N. Cicio, President, Industrial Energy Consumers of America, June 10, 2016, p.2.
[24] DEIS, p. E-5.

and residential appeal of the area and likely a reduction in property values and outmigration of many current residents. A facility of this size, entertaining enormous ships, changes everything about Coos Bay and environs. As the DEIS says, "the size and location of the proposed LNG terminal and associated facilities would cause visual effects from many viewpoints that cannot be effectively mitigated."[25] There are additional impacts that are contrary to the public interest, including,

- Export terminal lighting is inadequately described and mischaracterized as to degree of impact;
- New construction of various types is not included in the analysis of the viewshed, which appears based on dated information at least two years old;
- With little description or analysis of the visual impact of LNG carriers visiting the bay, the degree of that impact is not fully assessed;
- The major added impact on visual resources of dredge spoil disposal at APCO Sites 1 & 2 is not identified and analyzed in the DEIS; and
- Lack of Applicant plans and an established regulatory requirement with specific guidelines and financial guarantees providing for the retirement, reclamation, and restoration of the LNG terminal and associated infrastructure, neglects a highly significant impact on visual resources. Whether operations for this potentially stranded, hulking fossil fuel infrastructure cease in 30, 50, or 10 years, it is important to consider the viewshed as it rusts and yields to other forces of nature.

The negative visual impacts of the proposed 229-mile, 95-foot-wide clear cut across southern Oregon must also be acknowledged. The recommended PCT (pipeline route) Variation that is one issue in this public notice would no doubt be one less eyesore and PCT trail users would appreciate it. However, the pipeline right-of-way in its entirely would be a scar on the land and as such, an unacceptable blot on the aesthetics of this beautiful state.

- **General environmental concerns.** Many of the environmental impacts of the terminal and associated facilities must be dealt with separately from the pipeline, but the cumulative effects must consider both components. We note here that this project has impacts at multiple scales—from local to state, national to global—by creating 36.8 million metric tons (MMT) of lifecycle greenhouse gas (GHG) emissions annually for at least 30 years of projected operations.[26] Oregon is far from being on track to meet its GHG emissions goals of 10 percent below 1990 levels by 2020 and 75 percent below 1990 levels by 2050.[27] That projection is based on the assumption that the Boardman Coal Power plant will be closed in 2020. It does *not* take into account the 2.6 MMT per year of "new," in-state emissions that would be generated if the JCEP were to be built. It is sobering to realize that, if JCEP were to be built and if Oregon were to manage to meet its GHG goal for 2050 of 14.1 MMT/year, 16% of Oregon's GHG emissions would be squandered to support this corporate enterprise's operations without delivering one kilowatt hour of energy to Oregonians. There is little on a cost-benefit balance sheet to weigh against the momentous environmental detriments—from GHG emissions to water

[25] DEIS, p. 4-565-66.
[26] Oil Change International, *Jordan Cove LNG and Pacific Connector Pipeline Greenhouse Gas Emissions Briefing*, January 2018, http://priceofoil.org/2018/01/11/jordan-cove-lng-and-pacific-connector-pipeline-greenhouse-gas-emissions/.
[27] Oregon Global Warming Commission, *Biennial Report to the Legislature, 2017*, p. 24, http://www.keeporegoncool.org/reports/.

degradation to harm to fish and wildlife to increased risk of wildfire to risks of spreading of invasive species to disruption of water rights, and other deleterious effects that this project would pose.

- **Wetlands.** USACE's "Permitting Process Information" states that, **"**A fundamental principle of the Section 404(b)(1) guidelines is that dredged or fill material should not be discharged into wetlands and other waters, *unless it can be demonstrated that the discharge will not have unacceptable adverse impacts on those waters* [emphasis added]."[28] Historically and to date, the Applicant has not only failed to demonstrate the absence of adverse impacts on wetlands, they have not provided adequate information to allow the public, state, or federal agencies to identify and assess project impacts on those critical areas.

  To underscore the deficiency, we note that the Oregon Department of State Lands (DSL), after the close of its comment period on the Applicants' removal-fill application, acknowledged in a letter to JCEP that a number of substantive comments had raised questions and highlighted necessary information, including about wetlands. DSL instructed the Applicants to respond to the commenters. We were among those commenters identified. [29] The Applicants failed to comply with the latter request, although they did submit a document to DSL addressing some agency questions.[30] This demonstrates that yet another state agency with permitting requirement is struggling to cope with informational deficiencies from the Applicant. DSL's decision is expected in September.

  DEQ's denial of JCEP's Section 401 Water Quality certification included numerous references to project activities that appeared to have deleterious impacts on wetlands.[31] DEQ also raised a number of concerns about impacts to wetlands in their DEIS comments, as well, as did ODFW. A common thread in both agencies' comments was, once again, the inadequacy of information from the Applicant or the DEIS to be able to assess negative impacts or ascertain the effectiveness of mitigation plans.[32]

  A total of six miles of wetlands would be impacted across all four affected counties. Resource Report 2 of JCEP's application to FERC inadequately describes the wetlands that would be impacted and misses entirely the fact that wetlands are ecosystems that are highly subject to disruption, degradation, and destruction. The Applicant acknowledges cumulative disruption of 169 acres of wetlands via construction of the Jordan Cove LNG Terminal and Liquefaction Facility, but dismisses that impact as "temporary," without regard for the fact that, even done right, living communities of flora

[28] "U.S. Army Corps of Engineers Permitting Process Information," p. 4, https://www.lrl.usace.army.mil/Portals/64/docs/regulatory/Permitting/PermittingProcessInformation.pdf.
[29] DSL to JCEP, "DSL Removal-Fill Permit Application No. 60697-RF Jordan Cove Energy Project, Multiple Counties," April 10, 2019, p. 9, https://www.oregon.gov/dsl/WW/Documents/60697RFPRPCommentsLetter20190410.pdf.
[30] JCEP to DSL, "**Re: Jordan Cove Energy Project L.P. and Pacific Connector Gas Pipeline, LP Removal/Fill Application – Response to ODSL April 10, 2019 Additional Information Request**," May 9, 2019.

[31] For just one example, DEQ, *Evaluation and Findings Report: Section 401 Water Quality Certification for the Jordan Cove Energy Project*, May 2019, p. 42.
[32]Oregon State Agency Comments on FERC's Draft Environmental Impact Statement for Docket Nos. CP 17-494-000 and CP 17-495-000 (Jordan Covey Energy Project LP and Pacific Connector Gas Pipeline LP) DOJ File No.: 0ES456-ES456. Oregon Department of Justice. 3 July 2019, pp. 26, 49, 74-75.

and fauna disrupted by dredging, filling, earth-moving, draining, etc., may never recover. Their answer to these risks and certain negative impacts is the contention that all would be well under their Mitigation Plan. The USACE must not assume that this plan provides an appropriate trade-off. We discussed in our comments during the original comment period deficiencies in JCEP's approach to wetlands, including dredging and mitigation plans (see Appendix A).

- **Historic properties/Cultural resources.** The JCEP would cross the traditional territories of 14 federally recognized Tribal Nations. All have been invited to participate in processes required to receive approval. However, the Klamath Tribes, the Yurok Tribe, the Karuk Tribe, the Confederated Tribes of Siletz Indians, the Tolowa Dee-Ni Nation, the Cow Creek Band of Umpqua Tribe, the Round Valley Tribe, the Confederated Tribes of the Grand Ronde Community of Oregon, and the Confederated Tribes of Coos, Lower Umpqua, and Siuslaw Indians (CTCLUSI) have all expressed deep concerns about cultural resources that would be endangered, destroyed, or otherwise harmed by the JCEP. They have also noted repeated failures of governmental entities and the Applicant to properly and lawfully consult them regarding the project. The first five of the Tribes named above officially oppose the JCEP; they and the Cow Creek Band of the Umpqua Tribe have filed as intervenors.

  The Karuk Tribe said this to FERC in their request for formal, government-to-government consultation:

  > For the Karuk Tribe, cultural resources need to be understood in the context of a living culture, of all species and not just humans within the environment, and within a defined Klamath Riverscape. The Klamath River is on course to be substantially restored by 2021 by the removal of four dams upstream. The Pacific Connector project would cross under the Klamath River in the vicinity of Klamath Falls. It threatens the integrity of Karuk cultural resources, and of the lifeways of the Karuk people, by threatening the fish on this vital salmon-rearing watershed.[33]

  The Klamath Tribal Council stated that,

  > . . . the Klamath Tribes strongly oppose the Pipeline because a significant portion of the proposed construction would take place on lands that are within the traditional territory of the Klamath Tribes, where there are located many significant cultural resources and waters of current and historical and spiritual importance to the Tribes. The Klamath Tribes have a long-standing policy that all cultural and traditional sites are sacred, and therefore any risk of disturbance to human remains and cultural sites is unacceptable.[34]

  The CTCLUSI have remained neutral on the JCEP, but they stress the,

  > . . . specific problems faced by the Confederated Tribes, and by our neighboring Tribes, as we have struggled to compel FERC and USACE to consult openly and willingly with our Tribes, and to compel FERC and USACE to adequately address the many concerns we have raised about the archeological resources, human

[33] Alex R. Watts-Tobin, Ph.D., Karuk Tribe THPO/Archaeologist to Kimberly Bose, FERC, May 3, 2018.
[34] Donald C. Gentry, Chairman, Klamath Tribes of Oregon to Kimberly D. Bose, FERC, May 2, 2018.

> burials, and sacred places that will be utterly destroyed if the Jordan Cove LNG project is approved as currently designed.[35]

Tribal spokespersons for the CTCLUSI, the Klamath Tribes, the Yurok Tribe, and the Cow Creek Band of Umpqua Tribe of Indians shared their concerns about the impacts of the JCEP at the June 8, 2018 meeting of the Oregon Environmental Justice Task Force in Klamath Falls. At the end of the meeting, the Task Force concluded that the project is not in the best interests of the State of Oregon and indicated that they would convey that finding to the Governor and other decision-makers.[36] Destruction and disrespect for the needs and values of these sovereign nations are not in the public interest.

- **Fish and wildlife values**. The Corps in current Public Notice indicates that FERC is the lead federal agency for compliance with laws designed to protect fish and wildlife, including the Endangered Species Act. In the original Public Notice for the project, they stated that their "preliminary review indicates the described activity may affect threatened or endangered species or their designated critical habitat." (p. 12). The presence of federally protected species in the area of impact requires consultation with federal partners, as well as Indian tribes.

  The JCEP project would disrupt the critical habitat of federally protected aquatic species, including Coho Salmon (*Oncorhynchus kisutch*) and Green Sturgeon (*Acipenser medirostris*). Indian Tribes, NOAA fisheries, and the State of Oregon have worked hard to restore the salmon populations in the south coast. The State has invested significant amounts of Oregon taxpayer money to restore water quality and salmon 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 outlines major threats,

  > Degraded water quality, reduced water quality, including high water temperatures, and increased fine sediment levels affect Coho Salmon production in several populations. Increased water temperature is the primary source of water quality 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.[37]

  The LWV of Umpqua Valley conducted a study of water issues on the Umpqua River in 2009.[38] 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

[35] Mark Ingersoll, Chairman, Confederated Tribes of Coos, Lower Umpqua, and Siuslaw Indians to Larry Roberts, Assistant Secretary – Indian Affairs (Acting), U.S. Department of the Interior, November 30, 2016, pp. 3-4.
[36] "Oregon Physicians for Social Responsibility (PSR) Partial Summary of June 8, 2018 Public Meeting of Oregon Environmental Justice Task Force (EJTF) and Confederated Tribes of Coos, Lower Umpqua and Siuslaw, The Klamath Tribes, The Yurok Tribe, and The Cow Creek Band of Umpqua Tribe of Indians." The meeting minutes are not yet available, but a video of the meeting is available on the Rogue Climate Facebook page.
[37] NOAA National Marine Fisheries Service, *ESA Coho Salmon Recovery Plan*, p. 6.
[38] League of Women Voters of Umpqua Valley, *Local Water Study, Phase One Report*, June 2009.

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 Chinook, Fall Chinook, Winter and 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.[39] 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 data were vastly different from present conditions. Historically, the South Umpqua was a larger producer of salmon than the North Umpqua. By the time of the study, the South Umpqua was too warm to support salmon in the summer. Coho, once abundant there, had declined significantly. Juvenile salmon must spend two to three years in their natal stream before going to the ocean. They must have adequate stream flows and acceptable quality of fresh water.[40] 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.

Coos Bay is considered part of the critical habitat for the threatened distinct population of Green Sturgeon and provides important summer habitat for subadult and adult Green Sturgeon. 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.[41]

The Oregon Department of Fish and Wildlife (ODFW) has articulated on many occasions its numerous concerns about detrimental potential impacts of the JCEP to fish and wildlife. In its segment of the State of Oregon's agency comment on the DEIS, ODFW highlighted the widespread insufficiency of necessary Applicant information required by the agency to "demonstrate how serious depletion of Oregon's fish and wildlife resources will be avoided (ORS (496.012):

- The need for a Natural Resource Technical Advisory Group
- Economic Impact;
- Connection to Port of Coos Bay Channel Modification Project and their Cumulative Effects;
- JCEP LNG Terminal Impacts to the Coos Bay Estuary;
- Dredging Impacts to Estuarine Habitats and Communities;
- Impacts to Eelgrass;
- Introduction of Non-indigenous Species through Ballast Discharge;
- Disturbance to Marine Mammals;
- Impacts to Wildlife in Freshwater Wetlands, Uplands, and Beaches on the North Spit;
- Impacts of the LNG Terminal on Snowy Plover Nesting and Foraging Habitat;
- Impacts to Coastal Marten Habitat;

[39] *Partnership for the Umpqua Rivers Action Plan*, June 2007, p. 3.
[40] LWVUV, p. 6.
[41] NOAA National Marine Fisheries Service Final Green Sturgeon Critical Habitat Biological Report – September 2009.

- Habitat Loss at the JCEP LNG Terminal Site;
- Impacts from the PCGP Pipeline to Fish and Wildlife Habitat;
- Impacts to Marbled Murrelet and Northern Spotted Owl Habitat;
- Fish and Wildlife Habitat Mitigation;
- Fish Passage;
- In-Water Blasting, In-Water Work.[42]

Like DEQ's 200+ page Evaluation and Findings Report accompanying their denial of the Applicant's Section 401 Water Quality certification, ODFW's listing of informational insufficiency and the subsequent discussion of each item that follows, further demonstrates that agencies cannot issue or even complete processing tasks. And, we note ODFW's reminder with regards to potential negative impacts to Category 1 habitats. These are defined in previous ODFW documents as, "coniferous old growth and late successional forest (a portion of this acreage with spotted owl and marbled murrelet use); vernal pool wetlands; mature oak woodlands; and rare plant habitat." Per "The Fish and Wildlife Habitat Mitigation Policy," ODFW states,

> The Department shall act to protect Category 1 habitats described in this subsection by recommending: (A) *avoidance* of impacts through alternatives to the proposed development action; or (B) *no authorization* of the proposed development action if impacts cannot be avoided [emphasis added].[43]

Other fish and wildlife values are at risk with this development and are addressed in other sections of this comment.

- **Land use**. "The League of Women Voters of Oregon supports policies that promote both conservation and development of land as a natural resource, in accordance with Oregon's land use goals. Applying this principle, the League believes:

    - The state should have the prime responsibility for establishing statewide planning goals and for supervising and coordinating comprehensive land use plans, with participation by citizens and by local and regional governments.
    - The state, with citizen participation, should identify, regulate and enforce areas of critical statewide concern.
    - Consideration of accurate information concerning water availability and quality should be a prime factor when making land use decisions.[44]

Throughout the history of this project, there have been land use conflicts in at least two of the four affected counties—Coos and Douglas. An issue in Klamath County related to the expansion of the Malin compressor station is emerging now in Round Three. The Land Use Board of Appeals (LUBA) rejected Coos County's earlier approval of JCEP's application, finding that the County erred with respect to 1) its treatment of the public benefit and trust standard for the estuary, 2) Henderson Marsh bordering the terminal

[42] ODFW section of Oregon State Agency Comments on FERC's Draft Environmental Impact Statement for Docket Nos. CP 17-494-000 and CP 17-495-000 (Jordan Covey Energy Project LP and Pacific Connector Gas Pipeline LP) DOJ File No.: 0ES456-ES456. Oregon Department of Justice. 3 July 2019, p. 65.
[43] Ellen F. Rosenblum, Oregon Department of Justice to Kimberly D. Bose, Federal Energy Regulatory Commission, August 15, 2017, pp. 11-34.
[44] League of Women Voters of Oregon, "Issues for Action, 2016," pp. 88-89, http://lwvor.org/wp-content/uploads/2015/12/Issues-for-Action-November-2016-for-WEB-TOC.pdf.

site, 3) dredge and fill impacts, 4) impacts of dewatering at the terminal site, 5) approval of the Southwest Oregon Regional Safety Center; and 6) reliance on suspended FERC permits.[45] The Applicant has reapplied. Landowners prevailed in challenges of PCGP conditional use permit extension by Douglas County in the Douglas County Circuit Court. The Applicant has reapplied. Other land use issues are currently proceeding through processes in North Bend and Coos Bay cities. The USACE is aware that the LUBA decision and other Land Use cases have implications for a number of state and federal permits.

- **Navigation.** While the application notes "Navigational Reliability Improvements" to be attained by dredging of the Federal Navigational Channel, there is no evidence that a deeper and wider channel is necessary for any purpose other than to allow the Applicant to accomplish their commercial goals. 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 other LNG facilities in the U.S. are situated in ports with less complex multiple uses and without the limited geography of Coos Bay. Navigation in and around the project facilities in the Coos Bay by all other users would necessarily be curtailed and disrupted to make way for the tanker and facility operations. As a result of the proposed alterations in the channel and berthing areas, there would be de-ballasting and movement of tankers that would likely complicate the hydrological features of the bay near the facility. With the explosive nature and risks to safety, existing recreational and commercial shipping in the area would be affected. This proposed dredging and construction, as well as operation of the facility would restrict in significant ways all other commercial and recreational water uses including fishing, a public trust right in Oregon.[46] We are mindful, as we hope USACE would be, of the potential for conflicts of various types, possibly at significant cost to life and property, in a navigable space as constricted as the Coos Bay, especially when ships as large as LNG tankers are involved. Note a near-miss between a ferry and a tanker in Port Aransas, TX on August 12, 2019, for example.[47]

- **Shoreline erosion and accretion.**
  Increased ship traffic would increase the shore wash from the traffic. In addition, the proposed widening of the ship channel would alter the hydrology and affect settling rates of sediments, and erosional forces. The placement of the ship berth at an outside turn of the bay would affect the nature of downstream flow and movement of suspended particulates. Vessel wakes would interact with bottom sediments and cause resuspension. Shoreline erosion would increase with the increased wakes. Depression wakes would be generated by large vessels such as those associated with the proposed project. The sediment resuspension would likely affect the ecosystem through increased turbidity and resultant reduced transparency, thereby disturbing fish communities and their feeding. Wakes and subsequent beach run-up (swash) from deep-draft vessels have been reported to strand juvenile salmon and other fish species when sloping beach areas are close to the navigation channel such as is the case in Coos Bay.[48] The shoreline would be affected by the energy flux, causing localized erosion and the

[45] Oregon Shores Conservation Alliance, "Land Use Board Blocks Jordan Cove Permit," 2016.
[46] *Oregon Shores Conservation Coalition v. Oregon Fish and Wildlife Commission*, 62 Or 481, 493 (1983).
[47] "USCG Investigates Close Approach Between LNG Carrier and Ferry," *The Maritime Executive,* August 15, 2019, https://maritime-executive.com/article/uscg-investigates-close-approach-between-lng-carrier-and-ferry.
[48] Pearson, W.H and J.R.Skalski, 2011. Factors affecting stranding of juvenile salmonids by wakes from ship passage in the Lower Columbia River. River Res. Applic. 27: 926–936.

stability of slopes, especially soft substrates, would be affected.

- **Recreation.** Proposed dredging and construction, as well as operation of the facility would restrict in significant ways many recreational water uses including fishing, a public trust right in Oregon.[49] Fishing activity in the bay occurs throughout the year for various targets. For example, the DEIS acknowledges clamming and crabbing, although they inaccurately understate the negative impacts on reactional activities,

> Recreational clamming and crabbing that takes place outside the navigation channel would not be directly affected by LNG carrier traffic transiting the waterway to and from the LNG terminal. *Effects would be similar to those presently experienced during the passage of other deep-draft ships* [emphasis added]. However, if crabbing or clamming activities were to occur within the established security zones, those activities may be required to cease, with attending vessels required to temporarily move out of the security zone while the LNG carrier in transit moves by.[50]

The recreational crab fishery would be among those most vulnerable and affected by the traffic in the navigation zone. This includes the effects from habitat alterations during construction, but also during operations.

JCEP would disrupt all boat-based crab fishing, both recreational and commercial. All activities in crab fishing takes place around the two-hour slack high tide water events. This same time is when the LNG ships would of necessity be moving fully loaded out of the bay. This would totally and thoroughly disrupt and interfere with the recreational access to what is a highly socially and economically important component of the functional use of the estuary. Clam harvest by scuba fishers is done at slack low and high tides.

Recreational boating and clamming and crabbing access from the nearby Bureau of Land Management (BLM) boat launch would be severely curtailed during some of the dredging operations. Even 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 families and pets along the tidal areas. 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 estuary and associated coastal resources are an important recreational resource. The BLM administered lands include 709 acres that are classified as an Area of Critical Environmental Concern (ACEC) and the remainder are designated as Recreation Management Areas (RMAs). The North Spit Trail System is close to the proposed project site, which is approximately 300 feet from the Trans-Pacific Parkway. The DEIS indicates that more than 6,000 people travel annually on the sand road to the North Jetty. The traffic alone in the construction phase would interfere with access to and from the recreational areas of the North Spit. The southern boundary of the Oregon Dunes National Recreation Area (ODNRA) is about 100 feet north of the Jordan Cove LNG terminal site, across the Trans-Pacific Parkway, and the Horsfall Campground is located about 0.5-mile northeast of the LNG terminal site. According to the DEIS and 2011 data,

[49] *Oregon Shores Conservation Coalition v. Oregon Fish and Wildlife Commission*, 62 Or 481, 493 (1983).
[50] DEIS, p. 4-538.

the Forest Service identified 1.6 million visits to the Siuslaw National Forest, including the ODNRA, with 23.6 percent of visitors engaging in off highway vehicle (OHV) activities.[51] There are frequent OHV rallies with large numbers of visitors. Access alone would be a challenge during construction. On the other side of the recreation area, off road vehicles are prohibited. There are bike trails, water trails, and many recreational assets that are near and associated with the general area of this facility.

- **Water supply and conservation.** The JCEP is incompatible with water conservation and would reduce the supply available for other purposes. It is unclear whether there are adequate available water rights in the pipeline corridor that could be appropriated for purposes of this project. Oregon Department of Water Resources (DWR) comments on the DEIS indicate that the Applicant has not obtained, or in some cases, even researched or consulted on, what would be needed to remain within state law.[52] Construction of the 229-mile pipeline would require water for dust control. In addition, hydrostatic testing of the completed pipeline would use an estimated 60 million gallons of water.[53] We find these uses of water, especially under current drought and weather conditions, to be contrary to the public interest.

  The proposed dredging and removal activities have the potential to affect wells and aquifers in the North Spit. 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 of water levels in wells across the North Spit aquifer show a general flow of the water table toward the north and west. Moreover, 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.

- **Water quality.** We have studied past and current applications and documents submitted by the Applicant; followed and participated in state and federal permitting processes; read comments and other communications by Oregon state agencies, federal agencies, elected officials, organizations, tribal leaders, landowners, industry, the public, and other interested parties. We conclude—and amplified in our supplementary comment to DEQ dated August 20, 2018—that the proposed JCEP would have the following impacts to Oregon's water quality that are against the public interest:

  - Further degrade stream segments that are already water quality impaired for temperature, dissolved oxygen, pH, turbidity, and sedimentation.
  - Increase water temperature to unacceptable and harmful levels by removing riparian vegetation that shades streams, causing stream heating along a minimum 95-foot wide construction easement.
  - Unacceptably increase turbidity by causing a more than 10% increase in natural turbidity levels in stream segments impacted by pipeline installations.

[51] DEIS, p. 4-535.
[52] ODWR section of Oregon State Agency Comments on FERC's Draft Environmental Impact Statement for Docket Nos. CP 17-494-000 and CP 17-495-000 (Jordan Covey Energy Project LP and Pacific Connector Gas Pipeline LP) DOJ File No.: 0ES456-ES456. Oregon Department of Justice. 3 July 2019, pp. 2124-14.
[53] PCGP FERC application, "Appendix V.2, Hydrostatic Test Plan, September 2017, p. 5.

- Impair beneficial uses in the Rogue, Umpqua, and Klamath Basins by engaging in blasting activities that would adversely impact surface water and groundwater used for drinking and commercial and recreational fishing.
- Foul surface and groundwater by failing to adequately prevent herbicides from entering Impaired Waterways or their tributaries, as well as wetlands, again harming the habitat of endangered animals and fish and contributing to the overall degradation of Oregon waters.
- Foul surface and groundwater by failing to adequately prevent fertilizers from entering Impaired Waterways or their tributaries and other waterbodies.
- Expose through dredging and filling and other construction activities—both in the bay and along the pipeline—significant amounts of contaminated soils from various current and historical industrial activities, such as timber processing and mining.
- Risk jeopardizing six major rivers with numerous important values, five by using horizontal directional drilling (HDD) and one with an open cut across already impaired water.

DEQ's May 6, 2019 denial of the Applicants' Section 401 Water Quality Permit outlines in the associated *Evaluation and Findings Report* numerous ways in which project construction and operation activities would violate Oregon's protective water quality standards. For just one of many examples, the report states that JCEP's plan to mitigate negative riparian impacts along the pipeline "in watersheds other than those where impacts would occur" is not in compliance with Oregon's water temperature standard. That standard requires that mitigation occur in the same watershed.[54] Additionally, the 200+ page report is replete with other quality issues and notifications of informational inadequacy. The USACE should find and deny all permits under consideration for the same reason as DEQ took that course: clear evidence that violations would occur, as well as a lack of enough information to attain reasonable assurance that they would not.

- **Energy needs.** A public interest issue that is paramount is that we must, as a state, nation, and community of nations, redirect our entire perspective on energy. The Corps is familiar with the overwhelming scientific findings about climate change and the current political resistance by the current administration to acknowledging and acting on it. Likewise, there is now plenty of evidence that natural gas is not a clean energy source, rather it trades the severe downsides of carbon emissions for the different, but perhaps even more serious effects on the atmosphere of methane. We will not summarize that controversy here and, in our view, there is no longer a debate to be had. Climate change is real and although its impacts and potential solutions may be complex, the causes are known and the JCEP would significantly spur the process forward. The League is committed to doing what we can to help create a livable future and that means we oppose making matters worse and support transition with all deliberate speed away from fossil fuels to clean energies such as solar, wind, and other innovations that allow us to reduce carbon and all greenhouses gases in our atmosphere. Every new fossil fuel project takes us in the wrong direction in two ways. First, it further commits us to the energy development and usage system that is the foundational trigger of global warming and all of its interconnected negative impacts. Second, it diverts economic development capital and innovation away from the direction we need to go.

[54] DEQ, *Evaluation and Findings Report: Section 401 Water Quality Certification for the Jordan Cove Energy Project,* May 2019, p. 66.

- **Safety.** Because the operation, begun by Veresen and then subsumed by Pembina, has been locked to the Malin to Coos Bay siting and began with a highly vested conclusion that the proposed location best meets the criteria, the current Applicant has paid little attention to serious deficiencies that have emerged with regard to the time-worn proposed location and design. As a result of this long history, the project application includes a confusing set of often outdated, disjointed, and conflicting information. We believe that these iterations and ownership changes have resulted in a plan that does not fit well into the existing site at the same time as the Applicants tenaciously seek to move forward despite clear evidence of serious problems. The DEIS takes the entirely inappropriate approach of allowing known deficiencies to slide by without resolution, consistently indicating that they will be handled at a later time. What the DEIS should have done is directly confront the flaws in this project now, rather than put forward the contention of the Applicant that they can and will eventually be overcome. The public is put at serious risk by the following matters of safety, thereby putting this project in conflict with the public interest.

    - The FAA has determined that the project LNG storage tanks are one of many flight hazards for the Southwest Oregon Regional Airport**.** The FAA determined that both LNG storage tanks constitute a "Determined Hazard to Air Navigation" at the Southwest Oregon Regional Airport due to excessive height. JCEP has stated that they cannot reduce tank height. The DEIS acknowledges the apparent impasse between the needs of the Applicant and the agency charged with protecting the public, but simply dismisses it and recommends that it be resolved at a later time.[55] A project that puts the lives of the flying public, flight crews, and the surrounding community in jeopardy is not in the public interest.
    - The FAA has determined that excessive carrier vessel stack heights are a flight hazard that threatens the community**.** The FAA issued nine "Notices of Presumed Hazards," including one pertinent to the excessive height of LNG Carrier Vessel Stack Height (above 136' AMSL). The DEIS did not address this issue—a clear deficiency—but more importantly, an unresolvable public safety hazard is not in the public interest.
    - The Applicant failed to disclose to the FAA that temporary construction equipment, such as cranes, derricks, etc., exceed allowable heights and would therefore pose flight hazards—this oversight is serious, whether deliberate or accidental**.** The DEIS correctly notes that JCEP did not notify the FAA of these hazards at all.[56] FERC staff included a recommendation that this be done, but there is no reason to expect that this issue would be resolved in a way that would make the public safe or justification to put confronting it off for later. Such a serious oversight indicates poor judgment or ineffective planning or both. This conflicts with the public interest.
    - The FAA has determined that a Thermal Plume Hazard exists as a result of an aspect of the project design**.** The DEIS also dismisses as outdated notice by the FAA of the thermal plume hazard created by the gas combustion turbines used in the liquefaction process and the risk it poses to airport operations.[57] Thorough study is needed to determine the accuracy of that assertion and until demonstrated to be true or false by factual information, the risk of in-flight

[55] DEIS, p. 4-751—4-752.
[56] DEIS, p. 4-750.
[57] DEIS, 4-625-26.

hazards for aircraft is not in the public interest. Again, leaving resolution until after the public comment period is unacceptable.

- The project poses a heavy hydrocarbon vapor cloud explosion hazard. LNG Export Terminals that handle and store large quantities of heavier-than-methane hydrocarbons pose hazards of Unconfined Vapor Cloud Explosion (UVCE). Expert testimony submitted to PHMSA addresses potential flaws in the Applicant's calculations that allegedly result in an underestimation of the risk of UCVEs by an order of magnitude.[58] Until either the concerns are assuaged through scientific evidence or the Applicant has been mandated to install appropriate safety measures, moving forward with the project is contrary to the public interest.
- The project poses an LNG leak or spill and explosion hazard**.** The 2015 FEIS for the previous project acknowledged that around 16,000 residents of the Coos Bay/North Bend area would likely be at least injured if a release of highly flammable LNG were to be coupled with an ignition source.[59] The current DEIS references the same matter and discloses that the US Department of Transportation (USDOT) has not yet evaluated the project for compliance with safety measures. FERC staff indicated that, if USDOT finds this hazardous situation in such a populous area unacceptable, the Commission could deny the project's certification application.[60] We sincerely hope that is the case.
- The project suffers from numerous hazardous siting and design factors that are contrary to SIGTTO recommendations**.** The Society of International Gas Tanker and Terminal Operators (SIGTTO) exists to minimize risks, including in the site selection and design for LNG ports and jetties. The proposed JCLNG Terminal conflicts with several of SIGTTO's best practices recommendations, one of which has already been implied in most of the above discussions of specific public safety hazards: avoidance of siting near population centers.[61]
- The project of this nature sited in a major earthquake and tsunami zone should not even be considered**.** Both the Oregon Department of Geology and Mineral Industries (DOGAMI) and independent seismic experts have raised serious concerns about the prospect of siting an LNG export facility in Coos Bay.[62] The DEIS unacceptably indicates that this is not a problem.
- The pipeline project brings with it increased risk of wildfire and consequences due to landslide, seismic activity, or other natural phenomena during operation**.** The DEIS largely dismisses the risk of pipeline rupture and explosion, despite the extensive seismic characteristics present particularly in the Coos Bay and Klamath County portions of the pipeline alignment, evidence of numerous areas at risk of soil liquefaction and lateral spreading, and extensive landslide-prone conditions all across the 229-mile route. This nonchalance is inappropriate when

[58] Jerry Havens, "Comment by Jerry Havens, Distinguished Professor Emeritus, University of Arkansas," submitted to U.S. Department of Transportation, Pipeline and Hazardous Materials Safety Administration, September 22, 2018.
[59] FERC, Final Environmental Impact Statement: Jordan Cove Energy and Pacific Connector Gas Pipeline Project, CP13-483-000, CP13-492-000, 2015, p. 4-1031.
[60] DEIS, p. 4-702.
[61] Society for International Gas Tanker and Terminal Operators, *Site Selection and Design for LNG Ports and Jetties,* Information Paper No. 14.
[62] Shirley Weathers phone conversation with Ian Madin, Geologist, DOGAMI, 8/30/2018; Giovanni Lanzano, Ernesto Salzano, Filippo Santucci de Magistris, Giovanni Fabbrocino, "Seismic vulnerability of natural gas pipelines," Reliability Engineering & System Safety, Volume 117, September 2013, 2013, https://www.sciencedirect.com/science/article/pii/S0951832013000951.

the PHMSA has acknowledged an increasing number of ruptures and explosions nationwide due to particularly weather-related landslides and consequently has seen fit to issue two sets of protocols calling for renewed efforts to site, engineer, build, and monitor gas pipelines.[63] What we see of Applicant plans do not measure up to the additional caution needed. Landowners and communities are right to be concerned.

- The pipeline project brings with it the risk of pipeline explosion or other hazard in the event of a wildfire caused by other means**.** The DEIS reveals that JCEP has yet to prepare an Emergency Response Plan designed to minimize risk in case of wildfire. A draft plan is said to be included in the Plan of Development POD), Appendix H.[64] What is actually there is only a concept paper, outlining an "Emergency Plan and Preparedness Manual" and a "Public Safety Response Manual." Attachments that would describe various kinds of safety procedures are all "forthcoming."[65] We cannot find any evidence of awareness that the presence of a buried pipeline may restrict fire-fighting activities. The DEIS does not discuss whether above-ground pipeline facilities would be vulnerable to over-heating and explosion and if so, how they plan to prevent an explosion and gas fire from endangering residents or fire-fighters or making an existing wildfire much worse.[66]
- The pipeline project carries with it the risk of pipeline accidents from other causes**.** Between 2010 and 2017, pipeline incidents resulted in almost 100 deaths, injured 500, and forced the evacuation of thousands of people.[67] The fact that almost the entire 229-mile PCGP would be built to Class I standards in terms of pipe gauge and weld standards increases the risk of leaks, explosions, and gas fires which may also spread to structures and ignite wildfires. The U.S. Department of Transportation Pipeline and Hazardous Materials Safety Administration (PHMSA) reported in a letter to Congress in 2013 on a variety of scenarios that raise the likelihood of pipeline incidents, several of which match the Applicant's pipeline construction and routing plans.[68]

- **Food production.** The Coos Bay area is an important port for commercial fishing and the third largest working waterfront on the Oregon Coast.[69] The Charleston Boat Basin, which is outside of the Coos Bay city limits and closer to the mouth of Coos Bay, is the primary area that houses the commercial fleet, processing infrastructure, and marine-related services. A small number of commercial vessels dock in downtown Coos Bay.

  Between 200 and 250 commercial fishing vessels operate out of the Charleston boat basin during the spring, summer, and fall months when major fisheries for Pacific pink

[63] Pipeline and Hazardous Materials Safety Administration (PHMSA), "Pipeline Safety: Potential for Damage to Pipeline Facilities Caused by Earth Movement and Other Geologic Hazards," *Federal Register,* 5/2/2019.
[64] DEIS, p. 4-775.
[65] DEIS, Appendix F.10 PCGP POD-Part 3-22.PDF, Appendix H, "Emergency Plan and Preparedness Manual," and "Public Safety Response Manual."
[66] DEIS, p. 4-775.
[67] Jonathan Thompson, "A map of $1.1 billion in natural gas pipeline leaks," *High Country News,* November 29, 2017.
[68] U.S. Department of Transportation Pipeline and Hazardous Materials Safety Administration to U.S. Congress, August 27, 2013.
[69] Port of Coos Bay 2018 Annual Report; https://www.oipcbannualreport18.com/charlestonmarina, extracted June 20, 2019. Also, Port of Coos Bay, "Year in Review: Letter from the CEO," June 30, 2019; https://www.portofcoosbay.com/news-releases/2019/1/30/year-in-review-letter-from-the-ceo.

shrimp (*Pandalus jordani*), Chinook salmon (*Oncorhynchus tshawytscha*), Pacific hake (whiting; *Merluccius productus*), albacore tuna (*Thunnus alalunga*), and market squid *(Doryteuthis [Loligo] opalescens*) are operating. A number of these are transient vessels that deliver product to processors or offload for shipment to other processing facilities out of the area. They also take advantage of the ice facilities and marine supply stores that operate near Charleston and in the city of Coos Bay. The boat basin is considered the home port to more than 200 commercial fishing vessels year-round that range in size from about 30 feet long (salmon trollers and small combination vessels) to almost 100 feet long (trawlers and seiners). The Port of Coos Bay facilities (ice plant, docks, moorage, etc.) can support a commercial fishing fleet of 250 vessels.[70]

Two small fishermen's markets offer retail services on the docks, one in Charleston and one in Coos Bay. Retail seafood stores and seafood restaurants operate in Charleston, Coos Bay, and the adjacent city of North Bend.

Commercial landings are increasing in volume and value in the Charleston/Coos Bay area. In 2017, commercial harvests were seven percent of the Oregon landings by volume but accounted for 21 percent of Oregon's ex-vessel value (ex-vessel value is based on the prices paid by processors to fishermen) for all species for a total of $30.6 million. In 2018, those figures increased to 10 percent of statewide landings by volume and to 23 percent by value to $40.2 million.[71] A standard economic multiplier of 2.5 increases the commercial seafood industry's value to the local community to $76.5 million in 2017 and $100.6 million in 2018.

Pink shrimp and other shrimp species, including spot prawns, account for the highest landings volume, but Dungeness crab and related crab species account for the greatest value. In 2018, shrimp and prawn landings were 5,440.8 metric tons or 11,994,911 pounds, followed by Dungeness crab/crab species at 2,721.6 metric tons or 6,000,101 pounds. However, Dungeness crab remains the primary economic driver of commercial fisheries, with a value of $19.7 million in 2018, followed by pink shrimp at $9.3 million.[72]

Carefully managed fisheries have been recovering and adding to the economic value of the coastal economy. In 2018, West Coast trawl fishermen increased their groundfish catch by more than 14 million pounds, a 300 percent increase over what they caught in 2017.[73] Trawlers delivering to Charleston share in some of that increase that is expected to continue to grow over time. Much of Oregon's trawl industry relied on groundfish, a federally managed group of almost 100 species of midwater and bottom-dwelling rockfish (yellowtail rockfish, widow rockfish, and others in the genus *Sebastes*);

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[70] Port of Coos Bay 2018 Annual Report; https://www.oipcbannualreport18.com/charlestonmarina, extracted June 20, 2019. Also, Port of Coos Bay, "Year in Review: Letter from the CEO," June 30, 2019; https://www.portofcoosbay.com/news-releases/2019/1/30/year-in-review-letter-from-the-ceo.

[71] Pacific States Marine Fisheries Commission; Pacific Fisheries Information Network (PacFIN) APEX fish ticket reporting system for Oregon data. Report: ALL005, WOC All Species by Port Group, with filters for data by year. Extracted at 10:17 p.m. on June 13, 2019 (https://reports.psmfc.org/pacfin/f?p=501:1000::::::).

[72] Pacific States Marine Fisheries Commission; Pacific Fisheries Information Network (PacFIN) APEX fish ticket reporting system for Oregon data. Report: ALL005, WOC All Species by Port Group, with filters for data by year. Extracted at 10:17 p.m. on June 13, 2019 (https://reports.psmfc.org/pacfin/f?p=501:1000::::::).

[73] SeafoodNews.com, "West Coast Trawlers see Highest Groundfish Landings Since 2000 with Rockfish Resurgence," Feb. 12, 2019; https://www.seafoodnews.com/Story/1131867/West-Coast-Trawlers-see-Highest-Groundfish-Landings-Since-2000-with-Rockfish-Resurgence, extracted June 30, 2019.

roundfish (such as sablefish, Pacific hake, lingcod); flatfish (such as starry flounder, soles, petrale); sharks and skates; and other species.[74]

Many of Oregon's fisheries are certified as sustainable according to global Marine Stewardship Council certification standards. Oregon pink shrimp, several rockfish species, Chinook, and Dungeness crab are either certified, have been certified or are undergoing re-certification under the MSC. This certification makes these fisheries more marketable both locally and globally. Disrupting and jeopardizing this food production industry is not in the public interest.

- **Considerations of property ownership**. These make up a central issue in the JCEP, particularly as it relates to the PCGP. Within its positions on Land Use, "The League of Women Voters of Oregon supports protection of private property rights commensurate with overall consideration of public health and environmental protection."[75] The fact that only a small percentage of private landowners had signed easement agreements by 2016 was a primary reason FERC denied the project's application. An unknown number of landowners have since signed, but many have still refused. The record is full of statements of landowner concerns specific to the negative impacts the project would have on them and their families and communities. Examples of landowner objections are loss of property and disruption of current and planned use; unwanted use of herbicides on their property; degradation of visual and ambient values; loss of trees and other vegetation; reduction in property value; loss of property marketability; introduction of invasive species; health impacts of methane leakage; risk of explosion and wildfire; risk of erosion and landslides; unwanted encroachment on their property of company employees for pipeline maintenance; damage to water resources including irrigation; and pollution and interruption of drinking water sources.

  Eminent domain exclusively for private gain, i.e., with no public use, is central to opposition to the PCGP. There is significant resistance to the use of eminent domain for a totally private corporate purpose—by affected landowners, but the view is more widely held. Eminent domain as it would be used for JCEP, plus the length of time landowners have been held in limbo because of the project, motivated the Jackson County Commission to make a formal declaration of opposition in 2016. The Board of Commissions stated, ". . . Jackson County opposes the use of eminent domain for private economic gain. . . . Our stance opposing eminent domain for private economic benefit is so strong that we have adopted an Ordinance, codified as Section 216.23 of the Codified Ordinances of Jackson County, specifically opposing it as a practice. Further, in passing Measure 39 in 2006, the people of the entire State of Oregon also made it clear that the entire state was opposed to using eminent domain for private gain."[76] The Board of Commissioners have gone on to submit oppositional comments to the Oregon Department of State Lands on JCEP's removal-fill permit application[77] and to

[74] National Marine Fisheries Service Northwest Fisheries Science Center, Fisheries Resource Analysis and Monitoring Division. "What are groundfish?"; https://www.nwfsc.noaa.gov/research/divisions/fram/economic/economic_data_groundfish.cfm, extracted June 30, 2019.

[75] League of Women Voters of Oregon, "Issues for Action, 2016," p. 89, http://lwvor.org/wp-content/uploads/2015/12/Issues-for-Action-November-2016-for-WEB-TOC.pdf.

[76] Jackson County Board of Commissioners to [FERC] Commissioners Bay, LeFleur, Clark, and Honorable, and Director Miles, March 17, 2016.

[77] Jackson County Board of Commissioners to Bob Lobdell, Oregon Department of State Lands, "Comments on Jordan Cove Energy Project, Application No: APP0060697," January 22, 2019,

FERC on the DEIS.[78] The Shady Cove City Council, serving a small city just south of where the pipeline would cross the Rogue River, has passed four resolutions against the pipeline project, most recently on June 27, 2019. One of several concerns outlined in the resolution is negative impacts on landowners.[79] A public opinion poll of Oregonians statewide conducted in 2017-18 by Policy Interactive found that 57percent of respondents somewhat or strongly opposed the JCEP, but 66 percent, 9 percentage points higher, said they opposed the use of eminent domain to accomplish the project.[80] This project, with no public use, is not what was intended when the Fifth Amendment was drafted.

- **Needs and welfare of the people.** One essential human need is housing. In a rare acknowledgment of significant adverse impact on the human environment, FERC staff described in the DEIS what the project's construction phase would do to housing availability:

  > . . . when the combined effects of the Jordan Cove LNG Project and Pacific Connector Pipeline Project are taken into consideration collectively, construction of the Project has the potential to cause significant affects to short-term housing in Coos County. These impacts could include potential displacement of existing and potential residents, as well as tourists and other visitors. Tourists and other visitors could also be displaced during peak construction in Douglas and Jackson counties as Project-related demand for hotel and motel rooms would likely exceed the normally available supply. With the Applicant's proposed construction and operations procedures and mitigation measures in place, construction and operation of the LNG terminal and pipeline facilities are not expected to result in significant impacts on socioeconomic resources or services, with the exception of housing availability.[81]

  The situation also came to the attention of the U.S. Department of the Interior, as did the fact that FERC failed to put project pressure on housing into the context of other factors that may combine with project impacts for cumulative impacts. The department included this in their comment on the DEIS:

  > The Department recommends additional detailed analysis relative to identified significant impacts to housing in the Coos County area. Specifically, the BLM requests that project-related temporary housing needs for both the liquefied natural gas facility and the pipeline be addressed cumulatively with other projects relative to the displacement of visitors, recreationists, and low-income residents. Additional analysis regarding rental rates and housing costs associated with the demand for temporary housing is also requested.[82]

2019_01_22_ToDSL_ReJordanCoveApp.

[78] "Oregon County Officials Push Back Against Pipeline," *Pipeline and Gas Journal*, July 10, 2019, https://pgjonline.com/news/2019/07-jul/oregon-county-officials-push-back-against-pipeline.

[79] Georgia Lawson, "Shady Cove states opposition to proposed pipeline," July 19, 2018, https://ktvl.com/news/local/shady-cove-states-opposition-to-proposed-lng-pipeline. City of Shady Cove, Resolution 19-10, June 27, 2109.

[80] Policy Interactive, *Jordan Cove LNG (Jan/Feb 2018***,** http://www.policyinteractive.org/public/JordanCoveFacilityProposalOpinionSurvey2.14.18.pdf.

[81] DEIS, p. 4-621.

[82] U.S. Department of the Interior to Kimberly D. Bose, Federal Energy Regulatory Commission, "COMMENTS – Jordan Cove Energy Project Draft Environmental Impact Statement, CP17-494-000 and CP17-495-000," July 3, 2019, p. 3, http://elibrary.FERC.gov/idmws/file_list.asp?accession_num=20190703-5127.

Environmental justice would also be jeopardized. The League of Women Voters supported creation of the Environmental Justice Task Force (EJTF) by the 2007 Legislature (SB 420) to help protect Oregonians from disproportionate environmental impacts on affected populations. The EJTF considered the JCEP proposal at its June 8, 2018 meeting and concluding by finding it to be not to be in Oregon's best interests.[83] Tribal leaders from four tribes testified at that meeting in Klamath Falls, voicing their concerns and opposition. The Klamath Tribes, the Yurok, the Karuk, the Confederated Tribes of Siletz Indians, and the Tolowa Dee-Ni Nation have all come out in strong opposition to the proposed project, and six Tribes have filed as intervenors in the federal regulatory process. 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 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 significant impact.

The proposed expansion of the Malin compressor station constitutes another environmental justice issue. The community where a large compressor station would subject the surrounding community to unhealthy levels of noise and air pollution is over 70% Latinx, while the rest of Klamath county is only about 13% Latinx, placing a disproportionate burden of harm on people of color. The DEIS reveals that the design plans of the Klamath Compressor station have not been completed so that discussion of issues such as health impacts is theoretical. Still, FERC posits, without basis, that noise impacts during operation are dismissed as insignificant.[84] Moreover, this conclusion is not consistent with findings for compressors stations already in operation. In a recent study specifically relating to natural gas compressor stations, the author indicated, "We found that five out of six homes that we monitored which were located within 750 meters of a compressor station had combined outdoor average sound levels greater than 55 decibels over a 24 hour period."[85] Various other studies have shown that long-term exposure to noise levels associated with compressor station operations have been associated with "sleep disruption, poor academic performance, and hypertension." Also, "Noise-induced hearing loss, oxidative stress, increased cardiovascular effects, endocrine disruption, and an increased risk of developing diabetes" have been implicated.[86] Adverse effects on individuals may vary by age or health status—children, elderly, people with hearing impairments, those who take certain drugs, and others may be more heavily affected.[87]

[83] Minutes from that EJTF meeting are not yet available publicly, but the decision was captured and is available on video at "Live video feed of the June 8, 2018 meeting of the Environmental Justice Task Force Meeting," Rogue Climate Facebook Page, https://www.facebook.com/rogueclimate/videos/905631742943143.
[84] DEIS, pp. 4-693-696.
[85] Meleah D. Boyle et. al., "A pilot study to assess residential noise exposure hear natural gas compressor stations," *Plos,* April 3, 2017, https://doi.org/10.1371/journal.pone.0174310.
[86] W. Passchier-Vermeer, W.F. Passchier, "Noise exposure and public health," *Environmental Health Perspectives,* March 2000,
http://www.pubmedcentral.nih.gov/articlerender.fcgi?artid=1637786&tool=pmcentrez&rendertype=abstract.
[87]I van Kamp, H. Davies, "Noise and health in vulnerable groups: a review," *Noise Health,* January 21, 2013, https://www.ncbi.nlm.nih.gov/pubmed/23689296.

Low-income and communities of color near the Malin station are also at risk because pipelines and compressors stations leak. Emissions (volatile organic compounds or VOCs) can be particularly strong in the vicinity of compressor stations. Type of emissions can vary, but for example, in Dish, TX, ". . . some chemicals identified as exceeding Texas's ambient air standards, measured at a variety of locations near and on residential properties include: benzene, dimethyl disulfide, methyl ethyl disulphide, ethyl-methylethyl disulfide, trimethyl benzene, diethyl benzene, methyl-methylethyl benzene, tetramethyl benzene, naphthalene 1,2,4-trimethyl benzene, m-&p- xylenes, carbonyl sulfide, carbon disulfide, methyl pyridine, dimethyl pyridine.[88] Associated health issues range widely from annoyance and discomfort to debilitating and life-threatening.

We find it disturbing that, although the DEIS spends considerable time discussing regulatory limits on noise levels and emissions, and for each, indicates that the Applicant intends on ensuring allowable standards would be met, we could find no discussion of the impacts on humans, a central point of NEPA requirements for an EIS and the central question in terms of well-being. The research on this topic is readily available, therefore we must conclude that FERC staff simply accepted the Applicant's choice to protest significant impact, rather than attempting to truly assess what that impact could be on nearby residents. This is unacceptable.

The permits must not be granted because the JCEP is contrary to the public interest; USACE's Public Interest Review should result in denial of relevant permit applications.

II. COMMENTS ON ADDITIONAL PROJECT COMPONENTS AND/OR REVISIONS

A. Jordan Cove Terminal and Liquefaction and Associated Facilities

The Public Notice discusses proposed temporary and permanent alterations in the Coos Bay area. Each of these actions has associated short- and long-term effects on the water quality, water currents, and functions of the wetland areas. The export terminal permit request specific to Corps of Engineers Authority addresses a number of alterations of the bay and associated wetlands that are the result of the request for the terminal and liquefaction facility, the ship access channel from the Federal Navigation Channel, a slip and berth for two vessels and tugs, an offloading facility utility corridor, a barge berth for temporary access, and the South Dunes Site that would house their administrative buildings, gas metering, and housing. The South latter site includes filling 2.8 acres of palustrine wetlands and the access and utility corridor affects approximately 0.6 acres of palustrine wetlands. The proposed access channel connecting the slip to the Coos Bay Channel is a massive alteration that is more than seven football fields wide and 22 acres in coverage. The project proposes to dredge this slip and access channel to a depth of 45.2 feet with a 1.7-foot over dredge allowance (46.9 feet). Why is this additional depth necessary for the project? There is no justification for this depth provided and the ship sizes are not addressed in the Corps' Documents. What does the Applicant know about the composition of the bottom sediments? There is a likelihood that they may reach bedrock and this substrate cannot be dredged without hard rock drilling and/or blasting. What sort of management is planned for the sediments?

[88] Clean Water for North Carolina, "Dangerous Neighbors: Pipelines, Compressor Stations, and Environmental Injustice," 2016, https://cwfnc.org/documents/Dangerous-Neighbors-Final-6-8-2016.pdf.

The proposal indicates that a total of 4.3 million CY would be dredged in wet sediments. The process of dredging and the dewatering of sediments to a spoil location would create large areas of impact that are short-term and longer-term. Sediments that are easily suspended would result from erosion at the spoil location even after dewatering. These spoils need to have a detailed management plan as to how to control the released suspended sediments to the area where they are to be dewatered. In the location of dredging, nearly two acres of submerged eelgrass exists. What sort of recovery program would be used for the eelgrass that is removed and temporarily planted while they wait to create the restoration site? The existing eelgrass beds are at risk from the sediments released and all activities associated with water-related and land activities in the region.

Moreover, the filling of the upland areas at the Roseburg Laydown area, utility corridor, and South Dunes with dredge materials from the site is not detailed in any fashion to address the dewatering process of the material that is moved. The composition and stability of the area of deposition are questionable. A portion of these areas are already wetlands and no mention is made of mitigation for the effects of fill and sloping controls related to those. The slip area is adjacent to a private property called the Henderson Property. What is the anticipated effect of building the barge berth and the slip for ships on the existing wetlands on private property?

Horizontal Directional Drilling (HDD) operations are proposed at several locations beneath the Coos Bay and Estuary and under portions of the Coos River (Drawings 38 and 40 of the original May 22, 2018 public notice). Although not expressed in the application, given the size of the pipe (36-inch diameter) and the areas estimated for HDD, likely a minimum of > 3,900 CY of sediments would need to be excavated for the pipelines proposed in the vicinity of the bay. The HDD operations along the pipeline are not detailed to any extent, and at each location, potential risks to the water quality and environment exist from placement of the spoils, and from risks inherent in drilling operation. Where would these sediments be brought to the surface and placed? HDD operations generally require a suite of drilling fluids and the location of drilling places the water quality and organisms in the environment at risk. Moreover, in these drilling operations, there are risks of failure that can lead to release of contaminated sediments and drilling fluids.

Pile Dike Rock Apron

The Applicant would discharge approximately 6,500 cubic yards of rock below the high tide line of Coos Bay to construct a submerged rock apron located southwest of the proposed marine slip and access channel (Drawings 1-3). The rock apron would measure 50-feet wide, three feet in height, and 1,100-feet long. The rock would measure approximately 6 to 22-inches in diameter. The purpose of the rock apron is to arrest channel slope migration to the northwest. The construction of the rock apron would result in a permanent impact to 1.21-acres of intertidal habitat and 0.34- acres of shallow subtidal habitat, as well as permanent loss of 0.24-acres of eelgrass. The applicant would construct the rock apron with a floating barge by placing the rock into the water column with a crane mounted on the barge. However, if unavailable, the applicant would construct a portion of the rock apron with heavy equipment such as excavators working at low tide in the intertidal zone. The applicant would construct the rock apron over several months during the Oregon Department of Fish & Wildlife preferred in-water work window for the Coos Bay estuary (October 1 to February 15) or under an approved in-water work window variance.

The purpose of the rock apron is to arrest channel slope migration to the northwest. The addition of the Pile Dike Rock Apron was suggested after the initial submission to the USACE permit proposal (LWV comments provided 20 July 2018). The Applicant realized that the dredging and shore alternations proposed such as deepening of the access channel to greater than 45 feet deep, and removing approximately 1.9 million cubic yards of material from approximately 22 acres of estuarine wetland habitats, combined with removal of 5.7 million cubic yards of sediment to create the slip would change the natural hydraulics of the bay and sediment transport. As a result, this development would put the existing pile dike system, specifically Pile Dike 7.3, at risk. The Pile Dike Rock Apron proposed for protection of Pile Dike 7.3 would conceptually act as a barrier to erosion and sediment transport around it. The construction of this rock apron introduces a very different habitat feature into this area, a large unusually rocky substrate in 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 total estimated rock volume for the Pile Dike Rock Apron is approximately 6,500 CY. According to their proposal, the Applicant would create this construct using deployment of rocks with an over water floating platform but indicates some work may be done 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 affected includes deep subtidal, eelgrass, intertidal mudflat/sands, and shallow subtidal habitats, but the details regarding methods of construction are all 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.

The Applicant recognizes that this activity would disturb additional areas and alter the habitat currently part of a large eelgrass area that extends into this area. Because of the extensive dredging of the access channel to create deep subtidal habitat, the Applicant already notes that the activities would permanently impact approximately 1.91 acres of vegetated shallows (eelgrass habitat). The proposed dredging of the Access Channel to a 45-foot depth would result in removal of tidal and subtidal habitat including eelgrass. The Applicant proposes to restore eelgrass habitat at an area on the south side of the estuary near the airport runway. The impacts to eelgrass communities at various locations are discussed along with their plan for restoration of eelgrass below (see pp. 31-35).

Marine slip sheetpile extension

The applicant would conduct work above and below the mean high-water mark of Coos Bay to extend the western extent of the proposed marine slip sheetpile bulkhead by 100-feet (yellow area in Drawing 3). This extension is proposed to ensure channel side slope stabilization, minimizing potential effects to the integrity or use of the proposed marine slip.

The Application provides exceptionally limited information about this proposed structure that would connect the proposed marine slip with the proposed Rock Apron and armor the sides of the slip. These combined structures would ensure that the pile dike rock apron structure functions as a jetty-like structure. This area of Coos Bay is downstream from a major turn in the Coos estuary and the Applicant is aware that enlarging the width of the federal navigation

channel and adding this deepwater access area to a newly created berth would alter the dynamics of water flows, associated sediments, and biota that uses the water areas. Addition of a jetty-like structure here is an introduction of a substrate type that is not presently part of the spit area. However, the Applicant provided no details or indication that any hydraulic modeling process was completed to support the configuration of the proposed structure or to indicate the effect on downstream habitat features. The issues of scour from flood and ebb flows around hard structures around the world are well documented, and often poorly modeled designs of such structures result in substantial erosion and unforeseen events. The lack of analysis of alternatives to consider the placement of this structure, and the limited detail regarding configuration of the proposed structure relative to the nearby proposed structures and habitat alterations provide no way to consider cumulative effects regarding habitat features. As a result, the reviewer has no certainty that this feature is an appropriate solution.

Finally, the introductions of a large quantity of rocky habitat would provide an opportunity for a different set of organisms and their larval stages more aligned with rocky substrates. Several invasive species are of concern to the fish and shellfish populations in the area and habitat for the invasive European green crab should be considered. The European green crab is now one of the most ecologically potent and economically damaging predators in nearshore coastal communities of both eastern and western North America, according to the National Aquatic Nuisance Species Task Force.[89] They actively consume bivalve and other crustacean species; rocky habitat is important for early life history and shelter of adults.[90]

As a part of any COE project proposal the Applicant should provide a discussion of alternatives. Why is this feature determined to be the solution to this hydrological risk? What other configurations should have been discussed or proposed? This additional disturbance would affect opportunities for recreational boating and clamming and crabbing access, as well as the habitat features upstream and downstream of the proposed structure into the future due to altered hydrology.

The window of activity proposed to minimize risks (October to February) identified by the Applicant is also a time of considerable use of the nearby Bureau of Land Management (BLM) boat launch area. 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.

<u>Temporary dredged material off-loading area relocation</u>

The applicant would relocate a proposed temporary dredged material offloading area near the Al Pierce Company (APCO) dredged material disposal sites to conform to local land use zoning designations (Drawings 1 and 4). The relocation of the dredge offload area would result in a temporary impact of 0.03-acre of deep subtidal habitat due to placement of the pipeline on

[89] Grosholz, E. and G. Ruiz. 2002. Management Plan for the European Green Crab. Aquatic Nuisance Species Task Force.

[90] MacDonard, A. H. M. Kienzle, D. Drolet, D. J. Hamilton. 2018. Distribution and habitat use of the invasive *Carcinus maenas* L. (European Green Crab) and the Native *Cancer irroratus* (Say) (Rock Crab) in intertidal zones in the upper bay of Fundy, Canada.Northeastern Naturalist 25:161-180.

substrate and from the construction of 16 temporary pilings each measuring 24-inches in diameter. The pilings would be driven with vibratory and/or impact hammer methods. The relocation of this off-loading area and, subsequently, a dredged material transfer pipeline, would decrease temporary impacts to deep subtidal habitat and would reduce temporary impacts to approximately 0.03-acre of eelgrass. The applicant would remove the pilings and pipeline at the conclusion of the initial capital dredging.

The changes of the offloading area to an area in the Conservation Aquatic zoning from Natural Aquatic Zone is proposed, but no precise map is provided to show the exact location of the barge offloading area within the zoning landscape. Within the existing zoning there is a tongue of the natural aquatic zoning that extends from Pony Slough and likely this would be crossed by the temporary dredge line. The concept remains that the pipe carrying the dredge material would be suspended on 16 pilings. The activity time frame is not provided, nor are what controls would be in place to deal with tidal fluctuations. The proximity of this activity to major areas zoned Natural Aquatic in the estuary of Coos Bay is not addressed (Figure 1). Control measures regarding dewatering and placement of dredge spoils were not covered adequately in the original permit application, and this addendum does not clarify conditions any further. As stated in the discussion of eelgrass areas and plans for restoration above, we do not accept the claim that these are temporary effects. Turbidity and altered currents and flow regimes are all factors that affect eelgrass communities. There are no estimates of how and which methods would be used by the Applicant to control and monitor the suspended solids, nor of dewatering rates.

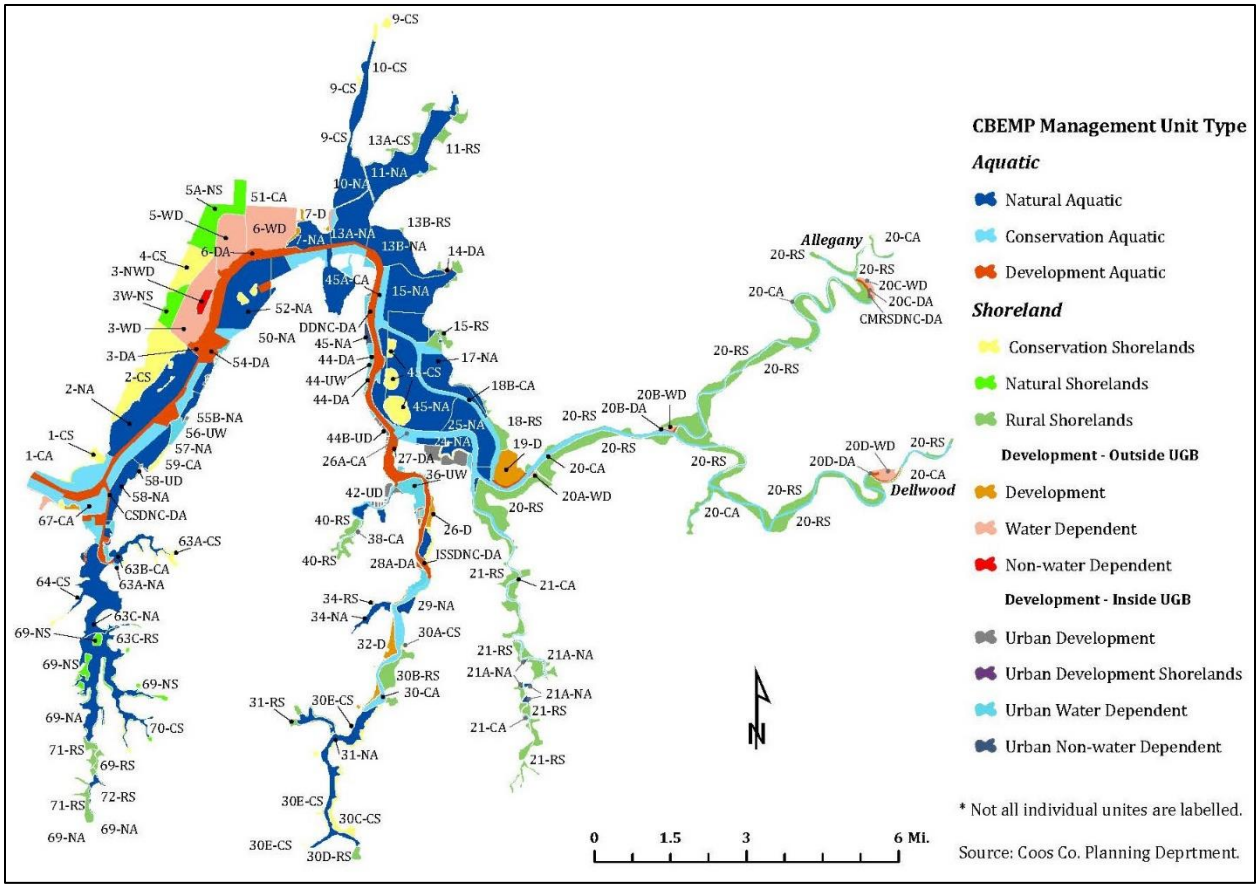

Figure 1. Schematic of Coos Bay Estuary with locations of the areas by zoning codes within Aquatic, and Shorelands habitats.

According to guidance from Oregon's Statewide Planning Goal 16 (estuaries), the general priorities (from highest to lowest) for management and use of estuarine resources as implemented through the management unit designation and permissible use requirements below shall be:

A. Uses which maintain the integrity of the estuarine ecosystem;
B. Water-dependent uses requiring estuarine location, as consistent with the overall Oregon Estuarine Classification;
C. Water-related uses which do not degrade or reduce the natural estuarine resources and values; and
D. Non-dependent, non-related uses which do not alter, reduce or degrade estuarine resources and values.

We do not accept the contention that the uses proposed for the JCEP would maintain the integrity of the estuarine ecosystem.

<u>Temporary dredged material pipeline routing for Navigation Reliability Improvement</u>

The applicant proposes two options to route temporary dredged material pipelines to minimize project impacts to recreational and commercial navigation and aquatic habitat near NRI dredge

area 1, 2 and 3 (Drawing 4). Dredged material would be hydraulically pumped to the APCO dredged material disposal sites. The first option the applicant has identified is to utilize a floating pipeline which would be uncoupled to allow passage of deep draft vessels. The floating pipeline would not be uncoupled for recreational vessels. The applicant would divert recreational vessels around this section of floating pipeline in an area of sufficient water depth.

The second option the applicant has identified is to place a submerged pipeline along the western side of the Coos Bay Federal Navigation Channel (Coos Bay Channel) to transport dredged material from NRI dredge areas 2 and 3 and across the Coos Bay Channel near NRI dredge area 4 where the Coos Bay Channel is deep enough to maintain adequate vessel underkeel clearance. Under this proposal, the pipeline would be elevated at fixed locations on barges which would employ dredged material booster pumps to transfer dredged material to APCO dredged material disposal sites as described on Drawing 1. The construction of a submerged pipeline would result in temporary impacts to approximately 0.05-acres of intertidal habitat, 0.03-acres of shallow subtidal habitat, and 0.03-acre of eelgrass, representing no change in impact from the applicant's current proposal. Temporary impacts to deep subtidal habitat from a submerged pipeline would increase from approximately 2.93-acres to 12.83-acres in total.

With either of these proposed approaches, the disruption to recreational and fish and wildlife use in the immediate and surrounding areas is not addressed in sufficient detail. A floating pipeline would be affected by wind currents and tidal fluctuations, and the concept of decoupling to allow the passage of deep draft vessels through the navigation channel adds a significant challenge to any management plan. Where are the data or standard operating practices to indicate this approach is practicable? What location would be used for the proposed booster pumps placed in the estuary? What estuary management zones are booster pumps to be placed in, and how would they be secured? This scheme has inadequate details and diagrams and there is no support for their estimated subtidal habitat impacts. Again, the Applicant claims there are temporary impacts, but with no data to support that claim. Compaction, and scouring and other movements associated with many month-long placements cannot be considered temporary. The project does not adequately address the hazards and accommodations needed for smaller vessels, especially recreational users and commercial fishers.

As provided in our earlier comments regarding the project, the removal with dredging would disrupt the water quality and the natural ecosystem of the sand/silty benthos of the bay. There are considerable important resource areas near the target sites that are index areas for several species of clams and these populations are part of the monitoring program by Oregon Department of Fish and Wildlife. There are high densities of cockle, gaper, and littleneck clams. In addition to the mollusks, these area support beds of eelgrass. This adds an additional hazard and strain on resources that should be comprehensively assessed.

<u>Kentuck Mitigation site temporary dredged material pipeline relocation</u>

The applicant proposes to relocate the Kentuck Mitigation Site temporary dredged material pipeline to avoid and/or minimize impacts to eelgrass, mudflats, and archeological resources (Drawing 5). The relocation of this temporary pipeline would result in an additional impact of 0.001-acre of intertidal habitat and 0.64-acre of shallow subtidal habitat. Temporary impacts to

deep subtidal habitat would be reduced by approximately 0.62- acre to 1.54-acres total. Temporary impacts to eelgrass would decrease from 0.024- acre to 0.023-acre.

This adjustment in the location of the pipeline results from placing the pipeline along the northern edge of Kentuck Inlet to the project site from the previous location more in the center of the entrance to the project site. Both areas are within the Natural Aquatic zoning in the estuary (previous Figure 1), and the temporary dredge line would instead be more in the shallow subtidal habitat, rather than in the deeper habitat. Questions remain regarding the efficiency and consistency of maintaining this connection from the massive dredging projects on the North Spit. The proposed transfer of dredge spoils (300,000 CY) of unconsolidated sand and silty sand sediments from dredging in the Coos Bay, from the offloading area to around Glasgow point and to the final location at Kentuck project site, would likely need a booster pump. But details of this are not addressed in the revised plan. The other aspects of creating a Coho mitigation site using dredge spoils of a different nature--from typical wetland soils and organic contents--was covered in our previous submittal. We questioned the likely success of this mitigation. We have previously highlighted the general degraded nature of the areas upstream and question that likely restoration goals of numbers of Coho Salmon would be achieved with this effort. Moreover, altering an existing wetland area to create and restructure another wetland appears somewhat contradictory. In addition, the pipeline route is located along portions of the proposed restoration area. 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 for 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. All of the processes that are proposed should be more thoroughly explained and detailed for efficacy and likely success. How close would this staging area that receives the dredge material be to the HDD drilling operations at Kentuck? We have already asked of FERC where the sediments and drilled fluids would be brought to the surface in the vicinity of two or more of the proposed inbound and outbound pipeline HDD surface penetrations.

Other potential impacts associated with the proposed mitigation plan at Kentuck Inlet include the likely interference with existing mariculture operations located in the bay area near the Kentuck Inlet. Besides mariculture, habitat for other fish, shellfish. and wildlife would be disrupted by the transfer and logistics of sediment movement and dewatering at Kentuck. As with our previous comments, we question the use of this area as a mitigation for the entire pipeline as it is far removed. Moreover, the design of the restoration appears to be accomplished so that the pipeline can be accommodated along one side of the project property. No analysis of alternatives to other mitigation measures was provided, as it was “a given” that the Kentuck area was to be the location for all the pipeline mitigation, as well as serve as a site for some of the dredge spoils.

<u>Eelgrass mitigation, salvage and transplanting</u>

The applicant has identified the construction of the marine access channel, pile dike rock apron, and use of temporary dredge pipelines to transfer dredged material would result in the permanent loss of 2.14-acres of eelgrass and would temporarily impact 0.66 acres of eelgrass. Permanent eelgrass impacts would occur from direct loss during dredge and fill activities.

Temporary eelgrass impacts would occur from barge staging to construct the pile dike rock apron and from dredge pipelines used to transfer dredged material from the Eelgrass Mitigation Site, to the APCO sites, and to the Kentuck Mitigation Site. The applicant has revised their proposed compensatory mitigation plan related to eelgrass impacts and mitigation. The applicant would construct a 9.34-acre eelgrass mitigation site by grading a 6.78-acre site to support the development of 2.71-acres of eelgrass. The proposed mitigation site would be dredged from an elevation of +2.7-feet Mean Lower Low Water (MLLW) datum to -0.28 to -1.28-feet MLLW depth. The applicant would salvage approximately 2.14-acres of existing eelgrass from the proposed marine slip and rock apron location, relocating this eelgrass to two transplant areas measuring approximately 0.9-acres and 1.2-acres in size respectively (Drawing 6). The applicant would remove approximately 530 cy of sand and silt soil around the eelgrass to be salvaged; the majority of the soil would remain at the location where it was removed.

The applicant does not propose to grade the two transplant areas when planting salvaged eelgrass. The applicant's purpose for transplanting eelgrass to these temporary transplant areas is to allow the eelgrass to over-winter for one to two seasons while their permanent eelgrass mitigation site is constructed and stabilizes. In addition to transplanting eelgrass from the marine slip and pile dike rock apron area, the applicant would obtain approximately 0.15-acre of eelgrass from an existing 18.6-acre eelgrass donor bed located approximately 1,500-feet southwest of the proposed Eelgrass Mitigation Site.

The diagram in Drawing 3 clearly delineates the extent of current eelgrass beds that would be affected directly by dredging and activity related to dredging in the region by the spit and access channel. The small remaining area of eelgrass on the western edge of the proposed rock apron would likely be permanently affected or destroyed because of the direct or indirect effects of proposed structures and activity. Temporary eelgrass impacts are suggested from barge staging to construct the pile dike rock apron and from dredge pipelines used to transfer dredged material from the Eelgrass Mitigation Site to the APCO sites, and to the Kentuck Mitigation Site. We doubt these are temporary impacts given the disturbance and activity proposed (Drawings 4 and 5). The areas surrounding the APCO sites have extensive eelgrass beds, and the placement of dredge lines near them would likely affect the hydraulics and sediment dynamics. The extent of the disruption and impact is not addressed.

In earlier critiques of the plans provided, we have noted evidence of a lack of understanding of the important nature of eelgrass communities, and the difficulties in restorations of these sites. We have previously noted that the current site proposed for mitigation (near the airport, Drawing 5) already has an extensive eelgrass community surrounding it. The lack of details of how the excavation and grading of the proposed new site would be accomplished prohibits any understanding as to the protection of existing features. Changing of gradients can affect the natural dewatering of the area at low tides, and if there are pockets with lower depth, they could isolate organisms and increase risks to them from elevated temperature, increased predation, and disruption of the root system. Moreover, the distribution of sediments from ebb and flood tides is not provided.

Eelgrass beds provide many functions in coastal ecosystems from structure and protection for early life history stages and reproduction to carbon sequestration and shoreline erosion protection. Transplantation of beds is considered a possible option for assisting and enabling

habitat restoration and is carried out using various techniques.[91] Geomorphological factors such as sediment features, nearshore hydrodynamics, and nature of the substratum are very important for the selection of seagrass transplantation sites. [92] In general, restoration efforts worldwide are not always successful and most certainly are not simple to accomplish.[93]

The introduction of an additional area as a temporary location (Drawing 6) to retain eelgrass removed and salvaged is not described at all. What determined that this location was a suitable site for a temporary eelgrass holding? How would these roots and shoots be protected? Again, the Applicant appears ignorant of the difficulty in restoration of eelgrass communities. [94]

A discussion of proposed temporary effects on eelgrass communities is provided in several sections of the revised application to consider the APCO sites, the NRI area, option 2, and the Kentuck site. We do not consider these to be temporary effects, but suggest the disruption and activities associated with these operations would have permanent and cumulative impacts on the eelgrass communities and the associated habitats. The Applicant provides insufficient detail regarding the operations and monitoring to support their claim of temporary impacts.

South Dunes site fence construction

The applicant would discharge approximately five cubic yards of concrete fill within a wetland to form structural supports for the construction of perimeter fence at their South Dunes Site (Drawing 7). The fence would measure eight feet tall and approximately 3,688-feet in length and would be located along the eastern extent of the South Dunes site. Approximately 70-feet of the fence would be constructed in a wetland. The concrete footings would measure one square foot in size and three feet in depth and would be spaced ten feet apart. The construction of the fence would result in the permanent loss of 0.1-acre of palustrine forested wetland.

The Applicant proposes to fence the perimeter along the eastern extent of the south dunes site for a total approximately 3,700 linear feet. Essentially the entire perimeter of a large wetland area will be enclosed. There is request for one 70-foot portion to be constructed in the wetland. They did not denote the exact location of this portion. From examining the map and other resources, the entire area west of the gravel road appears to be a wetland. The fence construction details are not provided for the reviewer to determine what the fence will be made of other than it is proposed to be 8 feet tall. Since this area is majority wetland, there is no indication of how this fence will affect movement of water in the area. There is inadequate information to understand what access they will use to build the fence along the perimeter, and how they will accomplish this, nor the reason for the fence.

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[91] Novak et al. (2017), Limited effects of source population identity and number on seagrass transplant performance. PeerJ 5: e2972; DOI 10.7717/peerj.2972. Ruesink, J. L. 2018. Size and fitness responses of eelgrass (*Zostera marina* L.) following reciprocal transplant along an estuarine gradient. Aquatic Botany 146:31-38.

[92] Pirrotta, M., TomaselloI, A., Scannavino, A., Dimaida, G., Luzzu, F., Bellissimo, G., Bellavia, C., Orestano, C., Sclafani, G., Calvo, S. 2014. Transplantation assessment of degraded *Posidonia oceanica* habitats: site selection and long-term monitoring. Mediterranean Marine Science, 16:591-604.

[93] Kim JH, Kang JH, Jang JE, Choi SK, Kim MJ, Park SR, et al. (2017) Population genetic structure of eelgrass *(Zostera marina*) on the Korean coast: Current status and conservation implications for future management. PLoS ONE 12 (3): e0174105. https://doi.org/10.1371/journal.pone.0174105.

[94] Qiang Xu, Pei-Dong Zhang, Yan-Shan Liu, Xi-Tao Wang & Wen-Tao Li (2018) The effect of substrate media on the survival and growth of the eelgrass Zosteramarina, Marine Biology Research, 14:4, 392-402,

TransPacific Parkway/U.S. Highway 101 Intersection widening

The applicant would widen the intersection of U.S. Highway 101 and TransPacific Parkway to construct a turning lane to control traffic entering U.S. Highway 101 (Drawing 8). Widening of TransPacific Parkway would result in the permanent loss of approximately 0.51-acres of intertidal habitat though the discharge of rock fill material below the high tide line of Haynes Inlet located north of the current alignment of the roadway. The applicant would isolate the roadway widening work area by constructing a temporary 712-foot long pile supported sheetpile wall located north of the current alignment of the roadway. The applicant would install approximately 1,150 14-inch diameter temporary untreated wooden pilling using both vibratory and impact hammer methods. Sheetpile wall installation is expected to occur at low tide when standing water is not present at the site. Pile driving and fill placement would occur within the isolated work area. Following completion of the road widening project component the applicant would cut the temporary sheetpile at the mudline and remove it from the waterway.

This diagram and brief proposal to widen the turning area appears to have been included in the project proposed earlier. On inspection we cannot find any differences between Drawing 8 and the former Drawing 31 submitted in the 2018 public notice package. However, this submittal includes more details about the number of piles that would be used and a summary of the intended use of a sheetpile wall to provide isolation of the sediments associated with the area to be used for filling with 1,150, 14-inch diameter wood pilings and rock material. A widened area appears necessary given the fact that access is very constrained for large vehicles and for any large amount of traffic. This is the only land entrance point for both industrial vehicles serving existing operations on the spit and the proposed construction vehicles.

However, making these changes would certainly increase the disruption of habitat for the area affected directly and indirectly. The limited details provided indicate a significant number of sheet piles would be placed along a 712-foot-long area parallel to the TransPacific Parkway road at low tide. How realistic is this approach, given that the low tides occur at 12-hour intervals and would limit times of access? Moreover, sheetpiles do not fully retain or exclude water and seepage would occur, especially given the groundwater flows and nature of the sediments. Since the full length along the roadway (more than 4,000 feet) would not be contained by sheetpiles, what would occur as the tides move into that enclosed area? This added detail provides no diagram to show the configuration of this 712-foot-long placement. What method of driving the piles would be used and where would access to and from the low tide area be?

What is excluded from any mention or assessment is the effect of the proposed activity on the large number of recreational visitors that use the area throughout the year. More than that, all of the activities that are planned for this area reflect a failure to recognize the cultural and biological aspects of this unique location. This spit is the southernmost end of a series of sand dunes extending along the Oregon coastline from Florence to Coos Bay. It is home to a wide variety of plants and animals, wetland and aquatic species, including some threatened and endangered species. The bay access boat ramp serves hundreds of visitors who launch recreational boats and use the access to low tides and clamming opportunities. The North Spit is considered in the BLM management as an Area of Critical Environmental Concern (ACEC). These areas are public lands where special management attention is required to protect important historic, cultural, or scenic values, fish and wildlife resources, and other natural systems or processes. The BLM District designated large portions of the Spit as an ACEC primarily for the conservation of its outstanding biological values.

B. Pacific Connector Gas Pipeline

The current USACE public notice on supplemental information invites comment on three pipeline route variations to the proposed route that FERC recommended in the Draft Environmental Impact Statement (DEIS). We discuss those separately below, but we note at the outset that neither these, nor any other relatively minor modifications to the proposed PCGP route would not change our conviction that the entire project is contrary to the public interest and should not be permitted. Evaluation of these or other variations basically amounts to deciding between various bad choices. To briefly summarize pertinent points from our discussion of the Public Interest Review above,

- Project materials are so severely deficient in terms of adequate information and design plans that neither state nor federal agencies can make fact-based determinations that pipeline permitting criteria are met. This is exemplified by DEQ's denial of the Applicants' Section 401 Water Quality Permit, as well as by the countless deficiencies identified across Oregon state agencies" comments on the DEIS.
- Despite a reduction in the number of private landowners who would be subjected to seizure of their property by Applicant exercise of eminent domain, significant incidence is almost certain. There is widespread, bipartisan opposition to this eventuality and the fact that there is arguably no legitimate "public use" for this 100% export Canadian venture invites legal challenges on the basis of violation of the Fifth Amendment.
- Both DEQ and DOGAMI point out high levels of inadequate research, understanding, and plans to address impacts of pipeline construction and operation across landslide-prone and seismically active areas, posing risks of serious public safety and economic impacts in the event of rupture, explosion, and wildfire.
- FERC already denied NGA Section 7 Certification once for essentially the same project in 2016, finding that the benefits of the project did not outweigh the negative impacts on landowners and communities. That denial was issued without any consideration of the many negative impacts on the natural environment. DEIS has inappropriately based its finding of no significant environmental harm on inadequate information and faulty evaluation.
- The revelation that the project would provide little benefit to U.S. gas producers calls into even starker question whether there is justification for the project's degradation of the waters of the state and U.S.

In our comment in response to the USACE public notice issued on May 22, 2018, we discussed several concerns pertinent to JCEP proposed activities relating to Section 404 of the Clean Water Act. As noted, we incorporate our comment by reference. with a reminder here that we discussed in some detail our concerns about Contaminated and Toxic Hazards Caused by Dredging and Fill, Horizonal Directional Drilling (HDD) Hazards, and Hydrostatic Testing Hazards.

<u>Blue Ridge Variation</u>

Based on comments received during EIS scoping and concerns expressed by the Bureau of Land Management regarding steep topography, late-successional old-growth (LSOG), and potential impacts on threatened and endangered terrestrial species, the FERC evaluated an

alternative between mile post (MP) 11 and 25 referred to as the Blue Ridge Variation (Drawing 10). The FERC's preliminary conclusion in recommending the applicant adopt the Blue Ridge variation is based primarily in the variation's ability to reduce long-term permanent impacts to LSOG habitat. The Blue Ridge variation is approximately 15.2-miles long which is approximately 1.2-miles longer than the applicant's proposed route. The Blue Ridge variation would deviate from the applicant's proposed route near MP 11 just south of the Coos River, continue southwest across Catching Slough, turn south/southeast, and generally co-located with an existing utility right-of-way before rejoining the proposed route near MP 25. The Blue Ridge variation would affect an additional 14-acres of land and would more than double the number of private parcels crossed by the pipeline route (24 to 53 parcels). The Blue Ridge variation would increase the number of intermittent waterbodies crossed by the pipeline from five to 29 and number of perennial waterbodies crossed by the pipeline from three to 30. The length of wetland crossed as a result of the Blue Ridge variation would reduce from two acres to 1.9-acres.

This variation affecting the area between MP 11 and 25 of the pipeline saves late-successional old growth (LSOG) forests and MAMU stands and habitat by adding to the PCGP's already excessive harm to the quality of the state and nation's water, degrading more acreage, and impacting over twice as many private landowners as the proposed route, potentially exposing them to eminent domain takings. The Blue Ridge Variation is longer and would impact an additional 14 acres. Twenty-five more intermittent waterbodies (from five to 29) would be crossed, as would 27 more perennial waterbodies (from three to 30). Anadromous fish-bearing streams crossed would increase from four to 18.[95] A reduction in wetland impacts would be miniscule.

While the League supports protection of LSOG habitat and endangered species, the Blue Ridge Variation would come with significant costs. FERC devotes two pages in the DEIS to justifying their recommendation, but the bottom line is that both would do significant harm and we can see no way to weight one as greater or lesser than the other. FERC notes:

> We also acknowledge the concerns expressed by the NMFS and the COE regarding the increased impacts on waterbodies, threatened and endangered aquatic species, and adjacent riparian vegetation; and the BLM, FWS, and Tribes regarding the impacts on LSOG forest, threatened and endangered terrestrial species, and other upland managed resources. As stated previously, there are considerable trade-offs between the proposed route and the variation.[96]

USACE should take note that FERC omits mention in its evaluation of one important issue—the vastly increased resultant potential for landslides on the Blue Ridge Variation over the proposed route. This is shown in Table 3.4.2.2-1 but is not raised in the comparative narrative at all. Clearly, Blue Ridge outstrips the proposed route in this regard, with five landslide-prone areas totaling 7,137 feet versus two areas totaling less than half that distance. While the Applicant consistently downplays the significance of landslides, and FERC likewise tends to dismiss it, it is important. Water quality is jeopardized by landslides in various ways, including through sedimentation and turbidity.[97] DEQ is clear about this in its Evaluation Report—the word "landslide" appears 95 times. DEQ also notes that ridgetop construction involving significant excavation and temporary storage of soils can be a major cause of landslides. Moreover, the

[95] DEIS, p. 3-20.
[96] DEIS, p. 3-24.
[97] DEQ, *Evaluation and Findings Report: Section 401 Water Quality Certification for the Jordan Cove Energy Project,* May 2019, p. 73.

agency provides that PCGP's plans to control landslides during construction are deficient. The Report says, "Given the following, JCEP has not demonstrated that pipeline construction and the use of the construction access
road would avoid exceedances of the turbidity standard for the following reasons:

- Lack of technical support for erosion controls on unstable slopes.
- Lack of modeling demonstrating proposed erosion controls are the most effective.
- A landslide hazard assessment that does not follow state-of-practice protocols.
- A landslide hazard assessment that does not evaluate construction induced landslide hazards.
- Lack of engineering design and their support for mitigating landslide risk during pipeline construction.
- Lack of engineering designs for stormwater management above unstable slopes."[98]

During operation, landslides raise additional concerns. They are well known to be a major cause of pipeline ruptures and resultant explosions and wildfire.[99] And, while we are not privy to settlement and land use patterns along either route, there may also be public safety concerns related to landslides, especially during the wet season.

Landowners on the Blue Ridge Variation were unaware of FERC's intention to recommend it prior to the release on March 29, 2019 of the DEIS. We expect many will take this opportunity to share their views. Some may still not know and/or be aware of the current comment period.

Another issue regarding the Blue Ridge Variation that is inadequately weighted by FERC is the potential for impairment of public and private domestic water supply. The DEIS notes that the variation would cross the drinking water source area for the City of Myrtle Point with source water from the North Fork of the Coquille River and would be within 150 feet of two surface water points of diversion for domestic water use. [100] Public and private drinking water supplies could be impacted due to increased sedimentation during construction of water crossings and increased temperature caused by removal of riparian vegetation. Stormwater activity during operation could also be problematic.

The Applicant resists this variation and likely with reason—from their perspective and given their goals. First, PCGP is already struggling to obtain easements across private lands in hopes of avoiding a replay of FERC's 2016 denial or legal challenges over the very questionable implementation of eminent domain under Fifth Amendment "public use" for a 100% export pipeline. The FERC-recommended Blue Ridge Variation raises the bar even farther by jumping the number of impacted landowners on the additional 14 miles from 24 to 53.

Second, DEQ's denial of JCEP's Section 401 Water Quality Permit came with an over-200-page inventory of information deficiencies in their application materials, many of which would apply to the additional water crossings on the Blue Ridge Variation. It seems likely that JCEP will reapply for the 401 permit. If the Applicant does intend to attempt with a new application to address

[98] DEQ, *Evaluation and Findings Report: Section 401 Water Quality Certification for the Jordan Cove Energy Project*, pp. 72-73
[99] Pipeline and Hazardous Materials Safety Administration (PHMSA), "Pipeline Safety: Potential for Damage to Pipeline Facilities Caused by Earth Movement and Other Geologic Hazards," *Federal Register,* 5/2/2019.
[100] Draft Environmental Impact Statement for the Jordan Cove Energy Project. Docket Nos. CP17-494-000 and CP17-495-000. Federal Energy Regulatory Commission. March 2019. Appendix F9 Blue Ridge Variation. P. 3-29.

DEQ's stated informational needs, adding the Blue Ridge Variation's 14 miles to the list would not be welcome.

We cannot support either the proposed route or the recommended variation for several of the same reasons we oppose the entire JCEP. The Applicants have demonstrated repeatedly that they are not prepared to construct a major, high-pressure natural gas pipeline across the proposed 229 miles of terrain. FERC applied its own balancing act to contend that the Blue Ridge Variation is environmentally advantageous in comparison to the proposed route. The fact that they did not include significantly greater risk of landslides during construction and operation on the Blue Ridge Variation calls that already somewhat arbitrary conclusion into question. Myriad plans required to accomplish the task are deficient and many others have not even been developed and made available for review by the public or experts in the various permitting agencies. As we have said before, it is unconscionable that this expanse of precious Oregon resources is being contemplated for destruction—and more—so that a private, for-profit corporation can operate a natural gas export project.

Regardless of route, this project conflicts with the public interest. Moreover, the Applicant has failed to provide adequate information to allow the USACE to have reasonable assurances that the proposed activities would comply with the 404(b)(1) Guidelines that discharges may not "cause or contribute . . . . to violations of any applicable State water quality standard."[101]

East Fork Cow Creek (EFCC) Variation

In consultation with the U.S. Forest Service (USFS), the FERC evaluated a pipeline route variation between MP 109.7 and 109.8 which is considered a modified EFCC crossing (Drawing 11). The purpose of the recommended variation is to avoid construction of the pipeline parallel between upper reaches of perennial streams at their crossings. The route variation incorporates pipeline crossings which are located perpendicular to the tributaries, reducing the risk of site destabilization and increasing the likelihood of successful stream channel restoration post-construction. The EFCC variation is the same length as the applicant's previously proposed route and would result in the same number of waterbodies crossed, but at different locations. The EFCC variation would result in less land disturbance (0.12-acre) than the applicant's previously proposed route because of reductions in surface width disturbance associated with pipeline waterbody crossings (95-feet down to 75-feet). The EFCC variation would affect slightly less old growth forest and northern spotted owl suitable habitat than the applicant's previously proposed route. The applicant has submitted this variation to the Corps as part of their revised project design.

Entirely on Umpqua National Forest lands between MPs 109.7 and 109.8, the DEIS reported that this variation was developed in consultation with the U.S. Forest Service to "reduce the amount of pipeline (about 535 feet) parallel to tributaries to the EFCC, avoid a narrow ridgeline on the proposed route that supports old-growth forest/high NRF habitat." It is further reported to accomplish a perpendicular water crossing to reduce the risk of site destabilization and other damage to waterways that would have been done by the proposed parallel crossing. The USFS contends that impact on old-growth and northern spotted owl habitat would be lessened by this variation and one amendment of the Umpqua National Forest plan would not be needed.[102] We are not certain that we see evidence of that.

[101] 40 CFR 230.10(b)(1)
[102] DEIS, p. 3-39.

Again, we oppose the pipeline's construction, but know of no reason to object to this variation.

Pacific Crest Trail (PCT) Variation

In consultation with the USFS, the FERC evaluated an alternative crossing location of the PCT (Drawing 12). The purpose of the recommended variation is to minimize potential impacts on trail users by realigning the pipeline to an area of the trail that is adjacent to existing land disturbance related to USFS road 3720-700. The PCT variation would avoid impacting old growth forest and a recreation corridor and would reduce visual impacts to trail users. The PCT variation would be slightly longer than the applicant's previously proposed route (0.12-acre) resulting in a larger construction ROW footprint (~1.5-acres). In addition, the PCT variation would cross one headwater stream whereas the applicant's previously proposed route crossed zero streams at the route variation location. The applicant has submitted this variation to the Corps as part of their revised project design.

The claim that this variation would reduce negative impacts on trail users may or may not be accurate. Avoidance of some old growth forest appears positive. However, the fact that the variation would cross one headwater stream, while the proposed route would not, appears to be a downside. We note that there is no indication in the materials of possible impacts on that stream. This is a common deficiency of project materials, the DEIS, and the USACE's notice. The description is not adequate. What would be the effect? On balance, whether there is a net gain or loss cannot be determined from the information provided.

Culvert installation and/or replacements

The applicant would permanently install and/or extend 13 culverts within waterways as part of access road improvements to facilitate vehicle, equipment, and project materials access to the pipeline location (Drawing 13, 14). Existing culvert sizes vary from 24 to 36-inches in diameter and vary in length. The applicant would install plastic or metal pipe culverts where culverts currently do not exist. These culverts would measure approximately 18 to 60-inches in diameter and 24 to 80-feet in length. Culvert installation and/or extension actions would permanently impact approximately 573 linear feet of waterways in total.

The current issue in this notice involves construction of 13 culverts, but without a modicum of information. The notice the paragraph above, a map (Drawing 13), and a generic cross-section of a culvert installation (Drawing 14). The map caption indicates that "call-outs identify each of the new culvert locations," but rather than a geographical location, a code number is given. The map covers the entire expanse of the pipeline, so MP notations are only somewhat useful. Certainly, it is not possible to match a proposed new culvert with any water body wherein it would be installed to have any idea of potential impact on, e.g., water quality. The notice is therefore deficient in terms of providing adequate information about the issue to allow public comment.

Not only is this notice deficient in that regard, making the effort to find adequate information to assess the new culvert issue results in further evidence that the DEIS—an important step and source of information on the way to federal project approval—is inaccessible and therefore flawed. Understanding that by inclusion of this issue in the public notice indicates that the culvert information had been submitted recently—at least since the May 22, 2018 public notice issuance—we consulted various materials, including the DEIS. The narrative offers little more than mention. Table 4.2.3.1-2 in the DEIS section on Soils and Sediments references two fish passage culverts but uses no coding or mile posts, rather provides location by watershed within

U.S. Forest Service lands. After hours of searching various documents about the JCEP at hand, we finally located a Table H-3 in Appendix H—Water and Wetlands, discoverable only by scrolling through Appendix F.10 PCGP POD-Part 5-24.PDF among DEIS postings on the FERC eLibrary. That table presents an inventory of water crossings on the proposed pipeline alignment. The locations are coded by the system used in Drawing 14. Does the USACE consider the information in this table adequately accessible to the public and other interested parties so as to make it reasonably possible to even locate information about these culverts? If so, we disagree.

As for the utility of the information we found at such great cost of time and effort, we learned this from Table H-3, using one call-out entry from Drawing 13, EE-SS-8009, under the column heading "Crossing Method Scour Level," this entry: "Road Improvement New Culvert Curve Widening." We were not able to find any site-specific information allowing assessment of the likelihood that design or installation practices would avoid or minimize impairment of water quality, or that sizing and installation procedures would adequately ensure future effectiveness of culvert operation.

The single generic cross-sectional diagram of a culvert symbolizes the above paucity of site-specific information. This deficiency is played out repeatedly in Applicant materials, which in turn, is reflected in the DEIS. We reviewed other DEIS materials in our attempt to learn whether adequate individualized design plans are available for consideration of new culverts. In Section 4—Water Resources and Wetlands, we found little more than indication that best management practices would be used for installation, acknowledgement that culvert installation can result in increased sedimentation and turbidity, but that the impacts would be temporary. A Compensatory Mitigation Plan (CMP), wherein one might expect to find more detailed information capable of being evaluated in terms of impact, has not yet been written.[103] Potential negative impacts on fish are acknowledged, but how those impacts would be minimized is left to the future. We located Appendix Y—Transportation Management Plan and found mention of culverts, but without any reference to methods to minimize sedimentation during installation. In section 2.2.3 of that document, there is reference to several tables that identify roads where culverts might be among improvements needed. However, each of those tables—found in Appendixes B, B1, C, C1, C2, C3, D, and D1—bore the following note on the cover page: "(to be generated in coordination with BLM/FS.BOR)."

DEQ's May 6, 2019 denial of JCEP's Section 401 Water Quality Certification was based in significant part on inadequacy of information to enable the agency to determine that project activities would not violate Oregon's Water Quality Standards. In many cases, DEQ accurately points out that the Applicant failed to convey complete or effective information to allow for evaluation by the agency, they failed to even attempt to gather it. A good example of this is found in a section of the Evaluation Report that references road construction design issues including culverts where DEQ points out the Applicant's reliance on desktop methods to "plan" road construction:

> For example, JCEP cannot determine using maps if the surface of a road segment is out-sloping and, therefore, draining overland via the road's fill slope and undisturbed landscape. In addition, maps cannot indicate if the surface of a road segment is in-sloping and draining to a ditch carrying stormwater to a stream over several hundred feet or more downslope from this road segment. Moreover, maps cannot indicate if a road surface drains to an in-slope ditch that drains to a cross culvert (or drain) which

[103] DEIS, p. 1-10.

> discharges to a zero order stream connected to a first order stream. Given this, JCEP's desktop analysis of road segments is making significant assumptions that incorporate considerable error into its estimate of the number and location of road segments hydrologically connected to streams.
>
> Such errors place surface water quality at risk from unpaved roads discharging sediment from their surface if JCEP does not maintain or improve these roads to support the anticipated traffic loads. To eliminate these errors, a WARSEM inventory protocol requiring field verification such as a Level IV Inventory or comparable analysis must be used. Further, development of a Transportation Management Plan for nonfederal roads is also required (the TMP in the 401 submittal did not discuss these roads).[104]

Across all of our research, and indeed across DEQ's reporting based on their very thorough analysis over years of working with the Applicant, we found nothing that would qualify as useful information to enable evaluation of culvert design and installation on public lands. We found no indication as to when similar information for culverts to be installed on private lands would be produced.[105]

It is unacceptable if USACE finds that publication of the 13 new culvert issue in the current public notice is adequate or genuine performance of its responsibility to allow public comment. It is not. There is nothing useful towards evaluation in the public notice. There is nothing useful towards evaluation in the DEIS. And to the extent that the DEIS is reflective of critical Applicant information—as NEPA requires—there is nothing available in those materials either. In short, JCEP does not know how it would install these 13 culverts, or probably how it would install 229 miles of welded, buried 36-inch pipe and apparently does not feel the need to know until crews are on site.

Whether speaking of the permitting responsibilities of the USACE, Oregon DEQ, or Oregon DSL pertinent to water quality and removal and fill, all require demonstration that the practices to be used can be reasonably expected to minimize negative impacts to the greatest extent possible. We are still awaiting DSL's determination, as well as that of the USACE, but both should find, as DEQ has, that the Applicant has dramatically and thoroughly failed to provide adequate information either about conditions at each of the 485 water crossings or their plans to execute those crossings. USACE must deny the Section 404 permit.

III. CONCLUSION—CONSTRAINTS OF PERMIT ISSUANCE

A. Information Deficiencies

It is essential that USACE, DEQ, and other state and federal agencies conduct comprehensive and collaborative reviews of the potential impacts of the proposed PCGPL project to fully assess whether or not the proposed project complies with the federal Clean Water Act and all other

[104] DEQ, *Evaluation and Findings Report: Section 401 Water Quality Certification for the Jordan Cove Energy Project*, May 2019, p. 34.
[105] This finding re: the DEIS is corroborated in the excerpt from DEQ's *Evaluation and Findings Report,* included above.

applicable state and federal standards and permitting requirements. They cannot do that until or unless the Applicant provides all of the information needed to make the assessment.

We have referenced inadequacy of information repeatedly in these comments. Such insufficiency has been a hallmark of regulatory processes pertinent to the JCEP throughout all three iterations of the project. As time has gone on and members of the public and agency staff have scrutinized the thousands of pages of materials generated by the Applicants, the extent and seriousness of the deficiencies have only become more obvious. We stress that we have found and shared in our comments to multiple agencies ample evidence that the JCEP would exert extraordinary negative impacts on individuals, communities, and the environment, but *the Applicant has failed repeatedly and extensively to provide state and federal agencies with anything close to enough information to have assurance that project activities would not violate the laws and regulations those agencies are legally bound to enforce.*

While FERC's 2016 denial of the Round Two JCEP applications were based on evidence that project harm to landowners outweighed project benefits—the Commission didn't reach the point of considering materials allowing assessment of information adequacy generated by the NEPA process—the major permit denied so far in Round Three, that of the Section 401 Water Quality Certification by Oregon's DEQ, was based in large part on informational inadequacy.

From its denial letter:

> DEQ has evaluated the Project application pursuant to Section 401 of the Clean Water Act, 33 USC §1341, ORS 468B.035 through 468B.047 and DEQ's certification rules found in Oregon Administrative Rules 340, Division 048. To certify the Project, DEQ must have reasonable assurance that the proposed activities will be conducted in a manner that will not violate the applicable provisions of Sections 301, 302, 303, 306, and 307 of the Clean Water Act, and Oregon water quality standards in Oregon Administrative Rules 340, Division 041, adopted to implement these sections.[106]

After recounting a process of making numerous unsuccessful requests for essential information on the eve of a federally imposed deadline, DEQ states this,

> DEQ denies Jordan Cove's request for 401 WQC for the Project. DEQ does not have a reasonable assurance that the construction and operation of the Project will comply with applicable Oregon water quality standards, as described in the attached Evaluation and Findings Report, which is incorporated in its entirety by this reference.[107]

A 200+ page inventory of concerns, including numerous listings of needed information that had not been supplied by the Applicant underscores the problem.

In recent years, we have followed concerted efforts by the current administration to fast-track permitting processes for fossil fuel infrastructure projects. A common theme is that the processes take too long and a common resolution is to restrict the amount of time agencies have to make a decision, including with the clock beginning to tick upon determination that a list of required application components have been submitted. What we have seen at close hand is

[106] DEQ to Jordan Cove LNG, LLC; USACE; and FERC, "Jordan Cove 401 Water Quality Certification Decision," May 6, 2019, p. 2.
[107] DEQ to Jordan Cove LNG, LLC; USACE; and FERC, "Jordan Cove 401 Water Quality Certification Decision," May 6, 2019, p. 3.

deeply disturbing in a nation based on the rule of law. The Applicant, at least in this case, submits the required components, but the information therein is so deficient that the agency cannot make a determination about whether the project would comply with pertinent laws. Their attempts to obtain that information are met with failure. If the clock runs out, the agency that respects the laws and regulations must deny the permit. There is now a move afoot to close that door or otherwise limit state agencies' ability to do their job. This is unacceptable.

As the USACE contemplates the permit applications before it, they should fully evaluate the issues raised at least throughout the NEPA process. 2019 DEIS comments submitted through July 5, 2019 merit careful review, including as a source for identifying the tremendously wide range of the Applicants' failure to take seriously the fact-based decision-making required by pertinent state and federal laws. In stark contrast to Applicant insistence on offering promises that they would confront various eventualities on the fly or would rely on best management practices. The Corps will find hard evidence of serious problems with no solutions; numerous needed reports missing entirely or based on outdated information or on "desktop assessments" when on-site investigation is essential; plans either pending or based on boilerplate constructs, some of which were developed for totally different kinds of projects. It is essential that the Corps ensure that the Applicants have provided "all information that the district identifies as necessary to satisfy all applicable federal laws, executive orders, regulations, policies, and ordinances."[108] If they have not—and we suspect that will be the case—the USACE must deny all applications.

B. Regulatory Limitations

On July 17, 2019, the Corps informed the Federal Energy Regulatory Commission that they are "unable to render a permit decision by [FERC's scheduled deadline of] January 9, 2020." The letter listed prerequisites to their decision that have not been, or would not be, accomplished in time to allow it.

1. National History Preservation Act, Section 106 consultation under 33 CFR 320.4(a)—not completed and not scheduled to be completed by the above deadline;
2. State Clean Water Act Section 401 certification—denied (without prejudice); new application cannot be legally approved without provision of significant amount of additional information;
3. State Coastal Zone Management concurrence certification—currently open for public comment, but unlikely to be approved due to, at least, multiple outstanding local land use permits;
4. Consultation with the National Marine Fisheries Services;
5. Consultation with the U.S. Fish and Wildlife Service under Section 7 of the ESA; and
6. The necessary permits under Section 14 of the Rivers and Harbors Act of 1899 (33 USC 408).

We are also aware that, if all of the above permits and approvals were to be finalized and the USACE was in a position to sign the single Record of Decision, there are still numerous other processes FERC must finalize in favor of the Applicant before it can issue either the Natural Gas Act Section 3 authorization or Section 7 certification. Some of the same processes listed above have relevance for FERC's decisions. And importantly, an extraordinary number of comments were filed on the DEIS. Many of those that resulted from careful study of the

[108] U.S. Army Corps of Engineers. Water Resources Policies and Authorities Policy and Procedural Guidance for Processing Requests to Alter U.S. Army Corps of Engineers Civil Works Projects Pursuant to 33 USC 408. EC 1165-2-216. 21 June 2016. P. 10.

document and attachments resulted in the identification of numerous deficiencies. Among those are the joint comments of Oregon state agencies having permitting and review responsibilities and several federal agencies. A number of commenters called for issuance of a supplemental EIS due to a troubling level of inadequacies. We are among them. We anticipate production of the FEIS by October 11, 2019 faces serious challenges.

C. Cumulative Impacts and Legacy

According to 40 CFR §1508.7, cumulative impact is the impact on the environment which results from the incremental impact of the action when added to other past, present, and reasonably foreseeable future actions regardless of what agency (federal or non-federal) or person undertakes such other actions. Cumulative impacts can result from individually minor but collectively significant actions taking place over a period.
A large project such as this calls for comprehensive consideration of where the benefits and losses are occurring from pipeline and terminal construction and operations. There is no effort made by the Applicant to examine, model, or understand cumulative effects on social, environmental, and economic conditions resulting throughout the construction and the operation phases of the project. The enormity of each individual element of this proposed project is never considered as a whole with the sum of parts to include the alterations of the aquifers, hydrology, safety risks, economic legacy, and so on. The Applicant fails to provide any model to evaluate the cumulative effect of hydraulic dredging and placement of spoils in a variety of locations with a complex assembly of pipeline, booster pumps, and positioning within the bay or in wetland areas. Instead, the permit requests divide up the project into segments that are addressed individually, albeit poorly. The permitting processes fail to consider the future needs for the maintenance dredging, maintenance of the pipeline infrastructure, monitoring of the proposed mitigation projects, and emissions over the project's life. The project proposes more than 110 ship visits annually. The large ship size has been briefly addressed in issues of erosion, but not with regard to the introduction of invasive species with ballast, biofouling associated with visits from Asian ports and repeated discharge of approximately 9.2 million gallons of ballast water during the loading cycle. The Applicant acknowledges disruption of 169 acres of wetlands via construction of the Jordan Cove LNG Terminal and Liquefaction Facility, but dismisses impact as "temporary," with no data to substantiate their claim. The proposed mitigation projects or locations are provided as a take-it-or-leave-it method with little if any exploration of alternative methods of operation or construction. Clearly evident throughout our review process is the Applicants' almost total lack of interest in considering any alternatives to the basic vision of the project that originated over a decade ago.

One element of this project that should be carefully considered within the framework of cumulative impacts is the decommissioning (retirement), reclamation, and restoration of the JCEP at closure. We have found that no local, state or federal agency has the overall responsibility for requiring and regulating the decommissioning (retirement) of LNG liquefaction facilities. Our communications with the Oregon Energy Facility Siting Council clarified that the JCEP no longer comes under their regulatory authority, since it is not considered a power generation facility. Nor is there any guidance or authority within FERC for regulations addressing retirement or abandonment of such a facility.

LNG Canada's export facility under construction at Kitimat, B.C. has provided, as part of its Environmental Assessment Certification Application, detailed proposals for the eventual decommissioning/retirement of that facility and the reclamation and restoration of affected sites, along with posting financial guarantees assuring that work will be completed. British Columbia doesn't currently have specific regulations for retirement of LNG facilities either, but the

company anticipates that those will be developed in the near future and has committed in applications to completion of that work under those guidelines. In its detailed plan for retirement, LNG Canada commits to removal of all the facility's land and marine infrastructure, reclamation, and remediation of affected sites to near pre-construction states, waste management, and monitoring after closure. It estimates this process would cost between $2.1 and $3.3 billion (Canadian) and take two years to complete, during which time the company also promises to pay taxes. Though the JCEP project, as presently described, would produce less LNG, the design is similar and the cost to retire, reclaim, and restore it in a similar manner could, in U.S. dollars, possibly be as much as $1.5-$2.4 billion.

JCEP's applications contain no information regarding the retirement of its proposed LNG facility or reclamation and restoration of land affected by the project. That omission, along with few or no U.S. requirements and regulations in place, leaves our affected southern Oregon cities and counties with a very big problem looming in the future, if this project is approved.

Lacking commitments by the Applicant and with no requirement by governments, we can expect that essential responsibility would pass to cities, counties, and the state of Oregon. It would constitute a crushing financial burden for taxpayers.

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,

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PO Box 1571, Coos Bay OR 97420

Frances H. Smith, Co-President, League of Women Voters of Coos County
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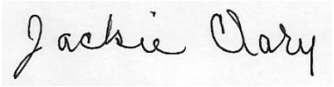

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Attachments

Appendix A—Four LWV comments in response to USACE Public Notice of May 22, 2018
Appendix B—Four LWV comments on 2019 DEIS

Cc: Governor Kate Brown
Secretary of State Bev Clarno
Treasurer Tobias Read
Senator Ron Wyden
Senator Jeff Merkley
Congressman Greg Walden
Congressman Peter DeFazio
Oregon Senator Dallas Heard
Oregon Senator Dennis Linthicum
Oregon Senator Floyd Prozanski
Oregon Senator Arnie Roblan
Oregon Representative Kim Wallan
Oregon Representative Cedric Hayden
Oregon Representative Gary Leif
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
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 Lena Richardson
Shady Cove City Council
Myrtle Creek Mayor Matthew Hald
Canyonville Mayor Jake Young
Winston Mayor Dick Hayes
Riddle Mayor William Duckett
Klamath Falls Mayor Carol Westfall
Jason Miner, Governor's Natural Resources Policy Advisor

Kristen Sheeran, Governor's Climate Policy Director
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 Loftsgarrden, Director, Oregon Watershed Enhancement Board
Peter Daugherty, State Forester, Oregon Department of Forestry
Alexis Taylor, Director, Department of Agriculture
Paul Mather, Interim Director, Oregon Department of Transportation
Richard Whitman, Director, Oregon Department of Environmental Quality
Chris Stine, Project Manager, Department of Environmental Quality
Chris Carson, President, LWVUS
Rebecca Gladstone, President, LWVOR