APPENDIX R

Comments on the Draft EIS and Responses

(continued)

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TROUT UNLIMITED

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July 1, 2019

Kimberly D. Bose
Secretary
Federal Energy Regulatory Commission
888 First Street NE
Room 1A
Washington, D.C. 20426

RE: Comments on the Jordan Cover Energy Project LP, Pacific Connector Gas Pipeline L.P.; Draft Environmental Impact Statement for the Proposed Jordan Cove Energy Project.

Docket Nos. CP17-495-000; CP17-494-000

Dear Ms. Bose,

Please accept the following comments from Trout Unlimited (TU) on the Draft Environmental Impact Statement (DEIS) for the Proposed Jordan Cove Energy Project. Trout Unlimited understands that the DEIS includes both the Jordan Cove Liquified Natural Gas Project (LNG) and the Pacific Connector Gas Pipeline Project (PCPP), collectively referred to as the Jordan Cover Energy Project (Project). For TU's interests, our comments will center on the PCPP portion of the Project as it relates to environmental impacts that occur on federal lands and affecting fish and wildlife habitat.

Trout Unlimited has reviewed the DEIS and has concluded that the No Action Alternative would be the preferred option for this proposed Project. Our choice is based on our interpretation that the DEIS, the proponents, and FERC have not provided a clear and purposeful need for this Project and due to its many identified temporary and permanent impacts across a vast and rugged landscape, much of which is comprised of some of the Western US's premier salmon, trout, and steelhead fisheries, TU believes the Project should not move forward at this time. CO29-1

That said, we have identified a number of concerns we believe need addressed in order to fully comply with the requirements of the National Environmental Policy Act (NEPA). A summary of our points of concerns include:

- The DEIS fails to properly address the Purpose and Need of the Proposed Action and their distinctly separate implications.
- The DEIS fails to provide a rigorous exploration and review in each of the range of alternatives that can accomplish the purpose and need of the Proposed Action.
- The DEIS fails to adequately address the application of stipulations; uses mitigation measures, stipulations and BMPs interchangeably; and does not distinguish between stipulations and mitigation measures (significantly different) and BMPs (Best Management Practices). Stream

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CO29-1 As described in section 1 of the EIS, the FERC staff and this EIS do not make a determination regarding the Project's need. The decision regarding the Project's need, is made by the Commission within the Project's Order. The Commission developed a "Certificate Policy Statement" (see Certification of New Interstate Natural Gas Pipeline Facilities, 88 FERC ¶ 61,227 (1999), clarified in 90 FERC ¶ 61,128, and further clarified in 92 ¶ 61,094 (2000)), that established criteria for determining whether there is a need for a proposed project. Note that the Commission would consider as part of its decision whether or not to authorize natural gas facilities, all factors bearing on the public interest, including the Project's purpose and need.

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buffers are inadequate for protection from construction impacts associated with surface and subsurface contaminants, infrastructure activities, and impacting off-site activities.

- BLM and Forest Service (FS) plan amendments to allow PCPP ROW exceptions in rare and critically important fish and wildlife habitat is a precedent setting move and opens the door for future proposals to also seek exceptions for RMPs and/or LRMPs that provide essential protection standards or management measures.
- DEIS fails to adequately account for fish spawning and stream crossings activities.
- Further analyses are required on the effects climate change has on design, construction activities, effects on stream temperatures, and more, for this Project.
- Estimates of associated truck traffic, water volumes, and dust suppression appear inadequate.
- Discussion of HDD and DP drilling fluid components and consequential management is inadequate.
- DEIS fails to adequately analyze impacts to recreation, hunting, fishing and outdoor experiences on BLM and FS lands.
- Big game habitat parameters are not adequality discussed in the DEIS including presence or absence of migration corridors and timing limitations.
- Pipeline and Hazardous materials Safety Admin Advisory bulletin, DOT 4910-60-W dated May 2, 2019 must be included in Project component description.
- Cumulative analysis and connected actions must be more robust in the EIS.

Interested Party Background

Trout Unlimited is a private, non-profit conservation organization that has more than 300,000 members and supporters nationwide dedicated to conserving, protecting and restoring North America's trout and salmon fisheries and their watersheds. Since 1959, TU has dedicated staff and volunteers toward the protection of sensitive ecological systems necessary to support robust native and wild trout, salmon, and steelhead populations in their respective range. Trout Unlimited recognizes that the value of public lands is unparalleled in providing protection for coldwater fisheries, drinking watersheds and wildlife habitat.

Statewide, Oregon has over 3,300 TU members and seven local chapters, including chapters in Coos Bay, Bend, Klamath Falls, Corvallis, Eugene, Tualatin and Clackamas. These volunteer members actively utilize and enjoy the resources of the many rivers, lakes and watersheds located on Oregon's BLM lands and in the footprint of both the Pacific Connector Pipeline and the Jordan Cove Export Terminal. Attributes of these lands and watersheds include clean water, clean air, fishing, hunting and wildlife viewing opportunities.

I. General Comments on the DEIS

Trout Unlimited's review of the DEIS has identified numerous concerns and deficiencies in providing a thorough and required "hard look" at the environmental impacts that can and most likely will occur with this Project. As mentioned above, TU will concentrate on inland impacts that have been discussed for the Pacific Connector Gas Pipeline Project (PCPP).

Trout Unlimited would like to first comment on the considerable efforts FERC has taken in improving this DEIS over previous documents for this proposed Project. We noted that the DEIS contained extensive analyses on certain topics (but not all) in trying to present a comprehensive discussion of environmental impacts from the PCPP line. For instance, we appreciate the significant discussion on mitigation measures

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for addressing sedimentation issues under Section 4.5.2.4 (*Environmental Consequences on Federal Lands – Aquatic Resources*). However, despite such occurrences, TU continues to be concerned about the impacts to native, imperiled, threatened and endangered, and sensitive fish species across the length of the PCPP route. The DEIS does not provide a systematic needs discussion in their Chapter 1 overview; rather they lump the need into the purpose discussion. This ultimately makes the resulting DEIS analysis limited in the formation of a reasonable range of alternatives. Overall, we find that the DEIS lacks an equally rigorous and robust analysis for each of the alternatives discussed for the PCPP route. There are many assumptions made, without scientific backup, which we believe are unacceptable in trying to provide strong comparative merits for the alternatives.

II. Specific Topic Comments to the DEIS on the PCPP Route

A. The DEIS fails to properly address the Purpose and Need of the Proposed Action and their distinctly separate implications.

The purpose and need statement offered in Chapter 1 of the DEIS fails to adequately specify the underlying purpose, and specifically the need, to which FERC is responding in proposing alternatives and the proposed action. The DEIS describes the purpose of the Project but is very weak, if totally lacking, in describing the need for this Project. The need should be viewed as the problem or opportunity whereas the purpose represents the solution to the problem. Nowhere in the discussion does FERC present a clear and definitive problem identified to which the Project is addressing. Therefore, we recommend that FERC reexamine and update this information, particularly in light of concerns both statewide and nationally about whether an LNG terminal and associated connecting pipeline infrastructure is needed. CO29-1

B. The DEIS fails to provide a rigorous exploration and review in each of the range of alternatives that can accomplish the purpose and need of the Proposed Action.

The LNG terminal aside from this discussion, TU is concerned that the DEIS does not provide the required rigorous and objective analyses for all alternatives discussed under the Major Route Alternatives section for the PCPP route (DEIS at 3.4.1 – p. 3-15). As the heart of the EIS, the Alternatives discussion leads the way for all other evaluation in the DEIS, including the Project Description, Affected Environment and Environmental Consequences (NEPA - §1502.14).[1] Given the length of the DEIS, it should provide at least a table that represents the various alternatives and their merits and details for easier comparison.

Only three Route Alternatives were presented and then eliminated against the Proposed Alternative and the DEIS fails to offer a selection of Alternatives that can be reviewed and evaluated on their comparative merits against the Proposed Action. It appears that FERC has already provided the reviewers their decision for this Project and rather than provide substantial comparisons against the Preferred Alternative, instead included segment variations analysis under the Proposed Action. This seems unreasonable and does not follow NEPA's requirements that include devoting substantial treatment to each Alternative considered. CO29-2

For instance, under the All Highway Alternative (DEIS at 3.4.1.1 – p. 3-15), only a few paragraphs of discussion were devoted to this alternative, presenting the proposed highway alternative route that follows existing highways. The reasoning for eliminating it as a comparable alternative was simplified and dismissive, reducing any rigorous exploration and evaluation required by NEPA. Some of this alternative's disturbances discussed (and vaguely so) are very similar to those which would occur under the Preferred

[1] Part 1502 – Environmental Impact Statement. NEPA, the Environmental Quality Improvement Act of 1970, as amended. 43 FR 55994, November 29, 1978.

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CO29-2 The process for evaluating alternatives, including major route alternatives, is described in section 3.0 Evaluation Process, of the EIS. As stated in section 3.0, the alternatives were reviewed against three evaluation criteria in a sequence. If the alternative would not meet the Project's purpose (first criteria), or is not feasible or practical (second criteria), we did not compare environmental information to determine if the alternative would provide a significant environmental advantage (third criteria) was satisfied. None of the major route alternatives described in section 3.4.1 meet the first two evaluation criteria, therefore we do not provide a detailed environmental comparison.

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Alternative. Without providing any details, the statement was made that this Alternative would not result in a significant environmental advantage. Yet, we have no way of knowing this based on what was presented in the DEIS. We request FERC include a more robust discussion for this Alternative. Co-paralleling a pipeline route is a sensible, significant, and accommodating route that can lead to less new environmental damage. CO29-2 cont.

C. The DEIS fails to adequately analyze impacts to aquatic resources.

The DEIS fails to adequately analyze the impacts of the Project on aquatic biological resources. Several Endangered Species Act (ESA) listed species including Coho salmon (Southern Oregon/Northern California Coast ESU and Oregon Coast ESU), Lost River Sucker and Shortnose Sucker and Oregon "at risk" species including redband trout have the potential to be affected by the Project. Further, the Project will have impacts in some of the most iconic fisheries in Oregon- the Klamath, Rogue, Coquille, and South Umpqua Rivers all support robust recreation economies that depend on clean water and strong runs of Chinook, steelhead, and Coho salmon. The DEIS analysis fails to adequately analyze potential impacts to aquatic resources from pipeline construction activities (including removal of riparian vegetation and old growth forest, hydrologic or geomorphic changes to stream channels, road construction and de-watering headwater streams). Additionally, the potential impacts to aquatic resources from degraded water quality, erosion and migration barriers that may occur as a result of Project activities has not been adequately analyzed. CO29-3

Of particular concern to TU and our members are the projects impacts from crossings on the Rogue and Klamath Rivers, two systems known to support populations of Southern Oregon Northern California (SONCC) Coho salmon. Adverse impacts to SONCC Coho are acknowledged in the DEIS and extend to other species including Chinook salmon, steelhead, and redband trout. Impacts will include short-term increased sediment levels that would be stressful to fish, potential swim bladder rupture due to blasting activities, short-term benthic food source reduction, temporary migration impedance, short-term terrestrial/riparian habitat modifications, and limited long-term reduction in LWD sources. The DEIS also acknowledges that limited fish mortality would also occur from fish salvage (DEIS at p. 4-330).

The pipeline construction will disrupt fish passage by damming the streams during the trenching and pipeline placement. It is unclear how long fish passage would be interrupted. Mitigation of these impacts by "rescuing" fish behind the dams is historically ineffective, known to cause significant harm for affected fish, and will result in the take of threatened salmonids. This is particularly troubling and unacceptable for large crossings proposed on the Coquille, Umpqua, and potential crossings of the Rogue and Coos if proposed HDDs fail.

The DEIS fails to acknowledge the potentially severe impacts to SONCC Coho and its designated critical habitat as a result. To fully understand the extent of harm the project will create for fish species, TU recommends a comprehensive analysis of the potentially significant impacts that could occur at each individual stream crossing.

a. The DEIS fails to adequately analyze the impact of the Project on fish habitat including spawning, rearing and migration habitat.

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CO29-3 The determination of effects to ESA species are provided section 4.6. The details of these determinations is provided in the BA. Evaluation of potential loss of some fish from salvage was noted in section 4.5.2 and take of listed species from salvage is provided in the BA.

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The DEIS discusses clearing the pipeline ROW in Year One of the five year Project plans (DEIS at p. 4-266). This includes clearing areas along streambeds and waterbodies in early spring and late fall. However, the DEIS lacks a more robust discussion on consideration for spawning, brooding and rearing activities by native fish and other coldwater fish species. Timing restrictions need to be more specific, account for specific bodies of water, field surveyed prior to any construction activities (including clearing in Year 1) and field biologists must be on site during any crossing of streams or rivers containing important spawning or life-cycle activities. The DEIS briefly mentions that no crossing will occur during salmonid spawning periods but does not discuss how this will be planned for, who does the surveys, or how such information will be processed.

CO29-4

Also discussed in this section was the statement that the pipeline ROW would be expected to be restored and revegetated immediately after the pipe is installed (DEIS at p. 4-267). This does not seem to be validated by other earlier statements about construction activities and reclamation efforts (Chapter 2's Project Description). In addition to making sure all reclamation statements are consistent and uphold the highest standards, we request that the reclamation actions include language that it "must" be restored and revegetated, rather than "expect" it to be restored and revegetated.

The DEIS (p. 4-282; Footnote 125) states that determination as to whether or which type of crossing method to use will be done during actual construction is alarming to TU. Plans and pre-surveys of all stream crossings should be completed and approved prior to construction. Waiting on a decision method until the actual construction activity begins seems to be plagued with opportunities for problems.

Construction of the pipeline would remove riparian vegetation across a wide construction easement, which would increase stream temperatures by decreasing shade and increasing sun exposure. Many rivers in the Coos sub-basin are temperature impaired, which is particularly important in rivers that provide salmon and steelhead spawning habitat, core cold water habitat, salmon and trout juvenile rearing habitat, or serve as migration corridors to upstream spawning areas. The DEIS does not provide specific information about baseline temperatures in streams where riparian vegetation would be removed.

Removal of riparian vegetation also has the potential to increase sedimentation by removing root structures that would otherwise serve to secure stream banks and prevent erosion. Increased sedimentation can impact interactions between surface water and groundwater by decreasing porosity in the hyporheic zone, resulting in reduced cool water inputs to streams. Further, as stream temperature increases, dissolved oxygen levels decrease. Removing riparian vegetation also decreases Large Woody Debris that is an important component of stream morphology and habitat for aquatic species. Both the Coos River and Coos Bay are already impaired for temperature, sedimentation, and dissolved oxygen.

CO29-5

In addition, the DEIS admits that the project is likely to adversely impact critical habitat for SONCC Coho in both the near- and long-term. The acknowledged impacts include loss of hatching and rearing habitat from substrate removal and turbidity at stream crossings, degraded water quality as a result of turbidity caused by stream crossing construction, reduction in food sources, barriers to migration during stream crossing construction, and long-term loss of native riparian vegetation. Lack of Large Woody Debris (LWD) is a limiting factor in most streams within the SONCC coho range. The Project's removal of LWD in the riparian corridor of stream crossings will have permanent and significant impacts on Coho populations by compounding issues associated with increased water temperatures, decreased insect habitat, and decreased juvenile and adult fish habitat that would otherwise be formed by LWD structures within the river channel.

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CO29-4 Timing restrictions are set by ODFW and can be adjusted based on the State's input. The taking restrictions listed in the EIS are what is currently prescribed. These are based on primarily life history of the salmonids in the system. Any changes in those windows would be at the direction of the ODFW and would be prescribed in their permits. The ECRP and other plans indicate there are post project monitoring plans for stream crossings, ROW clearing and forest revegetation that includes language directed at making needed modification of restorative actions if they are not functioning.

CO29-5 These actions that affect water quality parameters including sediment, temperature, dissolved oxygen, and fish and fish habitat conditions including large woody debris are addressed in sections 4.3.2 and 4.5.2. Additionally, the applicant would mitigate this loss with the addition of LWD at the crossing with about 1 to 4 pieces per crossing in each 75 foot wide clearing. The State permitting process may modify this mitigation if needed to ensure limited affects to fish resources. The model of likely temperature changes indicate they would be slight. Additionally the applicant has indicated they would do additional riparian plantings in the ratio of 1:1 for construction phase affects and 2:1 for permanent impacts to mitigate for any potential temperature increases. Additionally the applicant would obtain permits designating what would be allowed relative to temperature in streams. See response SA2-57 and SA2-86.

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b. The DEIS fails to evaluate site-specific impacts at each of the PCPP crossings

Construction of the pipeline would affect 69 perennial stream sites, 270 intermittent stream sites, 9 ponds, and 4 estuary channels. We find that analysis of the impacts for these site-specific crossings are inadequate and do not include sufficient discussion of impacts to recreational users including anglers, boaters, and swimmers, as well as aquatic resources. Sediment impacts at each of these crossings were not analyzed on a site-specific basis, but rather were modeled using input parameters (e.g., substrate composition and size distribution of fines, median substrate size (d50), and water velocity at each stream) that are specific to fish streams in the watershed but not to specific crossing locations. We find this generic modeling of water crossings inadequate. CO29-6

i. South Umpqua Crossing Impacts

One example of inadequate site-specific impacts is found at the eastern crossing of the South Umpqua River at MP 94.7. The South Umpqua River is listed in the Nationwide Rivers Inventory (NRI) and is characterized as possessing "outstandingly remarkable" fish and historic values judged to be of more than local or regional significance. The South Umpqua NRI listing includes the reach from Tiller downstream to the confluence with the North Umpqua River, and sites the river's recreational and historic properties as outstandingly remarkable values. The pipeline would cross this section of river in two locations, MP 71.3 and MP 94.7. Further, a 27-mile stretch of the South Umpqua from Tiller upstream to the confluence of Castle Rock Fork and Black Rock Fork is undergoing study by Oregon Parks and Recreation Department for designation as a state scenic waterway, and while this section would not be directly impacted by the project, it is worth noting that both state and federal agencies have recognized the unique values present on the South Umpqua- values that will be negatively affected by the Pacific Connector Pipeline.

For actions proposed that would impact NRI listed rivers, it must be determined whether the proposed action could have an adverse effect on the natural, cultural, and recreational values of the NRI segment. Adverse effects on NRI rivers may occur under conditions which include introduction of visual, audible, or other sensory intrusions which are out of character with the river or alter its setting, as well as deterioration of water quality[2]. While the DEIS states that mitigation procedures would maintain stream conditions and quality and would not adversely affect the South Umpqua's river status, we are concerned about the short-term impacts to the South Umpqua fishery and river access for recreational users, as well as potential long-term impacts from pipeline leaks or failure that could have devastating implications for South Umpqua chinook, cutthroat trout, and Coho.

The site-specific crossing plan developed for the eastern South Umpqua River crossing at MP 94.7 would use a diverted open-cut method to limit water quality impacts by creating a "dry" working area isolated from the river by diverting flow to one side of the channel at a time. The DEIS states that the proposed diverted open cut of the South Umpqua River is scheduled to coincide with the low water season of late summer/early fall to minimize effects on boaters and anglers in the area (DEIS at p. 4-544). It is unclear from the DEIS how long construction will occur at this crossing, and hence what the impacts may be for access to the South Umpqua for recreational anglers and guides operating in the area. There also appears

[2] National Park Service Nationwide Rivers Index website, accessed July 2, 2019 at https://www.nps.gov/subjects/rivers/consultation-instructions.htm.

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CO29-6 As discussed in section 4.5.2 some adverse effects to fish resources and habitat would occur and these would be local, short term, and not substantial in any stream crossed by the pipeline. Assessment of potential sediment concentrations to stream crossings considered many watershed specific factors that would reasonably representative of crossings. Also literature values, including the results from multiple studies of actual measurements, were also considered and indicated similar results to those modeled. At the level of assessment developed for a NEPA analysis these methods are acceptable. As indicated the pipeline channel crossing activities on the South Umpqua River could take about 14 days. However only half of the river channel would be disturbed at a time, so movement of fish through the area would not be impeded. Concerning the NRI river status as indicated areas crossed are designated and do not need to be assessed for this type of effect. State scenic river determination has not yet been made for the potentially affected stream reaches and are therefore not assessed. As indicated in response to comment SA2-8, State permitting process may impose other specific actions at crossings if the proposed actions do not meet their permitting requirements.

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to be no alternative plan for avoiding impacts to recreational user access from open cut construction should timelines be delayed.

The South Umpqua provides spawning and rearing habitat for fall chinook, spring chinook, and Coho salmon. The spring run of adult chinook salmon enters the Umpqua Basin in late February and continues through September. Spring chinook juveniles stay in fresh water for one year before migrating to the ocean. Fall chinook, on the other hand, enter the main Umpqua River in August and continue through December. Juveniles emerge from their gravel nests and immediately migrate to the ocean[3]. From the timing of open cut construction proposed on the South Umpqua in the DEIS, it is evident that impacts to spring and fall chinook could be significant, with construction impacting adults migrating to spawning grounds in the upper basin, and spring chinook juveniles utilizing rearing habitat in the project area.

The South Umpqua crossings are only one example of how the DEIS fails to adequately analyze impacts from construction of water crossings to fish, wildlife, and recreational users including hunters and anglers.

CO29-6 cont.

D. The DEIS fails to adequately analyze impacts to terrestrial species, in particular big game species.

The DEIS provides some information on big game species, some wildlife management data and offers some benign recommendations for minimizing impacts to big game habitat. It fails to adequately discuss migration corridor movements and construction activities' effect on such movements, nor does it provide adequate restoration discussion for habitat impacts. Pipeline development in oil and gas fields across the West directly impacts big game, as witnessed in oil and gas fields in Wyoming and Colorado. Activities interrupt calving, fawning and rearing activities. The creation of new roads and improvement to old roads will also impact big game populations and health. Surveys cited in the DEIS on habitat conditions and big game presence are very dated (2003) and require updating. Impacts from blasting activities was briefly mentioned in general, but lack of any mitigation to account for impacts was lacking.

CO29-7

E. BLM and Forest Service plan amendments to allow PCPP ROW exceptions in rare and critically important fish and wildlife habitat is a precedent setting move and opens the door for future proposals to also seek exceptions for RMPs or LRMPs that provide essential protection standards or management measures.

The DEIS provides four alternative variations under the Preferred Alternative. While we appreciate that several important requirements and adjustments were made to those four variations, we are concerned about the precedent-setting nature of providing exceptions for pipeline route access in important threatened and endangered fish habitat. Once this corridor is approved and developed, a new route is made and regardless of the language, as witnessed in this current adaption to it in the RMPs and LRMPs, future companies can potentially request the same exceptions. Since there has not been a definitive need rationalized that this Project is necessary, we argue that providing exceptions for access into high value habitat that has been protected under RMPs and/or LRMPs for valid and scientific reasons is unacceptable.

CO29-8

In addition, and as recognized in the DEIS, new corridors offer new opportunities for human access and increased off-road access. This sets up another problematic issue with respect to agencies managing illegal

[3] Oregon Explorer Natural Resources Digital Library, accessed online 7/2/2019, https://oregonexplorer.info/content/umpqua-basin-fish-species

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CO29-7 Migration corridors have not been identified by management agencies. The pipeline is not expected to effect migratory corridors during operation; efforts are being made to minimize construction effects to big game movement by restricting construction on winter range and implementing construction BMPs such as maintaining trench crossings and implementing speed limits. Oil and gas extraction activities in Wyoming and Colorado create a much different type of disturbance than a pipeline, so studies from those types of activities would not be applicable to this Project. The 2003 references used in the Game Animals section includes the ODFW mule deer management plan which has not been updated since 2003, the FWS 2003 final rule to remove the Douglas County DPS of Columbian white-tailed deer, the ODFW elk management plan which has not been updated since 2003, and a reference to a recommended BMP for providing wildlife crossings at the pipeline trench. These documents are up to date in terms of the content being referenced.

CO29-8 Amendments to BLM RMPs and Forest Service LRMPs for the Pacific Connector Pipeline would not set a precedent. Use of plan amendments is a well-established procedure outlined in 43 CFR 1610.5-5 and 36 CFR 219.13. Although future proposals for co-located rights-of-way on federal lands could potentially be proposed, they would be evaluated on a case-by-case basis. The potential for increased off-road access is addressed in the Recreation Management Plan of Development (see final EIS appendix F.10).

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road access and impacts to watersheds. Although the DEIS states that amendments are project-specific and would not change the future management direction, we believe it actually would. The FS and BLM would have to account for increased management in areas that will become open for potential public access, monitor ROW reclamation efforts and potential issues, and account for any discrepancies.

Finally, the three national forests are undergoing plan revisions under the Northwest Forest Plan Revision (NWFP) process. The DEIS fails to include mention of this and what the revision process may have on this Project. The recently released Science Synthesis (2018) report (Synthesis of Science to Inform Land Management Within the Northwest Forest Plan Area) provides a comprehensive review of the science since the 1994 NWFP and a discussion on future active management direction to promote a full complement of biodiversity and ecological resilience for 19 national forests (including the Winema, Umpqua and Rogue River NFs) in the Pacific Northwest, including threatened, endangered and critically sensitive aquatic species.

CO29-8 cont.

F. The DEIS fails to adequately analyze impacts to water quality.

a. 401 Water Quality Certification

The State of Oregon recently determined that the Project violates the state's water quality standards. As noted in the 401 order, potentially significant impacts to water quality include significant temperature increases in numerous stream segments, decreases in dissolved oxygen levels in Coos Bay, and further degradation of stream segments that are already water quality impaired for temperature, dissolved oxygen, pH, turbidity, and sedimentation. The proposed project would also violate Oregon's water quality standard for temperature by removing riparian vegetation that shades streams, causing significant stream warming.

DEQ in its denial of the 401 certification for the project specifically identifies the removal of effective riparian shade as a factor for its denial, stating: "Given the incomplete thermal impact assessment and the lack of thermal mitigation plan to restore effective shade DEQ is unable to determine that JCEP's operation of the pipeline will comply with Oregon's temperature standard.[4]" Thermal impacts from the Project are of great concern to TU and our membership, particularly because many of the proposed crossings occur in headwater streams that are tributaries to fish-bearing streams lower in the watershed. These headwater streams lower temperatures in downstream reaches by providing cold water inputs, particularly in dry summer months when flows decline, and temperatures are kept lower by subsurface hyporheic sources. The Project proposes many crossings through streams and rivers with elevated temperatures that have led to their inclusion on Oregon's 303(d) list of impaired waterbodies. Damming and dewatering actions proposed by JCEP would reduce the volume of cold groundwater available for hyporheic exchange in the reach below each waterbody crossing, leading to increased downstream temperatures and harmful impacts on salmonids.

CO29-9

b. Discussion of HDD and DP drilling fluid components and consequential management is inadequate.

The use of HDD and DP drilling technologies to cross waterbodies not available for other types of crossings has the potential for frac-outs as identified in the DEIS. Understanding the need to avoid an open cut

CO29-10

[4] Evaluation and Findings Report Section 401 Water Quality Certification for the Jordan Cove Energy Project, May 6, 2019 accessed online at https://www.oregon.gov/deq/FilterDocs/jcevalreport.pdf, p. 68.

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CO29-9 It is not the role or scope of the federal EIS to assess the Project's compliance with State regulations. We assume that the State would determine if the Project is in compliance with the State requirements during their review of the applicant's State permit applications. As disclosed in section 5 of the EIS, any authorization from the Commission would be conditional on the applicant acquiring all applicable federal and federally delegated permits.

CO29-10 Section 2 and section 4.1 address HDD. These sections have been revised to include additional analysis.

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method across the Coos Bay area, we are concerned about the underestimation of any potential contamination, the use of water withdrawals required for the fracking operations, the content of the drilling muds, and the significant length of the HDD action.

We request that FERC increase their analysis and contingency plans to address the above issues. This means have an established and approved treatment plan in place PRIOR to construction, rather than after an incident occurs, as described in the DEIS at p. 4-267. The assumption that all drilling muds will be diluted downstream should any escape is not defensible nor acceptable. Unintended leaks, spills and the likelihood of a frac-out given the length of the HDD operation were not adequately and thoroughly discussed in the DEIS. Discussion of drilling muds composition was basic and elementary. CO29-10 cont.

Drilling muds contain more than water and bentonite, contrary to what the DEIS states. The DEIS did not disclose the full component of chemicals used in drilling muds and should. All drilling fluid products must reveal their chemical makeup prior to drilling operations. Drilling muds must not contain diesel fluids (many do) and return fluids must be contained and remediation activities clearly discussed. Containment and prevention plans must be more robust. Surveys for water quality issues must be included in the plans and should include pre-, during, and post-surveys and water sampling in order to account for any problems associated with HDD operations.

G. The DEIS fails to adequately analyze impacts to water resources from Project construction and operation.

The pipeline will cross several different water bodies, many that are water quality impaired. The DEIS does not include sufficient analysis of how the stream crossings and related activities will alter the hydraulic and geomorphic properties of the waterbodies at the crossing sites, whether they will affect the hyporheic flow regimes of the affected waterbodies, whether they will affect water availability in the sub-basins where Project activities are occurring and whether there will be other impacts associated with hydrostatic testing.

For instance, the DEIS estimates of water volumes, associated truck traffic and dust suppression coupled with other water withdrawals appear inadequate. The estimates provided for water used for dust abatement and subsequent truck traffic are very low and unsupported. The DEIS states that five water trucks per five construction spreads per day will be used to abate dust issues. We find inconsistencies in the simplicity of this statement. The DEIS does not discuss the heavy traffic that will occur along the spreads in order to complete construction activities, it does not include ancillary roads, parking and staging areas, compressor station development areas, or entrance and exit roads on both private, county, federal and state lands. CO29-11

Of more concern to TU is where this water will come from and the additional other water requirements needed for this Project that don't seem to be included in the equation. The DEIS states surface waters will be drawn to fill these tanks as a first resort; wells and domestic water may also be used. In addition to the potential for underestimating the amount of water required for dust suppression, particularly during the dry season, is the additional water requirements and eventual sources of this water for activities such as HDD and DP drilling (needed to mix with drilling muds during the fracking operation), hydrostatic testing of the pipeline upon installation, and other water uses associated with this Project. The DEIS must include additional information on projected water sources and quantity for all of these activities.

Finally, the DEIS states that the use of DuskLock (DEIS at p.4-112) is to be considered as a road dust abatement product. Before any such application is considered, we strongly recommend increasing the

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CO29-11 See responses to comments CO28-187, CO28-250, and SA2-221 concerning requirements to obtain water rights for withdrawal and restrictions on withdrawal rates. Additional text was added concerning potential affects to hyporheic flow. During the State permitting process (e.g., 401 certification) additional specific actions, such as changes in buffer size for application of substances, may be applied if they are needed to meet the State requirements for projection of water quality. Additionally the applicant would need to apply for an NPDES permit for any discharges including hydrostatic test water. The applicant would be responsible for all permit applications to the State. It is not the role or scope of the federal EIS to assess the Project's compliance with State regulations or OARs, or to outline these requirements. We assume that the State would determine if the Project is in compliance with the State requirements and OARs during their review of the applicant's State permit applications. As disclosed in section 5 of the EIS, any authorization from the Commission would be conditional on the applicant acquiring all applicable federal and federally delegated permits.

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buffer application from riparian and stream areas from the proposed 150 feet to 250 feet or more. Any road that is less than those amounts adjacent from a riparian or stream area should not have any chemical application applied.

H. DEIS fails to adequately analyze impacts to recreation, hunting, fishing and outdoor experiences on BLM and FS lands.

The DEIS must analyze the impacts of the Project on current recreational uses including on the Rogue River, Siskiyou, Umpqua and Fremont-Winema National Forests and identify reasonable mitigation measures. Although TU's greatest focus is on aquatic resources, our membership and supporters include hunters and conservationists who also enjoy the backcountry landscapes of the three national forests and the BLM planning areas. Potential impacts caused by heavy traffic encounters during fall and spring hunting seasons, timing limitations, impacts to streams affecting fishing opportunities and general outdoor recreation experiences have not been addressed in the DEIS. Plans for minimizing encounters with construction work and traffic should be included in the analyses. This is of particular importance since the Project is proposed to span over a five-year period. CO29-12

I. The DEIS fails to identify adequate mitigation measures for potentially significant impacts to aquatic resources; does not adequately address the application of stipulations; uses mitigation measures, stipulations and BMPs interchangeably; and does not distinguish between stipulations and mitigation measures (significantly different) and BMPs (Best Management Practices). Inadequate setback buffers are not sufficient mitigation for impacts to adequate resources.

The DEIS in Chapter 1, discusses the Forest Service's (FS) intent to use the EIS process to identify specific stipulations, including project design features and mitigation measures, related to resources within their jurisdiction for inclusion in the ROW grant (DEIS-1.3.3 – p.1-9). This section is the only place where the term "stipulations" is discussed; stipulations are very different than mitigation measures and TU would recommend that for any amendment to FS plans or BLM plans, stronger stipulations be applied to protect critical and sensitive fish and wildlife habitat.

The FS plans are old – vintage 1990's for all three national forests being accessed for the Project route. Stipulations designed to protect resources do not reflect current studies and research that provide reasoning behind increased buffer stipulations, or timing stipulations. Trout Unlimited has long contended that the greater a buffer setback to a riparian, stream, or wetlands and springs areas, the lesser chance of permanent harm to coldwater fisheries, or aquatic environments. Many new and updated FS plans and BLM plans include stronger buffers and setbacks around native fish habitat. Some of these buffers are up to a half-mile wide due to the important recognition of protecting native fisheries. CO29-13

Because of the intensity of the number of coldwater perennial streams crossed in the Project and the small setback amounts offered in the DEIS, TU believes these stipulations will not offer the desired protection. The implications of current scientific literature for management are that a stream buffer, a riparian setback, or forested buffer should be viewed as not only a parcel-specific best management practice, such as a stormwater management pond or a bioretention structure, but also as a watershed-

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CO29-12 Impacts to recreation and tourism from construction and operation of the Pipeline on federal lands are evaluated in section 4.8.2.2 of the EIS, which addresses impacts to federal parks, recreation areas, and other national designations, including National Parks and Monuments, National Scenic Byways, Wild and Scenic Rivers, National Wildlife Refuges, IRAs, National Recreational Areas and Trails, Extensive Recreation Management Areas, Federal Recreational Lakes and Reservoirs, and ACECs. In addition, section 4.8.2.3 evaluates the environmental consequence on federal lands, including "other undeveloped areas" (i.e., those areas that are not IRAs, Wilderness, or PWAs). Additional information and proposed mitigation measures are identified in Appendix S to Pacific Connector's POD filed with the FERC in January 2018 (see appendix F.10 to the EIS).

CO29-13 Measures to protect aquatic resources are identified in the Plans of Development. These project design features would all be requirements in the ROW grant whether they are listed as stipulations or BMPs (e.g., see appendices I, U, and BB of the POD and section 4.3.4 in the draft EIS; updated Plans of Development are included in the final EIS in appendix F.10).

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scale management system.[5] Other studies illustrate increased buffers provide more protection[6] including protecting native trout habitat. Neighboring BLM offices in the West are implementing more aggressive stipulations during the planning process[7], which not only allows for more protective resource measures but also provides the resource managers with the options to adjust stipulations at the ground and project level—something they currently are either unable or reluctant to do once an area has been committed for a project such as a pipeline route or leased for oil and gas projects, using outdated stipulations or mitigation measures.

The use of HDD and DP techniques to avoid open wet water crossings of several rivers involves the use of hydraulic fracturing using drilling muds. While the DEIS does provide a brief and inadequate discussion on mitigation measures for preventing contamination, it fails to offer important stipulation setbacks during the drilling process that would protect upstream and downstream aquatic habitat. We suggest, though the proponents may object, that the buffer stipulations for these activities be increased. Drilling activities are hazardous by nature and incidents of contamination do occur. Studies on brook trout and hydraulic fracturing in the Marcellus Shale region illustrates the need to implement extra precautionary measures, including expanding buffer zones, to prevent increased harm from water withdrawals, increased sediment loads occurring in drilling activities, and chemical waste implications as a result of hydraulic fracturing activities.[8]

CO29-13 cont.

Finally, TU is concerned about the crossover use in the term 'mitigation measures' simultaneously with Best Management Practices (BMPs). The proponent has an obligation to develop their Project responsibly including implementing BMPs. Mitigation measures are beyond those basic responsible management activities and should not be confused with BMPs. We noticed this crossover usage several times in the document.

[5] Chagrin River Watershed Partners, Inc. 2006. "*Riparian Setbacks: Technical Information for Decision Makers.*".

[6] Eaton, Timothy T. *Science-based decision-making on complex issues: Marcellus shale gas hydrofracking and New York City water supply*. Science of the Total Environment 461-462 (2013) 158-169. http://seesdept.social.qwriting.qc.cuny.edu/files/2017/09/Eaton13STE-paper-2017.pdf ; McBroom, Matthew et al. 2012. *Soil Erosion and Surface Water Quality Impacts of Natural Gas Development in East Texas, USA*. Ecological Watershed Management. Water 2012, 4(4), 944-958. https://doi.org/10.3390/w4040944; Conservation Tools.org. *The Science Behind the Need for Riparian Buffer Protection*. https://conservationtools.org/guides/131-the-science-behind-the-need-for-riparian-buffer-protection.

[7] The BLM and the Forest Service more and more are trending to increased buffer setbacks, as witnessed with the most recent buffer establishment in the Little Snake BLM Field Office in Colorado (establishing a quarter-mile buffer on all perennial streams, RMP October 2011). Both agencies have adopted the buffer approach for oil and gas activity in their land use plans with the application of consistent setback stipulations for coldwater fisheries. In Utah's Dixie National Forest FLMP (2011) a 500-foot NSO buffer is applicable for all suitable native trout reintroduction habitat. In Montana, the BLM's Dillon Field Office RMP (2006) implemented a half-mile No Surface Occupancy (NSO) stipulation from the centerline of streams with pure populations of Westslope cutthroat trout, Arctic grayling and Blue Ribbon fisheries. The BLM's Butte Field Office RMP (2009) stipulates a half-mile NSO from the centerline of streams containing conservation populations (populations of trout with greater than 90% purity) of cutthroat trout, Arctic grayling, bull trout, and Blue Ribbon fisheries. The Butte BLM FO went one step further when they also created a half-mile NSO from the centerline of streams with a high potential for restoring native trout populations (RMP 2009). In Wyoming, the Lander BLM FO recently established one-quarter mile buffers along native cutthroat trout streams (2014 FEIS/ ROD).

[8] Weltman-Fahs, Maya and Jason M. Taylor. 2013. *Hydraulic Fracturing and Brook Trout Habitat in the Marcellus Shale Region: Potential Impacts and Research Needs*. American Fisheries Society. Vol 38, No. 1. January 2013.

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J. The DEIS fails to adequately analyze the cumulative effects of the Project including the effects climate change has on design, construction activities, effects on stream temperatures, and more, for this Project.

NEPA regulations specify that an EIS should consider any cumulative impacts of agency action. 40 C.F.R. § 1508.25(c). "Cumulative impact" is defined as "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... undertakes such other actions." *Id.* § 1508.7.[9]A "likely" or "reasonably foreseeable" effect is interpreted to mean, "that the impact is sufficiently likely to occur that a person of ordinary prudence would take it into account in reaching a decision...."[10] Additionally, more than a cataloguing of related past, present, and future actions is needed; the DEIS must provide detailed analysis.[11] "[V]ery broad and general statements devoid of specific, reasoned conclusions," will not suffice.[12]

Trout Unlimited is concerned about the lack of a strong and robust cumulative analysis in the DEIS. Each section had a small component that vaguely and briefly described cumulative impacts and dismissed them. The scale of this pipeline project is significantly large and crosses many types of landscapes and impacts a variety of ecological conditions. NEPA requires that an EIS contain an aggregate discussion of the cumulative impacts, both direct and indirect, of a project or plan. This includes past and present and the effects of other reasonably foreseeable future actions on resources of concern. Since the scale of the EIS is so large, we believe that FERC should prepare a separate chapter on cumulative effects.

CO29-14

The Project proposes to change land use management in several federal agencies and the likelihood of changing and altering environmental conditions is significant and recognized in the DEIS. However, the DEIS fails to adequately address the cumulative effects. Numerous connected actions occur in this proposed Project – actions such as road development and improvements for access to route corridors, electric grid improvements, development of infrastructure facilities such as compressor stations, housing, and staging areas. All of these connected actions must be cumulatively analyzed and included in the EIS.

a. The DEIS fails to adequately consider climate change effects.

The cumulative effects analysis must impart to the reader a sense of how resources are likely to be affected by the alternatives in the context of past and future actions. The best available information indicates that climate change will have a significant negative effect on cold-water fish populations now and in the future. Climate change implications that are likely to have harmful effects on certain of the listed species include: warmer stream temperatures; warmer ocean temperatures; increased ocean acidity; contracting ocean habitat; contracting inland habitat; degradation of estuary habitat; reduced spring and summer stream flows with increased peak river flows; large-scale ecological changes, such as

CO29-15

[9] Sierra Club v. Marsh, 976 F.2d 763, 767 (1st Cir. 1992).

[10] Id. A Project need not have received final approval to be "reasonably foreseeable." Surfrider Foundation v. Dalton, 989 F. Supp. 1309, 1324 (S.D. California 1998).

[11] Muckleshoot Indian Tribe v. U.S. Forest Service, 177 F.3d 800, 810 (1999). The court explained:

> [The EIS] must analyze the combined effects of the actions in sufficient detail to be "useful to the decisionmaker in deciding whether, or how, to alter the program to lessen cumulative impacts' [*quoting City of Carmel-By-The Sea v. U.S. Dept. of Transp.*, 123 F.3d 1142, 1160 (9th Cir. 1997)]. Detail is therefore required in describing the cumulative effects of a proposed action with other proposed actions. *Neighbors of Cuddy Mountain*, 137 F.3d at 1379; *see also Blue Mountains Biodiversity Action v. Blackwood*, 161 F.3d 1208, 1214-15 (9th Cir. 1998).

[12] Id. at 811.

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CO29-14 The draft EIS includes a separate section devoted to cumulative effects. See section 4.14. The process we used to identify the past, present, and reasonably foreseeable projects included in our cumulative effects analysis, including the geographic scope applied for separate resource topics, is described in that section.

CO29-15 The impacts of climate change in the Pacific Northwest are discussed in section 4.14 of the draft EIS. Additional language regarding resource-specific impacts, including impacts on aquatic species, has been included in the revised section 4.14 of the final EIS.

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increasing insect infestations and fires affecting forested lands; invasions of coldwater fish habitat by warmwater species, increased rain with decreased snow; diminishing snow-packs; increased flood flows; and increased susceptibility to fish pathogens and parasitic organisms that are generally not injurious to their host until the fish becomes thermally stressed. Even a single year with detrimental climate conditions can have a devastating effect on the listed salmonids. The cumulative effects analysis should adequately describe the Project's impacts on key aquatic resources in light of climate change conditions and whether the effectiveness of proposed mitigation and avoidance measures will be diminished by climate change effects. CO29-15 cont.

Unfortunately, the DEIS fails to take a hard look at the climate change impacts of this Project and provide a thorough discussion on climate change actions as they affect the PCPP route and development activities. The DEIS's cursory overview of a dryer and thus, less water availability in some portions of the route do not provide for a robust discussion and analyses of the effects of climate change on the environment and aquatic species. In addition to air emissions from the compressor stations, the impacts from water withdrawals either surface or via wells has not been adequately presented. In areas where drought is a common factor along the ROW route, withdrawing billions of gallons of water for the variety of uses required for the construction of the pipeline needs to be assessed.

K. The Project Description should include the Pipeline and Hazardous materials Safety Admin Advisory bulletin, DOT 4910-60-W dated May 2, 2019.

Recent information on pipeline safety and concerns following a number of incidents of leaks, ruptures, injuries and deaths need to be included in the EIS. The Department of Transportation sent out a bulletin on May 2, 109 that discusses hazards across mountainous and rugged landscapes. Because of the potential for spills, ruptures and explosions associated with the construction and implementation of pipeline activities. Current legislation in Congress to strengthen pipeline safety programs is being considered due to the increased number of pipeline accidents. In addition, we request FERC to make sure the EIS includes updated gas transmission and gathering rulemaking efforts, as defined by recent testimony of the Administrator of Pipeline and Hazardous Materials Safety Administration. We recommend FERC include stronger analyses and mitigation plans in the evaluation of this Project. CO29-16

III. Summary

Trout Unlimited's review of the DEIS has identified numerous concerns and deficiencies in providing a thorough and required "hard look" at the environmental impacts that can and most likely will occur with this Project. Trout Unlimited is concerned about the impacts to native, imperiled, threatened and endangered, and sensitive fish species across the length of the PCPP route. Overall, we find that the DEIS lacks an equally rigorous and robust analysis for each of the alternatives discussed for the PCPP route. There are many assumptions made, without scientific backup, which we believe are unacceptable in trying to provide strong comparative merits for the alternatives. Further, the DEIS fails to properly address the Purpose and Need of the Proposed Action and their distinctly separate implications and also fails to provide a rigorous exploration and review in each of the range of alternatives that can accomplish the purpose and need of the Proposed Action. The DEIS fails to adequately analyze impacts to aquatic resources, recreation including hunting, fishing, and outdoor experiences, and the effects that climate change has on design, construction, stream temperatures, and more for this Project.

For all of our stated reasons, we respectfully urge FERC that the No Action Alternative is the correct choice to select for this proposed project at this time. We remain committed to continuing our involvement and offer our support to agencies should they have any questions or comments about what we have provided.

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CO29-16 The Project facilities would be designed, constructed, tested, operated, and maintained to conform with USDOT requirements found in 49 CFR Part 192, Transportation of Natural and Other Gas by Pipeline: Minimum Safety Standards; the FERC requirements at 18 CFR 380.15, Site and Maintenance Requirements; and other applicable federal and state regulations (as described in section 2).

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Sincerely,

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CO30 Oregon Women's Land Trust, J. DeMarsh, page 1 of 8

July 2, 2019

Kimberly D. Bose, Secretary
Federal Energy Regulatory Commission
888 First Street NE, Room 1A
Washington, DC 20426

Docket Number CP17-494-000 and CP17-495-000
Jordan Cove LNG Terminal and Pacific Connector Pipeline Projects.

Please consider these DEIS comments from Oregon Women's Land Trust (OWLT) on the Pacific Connector Gas Pipeline and Jordan Cove LNG Terminal. We are a non-profit organization dedicated to providing access to land and land skills for women while protecting and restoring the natural environment of the land in our care for the sake of its ecological values. We have hundreds of members and supporters across Oregon, the US and the world. We are impacted by the Pacific Connector Gas Pipeline's (PCGP) proposed route near MP 85.5. We are also virtually adjacent to BLM's Late Successional Reserve crossed by the pipeline at MP 85. These BLM forests near our property provide a sacred refuge for us, as well as provide nesting, roosting and foraging (NRF) habitat for spotted owls in the Known Owl Activity Center (KOAC P2294) near MP 86 and other spotted owl habitat near MP 85 and 87.

1. Alternatives through and next to OWLT

The 2012 NEPA for Docket Number PF12-17-000 considered two alternatives through our property, the northern alternative and the southern alternative. Our scoping comments stated:

> "Both routes are objectionable to us for reasons stated below. However, the northern route through our largest trees and the adjacent BLM land with the Known Owl Activity Center (KOAC) is particularly objectionable."[1]

We were relieved when, in 2016, FERC denied the entire project because of "adverse impact on landowners and communities" and a lack of public benefits[2], so that neither alternative through our property would be used.

The current preferred alternative to the pipeline right-of-way is on neighboring Seneca property next to our southern boundary. Our property is less than 100 feet from the pipeline easement's edge. It crosses the road that is our only ingress to our property, and is less than 500 feet to our water well. We would be within sight of the regular weekly fly-overs by Pacific Connector, and thus subject to their invasive, prying eyes. We are within the blast zone if there is a natural gas leak. If herbicides were spread aerially on the right-of-way, we would be subject to herbicide drift. (We have cared for and kept our land free of chemical, mechanical and other disturbances for over 40 years). CO30-1

[1] OWLT scoping comments to FERC dated 10-12-2012.
[2] Order Denying applications for certificate and Section 3 authorization. FERC 3-11-16.

CO30-1 Comment noted.

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2. Impact on The Mission and Members of OWLT

The OWLT mission statement states: "Oregon Women's Land Trust is committed to ecologically sound preservation of land, and provides access to land and land wisdom for women." Our Articles of Incorporation commit us to "preserve land and protect it from speculation and over-development, and to foster the recognition of land as a sacred heritage." A fossil fuel methane pipeline so close to our border undermines our mission.

Women's Safety concerns

We are committed "to promote, explore, develop and maintain the spiritual, physical and cultural well-being of women by providing women access to land and encouraging self-sufficiency and means to attain it."[3] In doing this, we assure privacy to those who spend time on the land, and attend our activities and functions. OWLT provides a place of safety and sanctuary: a place of quiet refuge, a retreat, which offers hands-on experience with land skills and forest wisdom in a natural meadow & woodland setting. Pacific Connector's weekly flyover of the right-of-way severely impacts this privacy, which is fundamental to our activities and programs. This is a major impact on the human environment for us and all who live near the pipeline that FERC should have addressed in the DEIS. CO30-2

Many of our events and trainings are conducted outdoors. We require the same privacy in our woods and meadows as we require indoors. In a private rural setting, having people watch you from the air is like having people peer into your living room. Having the weekly flyovers[4], with men looking down on our members and our events, would be like men peering into our windows.

When Pacific Connector workers fly over the pipeline route regularly, able to observe at will, and without limit, our private retreats, programs and meetings, who is on the land, where they are, what they are doing, and whether any woman is alone or in a secluded area, severely undermines the safety of women on the land.

The DEIS failed to address our concern about how we and other landowners can be assured that workers on the pipeline will be screened for any history of violence. Will there be criminal background checks on workers including for restraining orders, property damage, sexual or domestic violence, theft, etc., so that such individuals do not threaten our peace or disrupt our activities? CO30-3

The DEIS failed to address our concern that a pipeline right-of-way will encourage illegal use by ATV riders, who already trespass on surrounding lands. With that trespass comes increased danger from fire, criminals and poachers.

Disturbed land on the right-of-way will grow back with thick brush, including flammable noxious weeds. The DEIS failed to consider how this brush and the fire hazard will be CO30-4

[3] OWLT Mission Statement
[4] DEIS 4-24

CO30 continued, page 2 of 8

CO30-2 Pacific Connector would not fly the right-of-way on a weekly basis, but they would fly the line periodically, which could affect people who are sensitive to aircraft flying overhead. Flyover inspections would be focused on the right-of-way and not the activities of people on nearby properties.

CO30-3 There is no specific requirements that the applicant exclude workers with criminal histories from working on the Project.

The impacts and measures to minimize ATV use in unauthorized areas are addressed in section 4.10.

CO30-4 The methods used to control vegetation within the right-of-way are addressed in sections 2 and 4.4. The effect of the Project on fire risks is addressed in sections 4.4 and 4.13.

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controlled without dangerous pesticides or frequent work-crews disrupting our lives. The long-term impacts of these dangers should have been evaluated in the DEIS. CO30-4 cont.

Liability

The DEIS failed to address concerns of landowners on how to hold the company accountable for damages caused to land adjacent to the pipeline. For instance, if our well is contaminated or otherwise damaged, there is no recourse for us, or other landowners, to get the company to fix or pay for their mistakes. The only recourse is to file a lawsuit with all of the expense that entails, especially against a multi-national energy company. CO30-5

However, the DEIS clearly states landowner's liability is to PCGP in the event a landowner accident should harm PCGP in any way.[5] This one-way liability is grossly unfair.

The DEIS must consider these impacts to the human environment and landowners from granting approval of this profoundly impactful pipeline.

3. Pipeline Safety and fire fighting in Class 1 Areas

The DEIS failed to consider the impacts of different safety standards required for the pipeline in rural areas, including our land. We, and many of our neighbors, are in a "Class 1" location because there are 10 or fewer homes on a one-mile length of pipeline. Compared to homes in urban areas, we would have fewer welds, thinner pipes, and a host of other reduced safety measures. FERC must consider the impact of the reduced safety standards on rural landowners and rural ecosystems, in an environment that is at high risk for fire and land-slides.

The DEIS claims (4-771) that the Class system is developed by USDOT, and that FERC has no control over it. True. ***But even if FERC has no control over it, FERC must consider the impacts of reduced safety measures for rural landowners.*** NEPA requires the EIS considers all significant "actions regardless of what agency undertakes such other actions."[6] If USDOT puts rules into place deeming rural Americans less worthy of safety measures than urban Americans, FERC must consider the safety impacts of the USDOT actions in the Class 1 and Class 2 areas of the pipeline. CO30-6

In the economic analysis, the DEIS failed to disclose how much money Pacific Connector is saving with the weaker safety regulations near our properties, or compare that money savings with the cost of an accident. The DEIS failed to consider whether it is appropriate to design a project that affects public safety in such a way as to save the Pacific Connector money at the expense of our safety.

FERC failed to consider an alternative that would fully finance rural emergency response services for when the pipeline leaks or blows up. For example, the Days Creek Fire Department will have over 19 miles of the pipeline route under their jurisdiction, yet their CO30-7

[5] DEIS 4-612
[6] 40 CFR 1508.7

CO30 continued, page 3 of 8

CO30-5 It is the responsibility of the landowners to negotiate terms and conditions of the easements on their lands (as disclosed in the EIS). The FERC is not part of the landowner negotiations with Pacific Connector.

CO30-6 As discussed in section 4.13 of the EIS, the USDOT regulates and defines the safety standards mentioned in this comment. We have no authority to require standards beyond these (e.g., thinker pipe in rural areas).

CO30-7 NEPA does not require that alternatives to mitigation options be considered. Section 4.9 addresses impacts to communities services, as well as the measures and requirements that would be implemented to minimize the effects to these services.

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budget is being cut, not enhanced by the County. Currently their budget is less than $21,000 a year. Even though Pacific Connector Pipeline is paying the County taxes, it's likely not enough to make up for the annual budget reductions. No money from the PCGP taxes to Douglas County is being added to the Days Creek fire department budget. After the pipeline is installed, the Days Creek Fire Department will have even less money to deal with emergency services – in spite of the fact that PCGP will save millions of dollars using reduced safety standards in rural areas like Days Creek.

CO30-7 cont.

4. Pipeline Safety in southern Oregon's fire-adapted forest ecosystems

Forests near our property burn naturally and often during the fire season. However, the DEIS failed to fully consider the impacts of the pipeline on wildland fire near our property and elsewhere. In fact, the DEIS erroneously says (4-774) that the "pipeline would be in areas where forest fires could occur…" In fact, the pipeline would be in an area where forest fires WILL occur.

The DEIS (4-775) makes light of the fire threat by claiming there is a draft ERP included in appendix H to the POD (We assume ERP means Emergency Response Plan.) But one look at Appendix H shows it is inadequate to deal southern Oregon fire issues. It is only 5 pages long, with it's own attachments A through E. But each of those attachments are blank, with the word "forthcoming" written on the title page. ***Forthcoming?*** The fire emergency response plan is mostly forthcoming? After 14 years of pipeline planning, Pacific Connector hasn't figured out how to address fire yet?

CO30-8

The clearcut lineal corridor could act as a wick, spreading fire further along the hot and brushy clearcut corridor. And our living area is right next to that corridor.

Our property is situated between two Block Valves, #7 and #8[7]. The DEIS failed to consider the impacts of wildland fire to these block valves, 18 areas on the pipeline with aboveground pipe. In spite of numerous scoping comments, the DEIS failed to disclose how a fire would impact above-ground sections of the pipe, and how easy or difficult it would be for personnel to travel to these valves, on logging roads through a forest fire, to turn them off, especially if a fire starts very close to one. The DEIS failed to consider the impacts to people or the ecosystem if a fire blew up a block valve, or if a fire were to prevent access to a block valve.

The DEIS must also consider the impacts of a wildland fire over the buried pipeline. The pipeline in Class 1 areas, in high rock areas, could be buried only 18" under the high-rock soil next to us. The DEIS failed to consider the insulating properties of only 18" of soil over the pipe, instead of just considering the 36" that is typical in other sections of the pipeline. How well would the pipeline withstand sustained intense heat from wildfire at 18" underground?

Additionally, the Army Corps of Engineers submitted a comment on this proposal in

[7] DEIS 2-19

CO30 continued, page 4 of 8

CO30-8 Wildfires are addressed in sections 4.4, 4.5, and 4.13. Implementation of measures outlined in the *Fire Prevention and Suppression Plan* (Appendix K of the POD) would minimize the risk of fires associated with construction and operation of the Project. Additionally, this plan includes fire response procedures to be implemented in the event of a fire.

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April, 2015[8], stating that even 36" of soil would not be a sufficient insulator if sustained fire were to occur over the pipe, such a burning tree falling into the right-of-way, or a burning slash pile were to burn over the buried pipe. Many slash piles are being left to deter OHV use of the right-of-way (DEIS 2-71). Since professional engineers disagree with FERC about the effectiveness of ground insulation, the DEIS should have considered these impacts of wildland fire on the pipeline. The DEIS ignored the Army Corps of Engineers comments in the last EIS and they were ignored again in this DEIS. The FEIS must address this issue.

CO30-8 cont.

5. Potential terrorist attacks on the pipeline

Several times we asked FERC, PCGP, and the BLM for maps of the route through our property and the adjoining BLM public land in the form of shapefiles, used in Google Earth. The BLM denied our request because, they claim: "the data would be accessible to individuals or groups seeking to exploit vulnerabilities in the nation's energy infrastructure, and Pacific Connector would suffer substantial commercial and competitive harm if its facilities were subject to attack."[9]

If the BLM, FERC, or PCGP thinks the pipeline near our land could be "subject to attack", and given it would be visible on Google Earth after construction, this danger should have been considered in the DEIS, especially considering the reduced Class 1 safety standards applied to our area.

CO30-9

Furthermore, since the real danger to the pipeline is after construction, when it contains pressurized gas and will be visible on Google Earth, the DEIS should have considered the risks of terrorism on the pipeline and at Jordon Cove, to people and the environment.

Given that the risk of terrorism doesn't exist until the pipeline is approved, built, and thus visible on Google Earth, denying us files during the public process, is simply unreasonable and nonsensical. Before this project is found to be in the public interest, we should be provided with all the maps we request using current mapping standards, such as shapefiles.

If the FERC, PCGP or BLM were taking the issue of terrorism seriously, then The Days Creek Fire Department should also be provided shapefiles of the pipeline through the 19 miles in their district (as well as other affected first responders along the full route)

6. BLM should not modify their Forest Plans to make the pipeline legal.

CO30-10

The DEIS claims that the BLM is no longer allowed to require mitigation.[10] Because no mitigation is allowed for violations of BLM's forest plans, the BLM will instead just change their forest plans to make clearcutting in LSRs and Riparian Reserves legal. This

[8] Letter from the Department of the Army Corps of Engineers, North Bend Field Office. April 6, 2015. Enclosure 1. (PDF page 56).
[9] Letter dated 8-12-13 from the BLM Department of the Interior to the Rogue Riverkeeper.
[10] DEIS 1-8

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CO30-9 We do not have any GIS data related to the pipeline. Security of the LNG facility and reliability and safety of the pipeline is addressed in section 4.13.

CO30-10 The proposed District Designated Reserve would allow for the construction and operation of the Pacific Connector Pipeline. Other than the area of the pipeline that would be managed with low growing vegetation (approximate 30 foot wide area), the District Designated Reserve would be reforested and other uses that did not conflict with objectives of the reserve would be allowed. The proposed project design features are designed to avoid or reduce impacts or restore conditions on all federal lands and are disclosed in the Plans of Development (see final EIS appendix F.10). Also, the applicant, consistent with BLM mitigation policies, has proposed compensatory mitigation actions on BLM lands. Additional discussion of these proposals has been included in section 2.1.4 and appendix F.12 of the final EIS.

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is done by creating a new BLM District Designated Reserve called the Pacific Connector Pipeline Reserve, to be managed according to the "values" of the pipeline.

The BLM land on both sides of us is a Late Successional Reserve which will have this new District Designated Reserve. We are dismayed that the BLM is allowing a foreign corporation to manipulate our wildlife and stream-side reserves so they can be clearcut, and so Pacific Connector's own personal clearcut reserve is in place instead, with absolutely no mitigation offered by the company for their destruction.

CO30-10 cont.

FERC must deny this process from happening. Likewise the BLM should decide against the new clearcut reserve replacing old growth reserves, with no mitigation offered in time for public comments, and maybe never. The conclusion in the DEIS (ES-5) that impacts from this project "would be reduced to less than significant levels with the implementation of proposed and/or recommended impact avoidance, minimization, and mitigation measures" can not be accurate if there are no mitigation measures to reduce the impacts on BLM lands. This plan, which destroys existing wildlife reserves without providing any reasonable mitigation, should be rejected.

7. Other Environmental Impacts

Electrified Pipe

The pipeline running next to our property will be electrified.[11] The DEIS failed to consider the impacts to below-ground ecosystems and ground-dwelling organisms and their ability to move on and through the right-of-way with an electrified pipe.

CO30-11

Climate Change

The FERC must consider cumulative impacts and connected actions, such as global warming and gas extraction methods like fracking. Fracking and increased global warming through the use of fossil fuels is inextricably linked to the pipeline proposed next to our land. The DEIS must consider these connected actions. Significant amounts of methane drilled by fracking escape into the atmosphere.[12] The process of fracking, liquefying, shipping, and other methane leaks along the way, makes fracked natural gas contribute significantly to climate change, especially since methane is 86 times more potent as a greenhouse gas than carbon dioxide[13] when it escapes unburned into the atmosphere.

CO30-12

Additionally, the LNG terminal will become Oregon's largest greenhouse gas contributor. That doesn't even count the emissions caused by fracking, shipping and burning the natural gas. The EIS must consider these cumulative impacts. As a nonprofit organization dedicated to preserving the natural environment, Oregon Women's Land Trust objects to these destructive environmental impacts to happen near our property.

[11] DEIS 2-42
[12] www.nature.com/news/methane-leaks-erode-green-credentials-of-natural-gas-1.12123
[13] www.epa.gov/outreach/qanda.html "86 times more potent" is based on a 20-year period.

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CO30-11 Cathodic protection is a technique used to reduce corrosion (rust) of the natural gas pipeline. This current is not expected to impede movement of ground-dwelling organisms. Cathodic protection is discussed in section 4.13.

CO30-12 Production, extraction (including from fracking), and the end-use of natural gas are not part of the scope of this EIS and are not under our jurisdiction, nor is the decision whether or not to export natural gas. Climate change is addressed in section 4.14.

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8. Man-Camps

FERC must consider the impacts of large populations of male temporary labor working along the pipeline route and on the LNG terminal. It has been found that human trafficking and violence plague these areas.[14] The DEIS must consider how this will impact local neighborhoods, and mitigate impacts of sex trafficking, violence and drugs on social services, police, domestic violence shelters, and women and girls. Human trafficking in the labor camps is an impact that must be addressed in the EIS and stopped.

The DEIS analysis of risks related to the influx of large numbers of male workers on the pipeline and terminal identifies real risks but proposes no solutions. This issue was raised in scoping by Oregon Women's Land Trust as well as by Native American Tribes. The DEIS recommends no mitigation for this, despite stating the issue very clearly:

> "Some articles [the DEIS cites five separate studies here] have focused on the Bakkan Oil Fields in North Dakota […] These articles focus on links between semi-permanent worker caps and negative impacts on female Native American populations. **The influx of large numbers of well-paid male oil workers at the North Dakota camps coincided with increases in sex trafficking, rape, and physical violence.'**[15] [our emphasis]

CO30-13

Though these studies focused on impacts to Native American women in areas near reservations, there is no reason to suppose that sex trafficking, rape and sexual assault would not affect Native and non-Native women alike in southern Oregon.

In public talks, the Douglas County Human Trafficking Task-Force has expressed concerns about the local impacts of this project, given their analysis that organized sex traffickers follow infrastructure projects around the country. Traffickers will easily identify locations of worker camps large and small along the pipeline route to make business worthwhile. Sex trafficking activities pose an existential threat to local women, both in the direct harm to trafficked women, the risk to local women of becoming trafficking victims, and from the commodification of women to workers who buy sex.

Despite the evidence that the DEIS cites, it fails to recommend any measures to reduce the risk to local women or to trafficked women. For example the DEIS could have recommended funding local prevention services, or require energy companies to provide trafficking awareness training to employees, such as the Energy-Industry specific programs developed by Truckers Against Trafficking.[16]

The very fact that we are talking about man-camps raises another issue, which is the failure of this project to offer equal benefit to the female public, who will get few of the jobs in this sexist male dominated job market. the DEIS should consider the project's

[14] http://www.marieclaire.com/culture/a15466/sex-trafficking-north-dakota/
[15] DEIS 4-589 – 4-590
[16] Truckers Against Trafficking Energy Program, Providing an industry specific response to human trafficking - https://truckersagainsttrafficking.org/energy-program/

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CO30-13 The proposed Workforce Housing Facility at the LNG terminal site is the only workforce housing facility proposed as part of the Project. Construction workers not residing at the proposed facility are expected to seek other temporary living situations as discussed with respect to the Pipeline in section 4.9.2.2. Text addressing the concern that informal worker camps could develop along the Pipeline's length has been added to section 4.9.2.2.

As discussed in section 4.9.1.1 of the draft EIS, some studies and articles have identified an increase in crime as a result of oil and gas development in North Dakota and Wyoming. Other studies found inconclusive links between crime and increased oil and gas activity or only minor increases in crime. Studies have also concluded that impacts depend on a range of variables, with different oil field counties experiencing different levels and types of crime-related impacts. As a result, attempts to use this information to estimate related potential increases in crime from the Project would be speculative, as noted in the draft EIS. Local and federal law enforcement agencies are responsible for enforcing laws, including those related to sex trafficking and this would be the case if the presence of the construction workforce were to coincide with an increase in this type of activity.

The temporary Jordan Cove housing facility is known as the Workforce Housing Facility. While workers have not yet been hired for the Project, it is reasonable to assume that the majority of the construction workforce hired for the Project would be male, given that the workforce in the U.S. construction industry is predominantly male (Seger 2018). Employment and income would, however, be supported in other economic sectors in the local and statewide economy, the majority of which are less male-dominated than the construction industry.

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failure to provide equal benefits, economic or otherwise, to half the affected US public citizens; the female half.

This concludes our 2019 DEIS comments. Please consider our comments when developing the final EIS and decision.

Sincerely

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