Phase 2 Implementation Plan (P2IP)

Mitigation Action Plan

SUMMARY

This Mitigation Action Plan is for the Phase 2 Implementation Plan (P2IP) Testing Feasibility of Salmon Reintroduction in the Upper Columbia River Basin (P2IP Project). The P2IP Project would include testing the feasibility of restoring salmon in the Upper Columbia River Basin upstream of Chief Joseph, Grand Coulee, and Spokane River dams.

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

The Confederated Tribes of the Colville Reservation, the Coeur d'Alene Tribe, and the Spokane Tribe of Indians, the project sponsors, would implement the project actions. The mitigation measures, or Environmental Protection Measures (EPMs), would be implemented during various project phases. Relevant portions of this mitigation action plan will be included in the contract specifications, which will obligate the sponsors and their contractors to implement the mitigation measures.

If you have any general questions about the project, contact BPA's P2IP policy lead, Maureen Kavanagh: toll-free phone 800-282-3713, direct phone 503-230-4272, or email makavanagh@bpa.gov.

If you have questions about the mitigation action plan, contact the BPA lead for the environmental review, Amy Mai: toll-free phone 800-282-3713, direct phone 503-230-7349, or e-mail aemai@bpa.gov.

If you have questions about the mitigation action plan during implementation, contact the BPA environmental lead for project implementation, Ted Gresh: toll-free phone 800-282-3713, direct phone 503-230-5756, or e-mail esgresh@bpa.gov. This mitigation action plan may be amended if revisions are needed due to new information or if there are project adjustments.

MITIGATION MEASURES

Minimization and mitigation measures identified to reduce potential impacts associated with the Proposed Action are provided in the Mitigation Action Plan Table.

Mitigation Action Plan Table

MINIMIZATION AND MITIGATION MEASURE	IMPLEMENTATION
Climate Variability and Air Quality	
To control dust or air pollution, work sites and gravel areas would be treated with a dust retardant, such as water or magnesium chloride. Water supply locations would be identified prior to construction to minimize impacts on soil, water quality, fisheries, wetlands, and vegetation resources. When pumping water from a reservoir or streams for dust abatement, intake hoses shall be screened with the appropriate mesh size (generally 3/32 inch) or as described through consultation with the National Marine Fisheries Service (NMFS) or U.S. Fish and Wildlife Service (USFWS), or both.	Project sponsor's contractor; during construction
Disturbed areas would have temporary ground covers, such as mulching, temporary grasses, erosion blankets, or similar methods of dust control and wind erosion control, applied to protect exposed soil surfaces and reduce fugitive dust.	Project sponsor's contractor; during construction
A fugitive dust control plan would be developed with specific dust control measures and procedures for construction contractors.	Project sponsor's contractor; during construction
Water Quality	
Silt fencing, straw bales, or similar devices to control erosion and runoff from disturbance areas would be used on the project site. Erosion-control barriers would be maintained throughout the construction period and removed for disposal at the completion of construction activities.	Project sponsor's contractor; during construction
Temporary covering of stockpiled materials, spoils, and exposed soils with certified, weed-free straw mulch; erosion-control blankets; or similar measures would be used to control erosion and runoff.	Project sponsor's contractor; during construction
The contractors would be required to develop and submit a stormwater pollution prevention plan that complies with the State of Washington Stormwater Management Manual for Eastern Washington when required by permitting processes. The stormwater pollution prevention plan would identify vegetation clearing limits, construction access, and EPMs for erosion control. EPMs for erosion control may include: • Preserving natural vegetation, whenever possible • Using a natural vegetation buffer zone along streams, wetlands, and other waterbodies • Stabilizing construction access to reduce sediment transport onto paved roads	Project sponsor's contractor; before and during construction

• Using a wheel wash to reduce sediment from the construction site onto paved roads • Stabilizing and grading construction roads and staging areas • Temporary and permanent seeding to stabilize exposed soils • Mulching disturbed areas for erosion control • Using erosion-control blankets or nets for exposed soils • Controlling dust • Having erosion-control material on hand at the work site in case of an emergency situation such as unexpected, heavy rain • Using concrete handling and concrete washout • Ensuring materials delivery, storage, and containment	
Spill containment structures or portable spill kits, commensurate with the amount of fuel stored and supplies, such as shovels, absorbent pads, and/or booms, shall be on-site during construction and operation activities. The backup generator and permanent fuel tank would be equipped with a shutoff system if a leak is detected.	Project sponsor's contractor; during construction
Lubricants used for operation and maintenance of the pumps would be eco-friendly, such as plant-based oils. All lubricants used for equipment within the shore protection zone would comply with the applicable sections of the 2013 EPA regulations for vessel general permits for environmentally acceptable lubricants relative to the regulatory definitions of biodegradable, minimally toxic, and not bioaccumulative.	Project sponsor's contractor; during construction
Refueling and petroleum product storage would occur in specified areas outside the ordinary high-water mark of the Study Area water bodies.	Project sponsor's contractor; during construction
Hazardous materials (petroleum products and chemicals) would be transported to the approved site for disposal.	Project sponsor's contractor; during construction
When not in use, vehicles and construction equipment containing petroleum products, hydraulic fluids, and/or chemicals would be stored at the staging area or the construction and parking area.	Project sponsor's contractor; during construction
Biological Resources	
All existing fish hatchery program operations would likely continue to be implemented during the P2IP research.	Co-lead agencies and Project sponsors; during operation
Live-capture, selective fishing gear would be developed to collect Chinook brood stock that would allow release of non-target species promptly and safely. Gear would be used when and where incidental take of Upper Columbia River spring-run Chinook and bull trout could occur. Capture of Upper Columbia River steelhead would be expected during the August through November brood stock collection. Particular attention would be taken to release Endangered Species Act-listed spring-run Chinook, bull trout, and steelhead unharmed with little or no handling.	Project sponsors and Project sponsor's contractor; during collection

During salmon collection operations, the Project Proponents would apply measures that minimize the risk of harm to Endangered Species Act-listed bull trout, salmon, and steelhead. These measures include, but are not limited to, limits on the duration (hourly, daily, and weekly) of collection activities, limits on the duration of holding Endangered Species Act-listed fish, and allowance for free passage of Endangered Species Act-listed fish migrating through collection sites in main stem and tributary river locations when those sites are not being actively operated.	Project sponsors and Project sponsor's contractor; during collection
Any Endangered Species Act-listed bull trout, salmon, or steelhead that might enter the hatchery ladder and adult holding facilities would be sorted, tallied and promptly released unharmed back into the Columbia River.	Project sponsors; during operation
Project Proponents would continue to implement the Salmonid Disease Control Policy of the Fisheries Co-managers of Washington State (WDFW 2006[1]) and Pacific Northwest Fish Health Protection Committee (PNFHPC 2007[2]) guidelines to minimize the risk of fish disease amplification or transfer and to ensure that artificially propagated fish are released in good health.	Project sponsors; during operation
During purse and beach seine, fyke net, and hook and line operations, any non-target ESA listed fish would be released immediately. This measure is subject to modification by the USFWS and NMFS, pending consultation. • Fyke Nets: Nets would be checked daily. • Hook and Line: Barbless hooks would be used for hook and line capture. Non-target Endangered Species Act-listed- species captured would not be removed from the water, hook removed and released immediately. Fish would be sorted by hand or by use of a knotless dip net. All fish would be sorted or released, or both, prior to removing the entire seine from the water. Dry sorting would not occur. Sorting time would not exceed 75 minutes. • For beach seine operations, the sorting time is defined as the elapsed time from when the outer towed end of the net first contacts the shore or block until the net is emptied of fish. • For purse seine operations, the sorting time is defined as the elapsed time from when all rings are pursed and out of the water until the net is emptied of fish.	Project sponsors and Project sponsor's contractor; during collection
Net pens would be checked for mortalities at least once per week. Mortalities would be removed, and the PIT tags would be recovered, if possible.	Project sponsors and Project sponsor's contractor; during holding

[1] Washington Department of Wildlife 2006. The Salmonid Disease Control Policy of the Fisheries Co-Managers of Washington State. Revised July 2006.

[2] Pacific Northwest Fish Health Committee 2007. Model Comprehensive Fish Health Protection Program. Approved September 1989; Revised February 2007.

Disturbance of riparian vegetation would be limited to the minimum necessary to achieve investigation objectives, which would minimize habitat alteration and the effects of erosion and sedimentation.	Project sponsors; during activities
Live Fish Transport Pre-Trip Procedures: It would be the responsibility of the transport truck driver and accompanying staff to make sure all necessary equipment is present and in satisfactory working condition. An inspection of the transport truck and all equipment would be performed both pre- and post-trip. If the condition or function of the vehicle and equipment is questionable, any repairs should be made prior to transporting fish; if this is not possible, an alternative vehicle or equipment should be procured. • Truck Inspection: The truck and its equipment would be inspected prior to arriving at the fish-loading facility. It would be confirmed that all necessary supportive equipment and materials are packed with the vehicle. For all transport activities, the truck would be fueled to full prior to fish loading the fish. • Tank Inspection: The transport tank would be inspected utilizing the Fish Transport Tank Inspection Form. • Oxygen Support System: Oxygen tanks must contain enough supply for the transport event and unplanned delays. The plan would be to use 1 liter per minute per 100 pounds of fish and adjust from there. • Equipment Decontamination: If water has been sourced from a non-pathogen-free location, the tank and supporting equipment should be air dried and then disinfected with 200 parts per million (ppm) chlorine or polyvinylpyrrolidone iodine for a minimum of 1 hour. To neutralize the chlorine and iodine, the tank and equipment would be rinsed with sodium thiosulfate at 1 liter of 200 ppm chlorine and iodine to 1.5 grams of sodium thiosulfate.	Project sponsors and Project sponsor's contractor; before and during transportation
Live Fish Transport Water Temperature: Depending on the time of year, temperatures between collection and release waters may differ significantly. At a minimum, the collection and release sites' water temperatures would be retrieved and recorded 2 days before the event to allow for proper planning and tempering. Temperature Threshold: No transport of fish would occur if either the loading or receiving water temperatures are greater than 21 degrees Celsius (°C). At release, the temperature difference between the receiving water and the tank shall be within 4°C; if greater, the tank water would be tempered at a rate of 0.5°C per 15 minutes. The tempering rate shall be recorded in the fish transport monitoring log.	Project sponsors and Project sponsor's contractor; before and during transportation
Live Fish Transport Collection Site: • The transport tank would be filled with water to the recommended level, and the tank would be treated. Air stones would be turned on to ensure they are working. Once fish are	Project sponsors and Project sponsor's contractor; before and during transportation

loaded, the tank would be filled to the recommended maximum level, and aerators would be turned on. The fish transport monitoring log would be filled out with all relevant information, including the water treatment methods and products, water temperature, oxygen data, carrying capacity, and fish health-check data. • Oxygen: Instances of dissolved oxygen levels above 100 percent would be minimized and should not drop below 7 ppm or 7 milligrams per liter. The oxygen tank regulator would be set to an output of 1 liter per minute for every 100 pounds of fish. It would be adjusted, as necessary, to remain within the criteria. • Carrying Capacity: Water temperatures influence the carrying capacity of a tank. Warmer temperatures increase oxygen consumption, thus reducing the carrying capacity. If loading temperatures are above 11°C, for every 1°C above or below 11°C, the carrying capacity of the tank should be reduced by 2.5 percent. • Fish Health Checks: To reduce holding times and minimize stress, the driving time would be estimated before the event. A fish health check would be conducted at the first 30-minute mark and then once per hour thereafter. The tank temperature and percent dissolved oxygen would be recorded. Fish behavior would be noted, looking for signs of stress and mortality. All mortalities would be removed and noted.	
Live Fish Transport Release: The location for release would be identified prior to the transport activity. The release location would accommodate the transport truck and provide access to water. Releases should occur as early in the morning as possible. The fish monitoring log would be filled out with tempering information and release data. • Tempering: Temperature differences between the receiving water and tank shall be within 4°C; if greater, the tank water would be tempered at a rate of 0.5°C per 15 minutes. • Release: The fish release hose would be secured to the opening of the truck, and there would be support for the hose as necessary. The water pumped from the receiving water would be used to the transport tank to aid in flushing fish from the tank. Once the tank and hose are cleared of fish, the liberation of fish would be complete.	Project sponsors and Project sponsor's contractor; during and after transport
Cultural Resources	
Adverse effects to historic properties would be avoided, minimized, or mitigated to the maximum extent practicable.	Co-leads, Project sponsors and Project sponsor's contractor; before and during construction

In the event of a post-review discovery of previously unknown or un-recorded cultural resources, materials, or sites, ground-disturbing activities in the immediate vicinity would cease until a Secretary of the Interior qualified archaeologist and historian, State Historic Preservation Officer, and potentially affected Indian Tribes are consulted.	Co-leads, Project sponsors and Project sponsor's contractor; during construction
In the event of a discovery of human remains, ground-disturbing activities in the immediate vicinity would cease until a Secretary of the Interior qualified archaeologist and historian, and potentially affected Indian Tribes are consulted. Ground disturbing activities will not re-commence until after the creation and implementation of a NAGPRA Plan of Action.	Co-leads, Project sponsors and Project sponsor's contractor; during construction
Historic Property avoidance, minimization, or mitigation measures may be marked as avoidance areas on implementation drawings and flagged under direction of agency approved archaeologists as no-work areas in the field prior to ground disturbance.	Co-leads, Project sponsors and Project sponsor's contractor; before and during construction
When identified as needed, a cultural resources monitor would be present on-site during ground-disturbing activities that would take place near identified avoidance areas.	Co-leads, Project sponsors and Project sponsor's contractor; during construction
Post-review discovery plans would be developed for activities involving ground disturbance.	Co-leads; before construction
Visual Resources	
Designs, materials, and colors that blend with or complement the surrounding landscape would be selected for any new equipment or facilities.	Co-lead agencies and Project sponsors; before construction
Wetlands and Floodplains	
Mapped wetlands would be avoided during construction activities to the maximum extent practicable. Where practicable, no ground-disturbing activities would occur within a 50-foot buffer area of mapped wetlands.	Project sponsors and Project sponsor's contractor; before and during construction
Facilities would be designed to retain most surfaces as pervious (unpaved) to retain groundwater recharge, which is an important function of floodplains.	Project sponsors and Project sponsor's contractor; before and during construction
Geology and Soils	
Applicable to Federal land managed by DOI or USDA: Project action activities with the potential to adversely impact paleontological resources would be identified, and steps would be taken to avoid, minimize, or mitigate such effects.	Co-lead agencies; before construction
Recreation	
A request would be posted on recreational site kiosks with the current Washington Department of Fish and Wildlife sport fishing guidelines for notification of a tag retrieved while cleaning a caught fish.	Co-leads, Project sponsors and Project sponsor's contractor; before release

Vegetation	
Known Ute-Ladies-Tresses populations would be excluded from new telemetry receiver installations.	Co-leads and Project sponsors; before construction
Disturbed areas would be revegetated to conditions similar to prework conditions by spreading stockpiled native materials (such as spoils, vegetation, rock, and woody debris), seeding, and/or planting with certified, weed-free seed mixes or native cultivars.	Project sponsors and Project sponsor's contractor; after construction
Public Health and Safety	
The net pens must have flotation buoys and safety reflective devices to alert reservoir users and to provide a safe distance around the facilities.	Project sponsors and Project sponsor's contractor; before and during installation
All buildings must have fire extinguishers surface-mounted on walls and located per International Building Codes and local fire protection requirements.	Project sponsors and Project sponsor's contractor; before and during operation
Interior signage must be installed in all buildings to meet applicable code requirements at exits.	Project sponsors and Project sponsor's contractor; before and during operation
Building roofs must be sloped away from primary access doors so that snow sloughing off the roof does not pose any danger to facility workers and personnel. Snow guards or similar systems would be installed at the low roof side of the building.	Project sponsor's contractor; before construction
Invasive Species	
The construction areas would be surveyed for data collection and invasive plant species prior to use. Areas with invasive weed infestations would be avoided, where possible; if avoidance is not possible, the area would be pretreated using an appropriate treatment to prevent the spread of invasive plant species.	Project sponsor's contractor; before and during construction
All equipment that is planned to be on-site would be inspected for invasive species (plant and animal) using properly trained staff, prior to entering the site. To avoid or reduce the introduction of weed seeds and propagules to the Study Area, all contracts would include provisions to ensure all vehicles, earth disturbance, construction, and road maintenance equipment are cleaned and inspected prior to entering the Study Area. All contractors must ensure all equipment is free of soil, seeds, vegetative matter, or other debris that could contain seeds.	Project sponsors and Project sponsor's contractor; before and during construction
All in-water equipment, including boats and equipment for water drafting and dust abatement, and personal gear would be inspected and sanitized to prevent aquatic invasive species transmission and establishment. Sanitation is required if equipment or gear has been used in an area known to be contaminated with aquatic invasive species. Boats or barges found to have aquatic invasive species present are not allowed to launch until they have been treated and cleared for use.	Project sponsors and Project sponsor's contractor; before and during construction

Utility Services	
Prior to ground-disturbing data collection and construction activities, utilities in construction areas would be surveyed; appropriate measures would be taken to minimize conflicts with any identified utilities and to restore service, if needed, for utilities disrupted by construction. If utility service disruption is necessary to complete construction activities, impacted parties would be notified prior to service disruption.	Project sponsors and Project sponsor's contractor; before and during construction
Vegetation	
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Known Ute-Ladies-Tresses populations would be excluded from new telemetry receiver installations.	Project sponsors and Project sponsor's contractor; before installation