Longley Meadows Fish Habitat Enhancement Project

Finding of No Significant Impact

DEPARTMENT OF ENERGY
Bonneville Power Administration
April 2020

Summary

Bonneville Power Administration (BPA) announces its environmental findings on funding of the Longley Meadows Fish Habitat Enhancement Project (Project). BPA proposes to fund the Confederated Tribes of the Umatilla Indian Reservation (CTUIR) to improve salmonid habitat along the Grande Ronde River in Union County, Oregon. Implementation of the project would take place on private (15 acres), State (13 acres), and U.S. Forest Service (111 acres) land.

The BPA and the U.S. Forest Service (USFS) La Grande Ranger District, Wallowa-Whitman National Forest (WWNF), prepared the Longley Meadows Fish Habitat Enhancement Project Environmental Assessment (EA). The EA evaluated the Proposed Action and the No Action Alternative. The comments received on the Draft EA and responses to the comments are included in the Final EA.

Based on the analysis in the EA, BPA has determined that the Proposed Action is not a major Federal action significantly affecting the quality of the human environment, within the meaning of the National Environmental Policy Act (NEPA) of 1969 (42 United States Code [USC] 4321 et seq.). Therefore, the preparation of an Environmental Impact Statement (EIS) is not required and BPA is issuing this Finding of No Significant Impact (FONSI) for the Proposed Action.

Public Availability

The Final EA and FONSI will be available on BPA's project website:

https://apdf.bud.bpa.gov/efw/Analysis/NEPADocuments/Pages/Longley-Meadows-Fish-Habitat.aspx

Background

Within the Upper Grande Ronde River watershed, multiple historical practices have contributed to riparian and instream habitat degradation that has negatively affected spring/summer Chinook salmon, steelhead, and bull trout habitat within the proposed project area. Currently, within the project reach, high water temperatures, low stream flows, simplified habitat, and limited off-channel habitat availability are of greatest concern for these native salmonid populations. These habitat limitations are the result of several historical anthropogenic disturbances that include, but are not limited to, systematic removal of beavers, historical

logging practices and use of splash-dams, railroad and road embankment construction, vegetation clearing, and placer mining. Although many of these practices have been reduced or eliminated in recent years, their physical effects persist.

In addition to channel changes, the floodplains within the project reach have been altered, negatively affecting off-channel salmonid habitats and floodplain water storage. The most prevalent historical feature within the floodplain includes remnants of the Mount Emily Logging Company Railroad Grade. The grade has been breached and removed in a few locations, but still acts as a barrier to natural floodplain inundation within the reach.

The need for the Proposed Action is to continue the work begun upstream in the Bird Track Springs Fish Enhancement Project to re-establish natural river floodplain connections and natural processes. The Longley Meadows Fish Habitat Enhancement Project would re-establish hydraulic conditions to create a mosaic of diverse habitat types, improve channel-floodplain interactions to increase connectivity to dissipate high-water flows, and resolve winter ice issues; and improve riparian vegetation condition and vitality, streambank stability, and nutrient cycling within this reach of the Grande Ronde River. There is also a need to protect existing infrastructure such as campgrounds, roads, and private property, while enhancing recreational and educational opportunities.

In meeting the need for action, BPA seeks to mitigate for effects of the development and operation of the FCRPS on fish and wildlife, pursuant to the Northwest Power Act. Funding this project would help BPA meet its obligations under the Endangered Species Act by fulfilling commitments begun under the 2008 Federal Columbia River Power System (as supplemented in 2010 and 2014) (2008 BiOp) and ongoing commitments under the 2019 NOAA Fisheries Columbia River System BiOp (2019 CRS BiOp). The 2008 BiOp called for identifying tributary habitat restoration projects and the 2019 CRS BiOp largely continues the tributary habitat restoration program.

Proposed Action

The project area of the Proposed Action is approximately 10 air miles west of La Grande, Oregon along approximately 1.5 miles of the Grande Ronde River along State Highway 244. The project area is in the vicinity of Spring Creek and Longley Meadows and includes 1.25 miles of river on National Forest System (NFS) lands on the WWNF and 0.25 miles on State and privately-owned lands beginning near river mile 143.45 and continuing downstream to river mile 142.15.

The following types of activities are proposed within the Longley Meadows project area under the Proposed Action:

- Alter existing channel and construct new stream channel to improve channel geometry and reduce width-to-depth ratios through large wood placement, channel fill, and bar construction.
- Place large wood structures throughout the mainstem channel to provide habitat and channel control.
- Place floodplain wood and plant native shrubs to reduce overland velocities and trap ice.

- Increase channel/floodplain interactions by removing topographical features that inhibit overland flows (historical railroad grade).
- Increase connectivity of existing channel features (swales) and enhance fish cover.
- Re-meander channel in appropriate locations to reconnect to floodplains and existing swale networks while improving channel form and function.
- Improve alcove connectivity to mainstem and enhance fish cover.
- Enhance and protect existing functional juvenile fish-rearing habitats.
- Improve connectivity of spring-fed side channels, wetlands, and alcoves to provide additional summer and winter rearing habitats.
- Plant native vegetation to improve riparian and floodplain conditions and to shade the stream.
- Reduce risk of erosion and ice damage to highway embankments through strategic placement of log structure treatments, rock, and graded features.

Channel reconstruction would include both instream work (wood placement and fill) to the existing channel and extensive channel construction activities. New channel construction would be focused on relocating portions of the river channel to allow it to re-engage with several historical channel swales and desired pond features. Large wood structures would be added throughout the project reach in addition to selective removal of floodplain fill. Additional excavation to enhance side channels and alcove features at historical channel meander features and depressions throughout the floodplain area would occur as needed to maintain and achieve appropriate grade.

Large wood structures would be constructed with locally sourced logs from either the Jordan Creek Ranch sites covered under the Bird Track Springs Environmental Assessment or purchased as a market commodity from private lands. Large wood structures are a combination of root wads, cut log boles, and slash material. Large wood structures would be embedded in the bed and banks of the channel and floodplain to provide stability and to resist ice forces. Logs would be trucked or helicopter transported to the project site, stored in pre-established staging areas and then transported to their project locations by off-road dump truck or helicopter depending on site conditions and environmental constraints. Excavators would be used for final large wood placement and construction of large wood structures.

Constructed channel features would include pools, riffles, and bars made from gravel and cobble sources from local project excavation. Channel features would be constructed to mimic natural river channel development. Floodplain features including side channels and alcoves would be re-shaped and wood strategically placed to improve connectivity with the mainstem of the river and enhance fish cover.

Existing boulder-rock weirs would be removed and boulders would be re-purposed as habitat features or structural ballast. Abandoned reaches of the existing channel would be filled utilizing excavated material from constructed channel segments. Existing riparian vegetation, topsoil, shrubs, and trees that require removal would be salvaged and re-used in the floodplain.

At this time, no native materials would be planned for removal from the project site. Non-native materials (trash, noxious weeds, etc.) would be removed if found during construction.

No activities are proposed on private lands owned by Bear Creek Ranch Quarter Horses adjacent to the project area.

Significance of Potential Impacts of the Proposed Action

The EA describes the affected environment and the current conditions of the project area and the environmental impacts of the Proposed Action. The current conditions were used to evaluate and predict the effects of implementing the Proposed Action in comparison to the No Action Alternative. The environmental consequences of the two alternatives present the potential effects on the physical, biological, and socioeconomic environment.

The following discussion provides a summary of the potential impacts from the Proposed Action and the reasons these impacts would not be significant.

Fisheries and Aquatic Resources

Construction of the Proposed Action would include short-term effects to instream water quality for fish. However, the impacts would be minimized because in-water work would occur within the Oregon Department of Fish and Wildlife in-water work window, a time when stream flows are low, conditions are dry, and fish species are in their least vulnerable life stages. Further, construction would be isolated, fish and mollusks would be removed and placed upstream, erosion control measures would be incorporated in construction, and water quality would be monitored.

The Proposed Action would improve instream and riparian habitat for all aquatic species, including those listed as threatened and endangered under the Endangered Species Act. These improvements would contribute to improved growth and survival of individual fish through enhanced spawning, incubation, rearing, and migration for fish species.

Incorporating existing cool water sources and improving exchange and capture of water would aid in moderating stream temperatures. In addition, creation of beaver dam analogs would result in increased deep slow velocity habitat where the water column has vertical temperature stratification providing stable and highly suitable overwintering habitat for juvenile salmonids.

Benefits to adult and juvenile salmonids and habitat from the addition of large wood under the Proposed Action include increased channel complexity, increased cover for protection, increased pool frequency and quality, improved off-channel habitat, increased frequency of inundation of water on the floodplain and retention of organic materials.

Hydrology, Floodplains, and Wetlands

Hydrologic changes would be local and low since the project area and Proposed Action are not large enough to influence regional hydrologic processes. Changes in channel dimensions throughout the project reach would result in changes in channel length (an increase of 1,003

feet), sinuosity (an increase of 0.11), slope (a 0.02 percent decrease), as well as increased vegetative roughness. Increase in floodplain connectivity would result in slower flows through the reach, increasing ponding, hyporheic flows, and groundwater infiltration. These changes could alter downstream flows, subsurface flows, and groundwater connectivity. Finally, earth-moving activities, access road construction, construction, and use of staging areas could impact subsurface flows, overland flows, and wetlands through compaction.

Soils

Proposed construction of channel and habitat structures would cause short-term increases in sediment delivery and associated turbidity to the Grande Ronde River in the project area. Excavators would work in the channel and from the banks to dig pools, construct habitat structures such as beaver analogs, and excavate new or realigned channels.

Approximately 14 acres, or 10 percent of the active project area, would be used for access roads, staging, and storage areas. All access roads, staging, and storage would be obliterated at project completion, and if any of these features occur in wet areas they would be obliterated by the end of the in-water work window. All disturbed areas would be restored and revegetated with native plants.

Increases in soil erosion during construction activities would be short term, while bank stabilization and native vegetation plantings would reduce the current stream bank erosion over the long term. Vegetation binds soil particles together with roots, and vegetative cover—including biological crust and duff/surface material—protects the soil surface from raindrop impact and dissipates the energy of overland flow. Ultimately, the increased frequency of inundation would result in deposition of additional sediment and soils, increased moisture retention, and increased vegetation establishment.

Wildlife Resources

A biological evaluation for wildlife proposed, endangered, threatened, and sensitive (PETS) species indicates that this project received a “no impact" determination for the “sensitive” gray wolf, and “may impact individuals or habitat but will not likely contribute to a trend towards federal listing or cause a loss of viability to the population or species for “sensitive” northern bald eagle, Columbia spotted frog, Lewis’ woodpecker, California wolverine, Johnson’s hairstreak, and western bumblebee.” Canada Lynx received a “no effect” determination (Wildlife Biological Evaluation, Analysis File).

The riparian area along the Grande Ronde River currently provides habitat for neotropical migrants. Stream channel reconstruction would remove some habitat and would result in short-term disturbance (two years). However, creating new side channels and connecting the channelized streams with their associated floodplains along with the addition of cottonwood and willow cuttings along the new stream banks would result in additional and higher quality habitat in the long term for species such as the yellow-billed cuckoo and the Lewis’ woodpecker.

Short-term losses of vegetation would not include a reduction of any unique or important habitats of ESA-listed species. In addition, all disturbed areas would be revegetated with native plants.

Botany

The biological evaluation for PETS plants indicates that project activities may impact individuals or habitat of ten sensitive plant species (seven species of moonwort, mountain grape-fern, Cordilleran sedge, and dwarf phacelia) but would not likely contribute to a trend toward federal listing or cause a loss of viability to the population or species. There would be no impact on the three other PETS species (Clustered lady's slipper, Bolander's spikerush, and ground cedar) which may have potential habitat within the project area.

During the construction phase along the riverbank, some trees may be removed as excavators access treatment site and realignment areas and dig the log structures into the bank. These trees would be incorporated into the constructed log complexes. There would be 1.65 miles of temporary roads built and approximately 11 acres of staging, storage, and stockpile areas in the floodplain with some amount of clearing or damage to existing vegetation. Removal of existing vegetation would cause some short-term effect to the riparian area, floodplain, and potentially stream banks and stream channel. These losses would be mitigated by the planned re-vegetation of the disturbed sites with native trees, grass, forbs, and shrubs propagated from locally collected seed.

Overall, the project would benefit the native plant communities in the riparian area in the long term by increasing the amount of moist/wet riparian habitat available, increasing the cover of native plants along the streambanks, and providing more large wood substrates for mosses and lichens.

Invasive Species

Specific mitigation measures and required standards would reduce the chances of new introductions, establishment, and spread of invasive non-native plants. Cleaning of all equipment prior to entering the project area, pre- and post-treatment of invasive plants already in the project area, and monitoring of disturbed areas for new invaders would minimize the establishment and spread of invasive plants due to the proposed action.

There would be establishment and a spread rate of invasive species at the upper end of the natural level, or about 6-8%, for the Proposed Action.

Heritage Resources

This project proposal would not affect any unique geographical characteristics such as parklands, prime farmlands, wild and scenic rivers, or ecologically critical areas. Impacts on cultural resources have been assessed and consulted on with CTUIR, Nez Perce Tribe (NPT), and Oregon State Historic Preservation Office.

The Proposed Action would retain and improve access to the area maintaining opportunities for tribal members to practice traditional uses and implement activities to improve to water quality and fish habitat – resources that are highly valued by the CTUIR. Specifically, the improvements to water quality and fish habitat would enhance First Foods opportunities important to the CTUIR and restoration of habitat for endangered steelhead and Chinook salmon important to the NPT and CTUIR alike.

The sites that have been identified within project area that are preliminarily recommended as eligible historic properties include pre-contact lithic scatters, a possible logging camp or historic habitation area, the Mount Emily Railroad Grade, and a firing range. The project activities would be able to avoid impacting all of these potentially eligible sites (project activities would occur outside of site boundaries).

Cultural sites inadvertently discovered during construction would be addressed by an Archaeological/Cultural Resources Inadvertent Discovery Plan. USFS would monitor project impacts on sites that are or may be eligible for listing on the National Register.

Recreation

There are no developed USFS recreation sites or trails within the Longley Meadows project area. The Bird Track Springs Campground, though not within the project area, is nearby on Highway 244. Recreationists using the campground area would experience short-term (one to two seasons) impacts from construction-related activities which would result in smoke, noise, and the need for traffic control.

These impacts would occur primarily during daylight hours during the summer months while the projects are being implemented. Long-term benefits from all of these projects would result from increased stand resiliency within the campground, reduced noise and dust, interpretation opportunities related to the benefits of the project, and improved fishing and viewing along the river for fishermen and hikers.

Scenic Resources

The Grande Ronde River Road (Highway 244) runs through the project area. In the short term, there would be visual impacts from active river realignment, instream enhancement, and associated activities, both on private and USFS lands. Heavy machinery, dust, slash and log piles, temporary river crossings, and disturbed ground would be visible to travelers along Highway 244 and to recreationists within the project area.

In the long term, large wood placements, beaver dam analogs, and substantial revegetation after two to five years would promote a more natural appearance. Temporary parking areas and staging sites would be rehabilitated at the conclusion of the project.

Determination

Based on the information in the EA, as summarized here, BPA determines that the Proposed Action is not a major federal action significantly affecting the quality of the human environment within the meaning of NEPA (42 USC 4321 *et seq.*). Therefore, an EIS will not be prepared and BPA is issuing this FONSI for the Proposed Action.

Issued in Portland, Oregon

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SCOTT G. ARMENTROUT
Executive Vice President
Environment, Fish and Wildlife

Date

Longley Meadows Fish Habitat Enhancement Project Mitigation Action Plan

Mitigation Action Plan

This Mitigation Action Plan is part of the Finding of No Significant Impact (FONSI) for Longley Meadows Fish Enhancement Project (project). This action would provide funding to the Confederated Tribes of the Umatilla Indian Reservation (CTUIR) to restore habitat for spring/summer Chinook salmon, steelhead, and bull trout within a 1.5-mile reach of the Grande Ronde River.

This Mitigation Action Plan is for the Proposed Action and includes all of the integral elements and commitments made in the Environmental Assessment (EA) to mitigate potential adverse environmental impacts.

The Bonneville Power Administration (BPA), United States Forest Service (USFS) and the Confederated Tribes of the Umatilla Indian Reservation (CTUIR) (and their contractors) would be responsible for implementing the mitigation measures during various phases of project work. Relevant portions of this Mitigation Action Plan would be included in the construction contract specifications. This would obligate the contractor to implement the mitigation measures identified in the Mitigation Action Plan that relate to contractor responsibilities during construction and post-construction.

If you have any general questions about the project, contact the Project Manager, Tracy Hauser at 503-230-4296, or email thauser@bpa.gov.

The Mitigation Action Plan may be amended if revisions are needed due to new information or if there are any significant project changes.

Mitigation Measures

Minimization and mitigation measures have been identified to reduce potential impacts associated with the Proposed Action, and are provided below in the table below.

Mitigation Action Plan

Minimization and Mitigation Measure	Implementation
Cultural	
If any new cultural resources are located during project implementation, work would be halted and the BOR and BPA Archaeologists notified. The cultural resource would be evaluated and a mitigation plan developed in consultation with the Oregon SHPO, Tribes, and other consulting parties if necessary.	During construction (BPA/CTUIR/ BOR)
BPA will contract with each of the consulting tribes who will be responsible for the provision of a cultural monitor to be present during the ground disturbing portion of construction. A contracted archaeologist (On-Site Archaeologist) shall supervise and coordinate work with a total of up to three tribal cultural resource monitors, one from each of the consulting tribes.	Before and during construction (BPA/CTUIR)
A project-specific Inadvertent Discovery Plan (IDP), which would outline the process to be followed in the event of a post-review discovery during construction, would be written. This IDP would be distributed to personnel associated with implementation or construction of the project.	Before and during construction (BPA/CTUIR)
Prior to construction, a pre-construction cultural resources training would be held for construction crew to ensure they understand how to recognize artifacts and sensitive areas, and how to follow the IDP should cultural materials be inadvertently discovered during construction.	Before and during construction (BPA/CTUIR)
20 meter buffers around sites 35UN67 (LM-4) and LM-3, and isolate IF-4 will be flagged for avoidance during construction work, revisted periodically and restrung/repaired as needed.	Before and during construction (BPA/CTUIR)
The boundary of site 35UN657 will be flagged for avoidance, and all construction activities within 20 meters of the site boundary will be monitored by an archaeologist meeting the Secretary of the Interior's Professional Qualification Standards in Archaeology.	Before and during construction (BPA/CTUIR)
The boundary of the Mt Emily Railroad will be flagged within 30 meters of proposed construction work. Construction work within 20 meters of four locations (proposed construction entrances, the breech in the railroad berm, and the proposed large wood location) along the Mt Emily Railroad will be monitored by an archaeologist meeting the Secretary of the Interior's Professional Qualification Standards in Archaeology.	Before and during construction (BPA/CTUIR)
Pre Construction Mitigation Measures	
State and Federal Permits. All applicable regulatory permits and official project authorizations will be obtained before project implementation. These permits and authorizations include, but are not limited to, National Historic Preservation Act, and the appropriate state agency removal and fill permit, access permits and approval from Oregon Department of Transportation, US Army Corps of Engineers Clean Water Act (CWA) Section 404 permits, and CWA Section 401 water quality certifications.	Before construction (CTUIR)
Timing of in-water work. Instream work would be completed during the designed instream work window, July 1 through October 15, which is the in-water work period for federally listed fish species in this reach. Instream work is defined as all work that is completed within the ordinary high water or bankfull channel.	Before and during construction (CTUIR)
Site layout and flagging. Prior to construction, the action area will be clearly flagged to identify the following: a) Sensitive resource areas, such as areas below ordinary high water, spawning areas, springs, existing native vegetation to be saved, and wetlands; b) Equipment entry and exit points; c) Road and stream crossing alignments; d) Staging, storage, and stockpile areas; and e) No-spray areas and buffers.	Before construction (CTUIR)

Temporary access roads and paths. a) Existing access roads and paths will be preferentially used whenever reasonable, and the number and length of temporary access roads and paths through riparian areas and floodplains will be minimized to lessen soil disturbance and compaction, and impacts to vegetation. b) Temporary access roads and paths will not be built on slopes where grade, soil, or other features suggest a likelihood of excessive erosion or failure. If slopes are steeper than 30%, then the road will be designed by a civil engineer with experience in steep road design. c) The removal of riparian vegetation during construction of temporary access roads will be minimized. When temporary vegetation removal is required, vegetation will be cut at ground level (not grubbed). d) At project completion, all temporary access roads and paths will be obliterated, and the soil will be stabilized and revegetated. Road and path obliteration refers to the most comprehensive degree of decommissioning and involves decompacting the surface and ditch, pulling the fill material onto the running surface, and reshaping to match the original contour. e) Temporary roads and paths in wet areas or areas prone to flooding will be obliterated by the end of the in-water work window. f) Temporary roads would be carefully located in places that would require minimal grubbing and clearing (approximately 12 feet wide) of existing trees and vegetation. These roads would be restored to the pre-activity conditions. Any rutting or berms shall be repaired with deep ripping and drainage structures installed to control surface runoff as needed. All exposed soils would be seeded/planted. g) All reopened roads and major equipment trails accessed from system roads shall have a permanent closure berm placed at road intersection to prevent unauthorized motorized use. If closures are breached by motor vehicles the area would be promulgated with a legal closure order.	Before and during construction (CTUIR)
Temporary stream crossings. a) Existing stream crossings will be preferentially used whenever reasonable, and the number of temporary stream crossings will be minimized. b) Temporary bridges and culverts will be installed to allow for equipment and vehicle crossing over perennial streams during construction. c) Equipment and vehicles will cross the stream in the wet only where: i. The streambed is bedrock; or ii. Mats or off-site logs are placed in the stream and used as a crossing. d) Vehicles and machinery will cross streams at right angles to the main channel wherever possible. e) The location of the temporary crossing will avoid areas that may increase the risk of channel re-routing or avulsion. f) Potential spawning habitat (i.e., pool tailouts) and pools will be avoided to the maximum extent possible. g) No stream crossings will occur at active spawning sites, when holding adult listed fish are present, or when eggs or alevins are in the gravel. The appropriate state fish and wildlife agency will be contacted for specific timing information. h) After project completion, temporary stream crossings will be obliterated and the stream channel and banks restored.	Before and during construction (CTUIR)

Staging, storage, and stockpile areas. a) Staging areas (used for construction equipment storage, vehicle storage, fueling, servicing, and hazardous material storage) will be 150 feet or more from any natural water body or wetland, or on an adjacent, established road area in a location and manner that will preclude erosion into or contamination of the stream or floodplain. b) Natural materials used for implementation of aquatic restoration, such as large wood, gravel, and boulders, may be staged within the 100-year floodplain. c) Any large wood, topsoil, and native channel material displaced by construction will be stockpiled for use during site restoration at a specifically identified and flagged area. d) Any material not used in restoration, and not native to the floodplain, will be removed to a location outside of the 100-year floodplain for disposal.	Before construction (CTUIR)
Equipment. Mechanized equipment and vehicles will be selected, operated, and maintained in a manner that minimizes adverse effects on the environment (e.g., minimally-sized, low pressure tires; minimal hard-turn paths for tracked vehicles; temporary mats or plates within wet areas or on sensitive soils). All vehicles and other mechanized equipment will be: a) Stored, fueled, and maintained in a vehicle staging area placed 150 feet or more from any natural water body or wetland or on an adjacent, established road area; b) Refueled in a vehicle staging area placed 150 feet or more from a natural waterbody or wetland, or in an isolated hard zone, such as a paved parking lot or adjacent, established road (this measure applies only to gas-powered equipment with tanks larger than 5 gallons); c) Biodegradable lubricants and fluids shall be used on equipment operating in and adjacent to the stream channel and live water. d) Inspected daily for fluid leaks before leaving the vehicle staging area for operation within 150 feet of any natural water body or wetland; and e) Thoroughly cleaned before operation below ordinary high water, and as often as necessary during operation, to remain grease free.	Before and during construction (CTUIR)
Dust abatement. The project sponsor will determine the appropriate dust control measures by considering soil type, equipment usage, prevailing wind direction, and the effects caused by other erosion and sediment control measures. In addition, the following criteria will be followed: a) Work will be sequenced and scheduled to reduce exposed bare soil subject to wind erosion. b) Dust-abatement additives and stabilization chemicals (typically magnesium chloride, calcium chloride salts, or lignin sulfonate) will not be applied within 25 feet of water or a stream channel and will be applied so as to minimize the likelihood that they will enter streams. Applications of lignin sulfonate will be limited to a maximum rate of 0.5 gallons per square yard of road surface, assuming a 50:50 (lignin sulfonate to water) solution. c) Application of dust abatement chemicals will be avoided during or just before wet weather, and at stream crossings or other areas that could result in unfiltered delivery of the dust abatement materials to a waterbody (typically these would be areas within 25 feet of a waterbody or stream channel; distances may be greater where vegetation is sparse or slopes are steep). d) Spill containment equipment will be available during application of dust abatement chemicals. e) Petroleum-based products will not be used for dust abatement.	Before and during construction (CTUIR)

Spill prevention, control, and counter measures. The use of mechanized machinery increases the risk for accidental spills of fuel, lubricants, hydraulic fluid, or other contaminants into the riparian zone or directly into the water. These contaminants can degrade habitat, and injure or kill aquatic food organisms and ESA-listed species. The project sponsor will adhere to the following measures: a) A description of hazardous materials that will be used, including inventory, storage, and handling procedures will be available on-site. b) Written procedures for notifying environmental response agencies will be posted at the work site. c) Spill containment kits (including instructions for cleanup and disposal) adequate for the types and quantity of hazardous materials used at the site will be available at the work site. d) Workers will be trained in spill containment procedures and will be informed of the location of spill containment kits. e) Any waste liquids generated at the staging areas will be temporarily stored under an impervious cover, such as a tarpaulin, until they can be properly transported to and disposed of at a facility that is approved for receipt of hazardous materials.	Before and during construction (CTUIR)
Soils	
Erosion control. Erosion control measures will be prepared and carried out, commensurate in scope with the action, that may include the following: a) Temporary erosion controls will be in place before any significant alteration of the action site and appropriately installed downslope of project activity within the riparian buffer area until site rehabilitation is complete. b) If there is a potential for eroded sediment to enter the stream, sediment barriers will be installed and maintained for the duration of project implementation. c) Temporary erosion control measures may include fiber wattles, silt fences, jute matting, wood fiber mulch and soil binder, or geotextiles and geosynthetic fabric. d) Soil stabilization utilizing wood fiber mulch and tackifier (hydro-applied) may be used to reduce erosion of bare soil if the materials are noxious weed free and nontoxic to aquatic and terrestrial animals, soil microorganisms, and vegetation. e) Sediment will be removed from erosion controls once it has reached 1/3 of the exposed height of the control. f) Once the site is stabilized after construction, temporary erosion control measures will be removed. g) Emergency erosion controls. The following materials for emergency erosion control will be available at the work site: h) A supply of sediment control materials; and i) An oil-absorbing floating boom whenever surface water is present.	During construction (CTUIR)
Coarse Woody Debris (CWD) a) Retain adequate supplies of CWD (greater than three inches in diameter) to provide organic matter reservoirs for nutrient cycling and microbiotic (fungi and bacteria) habitat following completion of all project activities. It is recommended that approximately 5 to 10 tons per acre of CWD be retained on dry ponderosa pine sites. In order to retain adequate organic matter reservoirs for nutrient cycling and maintenance of long-term site productivity, minimize disturbance and piling of decaying large woody debris during fuel treatments. b) Strive to maintain fine organic matter (commonly referred to as the duff layer) over at least 65 percent of an activity area following both harvest and post-harvest operations. Adjust minimum amounts to reflect vegetative capabilities if the potential natural plant community on site is not capable of producing fine organic matter over 65 percent of the area (Regional Soil Quality Guidelines / FSH 2090.11).	Before and during construction (CTUIR)

<table>
<tr><td>Effective Ground Cover (EGC)

a) After completion of land management activities, the minimum effective ground cover (EGC) within each activity area shall be in place to prevent erosion from exceeding background erosion rates for each of the four established erosion hazard classes: low, medium, high or very high (table below). Effective ground cover is defined as the basal area of perennial vegetation, plus litter and coarse fragments (greater than 2mm sizes), including tree crowns and shrubs that are in direct contact with the ground.
<table>
<tr><th rowspan="2">Erosion Hazard Class</th><th colspan="2">Minimum Effective Ground Cover</th></tr>
<tr><th>1st Year</th><th>2nd Year</th></tr>
<tr><td>Low (Very Slight – Slight)</td><td>20-30%</td><td>30-40%</td></tr>
<tr><td>Medium (Moderate)</td><td>30-45%</td><td>40-60%</td></tr>
<tr><td>High (Severe)</td><td>45-60%</td><td>60-75%</td></tr>
<tr><td>Very High (Very Severe)</td><td>60-90%</td><td>75-90%</td></tr>
</table>
b) Effective ground cover for all subsoiling treatments should take advantage of harvest slash. If no suitable organic material is available, then weed free straw or other equivalent erosion control measures should be applied on slopes exceeding 15%, adjacent to waterways and ditches (within 100 feet), and prior to September 30th or seasons ending precipitation event, whichever comes first.</td><td>Before and during construction (CTUIR)</td></tr>
<tr><td>Post Project

a) In areas of general disturbance in ash soils, the top layer (A Horizon) should be pulled back over any disturbed surface. (Pull berms back over disturbed surfaces)
b) In areas where subsoiling is prescribed, subsoil to a depth sufficient to ameliorate the presence of detrimental soil compaction (usually between 2 and 12 inches). Discontinue subsoiling where large rocks are continually brought to the soil surface. If a change in soil color is noticed by the operator, operate at a shallower depth that prevents topsoil and subsoil from mixing. Skid trails on slopes steeper than 30 percent should not be subsoiled.</td><td>Post construction (CTUIR)</td></tr>
<tr><td colspan="2">Livestock Grazing</td></tr>
<tr><td>Fences: All improvements should be protected during restoration activities. If it is necessary to cut range fences, the contractor must be required to immediately repair them to Forest Service standards. These standards are available and should be made a part of the restoration contract. Fence line right of ways must be kept cleared for eight feet on each side of the fence following harvest or piling.</td><td>During and post construction (CTUIR)</td></tr>
<tr><td colspan="2">Roads/Access/Safety</td></tr>
<tr><td>Appropriate temporary area and road closures, flagging, signage, and public notice will be provided during project implementation to ensure public safety.</td><td>Before and during construction (CTUIR)</td></tr>
<tr><td colspan="2">Invasive Species</td></tr>
<tr><td>Project personnel will inform invasive species personnel pre-seasonally of upcoming project activities (i.e. ground disturbing activities), so reprioritization of treatment (if deemed necessary) and inventory can begin prior to the start of project activities.</td><td>Before construction (CTUIR)</td></tr>
<tr><td>Prior to project implementation, known weed sites and any additional weed sites discovered at the time of implementation would be flagged and pulled/treated by knowledgeable personnel approved by the District's Noxious Weed program. Prior to entering the site, all vehicles and equipment will be power washed, allowed to fully dry, and inspected to make sure no plants, soil, or other organic material adheres to the surface. The project lead may choose to have equipment operators avoid the flagged noxious weed areas.</td><td>Before construction (CTUIR)</td></tr>
</table>

Noxious Weed Management. a) Noxious weed locations are on maps located in the Longley Meadows analysis file. A copy of these will be included in the contract preparation package, for use by the contract administrator. These sites will be reviewed with the contractor and mitigations explained. No road construction or maintenance should occur at these sites, until the previous year's dead plants/stalks have been removed. b) Treatment of the noxious weed sites located along haul route roads should be a high priority, along with monitoring. c) Rock pit, boulder, and large wood source areas should be surveyed, inspected, and cleared prior to use of any materials. d) Known infestations should be designated as Areas to Protect. e) If new noxious weed infestations are located within the project area, a noxious weed inventory and site assessment (as defined in the WWNF Integrated Noxious Weed Management Plan) will be completed. Location of other species, conditions or future treatments may require additional analysis to determine the appropriate treatment method. f) All mapped weed sites will be designated as "Areas to Protect" and include in the contract package for use by the contract administrator. Landings and staging areas should not be built on or near sites of noxious weed infestation. g) Highly disturbed areas will be seeded. The seed mix to be used will consist of native species, or a non-native species mix, to be approved by the District Diverse Species Program. This may include one fast germinating annual grass species to provide immediate ground cover. Seed application rates will be adjusted, as needed to compensate for the broadcast method of application, and to generate vegetation densities adequate to help in deterrence of noxious weed invasion. h) Seed will be certified weed free, per the Wallowa-Whitman INWMP protocol. i) All hay or straw used for mulching, erosion control, or other rehabilitation purposes will be weed free (per the Wallowa-Whitman INWMP protocol). j) All equipment to be operated on the project area will be cleaned in a manner sufficient to prevent noxious weeds from being carried onto the project area. This requirement does not apply to passenger vehicles or other equipment used exclusively on roads. Cleaning, if needed, will occur off of National Forest System lands. Cleaning will be inspected and approved by the Forest Officer in charge of administering the project. k) Watercraft, waders, boots, and any other gear to be used in or near water will be inspected for aquatic invasive species. Wading boots with felt soles are not to be used due to their propensity for aiding in the transfer of invasive species.	During construction (CTUIR)
Fisheries	
Timing of in-water work. Instream work would be completed during the designed instream work window, July 1 through October 15, which is the in-water work period for federally listed fish species in this reach. Instream work is defined as all work that is completed within the ordinary high water or bankfull channel.	During construction (CTUIR)
Work Area Isolation & Fish Salvage. Any work area within the wetted channel will be isolated from the active stream whenever ESA-listed fish are reasonably certain to be present, or if the work area is less than 300-feet upstream from known spawning habitats. When work area isolation is required, design plans will include all isolation elements, fish release areas, and, when a pump is used to dewater the isolation area and fish are present, a fish screen that meets current NMFS fish screen criteria. Work area isolation and fish capture activities will occur during periods of the coolest air and water temperatures possible, normally early in the morning versus late in the day, and during conditions appropriate to minimize stress and death of species present. Salvage operations will follow the ordering, methodologies, and conservation measures specified in the HIP Handbook. Dewatering will not be conducted in areas known to be occupied by lamprey, unless lampreys are salvaged using guidance set forth in US Fish and Wildlife Service.	During construction (CTUIR)

Fish passage. Fish passage will be provided for any adult or juvenile fish likely to be present in the action area during construction, unless passage did not exist before construction or the stream is naturally impassable at the time of construction. If the provision of temporary fish passage during construction will increase negative effects on aquatic species of interest or their habitat, a variance can be requested from the NMFS Branch Chief and the USFWS Field Office Supervisor (Appendix B of the HIP IV BO). Pertinent information, such as the species affected, length of stream reach affected, proposed time for the passage barrier, and alternatives considered, will be included in the variance request.	During construction (CTUIR)
Dewater. Dewatering, when necessary, will be conducted over a sufficient period of time to allow species to naturally migrate out of the work area and will be limited to the shortest linear extent practicable. Dewatering will not be conducted in areas known to be occupied by lamprey, unless lampreys are salvaged using guidance set forth in US Fish and Wildlife Service.	During construction (CTUIR)
Re-watering. Upon project completion, the construction site will be slowly re-watered to prevent loss of surface flow downstream and to prevent a sudden increase in stream turbidity. During re-watering, the site will be monitored to prevent stranding of aquatic organisms below the construction site.	During construction (CTUIR)
Spawning Surveys. Intensive spawning ground surveys for Chinook salmon and steelhead would continue.	Post construction (CTUIR)
Construction	
Minimize time and extent of disturbance. Earthwork (including drilling, excavation, dredging, filling and compacting) in which mechanized equipment is in stream channels, riparian areas, and wetlands will be completed as quickly as possible. Mechanized equipment will be used in streams only when project specialists believe that such actions are the only reasonable alternative for implementation, or would result in less sediment in the stream channel or damage (short- or long term) to the overall aquatic and riparian ecosystem relative to other alternatives. To the extent feasible, mechanized equipment will work from the top of the bank, unless work from another location would result in less habitat disturbance.	During construction (CTUIR)
Post-Construction	
Site restoration. When construction is complete: a) All streambanks, soils, and vegetation will be cleaned up and restored as necessary using stockpiled large wood, topsoil, and native channel material. b) All project related waste will be removed. c) All temporary access roads, crossings, and staging areas will be obliterated. When necessary for revegetation and infiltration of water, compacted areas of soil will be loosened. d) All disturbed areas will be rehabilitated in a manner that results in similar or improved conditions relative to pre-project conditions. This will be achieved through redistribution of stockpiled materials, seeding, and/or planting with local native seed mixes or plants. Seeding of disturbed soil will be completed with a mix of native grasses and forbs to be provided by the La Grande Ranger District. Mulching will be completed using Oregon State Certified weed free wheat straw.	Post construction (CTUIR)

Revegetation. Long term soil stabilization of disturbed sites will be accomplished with reestablishment of native vegetation using the following criteria: a) Planting and seeding will occur prior to or at the beginning of the first growing season after construction. b) An appropriate mix of species that will achieve establishment, shade, and erosion control objectives, preferably forb, grass, shrub, or tree species native to the project area or region and appropriate to the site will be used. c) Vegetation, such as willow, sedge and rush mats, will be salvaged from disturbed or abandoned floodplains, stream channels, or wetlands. d) Invasive species will not be used. e) Short term stabilization measures may include the use of non-native sterile seed mix (when native seeds are not available), weed-free certified straw, jute matting, and other similar techniques. f) Surface fertilizer will not be applied within 50 feet of any stream channel, waterbody, or wetland. g) Fencing will be installed as necessary to prevent access to revegetated sites by livestock or unauthorized persons. h) Re-establishment of vegetation in disturbed areas will achieve at least 70% of pre-project conditions within 3 years. i) Invasive plants will be removed or controlled until native plant species are well- established (typically 3 years post-construction).	Post construction (CTUIR)
Water Quality	
A Spill Prevention Control and Containment Plan (SPCCP). The contractor would be required to have a written SPCCP, which describes measures to prevent or reduce impacts from potential spills (fuel, hydraulic fluid, etc.) The SPCCP should contain a description of the hazardous materials that would be used, including inventory, storage, handling procedures; a description of quick response containment supplies that would be available on the site (e.g. a silt fence, straw bales, and an oil-absorbing, floating boom whenever surface water is present).	During construction (CTUIR)
The time that heavy equipment is in stream channels would be minimized as much as possible. Mechanized equipment will work from the top of the bank to the extent feasible, unless another location would result in less habitat disturbance.	During construction (CTUIR)
Construction and discharge water. a) Surface water may be diverted to meet construction needs, but only if developed sources are unavailable or inadequate. b) Diversions will not exceed 10% of the available flow. c) All construction discharge water will be collected and treated using the best available technology applicable to site conditions. d) Treatments to remove debris, nutrients, sediment, petroleum hydrocarbons, metals and other pollutants likely to be present will be provided.	During construction (CTUIR)
CWA Section 401 water quality certification. The project sponsor or designated representative will complete and record water quality observations to ensure that in-water work is not degrading water quality. During construction, CWA section 401 water quality certification provisions provided by the Oregon Department of Environmental Quality will be followed.	During construction (CTUIR)
Turbidity Monitoring Protocol. Turbidity monitoring shall be conducted in accordance with the HIPIV turbidity monitoring protocol outlined below and recorded in the Project Completion Form (PCF).	During construction (CTUIR)

Recreation/Special Uses	
Project activities would be designed to protect the structures and facilities at the La Grande Gun Club during and after implementation. The special use permit for the gun club includes a short term annual event on 95 acres of adjacent USFS lands. An alternative site will be found to accommodate this event during project implementation activities.	During construction (CTUIR)
Wildlife	
A bald eagle nest which has been historically active is located adjacent to the project area. The project area and nest site will be monitored when project activities are ready to begin to determine if the nest is active. As per the National Bald Eagle Management Guidelines, human activities within 600 feet of an active nest will be restricted February 15th - August 15th. This restriction can be waived if the nest is determined to be unoccupied. If monitoring shows the young have fledged before August 15th then buffer restrictions can be lifted.	During construction (CTUIR)
Proposed, Endangered, Threatened, and Sensitive Species (PETS)	
Biological evaluations and/or assessments have been completed for plants, fish, and wildlife PETS species. Contract provisions will be included to provide for the protection of areas where PETS occur and for those that may be discovered in the area during the contract period.	During construction (CTUIR)
Scenery	
The following scenery mitigation measures and design elements will be developed site-specifically on the ground with the District Recreation Specialist. a) Where practical, screen staging areas from Highway 244. b) New temporary roads and landings may be evident but should remain subordinate to the shape and pattern of the natural appearing forest canopy. In areas of Retention and Partial Retention foreground from Hwy 244. c) In areas of Retention foreground as seen from Highway 244, skid patterns, slash, soil exposure and stumps should be visually minor or unnoticed (4" maximum height of stumps). d) Cut stumps at a height less than 4" that are within 100' of Highway 244. e) Where practical, slash piles shall not be located within the immediate Foreground (100') of Highway 244.	During construction (CTUIR)
Project Effectiveness Monitoring Plan	
Groundwater monitoring and installation of piezometers will be used to evaluate the potential effects of the project on hyporheic hydrology and thermal energy processes. Findings will be incorporated into the design process to identify an option that would provide aquatic habitat benefits associated with groundwater-surface water interchange.	Post Construction (CTUIR)
Structure construction: Monitoring of structures would involve photo points of before and after operations occur. Follow up photo points would occur at year 1, year 3, and year 5 after project completion.	Post Construction (USFS)
Stream Survey: Region 6 Level II Stream Habitat Inventory has been conducted in this project area (completed 2012) and will be repeated again at year 1 and year 5 after completion.	Post Construction (USFS)
Plant/seed survival: Native plantings and seeded areas would be evaluated for survival on a yearly basis for three years after project completion through photo points and determining plant survival. If plant/seed survival is poor, then subsequent replanting and/or seeding would occur. This monitoring will be completed by the USFS.	Post Construction (USFS)
Noxious weeds: Noxious weeds will be monitored on Forest Service lands, yearly, for three years after project operations.	Post Construction (USFS)
Instream habitat and stream channel changes within the project area will be monitored by establishing a series of photo points and by evaluating plan-form channel changes from periodic aerial photography.	Post Construction (CTUIR)