

Pacific Northwest Region Aquatic Restoration Project Consideration of Comments during Scoping

The intent of scoping is to identify the scope of issues associated with the proposed action. Scoping began with a December 11, 2017 scoping letter to solicit comments, which was sent to mailing lists from five national forests that represented various geographic areas in the region—the Fremont-Winema, Colville, Mt. Baker Snoqualmie, Rogue River-Siskiyou, and Mt. Hood. The responses resulted in a full spectrum of public issues that are addressed here.

We received comments from 30 individuals and organizations. Comments specific to the proposal (within the scope of the proposed action, have a direct relationship to the proposed action and include supporting reasons for the responsible office to consider) are summarized and generally grouped by topic. In general, comments addressed were related to the scope of the proposal, including modifications to the proposed action; programmatic and site-specific analysis; public notification and opportunity to comment at the local level; environmental impacts; project sideboards, and project design features. Comments that were not related to the proposed action and analysis, or not deemed relevant to the decision to be made are not addressed here. Letter identifiers (such as “TLC”) are provided to show who provided comments related to a specific topic. The letters are filed in the project record.

List of Commenters and Affiliation with Organizations

Chris Bachman, Wildlife Program Director
The Lands Council (TLC)

Luke Ruediger, Program Coordinator
Applegate Neighborhood Network (ANN)

Kimberly Baker, Executive Director
Klamath Forest Alliance (KFA)

Michael Krochta, Forest Watch Coordinator
Bark (BARK)

Tom Hawkins, Chair
Mike Miller, Environmental Coordinator
Curry Citizens for Public Land Access (CCPLA)

Robert Roth, Facilitator
Clackamas Stewardship Partners (CSP)

Dave Corkran
Mt. Hood Forest Study Group (MHFSG)

Marlies Wierenga, Pacific Northwest Conservation Manager
WildEarth Guardians (WG)

Brian Nakamaura, Chair
Hood River Soil and Water Conservation District (HRSWCD)

Doug Heiken
Oregon Wild (OW)

*Pacific Northwest Region Aquatic Restoration Project
Environmental Assessment*

Stephen G. Graeper, President
Rhododendron CPO (RCPO)

Roger A. Nichols, Technical Advisor and Coordinator
Citizens for Forest Roads (CFFR)

Stanley J. Petrowski, President
The South Umpqua Rural Community Partnership (SURCP)

Steve Beyerlin (SB)

Suzie Savoie (SS)

Thomas Burns, member
Concerned Friends of the Winema (CFW)

Tracie Hornung (TH)

Joseph Patrick Quinn, Volunteer Conservation Chair
Umpqua Watersheds (UW)

Emilie Blevins, Conservation biologist
Sarina Jepsen, Director of Endangered Species and Aquatic Conservation
The Xerces Society for Invertebrate Conservation (XSIC)

Colleen Roberts
Jackson County Commissioner (JCC)

Karen Coulter, Director
Blue Mountains Biodiversity Project (BMBP)

Johnna Exner, Nathan Davis, Mike Blankenship
Board of Ferry County Commissioners (FCBC)

Ruth Ann Tsukuda, President
Clackamas River Trout Unlimited (CRTU)

Steve Parker, Commissioner
Board of Stevens County Commissioners (SCBC)

Tiana Luke, Adaptive Management Committee Chair
Northeast Washington Forest Coalition (NEWFC)

Shiloh Halsey, Conservation Director
Cascade Forest Conservancy (CFC)

Chance Gowan, Consulting Biologist
Stevens County Cattlemen's Association (SCCA)

Richard Brocksmith, Executive Director
Skagit Watershed Council (SWC)

Rory Isbell, Staff Attorney
Central Oregon LandWatch (COL)

Received after end of designated scoping comment period:

Paul Dewey, Executive Director
Central Oregon LandWatch (COL2)

Responses to Comments Received

Scope of the Proposal

Comment: This proposal provides almost no insight as to what is actually being proposed. There was not enough detail in the scoping letter to provide meaningful comments on the proposed activities. We request eligibility to object to the draft decision. (RCPO, CCPLA, SCCA)

Response: *All parties who submitted written comments during the scoping period (and the 30-day comment period) are eligible to object. People acquire eligibility to object to a decision if they provided specific written comments during any designated opportunity for public comment. In this case, the scoping period and the 30-day comment period after release of the environmental assessment are the two designated opportunities for comment.*

Comment: A link should have been provided to the Aquatic Restoration Biological Opinion (ARBO II) in the scoping letter. Priority watersheds were not identified, making it impossible to determine restoration actions by priority watersheds. (CCPLA)

Response: *The ARBO II is now available online and a link has been included in the environmental assessment and on the Pacific Northwest Region's project page.¹ A map of the priority watersheds and what type of projects typically occur is provided in the analysis, along with a link to the Watershed Condition Framework website containing associated watershed restoration action plans.*

Comment: The Forest Service is preparing this programmatic NEPA analysis to adopt the ARBO II, which was developed by NMFS and FWS outside of any NEPA process. NEPA is supposed to occur before decisions are made, not after, as appears to be the case here. This raises several questions: How much influence will public comment during this NEPA process have on the terms of the ARBO II? (OW)

Response: *ARBO II is in place and would only change if initiated by the agencies included in the programmatic biological opinion. This biological opinion for federally listed aquatic species applies to all aquatic restoration throughout the Pacific Northwest Region of the Forest Service. Site-specific projects under the environmental assessment are designed to be consistent with ARBO II project design features, which have been incorporated into and are an integral component of the proposed action. Public comment could result in additional project design features for a particular project, but would not affect change to ARBO II. ARBO II project design criteria cannot be modified. This biological opinion allows compliant projects to proceed without additional consultation with the two regulatory agencies.*

Comment: Other actions should be supported by the aquatic restoration proposal, including wolf recovery and predator preservation. (TLC)

Response: *The restoration categories proposed in this analysis are directly out of the Aquatic Restoration Biological Opinion with the Forest Service and NOAA Fisheries for federally listed aquatic species. Actions covered in the biological opinion can proceed without further consultation by these agencies. The purpose of the proposal is to conduct analysis for those projects already covered by those agencies in the biological opinion. Wolf recovery and predator preservation were not included in the list of categories in the biological opinion.*

Comment: We support restoration efforts focused on reintroducing beavers, and restoring and enhancing their habitat. Translocating beavers to watersheds with extirpated beaver populations are of little value if

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the beaver will be trapped out shortly after being established. ARBO II should include protection of key watersheds from beaver trapping which is a recreational activity (BARK, SURCP)

Response: *Beaver dam analogue structures and beaver forage improvement projects (aspen release) are included in this proposal. Beaver reintroduction is not a category included under ARBO II and hence is not included as a restoration project category in this proposal. There are other project categories with the potential of indirectly benefiting beaver, such as aspen stand restoration and riparian vegetation restoration. The State fish and game agencies regulate beaver trapping.*

Comment: Special emphasis should be placed on restoring aquatic habitats within grazing allotments by requiring modern grazing practices, closing allotments, reducing AUMs or requiring herding to facilitate more effective utilization and mitigate impacts across the range. There should also be clear guidelines spelled out for range managers and permittees that define what degraded streams are and what the permittee's responsibility is for the restoration work. The Forest Service should add "reduction or removal of livestock grazing" to its list of activities. (TLC, ANN, KFA, OW, SS)

Response: *Livestock grazing on National Forest System lands is managed through grazing plans and operating instructions, directed by land management plans, as amended. Grazing allotment management is not addressed in this analysis. Restoration categories proposed in this analysis are directly out of the Aquatic Restoration Biological Opinion with the U.S. Fish and Wildlife Service and NOAA Fisheries.*

Comment: Providing off-channel water for livestock and fencing livestock out of riparian areas comes with many trade-offs. Fences cause direct and indirect wildlife mortality. Also, fences and watering facilities may not be maintained over time while livestock use continues and stream damage occurs in spite of mitigation efforts. You must consider the potential impacts of installing fencing, developing stream crossings, off-channel watering, or precluding access by decommissioning roads and trails (OW, SCCA)

Response: *Based on scoping, the proposed action has been modified and range improvement projects (fencing and off-channel watering) have been dropped. Only fencing to protect restoration actions is included in the proposal. Road decommissioning only involves decommissioning unauthorized routes.*

Comment: Commercial logging and removal of trees in riparian reserves and associated road construction should not be included in this proposal. Commercial logging in riparian reserves is prohibited by the Northwest Forest Plan unless necessary to meet the Aquatic Conservation Strategy Objectives. Commercial logging and heavy equipment use in riparian habitat conservation areas and riparian zones caused many of the impacts resulting in the uplisting of various fish species in the region, which formed the need for widespread aquatic restoration. Commercial logging and thinning in riparian areas should be subject to very site-specific and local NEPA planning on the District level. (ANN, KFA, BARK, SS, UW, BMBP, OW)

Response: *The proposed action is clarified in appendix 1 and does not include commercial thinning (logging) or system road construction.*

Comment: In-channel nutrient enhancement appears to be a new category that we are not familiar with. Most aquatic systems are degraded by excess nutrients so we are not sure there is a compelling need for more nutrients. If this is a reference to planting fish carcasses, that should be stated and the activity type should be so limited. (OW)

Response: *Yes, this is salmon carcass placement or the use of salmon nutrient analogues. A description of each category is provided in appendix 1. The in-channel nutrient category was part of ARBO I released*

in 2008 and carried over into ARBO II because many streams in the Pacific Northwest that once had large returns of salmon and steelhead are now lacking nutrients that fish carcasses provided. Carcasses would not be placed in eutrophic or naturally oligotrophic stream systems.

Comment: Some proposed activities are more controversial and less well supported by the science that could be identified as a second tier of activities for greater site-specific analysis and more public input, including standard NEPA process such as their being open to administrative objections and resolution negotiations. These include: the type and size of trees to be removed for large wood placement and where they should be removed from; channel relocation and in-channel nutrient enhancement; non-native invasive plant control when this includes toxic herbicide use or potential sedimentation of streams and juniper removal if this includes the removal of old growth juniper or juniper in historic juniper woodlands. We suggest separating out these activities for greater public scrutiny and more site-specific analysis, as well as for public recourse through the objection process. The adverse effects of wood removal are not accounted for. This is the kind of trade-off that requires site-specific NEPA. We are comfortable with the removal of imminent hazard trees along well-travelled roads for use in aquatic restoration, but we urge the Forest Service to close the wide-open loophole allowing removal of mature trees from native forests using this programmatic EA. (OW, BMBP, CFC)

Response: *Based on input from the public and our interdisciplinary team, this proposal limits wood sources for projects to be implemented under this environmental assessment to riparian areas only. See the “connected actions” section in the environmental assessment. If wood is not available on-site or there are inadequate numbers of trees, large wood recruitment from outside of the riparian areas is considered a connected action and would require a separate analysis as described in the environmental assessment. If wood is not available from these sources, a separate environmental review and decision would be prepared; this includes other project decisions that could provide large wood.*

Further, tree removal from riparian areas is guided by strict design criteria. Tree removal for restoration projects can occur only when conifer stands are fully stocked and does not prevent attainment of Northwest Forest Plan aquatic conservation strategy objectives or PACFISH and INFISH riparian management objectives. ARBO II includes guidelines for tree removal to prevent adverse impacts to northern spotted owl and marbled murrelet habitat.

The proposed action has also been modified to remove invasive plant treatment analysis and decision from this project. It is now considered a connected action if associated with the restoration action and would be covered either with the respective unit’s invasive plant decision, or a stand-alone analysis and decision if they do not have a current invasive plant treatment decision. At this time, all but three Forest Service units have local decisions on invasive plant treatments; two are in progress, and the third relies on project-level analysis to treat invasive plants. The project design features in appendix 2 require invasive plant surveys prior to project implementation and can either “flag and avoid” the existing populations or treat the population according to their unit’s invasive plant decision. Treatments of invasive plants are not limited to herbicides, and units can use a multi-prong approach to treat invasive plants such as reed canarygrass.

In-channel nutrient enhancement design criteria were created to minimize the chance of introducing disease-causing pathogens into a watershed through carcass supplementation. Such criteria include using carcasses that are derived from species that naturally occur in the watershed, certified as disease-free by the Oregon Department of Fish and Wildlife and in the state of Washington follow guidelines by the Washington Department of Fish and Wildlife. Finally, supplementation will not occur in eutrophic or naturally oligotrophic stream systems.

Channel relocation projects, as prescribed under ARBO II, must proceed through a rigorous design review prior to implementation. The review is conducted by a Restoration Review Team, which is comprised of restoration specialists from NOAA Fisheries, the U.S. Fish and Wildlife Service, Forest Service, and BLM. Project proponents must submit a design package to the Restoration Review Team prior to the review, and design package components are fully described in appendix 1 under the Channel Reconstruction and Relocation section. Projects that are approved by the Restoration Review Team are required to include a post-project monitoring program to document whether results are within acceptable limits.

The proposed action has also been modified to exclude juniper removal from upland areas. See next comment.

Comment: We are concerned about juniper removal. Some young encroaching juniper might need to be killed, but they do not need to be “removed” and recommend that the category be modified to change the name to “juniper management. It is probably better to retain the nutrients on site. We support the project design criteria encouraging use of juniper for on-site restoration of instream wood (it should also be considered valuable for terrestrial large wood). In addition, juniper removal often involves “chaining,” or felling of trees by an anchor chain pulled between large crawler tractors. This practice is controversial and should not be included as a proposed activity type, but instead be analyzed outside of this programmatic NEPA. We recommend that the project design criteria for juniper exclude heavy equipment and only allow hand work, retain killed juniper on-site or use for nearby large wood restoration efforts and retain about 15 percent of treatment units as untreated patches of juniper. (OW, BARK)

Response: *In response to comments received during scoping, we have modified the proposed action to limit juniper removal to riparian areas where they have encroached due to stream downcutting. We would use this tool when we are restoring riparian areas to true riparian vegetation after stream channel restoration. When the downcutting and its cause have been addressed and riparian vegetation is being reestablished, encroached juniper would be removed if design criteria can be met. If felled, they would be retained on site or used in the stream. Junipers would not be cut outside of riparian areas.*

Use of chaining for juniper removal, which is allowed under ARBO II, is not included in the modified proposed action. Further, juniper removal contains project design criteria to prevent removal of old-growth trees characterized by sparse limbs, dead-limbed or spiked-tops, deeply furrowed and fibrous bark, branches covered with bright-green arboreal lichens, noticeable decay of cambium layer at base of tree, and limited terminal leader growth in upper branches. The design criteria for the treatment of riparian juniper is provided in appendix 1. A design criterion has been added to retain approximately 10 percent of juniper treatment areas in uncut patches. The name of the category has not been changed.

Heavy equipment is necessary for most modern watershed restoration projects and is used for some of the aquatic and riparian restoration types.

Comment: Road decommissioning is the single most effective action the agency can take to restore aquatic ecosystems. Emphasis should focus on road closures, decommissioning and recontouring as well as obliterating unauthorized or inappropriate OHV trails. Criteria used to identify an individual road or trail for decommissioning needs to be identified to address public concerns about access. The regional analysis should disclose the estimated miles of roads and trails proposed to be decommissioned. (ANN, KFA, FW, BRK, SS, CCPLA, CFFR)

Response: *The Pacific Northwest Region Aquatic Restoration project has been modified to limit decommissioning to nonsystem (unauthorized) roads, which may include those used by off-highway vehicles. Recreation impacts to aquatic resources are addressed in a general way, but don't focus solely*

on off-highway vehicle use. Decommissioning may also include physically decommission roads that have existing decisions to remove the road from the transportation system. All decommissioning would be consistent with existing travel management decisions. No system roads or trails would be decommissioned. Other road-related closures would require a separate analysis. Road decommissioning is a significant portion of the restoration portfolio and, in most cases, proposed actions will come directly from watershed restoration action plans. Road decommissioning is often an important restoration measure needed to restore a watershed, but it is not the only measure. A full description of the road decommissioning category is provided in appendix 1. We estimate that road decommissioning would comprise approximately 26 percent of the number of projects (see table 2 in the environmental assessment).

Comment: The need for active restoration on the landscape will be diminished if areas currently functioning are maintained and current impacts are curtailed through passive restoration. Several sources are now pointing to passive management as the best approach to achieve aquatic conservation strategy objectives in riparian reserves. Please consider adding more passive restoration measures to your list of “project activity types.” (ANN, KFA)

Response: *The Regional Aquatic Restoration Strategy guides the region’s aquatic and riparian restoration. The strategy directs the whole watershed restoration approach, including passive and active restoration. The use of riparian reserves and riparian habitat conservation areas are the most effective forms of passive restoration. Direction in the Northwest Forest Plan, PACFISH, INFISH, and Aquatic Restoration and Conservation Strategy, which amended forest plans, requires management in riparian management areas to be for the benefit of aquatic and riparian dependent species. Table 1 in the environmental assessment identifies 142,639 miles of riparian area protection under protective standards and guidelines.*

Comment: This proposal is akin to adopting a huge new list of categorical exclusions for the PNW Region of the Forest Service. The Forest Service is not allowed to use this alternative process to adopt another expansive set of additional CEs. (OW)

Response: *The proposed action is not proposing additional categorical exclusions. We are proposing to make one decision for multiple actions analyzed in one environmental assessment. The environmental assessment is subject to the required 30-day comment period and subsequent administrative review (objection) process. As an aside, several of the activities proposed in the environmental assessment can currently be covered in categorical exclusions (such as road decommissioning and removing, replacing or modifying drainage and water control structures such as culverts and dams). Including all aspects of the regionwide aquatic restoration program in one analysis provides for a comprehensive environmental review.*

Comment: An EIS (preferable to an EA) should deal with the larger picture and recognize the influence of past management (i.e. a 50% reduction in low late summer stream flows from areas clear cut 40 to 50 years ago compared with old growth 150+ years) and its consequences for future management. (MTFSG)

Response: *The Pacific Northwest Region of the Forest Service embraces the whole watershed restoration concept you are describing. It is fully explained in our Regional Aquatic Restoration Strategy, our holistic, whole watershed approach to restoration in our region. The activities proposed in the Strategy are just some of the tools we can use to restore whole watersheds.*

The purpose of an environmental assessment is to briefly provide sufficient and analysis to determine whether to prepare an environmental impact statement or a finding of no significant impact.

Comment: The list of project activity types lacks emphasis on replacing failing culverts that contribute sediment directly and indirectly to fish habitat. Reducing the risk of sediment delivery was a key element of the Aquatic Conservation Strategy (ACS) and EIS that supported the ACS. Just prioritizing road decommissioning is not addressing the problem of delivery from infrastructure. (CFFR)

Response: *Aquatic organism passage projects at road-stream crossings are included in the categories of projects covered by proposal. Improving road-stream crossings is a high priority for the region, as indicated by its inclusion in the Regional Forester's key accomplishment targets.*

Comment: Fish passage should include replacement of creosote piling and revetment bridge structures. Such structure may be adequate for passage but creosote has long been tied to reduced juvenile salmonid survival. The activities should include replacing inadequate size drainage for sediment passage. (CFFR)

Response: *The proposed activities include projects at road-stream crossings and facilitate the removal of inadequate road-stream crossing structures, which may include structures comprised of creosote wood.*

Comment: Eighty percent of the land the FS manages in the Northwest is uplands, and what happens in this zone influences radically everything riparian and aquatic. So, make the uplands as much a part of your program as aquatic and riparian. (CFW)

Response: *In this analysis, most proposed actions are within riparian areas. The only exception is the decommissioning of non-system roads. These roads may occur in the upland. Other upland management will likely occur, but through other means of authorization*

Comment: Include non-essential actions in addition to “essential action” identified in watershed restoration action plans. (NEWFC)

Response: *Essential projects are needed to restore watershed processes and with limited resources (funding and staff) we are focusing on these actions.*

Comment: This proposal does not address the need to involve valid use permit holders of an impending activity or the need to seek their involvement in the development of these projects. The 60 day notification will be entirely too late for a permittee to identify potential conflicts or flaws in a proposal, or to determine how the proposal may impact their ability to utilize their permits (SCCA, COL 2)

The local interdisciplinary team will determine when a permit holder needs to be contacted regarding a proposal. When a team specialist (such as a range conservationist) reviews and signs the compliance form, they are validating that the action does not affect the terms of the permits in the vicinity of the project. Permittees and all parties interested in the management of National Forest System lands are invited to submit comments and concerns when local projects are proposed.

Comment: LandWatch members recently saw what appears to be an example of “channel reconstruction/relocation” and “riparian vegetation treatment” (controlled burning and non-commercial thinning). We are concerned that a heavy-handed approach to restoration may have put native redband trout at risk for many years with increased sediment, lack of shade, loss of bank stability and likely high temperatures during summer that will exceed state standards for temperature.

Response: *What LandWatch members saw was a treatment for downcut stream channels referred to as Stage 0 restoration (Cluer and Thorne 2013). The Pacific Northwest Region Aquatic Restoration Project does not include this technique, though it is supported by the U.S. Fish and Wildlife Service and NOAA Fisheries. It is used to address past management impacts to stream channels that have caused the streambed (along with its water table) to lower in elevation, abandoning access to associated floodplains.*

Comment: Change ERFO requirements so that Federal Highways address the drainage instead of the repair. (CFFR)

Response: *Although we are working on this in other venues, it is beyond the scope of this project.*

Programmatic and site-specific NEPA reviews

Comment: We have concerns about the open-nature of this proposal. We are wary of “speeding up” aquatic restoration by circumventing needed site-specific analysis and public process—especially in restoration scenarios that are more controversial, risky, or uncertain in their effects. We request clarity on the legal authority for this programmatic approach to NEPA to provide site-specific project analysis. We interpret that NEPA embraces a staged decision-making model, where programmatic NEPA is followed by site-specific NEPA, including the tiered decision-making approach recognized in the applicable land and resource management plans (forest plans). This staged decision-making framework is described in the CEQ’s regulation on tiering at 40 CFR 1502.20 and 1508.28. The entire premise of NEPA is contingent upon site-specific project evaluation, with opportunity for public involvement and comment. (BARK, WG, OW, SURCP, BMBP, SCCA, COL, COL2)

Response: *The Pacific Northwest Region Aquatic Restoration Project NEPA analysis is not a programmatic review. Neither the Council on Environmental Quality (CEQ) nor the Forest Service regulations have codified programmatic reviews or otherwise prohibited the approach we are taking to analyze effects from a suite of actions made under one decision. The intent of this review in an environmental assessment is to determine whether to prepare a finding of no significant impact or prepare an environmental impact statement (40 CFR 1508.9).*

CEQ encourages tiering to a broad review to eliminate repetitive discussions of issues but does not mandate preparation of programmatic reviews. The Pacific Northwest Region has extensive experience analyzing and implementing actions covered under ARBO II. Issues and associated effects are generally the same at the watershed or subwatershed scale and are similar project to project. Years of proposing, designing, implementing and monitoring has led to predictable effects. A programmatic review with tiered decisions is not deemed essential to determining effects that would likely occur with this proposal. For example, the Aquatic Restoration Regulatory Reporting System documents turbidity monitoring for nearly 450 projects implemented between 2013 and 2017; over 448 of the projects met the Clean Water Act 401 certification for turbidity while the remaining two temporarily exceeded standards due to unforeseen circumstances. Post-project discussions were held with the project proponent and Oregon Department of Environmental Quality staff to better address such situations in the future. These circumstances are explained in detail in the supporting documentation on the project website.

All projects must adhere to the extensive project design features associated with this action (appendices 1 and 2) and the effects must fall within the range and scope of effects addressed in this review.

This analysis tiers to the final environmental impact statements for all land and resource management plans within the Pacific Northwest Region and incorporate the plans by reference. Tiering incorporates by reference the general discussions in higher-level statements to eliminate the need to repeat the information in the project-level analysis. Every project must be designed to be consistent with the respective land and resource management plan in addition to the relevant project design criteria. The responsible official’s signature on the compliance form is validating that the project is consistent with both the project design criteria in this analysis and the local land management plan.

Comment: Within the context of our current political climate, we are concerned that a precedent could be set for bypassing NEPA and public accountability for other Forest Service projects that are more controversial. (BARK)

Response: *The agency's emphasis is to use environmental assessments for their intended purpose as defined in the CEQ regulations: to briefly provide sufficient evidence and analysis to determine whether to provide an environmental impact statement or a finding of no significant impact. Regionally and nationally, this is a focus. We are following CEQ regulations for an environmental assessment with this level of analysis. Agency personnel will need to independently determine the appropriate level of review for their other projects, which would be mutually exclusive from the approach taken for the Pacific Northwest Region Aquatic Restoration Project. For this proposal, the public involvement process at the local level provides for public accountability and the opportunity to engage if there are controversial aspects of a proposal that the local unit has not identified.*

Comment: The draft environmental assessment should include site-specific information on the affected environment or the environmental impacts to the extent that is feasible at locations where restoration might take place. There is a broad diversity of landforms, stream drainages, native species, and climate types throughout the Pacific Northwest. The "one size fits all" approach to expediting restoration projects may compromise many native habitats and species at risk without a more thoughtful strategy. This site-specific analysis would help ensure the programmatic EA complies with NEPA. (BARK, WG, COL2)

Response: *While an affected environment section is not required in an environmental assessment, we provide information at the broad regionwide scale in this analysis. The environmental analysis is also broad in scale. The analysis is intended to be specific to the degree needed to understand impacts for the suite of 1,800 projects and to make a determination whether to prepare an environmental impact statement or a finding of no significant impact. Site-specific information will be provided by local units when specific actions are proposed. The proposed local review process for implementing projects under this action will determine whether the impacts are within the range and scope of this analysis and consistent with the land management plan. Subsequent analysis would be undertaken if projects don't meet the criteria or are expected to have impacts beyond those disclosed in this environmental assessment and final decision.*

Comment: Without site-specific NEPA analysis following this programmatic EA, this effort may require an EIS in order to anticipate and develop decision-trees for every possible contingency that the FS might encounter in planning and implementing restoration projects. The NEPA analysis needs to clearly describe all the likely effects of restoration actions in all the places that could be impacted under this process. (OW)

Response: *The analysis provides an adequate description of existing conditions and effects at the regionwide scale sufficient to determine whether to prepare an environmental impact statement or a finding of no significant impact, based on the relevant issues important to the decision. It is not CEQs intent for an environmental analysis to identify all likely effects in all places. The regulations clearly state that the analysis should be focused on important (or "significant") issues, deemphasize insignificant issues, and concentrate on the issues that are truly significant to the action in question, rather than amassing needless detail. We are not aware of any ARBO II-based actions included in this proposal that have resulted in significant adverse effects in the past.*

Comment. We recommend that there be clear sideboards as to the nature and scale of the projects that will be covered by this proposed action. For example, when is a project too large? When are potential impacts, even if temporary, worthy of deeper evaluation? What are the cases where multiple ESA- listed

species in the project area may need cross-referencing with regards to impacts and protections? What conditions would elevate the project beyond the scope of this proposal? From within the agency, the openness may be useful and efficient but from the perspective of stakeholders, we want to ensure that definitive sideboards exist. All categories of restoration actions need more sideboards that specify an appropriate scale of action covered by this NEPA analysis. For instance, scale should be described as acres of treatment, square footage of soil disturbance, cubic yards of soil movement, etc. It is easier to see how this process might cover small projects, but larger projects should get their own EAs. Also, a temporal scale needs to be clearly specified; there needs to be a clear start and end date. The NEPA analysis should expire and be reanalyzed. (WG, OW)

Response: *In the big picture, we must comply with the strict limits of the number of stream miles that can be affected in each of the NOAA Fisheries recovery domains and U.S. Fish and Wildlife Service recovery units (geographical areas with distinct populations of federally listed fish species). This limits the number of actions we can ultimately conduct. Based on the past number and scale of ARBO II actions, the proposed action of 1,800 projects would remain in compliance with ARBO II limitations.*

The category descriptions and project design criteria provided in appendix 1 describe the nature of the projects, and in some instances, the scale. Appendix 5 in the EA provides an average size of each activity based on acres or miles.

Projects must also comply with the project design criteria in appendices 1 and 2. The project design criteria in appendix 1 focus on ways to design and implement a project that mimics natural processes under which all federally listed species are uniquely adapted. Appendix 2 provides additional project design criteria that are preventative measures to reduce impacts to federally listed species, other special status species and their habitat, and other sensitive resources. For example, instream timing windows would prevent in-channel projects from being conducted during fish spawning and egg incubation; and project implementation for projects in identified suitable habitat for foothill yellow-legged frog and western pond turtle would be avoided during the breeding season. Together, appendices 1 and 2 provide the “cross-referencing” needed to address all species that need protection.

In addition, we developed estimates of the potential average number of acres that would be impacted for each category and further reflect the general scale of an action. The acreages and rationale are displayed in appendix 5. The environmental analyses are based on these acreages. These are not intended to be absolute size limits for projects, but can be used to help assess whether a proposal is consistent with the environmental assessment. The ultimate consideration is the effects of a proposal: A smaller project could be in a sensitive area with likely greater impacts; or a larger project could be in a less sensitive area and have less short-term adverse effects. These are judgement calls by the responsible official, based on input from their interdisciplinary team and public comments at the project level, and why public input is integral to the process. If a project did not fit within the range and scope of effects of the project decision, a supplemental analysis and possibly a project-level decision would be needed.

The preliminary environmental assessment addresses the effects of 1,800 projects that would be implemented over 10 to 15 years. We recognize that within this time period new information, such as newly listed species or new science, or changed circumstances, such as large-scale flood events, could occur that may require supplemental analysis and possibly a new decision. This information can come from agencies or the public. Per Forest Service policy, if there is new information or changed circumstances that affect the baseline conditions on a project that is not fully implemented, we are required to prepare a “supplemental information report” to determine whether the project effects are still within the range and scope of effects and decision, and whether supplemental analysis and or a new

decision is needed. For the Pacific Northwest Aquatic Restoration Project, this supplemental analysis would occur at the regional level.

Public Notification

Comment: Site-specific NEPA analysis and public involvement remain critical to planning the best projects possible. We are concerned that the programmatic restoration effort will not meaningfully involve the public, though concerns with the process can be partially mitigated if the Forest Service provides a robust system of timely public notice and comment on proposed restoration projects. We encourage the Forest Service to come up with an efficient method of public notice and comment on restoration projects, including comments to improve restoration plans and decisions as they are site-specifically planned and implemented. It is important to allow public involvement during the planning stages. The 60-day notification of project implementation and completion should not be confined to the Forest Service web site, especially in rural areas where internet coverage is not always available or widely used. (OW, BMPB, BARK, WG, OW, SURCP, BMBP, SCCA, SB, COL, COL2, SCCA, LW, NEWFC)

Response: *The 60-day notification timeframe has not changed since scoping. In response to scoping, however, we have adapted our proposed action for Forest Service staffs to submit a pre-project notification to interested individuals at least 60-days prior to project implementation via the Aquatic Restoration Reporting System (ARRS: <https://data.fs.usda.gov/geodata/arrs/index.php>), an online database open to public viewing. This database is similar to a listserv, where messages are distributed to subscribers using an electronic mailing list. Each unit would enter their mailing list into this database for individuals and organizations who have (or will) expressed interest in receiving notification on aquatic restoration proposals. The mailing lists will be updated annually.*

Although issues and concerns are very similar for any of the projects proposed in the Pacific Northwest Aquatic Restoration Project, we account for the chance of site-specific variations by providing the opportunity for project input. Once notified, interested parties will have 20 days to provide their site-specific comments to the project lead. This provides the public the opportunity to engage in specific project design and identify concerns about the scope of the project or ways to improve it. These comments can influence the project locally, prior to implementation. The local interdisciplinary team will convene to determine if site-specific conditions need to be addressed and the local line officers can adjust proposed projects if site-specific information from the public indicates the need.

The local unit would reply to public input within 15 days of the public review and input period. The district ranger or other responsible official would consider the input from the project team and the public and adjust the project proposal, stop the action, or proceed with the project as proposed.

This process is described in detail in the environmental assessment, pages 13-15.

Comment: Consider posting notifications at the project site, which is especially useful to kayakers, for example, who use the area where the project occurs. That kayaker probably does not know about an online database that they should occasionally view. (WG)

Response: *Each Forest Service unit will continue with their current practices to inform users of actions implemented in the field.*

Comment: The proposed NEPA checklist, which was not included in the scoping notice, could be an avenue to use to ensure the site-specific information is addressed. There is a concern, however, that a checklist may be inadequate to identify and address the impacts of individual projects, or that on some forests these projects may be summarily approved without the detail required for full review. How will

the NEPA checklist fit into the overall existing NEPA process of public involvement and alternatives analysis? What is the public's recourse if the NEPA checklist analysis is inadequate? The scoping letter is unclear about how the NEPA checklist idea agrees with the standard NEPA process. (BARK, WG, OW, SURCP, BMBP, SCCA, SB, COL, COL2, SCCA)

Response: *While the scoping letter identifies a checklist, we decided that a "compliance form" is a more accurate description of the format used to document consistency with the analysis and decision. The compliance form is provided in appendix 4. It specifically identifies select laws and regulations that may require additional steps to be followed. When the team members and the local line officer sign the compliance form, they are validating that they have ensured the project adheres to all relevant project design criteria, the effects of the project are within the range and scope of effects described in the Pacific Northwest Region Aquatic Restoration Environmental Assessment (and ultimately, the decision) and that the project is consistent with the local land management plan. The signed form will be posted on the Aquatic Restoration Reporting System (ARRS) website that is used to notify interested parties 60 days prior to implementation. After the Forest Service unit has received and reviewed the comments from the public, they will update the compliance form by summarizing the comments and explaining whether the comments resulted in changes to project design. The updated compliance form will be uploaded and e-mailed via the ARRS website prior to project implementation.*

Comment: We are concerned that public involvement is not consistent with current requirements. The Forest Service must comply with both NEPA, and also with the notice-comment-objection rules at 36 CFR 218 which requires public involvement in all actions implementing forest plans. This includes future projects implementing this programmatic NEPA analysis. There's a need for a public recourse process under NEPA especially for activities identified that are controversial, and those activities involving rare species and cultural sites and artifacts, as already proposed. Public concerns should not just involve supplemental analysis, but also a public objection or appeal process. (OW, BMBP)

Response: *The Pacific Northwest Region Aquatic Restoration Project complies with the notice and comment and objection regulations at 36 CFR 218. The project decision will authorize up to 1,800 projects that could be implemented over the course of 10 to 15 years. The public has the opportunity to participate in the objection process when the responsible official signs the draft decision for the Pacific Northwest Regional Aquatic Restoration Project.*

The project design criteria are intended to protect rare species and provide that each project be consistent with the National Historic Preservation Act by following the Act's section 106 process before the project is implemented. The public will have the opportunity to provide post-decision input at the local level as described in the environmental assessment that will help inform the local official of unusual, unanticipated environmental impacts so project plans can be modified, or halted and assessed in a separate environmental review.

Comment: The programmatic approach to the Forest Service restoration program represents a missed opportunity to showcase some of the good restoration work the Forest Service is doing. Without NEPA and public involvement, most of the great restoration project will happen behind the scenes and outside of public awareness. If the FS embraced more public involvement, they might reinforce bonds with collaborators and gain new constituencies for restoration. Project-level notice and comment helps inform the public and avoid surprises and awkward post-hoc explanations.

A final report, submitted to the public upon completion of the project, is a great way to showcase the good restoration work the Agency is completing as well as how the project benefits species, as well as community members (when applicable). This is also an opportunity for accountability and to build trust with partners, stakeholders, communities and others by showcasing that the work was completed as

described. In cases where the project deviated or outcomes were less than expected, it will be important to highlight that as well to help build the knowledge bank for future projects. (OW, WG)

Response: *The Pacific Northwest Region aquatics program conducts extensive outreach for its restoration program with both scientific and public audiences. The type of projects we conduct annually are available in our annual reports at the Aquatic and Riparian Restoration Annual Report site at: <https://www.fs.usda.gov/detail/r6/plants-animals/fish/?cid=stelprdb5444948>*

The proposed action includes the production of an annual report that would require a list of projects, a map of project locations, a summary of project successes and failures, along with habitat trends resulting from projects carried out. This report will be posted on the Aquatic Restoration Reporting System, which is available to the public.

Comment: We question the accuracy of the number of fish migration barriers (3,000) and culverts (40) that the Forest Service has implemented. We believe that that you've used "fuzzy math" to intentionally misrepresent a fact. We strongly suspect that the Region has manipulated these numbers, in order to over-emphasize the need to accelerate these efforts and circumvent public involvement or the opportunity for user groups to comment on specific projects. How many culverts have been replaced, across the region, in the last 5 years? (SCCA)

Response: *For clarification, the December 11, 2017 scoping letter stated that we have more than 3,000 fish migration barriers that need to be fixed. Last winter (2017-2018), the Region completed the regional fish migration barrier database. There are actually 3,690 barrier culverts remaining to be fixed. At an average of 40 per year, it will take 92 years to complete the work. In 2016, 29 barrier culverts were fixed and 58 were completed in 2017.*

Comment: If public input is a vital part of the planning process, as stated on page 6 of the scoping letter, why is it that public input will only be garnered by those who respond to this request; as they will be the only ones remaining on the mailing list? The actual projects will not receive the vital public input you identify, but a narrowed field of responders from this letter. (JCC)

Response: *Those who requested a paper copy of the environmental assessment when they submitted scoping comments will be provided a copy. All interested parties will have the opportunity to provide comments on the environmental assessment during the required 30-day comment period. When a specific project is proposed at the local level, the public will be notified and all are welcome to provide their input to the local official as described in the environmental assessment.*

Environmental Impacts

Comment: The proposal should be an EIS and not an EA due to cumulative effects that resulted in degradation of streams and habitat quality including high summer temperatures that fail to meet state water quality standards, low base summer flows and sedimentation in streams that exceed 20% embeddedness. (COL2)

Response: *The projects proposed in this analysis are intended to address these conditions. We fully acknowledge legacy impacts from past management actions. The purpose of the project is to address these conditions and restore watershed processes that will help improve watershed conditions. Cumulative effects analyses are included in the environmental assessment.*

The intent of the environmental assessment is to determine whether to prepare an environmental impact statement or a finding of no significant impact. The level of analysis is determined by issues and associated effects. The projects proposed in this analysis are intended to improve habitat by restoring the

structure and function of aquatic and riparian area, not exacerbate the existing conditions described. Impacts from past actions contribute to the baseline condition. If significant effects are identified when a specific project is proposed, they will be addressed through separate environmental analyses.

Comment: The impacts of nearly every project activity type will result in at least short term habitat depreciation or destruction. These impacts may be apparent and result in negative impacts to aquatic biota and riparian communities. Such impacts exceed the threshold values for the issuance of a FONSI. (SCCA)

Response: *Environmental impacts from implementing the proposed restoration project types are disclosed in the environmental assessment. If proposed local projects have the potential to result in significant effects to the environment, a separate environmental impact statement would be prepared, or the project would be modified so the effects are within the range and scope of the effects in this analysis.*

Comment: Include climate change projections/predictions for the region and particular watersheds of the region, in addition to the historical range of variability, to define program and project goals and objectives. (CFW)

Response: *We currently do this at several levels and will continue to incorporate those concerns in our management and restoration plans. For example, we continue to prepare climate change assessments at the subregional scale to further inform our management actions. These assessments inform watershed restoration action plans and help prioritize projects most effective under climate scenarios. Locally, specific projects, such as aquatic organism passage projects, are required to consider and incorporate future projected flow conditions during project design.*

Comment: The cumulative effects analysis should consider effects from climate change, in addition to consideration of past, present and future actions. Current climate change predictions suggest that water temperature increases alone will render 2-7 percent of headwater trout habitat in the Pacific Northwest unsuitable by 2030, 5-20 percent by 2060, and 8-33 percent by 2090, which may lead to extinctions of both listed species in some streams and native redband trout in headwater streams. (COL2)

Response: *Climate change is not a component of a cumulative effects analysis, but rather a trend that is considered in how we manage our resources. We look at predictive models for stream temperature and seasonal flow patterns to best determine where and how to implement aquatic restoration. It's an evolving science and we are adapting along the way. The cumulative effects analysis considers impacts from current and on-going aquatic restoration, vegetation and fuels treatment projects, livestock grazing, and roads.*

Comment: We do not think heavy equipment should be used in riparian areas without site-specific NEPA analysis. Commercial logging and heavy equipment use in riparian habitat conservation areas and riparian zones caused many of the impacts resulting in the uplisting of various fish species in the region, which formed the need for widespread aquatic restoration. Heavy equipment should be prohibited with inventoried roadless areas. (BMBP, OW)

Response: *Heavy equipment is necessary for most modern watershed restoration projects and is used for some of the aquatic and riparian restoration types. The impacts of using heavy equipment is provided in the environmental impacts section of the environmental assessment. Activities in inventoried roadless areas would be consistent with the Roadless Area Conservation Rule.*

Comment: Our concern is that any aquatic restoration action taken by the Forest Service could have a significant impact on our county, customs and culture. Any negative impact on our agricultural industry,

water quality and “unique or unknown risks on the human environment” would not represent “best management practices.” Local input on aquatic restoration would be imperative to avoid negative impact. (FCBC)

Response: *By addressing this backlog, our intent is to increase the pace of restoration in the county, improving more watersheds for recreation and quality water, hiring more local contractors to do the work, and buying more locally available supplies, benefiting counties throughout the Region. When specific projects are proposed for implementation, the public will be notified at least 60 days prior to planned implementation and will have 20 days to provide input as described in the environmental assessment.*

Comment: The Board is concerned about the consistency of approach for different program areas within the Forest Service, for example an EIS for grazing and an EA for aquatic restoration. Aquatic restoration analysis became a major problem for the counties and Forest Service in road density applications that is yet unresolved. If proposed aquatic projects on a forest would cause harm to other uses, i.e. road densities, we should identify a process for resolving those conflicts prior to implementation. (SCBC)

Response: *The level of a environmental review (categorical exclusion, environmental assessment, or environmental impact statement) is driven by known issues. The only road decommissioning to be authorized through this analysis is for nonsystem roads. These are roads that were never recognized as part of the Forest Service transportation system, and were either user created, or were temporary roads for timber sales or other activities that were never properly decommissioned after project implementation. Since they were not built to specifications and were not being maintained as part of the system, they are notorious for causing resource impacts.*

Comment: Restoration projects are important aspects of land management. They are also expensive and may have unintended consequences. Will guidelines be in place to ensure that aquatic restoration projects will coincide with timber harvest projects to avoid negative budget impacts? (SCBC)

Aquatic restoration projects will not always coincide with upland timber projects. Priority of aquatic restoration projects are primarily driven by the Watershed Condition Framework identification of priority watersheds. A watershed restoration action plan is prepared for each priority watershed. When coinciding timber projects offer an opportunity to increase efficiencies, we may take advantage of them. Federal funding for “timber harvest projects” is an appropriation separate from aquatic restoration; they are mutually exclusive. In addition, grants and other partnership funding contribute to restoration implementation.

Comment: There is no mention of conducting stream habitat surveys or fish population surveys in areas proposed for restoration by the interdisciplinary team. We are concerned that in the effort to expedite stream restoration projects, the rush to implement restoration may compromise the capacity, skills, and ability to collect timely ecological data and to conduct thorough analyses for each restoration project. (COL2)

Response: *When an interdisciplinary team is formed for a proposed project at the local Forest Service unit, they will determine what surveys need to occur to better inform the responsible official prior to implementation. If surveys indicate the occurrence of a species of concern, the project plans will address this. Projects are identified for implementation through rare species or water quality recovery plans, watershed analyses, and watershed restoration action plans. They are based upon surveys and knowledge of the area and are often derived from interagency efforts. Level 3 (detailed) surveys are conducted during project planning. Restoration will only occur when personnel and funding are available. The level of planning will reflect the complexity of the project.*

Comment: We are concerned that past Stage 0 channel and floodplain restoration projects in Oregon may not have had the necessary state and federal construction permits prior to project implementation, or if they did, failed to follow the permit requirements. Risky restoration treatments such as channel and floodplain restoration could further impact listed and sensitive fish populations and should be a last restoration for any stream restoration project. These actions require a much higher level of scrutiny including detailed survey data and analysis. (COL2)

Response: *As noted previously, Stage 0 project that are allowed under ARBO II are not included in this proposal. Channel and floodplain restoration are intended to improve stream and riparian area conditions. Habitat improvements will benefit rare fish species. Potential effects of the implementation of these project types and associated project design criteria are included in our analysis. These projects are conducted under programmatic agreements with Oregon State Division of Lands and U.S. Army Corps of Engineers. We also have programmatic agreements for ARBO II projects with the Seattle Army Corps and Washington Department of Fish and Wildlife.*

Comment: We request that proposal comply with both PACFISH and INFISH, state water quality standards and require all necessary state and federal instream and/or construction permits. (COL2)

Response: *Land management plans were amended by PACFISH and INFISH. Hence, aquatic restoration projects conducted on Forest Service units in the region comply with PACFISH, INFISH, State water quality standards, and State and Federal permitting processes.*

Comment: There should be a prioritization of streams on each forest that need restoration and the types of restoration activities proposed for the public to review and comment. While we recognize the purpose of the proposal is to expedite implementation of stream and riparian habitat restoration, PNW R6 management direction and the NEPA process must not be compromised. (COL2)

Response: *Watershed restoration is prioritized through the Watershed Condition Framework. Through the Framework, priority watersheds are identified and watershed restoration action plans are developed. When actions are completed, another priority watershed is identified for restoration. The Pacific Northwest Region Aquatic Restoration Project analysis provides an opportunity for the public to engage in this decision and to provide input to site-specific projects later.*

Comment: Without addressing the ongoing and continuous impacts of underlying causes for stream and habitat degradation, we are concerned that the restoration proposal and implementation of projects may be expensive bandaids.

Response: *It is regional policy to address the cause of environmental impacts prior to restoration action. In most cases, those causes are addressed through forest plans. In some site-specific circumstances, the cause of environmental impacts are addressed through project actions, such as construction of a fence line to exclude cattle. (COL2)*

Comment: We are very concerned with the apparent lack of funding for monitoring and maintenance of implementing aquatic restoration projects. (COL2)

Response: *Implementation and post-project monitoring is mandatory for all restoration projects to be implemented under this environmental assessment. Implementation monitoring results for the Clean Water Act turbidity and fish handling, injury, and mortality are included in project reports in the Aquatic Restoration Reporting System. Comprehensive monitoring is occurring and the information is disseminated through scientific, technical, and public media. If projects are successful at restoring structure and function, limited to no maintenance is needed. In addition to direct, project-specific*

monitoring, we learn from best management practices monitoring and regionwide monitoring through efforts such as the PACFISH-INFISH Biological Opinion (PIBO) group monitoring and the Aquatic and Riparian Effectiveness Program Monitoring (AREMP).

Comment: The scoping notice states, “If a project would occur in a Wild and Scenic River Corridor, a Section 7 analysis will occur prior to project implementation.” What is a Section 7 analysis?

Response: *Section 7 of the Wild and Scenic Rivers Act directs federal agencies to protect the free-flowing condition and other values of designated rivers and congressionally authorized study rivers. Implementation of section 7 requires development of rigorous and consistent interagency evaluation procedures to protect river resources. A section 7 analysis occurs when a project is proposed within a designated wild and scenic river corridor to determine the effect of a project upon designated outstandingly remarkable values of the river and ensure the proposal does not affect the free-flowing nature of the river. The responsible official needs to approve the section 7 analysis prior to implementing the project.*

Comment: The variance process is also a concern. A variance process is not needed because if a project does not meet the project design criteria then it just goes through NEPA. (OW)

Response: *We’re uncertain what you are referring to. There will be no variance process.*

Comment: Within the Forest Service’s Region 6, more than 100 aquatic and semi-aquatic invertebrate taxa are listed as sensitive or strategic. These species stand to benefit from the proposed actions and activities covered by ARBO II. However, many aquatic invertebrate species are also cryptic and easily overlooked unless surveys for these rare species are specifically conducted in advance of implementation. (Xerces)

Response: *A local interdisciplinary team will determine what rare species or cultural resource surveys need to occur for each proposed project at each local unit. Surveys will be conducted, prior to project implementation and the project will be adjusted to accommodate their conservation. The analysis accounts for those species difficult to detect.*

Comment: Guidance for protecting and conserving these aquatic species is available, including guidelines in the publication *Conserving the Gems of Our Waters: Best Management Practices for Protecting Native Western Freshwater Mussels During Aquatic and Riparian Restoration, Construction, and Land Management Projects and Activities* by the Xerces Society (available at: <https://xerces.org/conserving-the-gems-of-our-waters/>) and species fact sheets and other materials developed for the Interagency Special Status/Sensitive Species Program (available at: <https://www.fs.fed.us/r6/sfpnw/issssp/species-index/fauna-invertebrates.shtml>). We encourage the USFS to direct restoration practitioners to incorporate these resources into guidelines for project activities, which will help to ensure that fewer impacts of the proposed action will be adverse. (XSIC)

Response: *We are aware of and use this reference, which has been distributed to our restoration practitioners. Project areas are surveyed for mussels prior to implementation. Project areas are salvaged prior to implementation where all observed native aquatic biota are carefully transplanted prior to project implementation.*

Comment: We have concerns about potential cumulative and synergistic effects of proposed aquatic restoration strategies with existing logging, roading, livestock, herbicide, or other impacts to the riparian area affected, including already degraded and eroding streambanks, lack of adequate plant cover to mitigate heavy equipment use, cumulative existing impacts to water quality and fish viability, and lack of

down wood or sufficient standing trees and snags on site to contribute to bank stability, shading, and soil nutrient cycling if trees or snags are felled for placement in streams within the stream's wood recruitment zone. (BMBP)

Response: *What you describe is the reason why we implement aquatic restoration projects. Cumulative effects of restoration projects when added to effects from other actions are described in the effects analysis.*

Comment: We are concerned about an array of issues, including soil compaction, stream sedimentation, removal of native plant cover, killing and wounding of amphibians, loss of habitat and riparian plant diversity and desecration or destruction of cultural sites, decreased ability to meeting riparian management objectives, and other concerns as identified. (BMBP)

Response: *Limited environmental impacts can be expected with any restoration work. These effects have been analyzed in the environmental assessment. Best management practices are implemented to minimize those impacts. Implementation and effectiveness monitoring are conducted to increase our knowledge base to increase effectiveness of future projects while further minimizing effects associated with their implementation.*

Upon the proposal of a specific project, a local interdisciplinary team will convene to determine if surveys (including wildlife, fish, plants, and cultural resources) need to occur in the project area. If the surveys identify the occurrence of a rare plant or animal or cultural resources, the project plans will be modified to protect those resources. In addition, fish and wildlife species trap and transport occurs prior to project implementation, removing species from the project area to avoid direct impacts during restoration projects.

The intent of aquatic and riparian restoration projects is to address areas that are inconsistent with riparian management objectives or State water quality laws by returning the structure and function to those areas. Aquatic restoration projects are approved by the State and U.S. Army Corp of Engineers prior to implementation. Any action must maintain consistency with State and Federal water quality laws and land management plans amended by PACFISH, INFISH, or the Northwest Forest Plan.

Comment: We are opposed to aquatic restoration activities being programmatically approved for wilderness areas, inventoried roadless areas, lands with wilderness characteristics, research natural areas, and wild and scenic river corridors. (BMBP)

Response: *Although restoration could be necessary in these areas, we recognize projects proposed in these land designations may require additional consideration and analysis prior to implementation. The compliance form addresses the need for additional analysis for wilderness and wild and scenic rivers prior to implementation. Any proposal in an inventoried roadless area would need to meet the requirement of the regulations.*

Comment: In practice it is quite rare for the Forest Service to acknowledge potential for significant effects for any of their proposed projects, so this is not a good reason not to expect potential significant effects. (Re: # 6 and 7 of preliminary effects analysis.) BMBP

Response: *The designated opportunities for comment are avenues for the public to provide evidence that there are project-specific issues that would result in significant effects.*

Comment. Forest specialists and partner organizations working together can ensure that negative impacts associated with aquatic restoration are kept to a minimum and do not outweigh the benefits. (CFC)

Response: *Most of our aquatic restoration work is conducted in partnership with pertinent organizations. This will not change with this proposal. In addition, partners will be notified at least 60 days prior to a planned project implementation, so there will be an opportunity to engage in site-specific project proposals.*

Comment: PACFISH and INFISH are interim plans, that were implemented more than 20 years ago – with a 18 month life span. The Forest Service continues to tier to them and has not made any efforts to formalize and update them for decades. (SCCA)

Response: *Land management plans were amended to include PACFISH and INFISH so they were “formalized” in that sense, and are still in effect today. Updates to these occur through land management plan revisions.*

Comment: How do you know that streams and rivers are lacking wood? (SCCA)

Response: *Specific data from the Blue Mountains were collected by the PACFISH-INFISH Biological Opinion (PIBO) group and can be found in Archer and Groce (2017), Habitat Conditions in the Blue Mountains. This group monitors the effectiveness of INFISH. It shows the frequency of wood compared to different reference populations. The data indicate a significant difference between managed and reference areas. Similar reports can be generated for different areas throughout the region, thanks to the outstanding monitoring of PACFISH, INFISH, and the Northwest Forest Plan. In addition, there are a great number of scientific publications documenting the low frequency of large wood in streams within the region.*

Project design Criteria (PDC)

Comment: Project design criteria need to be based on definitive “shall” and prohibition language and not include vagueness or loopholes because best management practices are not always fully implemented and do not always prevent significant ecological impacts. Some of the project design criteria are too vague, permissive and subjective. Likewise, the expertise of Forest Service aquatic restoration staff is not equally good on all Districts and Forests. Project design criteria planned for use should be fully identified and described, with scientific support or controversy over their effectiveness fully disclosed and cited in further environmental analysis for this project. (BMBP, OW)

Response: *Project design criteria are provided in appendices 1 and 2 and have been clarified for use in the field. The project design criteria from ARBO II are based on a decade of adaptive management interactions between the Forest Service and the regulatory agencies. They reflect the most up-to-date design criteria that result in predictable outcomes and effects. Many of the project design criteria include “shall” provisions that must be adhered to as written. Some are meant to be vague to accommodate differing watershed processes (type and magnitude) throughout the region. Training for their use will occur annually.*

Comment: The category heading “Riparian vegetation treatment” is just too vague. It sounds like it could include logging, but the project design criteria just references fire reintroduction. If that is the real purpose, the title of this category should be “reintroducing fire,” not “riparian vegetation treatment.”

Response: *Riparian vegetation treatment will be for the benefit of aquatic and riparian species and will not include timber sales. It includes the cutting of vegetation, and cutting or tipping of trees to be used in stream channel and riparian area restoration projects, as well as prescribed fire. These activities can only occur if their intent is to restore riparian areas.*

Comment: “Fish passage” PDCs should be expanded to account for the needs of wildlife other than fish. Restoration should focus on the ecosystem, not just a few focal species. Insects, mollusks, and amphibians also need to move. “Passage” should also include large wood and sediment that need to move from uplands to the stream and then through the stream system. (OW)

Response: *Fish passage projects in the Pacific Northwest Region of the Forest Service are required to use the stream simulation approach, returning a functioning stream and floodplains under road crossings. We refer to our passage projects as aquatic organism passage projects because we account for passage of all aquatic and riparian species.*

Comment: The project design criteria urge consideration of climate change, but it should go further to require that restoration projects (such as culvert replacement) be designed for increased capacity to accommodate increased storm flows. (OW)

Response: *Aquatic organism passage projects account for predicted changes in flows due to climate change.*

Comment: The site rehabilitation project design criteria should require use of native species, not just “prefer” it. (OW)

Response: *Thank you, we made that change.*

Comment: Decompacting soils is a good idea, but it comes with trade-offs, such as damage to the roots of existing vegetation, and spreading weeds. The project design criteria needs to balance these trade-offs through site-specific NEPA. (OW)

Response: *Specific projects will be proposed and reviewed by a local interdisciplinary team, including a soil scientist. Reducing human-caused soil compaction is common and is a preferable practice in most situations. If decompaction is not desired in the project, the proposed project can be modified at the site-specific scale.*

Comment: The project design criteria for gravel augmentation says “Gravel can be mined from the floodplain at elevations above bankfull ...” We do not support this. The floodplain provides many ecological values. And bankfull is expected to change due to climate change. This project design criterion places the value of fish instream above other values. This is not appropriate. This is the kind of trade-off that requires site-specific NEPA. (OW)

Response: *This has been changed. Gravel and rock removal would occur in established rock pits and would not be allowed in floodplains.*

Comment: Portions of this proposed project are located in an area that may have been contaminated with heavy metals due to the air emissions originating from the old Asarco smelter in Tacoma. Washington State Department of Ecology has recommended measures to take prior to the initiation of grading, filling, or clearing in the project areas located within the Tacoma Smelter Plume. (DOE)

Response: *A site assessment, as described in part B of appendix 2, is required for developed or previously developed sites, or sites with known suspected contamination for projects that involve excavation of more than 20 yards.*