Pacific Fishery Management Council

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Philip Anderson, Chair | Charles A. Tracy, Executive Director

December 13, 2019

Ms. Kimberly D. Bose, Secretary
Federal Energy Regulatory Commission
888 First Street NE, Room IA
Washington, DC 20426

Mr. Glenn Casamassa, Regional Forester Objection Reviewing Officer
U.S. Forest Service
Pacific Northwest Region
Attn: 1570 Appeals
P.O. Box 3623
Portland, OR 97208-3623

Mr. William Pendley, Acting Director
Bureau of Land Management
Attention: Protest Coordinator
P.O. Box 71383
Washington, D.C. 20024-1383

RE: FERC Docket No. **CP17-494-000 and CP17-495-000**

Dear Ms. Bose, Mr. Casamassa and Mr. Pendley:

The Pacific Fishery Management Council (Council) submits these comments on the Final Environmental Impact Statement (FEIS) for the Jordan Cove Energy Project, which includes the Liquefied Natural Gas (LNG) Project (CP17-494-000**)** and the Pacific Connector Gas Pipeline Project (CP17-495-000) (collectively referred to as the Project).

The Council previously commented to the Federal Energy Regulatory Commission (FERC) on the Project's Draft Environmental Impact Statement (DEIS) with concerns regarding impacts to the essential fish habitat (EFH) of numerous Council-managed species in the Coos Bay estuary and freshwater streams in the project area.

The Council also commented to the U.S. Forest Service (USFS) on its proposed amendments to Land and Resource Management Plans for the Umpqua, Rogue River-Siskiyou, and Winema National Forests (FERC DEIS Appendix F, 2019), and to the Bureau of Land Management (BLM) on its proposed amendments to Resource Management Plans for the Roseburg, Medford and Lakeview Districts (DEIS Appendix F, 2019). Our comments regarding pipeline-related impacts

on freshwater habitats are also directed to the USFS and BLM in response to the draft Records of Decision for Proposed Plan Amendments, as noted in the public notice (FR Doc. 2019–25269) for this FEIS.

The EFH provisions of the Magnuson Stevens Fishery Conservation and Act (MSA) promote the conservation of fisheries species by requiring fishery management councils to describe and identify EFH for Council-managed species and to identify actions that could have adverse impacts on EFH. As defined at 50 CFR 600.10:

> *Essential fish habitat means those waters and substrate necessary to fish for spawning, breeding, feeding or growth to maturity. For the purpose of interpreting this definition of essential fish habitat: "waters" include aquatic areas and their associated physical, chemical, and biological properties that are used by fish and may include aquatic areas historically used by fish where appropriate; "substrate" includes sediment, hard bottom, structures underlying the waters, and associated biological communities; "necessary" means the habitat required to support a sustainable fishery and the managed species' contribution to a healthy ecosystem; and "spawning, breeding, feeding, or growth to maturity" covers a species' full life cycle.*

The Council continues to be concerned that the Project will cause significant harm to EFH for several of its managed species (e.g., Chinook salmon, Coho salmon, rockfishes, English sole, lingcod and others) and that the Project's proposed mitigation measures are not sufficient to offset the magnitude of loss or degradation to dozens of acres of estuarine habitat and many miles of riverine habitat that may be affected directly and indirectly as effects are carried downstream (e.g., large wood removal, sedimentation). As such, the Council's previous comments remain applicable and are discussed in greater detail below.

<u>Estuarine Habitat</u>

- Estuaries are identified as EFH for all groundfish and salmon species in the Council's Pacific Coast Groundfish Fishery Management Plan (FMP) and Salmon FMP (PFMC 2016, PFMC 2013). Under the EFH provision of the MSA, estuaries are further described as Habitat Areas of Particular Concern due to their habitat value for breeding, rearing, foraging and shelter. Thirty seven acres of estuarine habitat, including two acres of eelgrass habitat, 13 acres of intertidal habitat, four acres of shallow subtidal habitat and 18 acres of deep subtidal habitat will be lost or converted to deeper water habitats through project construction and maintenance of the navigation channel, access channel, LNG slip and berth, and related LNG infrastructure. It is not clear that the Project provides sufficient in-kind mitigation to offset losses of all estuarine habitats, or that it does so without creating new impacts to existing intertidal and subtidal habitats at proposed mitigation sites.

- The widening of the main channel at several corners, and the creation a new access channel, LNG slip, and berth, will alter the hydrology in portions of the bay that could have far-reaching but largely unpredictable consequences. Water quality parameters (salinity, temperature, turbidity) are likely to be significantly altered and adversely affect

managed species, their prey and habitat utilization. The Project should first characterize and quantify water quality changes and analyze the effects of the Project on Council-managed species and habitat function. Such analyses should occur well in advance of project commencement to better anticipate adverse effects, and to allow for the development and implementation of mitigation measures to reduce adverse effects.

- Coincidentally, the Port of Coos Bay has proposed a Channel Modification Project that will substantially deepen and widen the existing navigation channel and channel entrance, removing between 36 and 60 million cubic yards of estuarine substrate, in addition to the 6 million cubic yards proposed for the Jordan Cove Project. This project will provide direct financial and logistical benefits to the Jordan Cove LNG project and as such, FERC should evaluate the cumulative and potentially synergistic effects of the two projects on the ecological resources of Coos Bay.

- Eelgrass (*Zostera* spp.), and other West Coast seagrasses, are identified as EFH for all groundfish and salmon species managed under the groundfish and salmon FMPs, respectively. Eelgrass is further described as a Habitat Areas of Particular Concern for groundfish and salmon for its importance to ecosystem function and its habitat value for rearing, foraging and shelter. The Project proposes to remove existing eelgrass in the estuary and mitigate by replanting in an area of the bay that will require substantial alterations of that site. Furthermore, mitigation is proposed for only five to eight years. Successful eelgrass mitigation depends on several factors such as habitat conditions, slope, depth, currents, wave action, and other hydrologic factors. Success is uncertain, and failure of these types of projects is common even after several years. The Council recommends avoidance as the appropriate mitigation strategy. If eelgrass removal occurs, then mitigation should strive to retain the full, long-term ecological services of eelgrass in Coos Bay by achieving *no net loss* of eelgrass over the *entire* life of the project (until the project is decommissioned and removed). In this regard, mitigation should follow established in-kind, in-proximity standards established by the state of Oregon and require monitoring and replanting as losses occur over the *entire* life of the project.

- Eelgrass that is not removed during construction, as well as that planted for mitigation, will be subjected to increased turbidity and sedimentation from construction dredging and the resulting long-term channel maintenance dredging. These impacts will undoubtedly be exacerbated by the Port of Coos Bay's proposal to further widen and deepen the channel in response to the Project. Increased turbidity and sedimentation may lead to reduced ecosystem function and reduced habitat quality and/or loss of eelgrass. In this regard, the effects of the Project have not been addressed in the FEIS or Comprehensive Mitigation Plan, nor have the likely cumulative effects when considering the Port's channel widening/deepening proposal. The Council recommends additional analyses to address these effects.

- Pacific herring is an important forage species to Council-managed species and is identified as an ecosystem component species in the Council's Fishery Ecosystem Plan (PFMC, 2013). Pacific herring spawn on eelgrass in Coos Bay. The best available information is from direct observations recorded over a 30-year period (1989-2019) in which Pacific herring spawn was observed after February 1 during 13 of 15 years of documented spawning, and frequently occurred into late February (Hodder, 2019, personal communication). Project activities that will disturb eelgrass, directly or remotely, and either by direct removal of eelgrass or by construction and dredging activities, during the spawning period should cease by February 1 in order to avoid inducing significant egg mortality.

Riparian Habitat

- The Pacific Connector Pipeline (pipeline) will traverse multiple basins where EFH has been identified for Oregon Coast coho salmon, Southern Oregon/Northern California Coastal coho salmon and Klamath River Fall Chinook salmon. Pipeline construction on steep slopes could cause slope failure and extensive erosion that would likely cause substantial sedimentation of streams. Sedimentation in fish-bearing streams is a significant contributor to egg and fry mortality as well as to mortality of invertebrate prey species[1,2,4,5,6,11,13,15,16]. Sedimentation is a major factor suppressing the recovery of coho salmon and of major concern to this Council. The placement of erosion control matting, in combination with cross slope placements of large wood, stumps, and other wood material, will provide some surface erosion control. However, to reduce complete trench failure on steep slopes requires considerable structural control measures. The Comprehensive Mitigation Plan includes trench breakers that should provide some slope stabilization but will not entirely prevent slope failure. Additional measures such as cross-slope trenching (rather than routing parallel to slope) should be the preferred approach. The steepest slopes should also receive seeding, mulching, cross-slope structures and drainage networks to further reduce the risk of failure. Given the numerous geologic and climatologic factors affecting slope stability in these basins, the project should be required to monitor and adapt slope control measures as needed for the *entire* life of the project.

- The network of new roads for pipeline installation and maintenance and project-related timber harvest could further exacerbate slope and erosion problems across both Federal and non-Federal lands and further threaten freshwater streams if surfacing and drainage are insufficient to prevent erosion. This too will require considerable erosion control measures and measures to prevent (and mitigate) sedimentation of streams on both Federal and non-Federal lands; upstream impacts will have downstream consequences, regardless of land ownership.

Mitigation measures should include the following:

- Surfacing should be sufficient to prevent erosion of the road surface in all seasons.
- Drainage should follow recommendations in the ODF Forest Practices Technical Note Number 8 version 1 (ODF Jan 2003).
- Road drainage systems should be designed to prevent delivery of sediments to surface waters.
- Mitigation for sedimentation/mass wasting issues should be identified in-proximity regardless of land ownership (federal or non-federal) as these locations have the greatest potential for measurable improvements in reducing sediment loading to impacted streams.

- The project will remove riparian canopy at 155 stream crossings to a width of 95 feet, with an additional 50-foot management corridor, thus exposing streams to elevated temperatures, particularly during summer. This is particularly concerning in the drier Rogue and Klamath watersheds, and as climate regimes shift to longer, drier, and hotter summers. Removing streamside trees also removes the continuous contribution of large wood inputs into these streams. The Project's proposed mitigation measure for canopy removal is a one-time placement of large woody debris in streams. This would address some functional loss, but the amount proposed is insufficient and the benefits will be short-lived as the wood rots and is not replaced. This will not provide the needed in-kind mitigation for the long-term services of the benefits that trees provide, but that will now be permanently removed from the riparian system.

- Mitigation for the removal of trees and canopy is best accomplished with new plantings of canopy-developing trees in areas currently lacking shade canopy near the site of impact, or secondarily on the nearest streams. Plantings should occur on both Federal and non-Federal lands. Additional mitigation in the form of no-harvest riparian buffers for the nearest streams would provide additional project offsets and should occur on both Federal and non-Federal lands. The FEIS and Comprehensive Mitigation Plan does not address these long-term impacts.

- Forest clearings for this project, wherever they occur in the project area, should have large no-timber harvest buffers to further protect streams from erosion, sedimentation and debris flows.

<u>Safety, navigation and economics</u>

The FEIS states that non-LNG vessels would be allowed to transit through the safety zone and would also be allowed in the safety zone during passage, provided that these other vessels do not impede the safe navigation of the LNG carrier vessels or pose a security threat. The FEIS also states that there may be slight delays at the channel entrance bar, or in the channel, when LNG vessels and fishing vessels coincide because of security and safety concerns or "other conditions."

Additionally, at a Coos Bay Harbor Safety Committee meeting on January 15th, Peter Schaedel of Jordan Cove explained his perspective on the low probability of LNG/fishing vessel conflicts. The Council could not find additional discussion in the FEIS nor locate the U.S. Coast Guard analytical documents noted in the Coast Guard letter (FEIS, Appendix B) that might further explain what would constitute impedance of safe navigation for the LNG carrier vessels, or the nature, frequency and duration of delays and exclusions from the security and safety zone.

Without additional assurances, the Council continues to be concerned that fishing vessel access to the harbor will be constrained, and that disruption to safe passage, fishing activities, and effects on movement elsewhere in the bay are likely. Specifically, our concerns focus on:

- Passage. The Coast Guard has estimated that a 500-yard security buffer may be required around LNG vessels in transit. This could essentially close down the shipping channel when LNG vessels are present. Representatives of the Project have stated that these zones are not "exclusion" zones, and vessels may transit in them when authorized by the Coast Guard. However, the Coast Guard has the final authority over this matter and has not stated what its policy will be. In addition, it is possible that Coast Guard policies regarding vessel transits may change in the future.
- Bar crossing safety. Winter bar crossings by commercial fishing vessels (and other bar crossings during extreme tides) often must be done at slack high tide, providing only limited opportunity for safe passage. It has been suggested that LNG vessels may also require slack tide, which could force other traffic to attempt passage during dangerous ebb tide conditions.
- Delays. The Council is concerned that recreational vessels returning to port could be forced to remain offshore to allow LNG vessels to transit the bar. In rough weather, this would be a major safety concern.
- Congestion and loss of fishing opportunity. The Council is concerned that congestion at the boat ramp and harbor would increase during LNG carrier vessel bar crossings, with delays of up to 30 minutes when a security buffer is in place. More than 200 recreational fishing boats crossed the bar on peak fishing days in 2019, with a daily average of up to 60 boats during peak fishing months (July to September). There is also a concern that the LNG security buffer will result in a cessation of boat traffic in the river channel for an unknown period. If this occurs, recreational boaters will be forced to cease fishing or move upstream above the LNG terminal to fish, increasing congestion in the upper basin.
- To put these concerns in an economic context, commercial fishing is the primary economic base for Oregon's coastal port communities. Commercial fisheries deliveries to the Port of Coos Bay and Charleston (in combination with smaller nearby ports Winchester and Florence) contribute on average, 20-22 percent annually to the statewide fishing economy, which was $697.9M in 2017 (ECONorthwest, 2019). Recreational fisheries for the same ports contributed $186,000 (18.6%) to the coastal recreational fishing economy in 2017. In years of high salmon abundance, such as 2014, the recreational salmon fishery alone was valued at $1.2M (The Research Group 2015).

It would be extremely helpful to the Council and to the fleet to know more about how the LNG vessel safety zone will be implemented to understand the implications for commercial and recreational fishing operations in Coos Bay and the nearshore. It would also be helpful to create a

formal process for coordinating LNG vessel movement with fishing vessels to minimize spatial/timing conflicts to the degree possible.

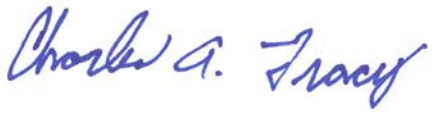
Climate-Related Effects

Oregon is experiencing climate change effects of warming air temperatures and acidified and hypoxic coastal waters. These changes are expected to continue, and will result in cascading impacts that, in general, include changing precipitation patterns and decreasing snowpack volume. The trends are toward increased frequency and severity of flooding, increased flows in winter, decreased flows in late summer, increased water temperatures, changes in wildfire patterns, and several key oceanographic changes (Dalton, et al. 2017).

The impacts of this project on the riparian ecosystem, noted in our comments and by other natural resource management entities, will interact with and may worsen climate-related effects. For example, because eelgrass has the potential to buffer against ocean acidification (Sherman and DeBruyckere, 2018), any adverse impacts from this project on eelgrass survival and ecological function are especially concerning due to the cumulative impact on ecosystem resilience.

In summary, the Council continues to be very concerned with the totality of potential impacts on Council-managed species, habitats and fishing activity by the Jordan Cove LNG terminal and pipeline projects. The Council again urges FERC and the federal land management agencies (USFS and BLM) to coordinate directly and early with the state of Oregon for developing robust habitat mitigation measures that strive to first avoid and then minimize immediate and long-term impacts. Oregon's decades-long efforts in salmon recovery and habitat restoration, and robust habitat mitigation policies are essential to achieving the best possible outcome for fish, habitat and the public affected by the project.

Sincerely,



Charles A. Tracy
Executive Director

JDG:rdd

cc: Council Members
Mr. Noah Oppenheim

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**References**


1. Bash, J., C. Berman, and S. Bolton 2001. Effects of Turbidity and Suspended Solids on Salmonids. Center for Streamside Studies. University of Washington: 80.

2. Burns J. W. 1970. Spawning Bed Sedimentation Studies in Northern California Streams. California Fish and Game: 56(4): 253-270.

3. Dalton, M.M., K.D. Dello, L. Hawkins, P.W. Mote, and D.E. Rupp (2017). The Third Oregon Climate Assessment Report, Oregon Climate Change Research Institute, College of Earth, Ocean and Atmospheric Sciences, Oregon State University, Corvallis, Oregon.

4. ECONorthwest. 2019. Economic Contributions of Oregon's Marine Fisheries, 2019 Update.2019. Prepared for Oregon Department of Fish and Wildlife. 30p. https://www.dfw.state.or.us/agency/docs/ODFW_EIA_FINAL.pdf

5. Hall, J.D., and R.L. Lantz 1969. Effects of Logging on the Habitat of Coho Salmon and Cutthroat Trout. Symposium on Salmon and Trout in Streams. H.R. MacMillian Lectures in Fisheries: 355-375.

6. Oregon Department of Forestry. 2003. High Landslide Hazard Locations, Shallow, Rapidly Moving Landslides and Public Safety Screening and Practices. Forest Practices Technical Note Number 2 Version 2.0. ODF, Salem, Oregon.11p.

7. Oregon Department of Fish and Wildlife. 2007. Oregon Coast Coho Conservation Plan for the State of Oregon. Salem, OR. 63pp.

8. Pacific Fishery Management Council. 2014. Appendix A to the Pacific Coast Salmon Fishery Management Plan. Portland, Oregon. https://www.westcoast.fisheries.noaa.gov/publications/habitat/essential_fish_habitat/salmon_efh_appendix_a_final_september-25_2014__2_.pdf

9. Pacific Fishery Management Council. 2013. Fishery Ecosystem Plan. Portland, Oregon. http://www.pcouncil.org/wp-content/uploads/FEP_FINAL.pdf

10. Pacific Fishery Management Council. 2016. Groundfish Fishery Management Plan. Portland, Oregon. http://www.pcouncil.org/wp-content/uploads/2017/03/GF_FMP_FinalThruA27-Aug2016.pdf

11. Reiser, D.W., and R.G. White. 1988. Effects of Two Sediment Size-Classes on Survival of Steelhead and Chinook Salmon Eggs. North American Journal of Fisheries Management: 8: 432-437.

12. Sherman, K., and L.A. DeBruyckere. 2018. Eelgrass Habitats on the U.S. West Coast: State of the Knowledge of Eelgrass Ecosystem Services and Eelgrass Extent. A

publication prepared by the Pacific Marine and Estuarine Fish Habitat Partnership for The Nature Conservancy. 67pp.

13. Suttle, K. B., M.E. Power, J.M. Levine, and C. McNeely. 2004. How Fine Sediment in Riverbeds Impairs Growth and Survival of Juvenile Salmonids. Ecological Applications: 14(4):969-974.

14. The Research Group, LLC. 2015. Oregon Marine Recreational Fisheries Economic Contributions in 2013 and 2014. Prepared for Oregon Department of Fish and Wildlife and Oregon Coastal Zone Management Association.

15. Tripp, D. B., and V. A. Poulin 1992. The Effects of Logging and Mass Wasting on Juvenile Salmonid Populations in Streams on the Queen Charlotte Islands. Ministry of Forestry, Victoria, B.C., V8W3E7. 36p.

16. Waters, T.F 1995. Sediment in Streams, Sources, Biological Effects, and Control. American Fisheries Society Monograph 7. Bethesda, Maryland: 79-104.