Summary

This Mitigation Action Plan (MAP) is referenced in the Finding of No Significant Impact (FONSI) for the Kootenai River White Sturgeon and Burbot Hatcheries Project (Department of Energy Environmental Assessment-1901). This MAP includes all of the mitigation measures recommended in the Final Environmental Assessment (EA) to mitigate adverse environmental impacts. It includes some measures that are essential to render the impacts of the Proposed Action not significant and other measures that will decrease impacts that did not reach a level to be considered significant.

Mitigation has and will occur throughout the entire timeframe of the project. Mitigation has occurred during the planning and design phase, and it will continue during pre-construction planning, construction, and after construction is completed (when the site is being stabilized and revegetated). The purpose of this MAP is to explain how and when the mitigation measures were or will be implemented.

The implementation of this project will be overseen by the Kootenai Tribe of Idaho and built by contractors. To ensure that the contractor will implement mitigation measures, the relevant portions of this MAP will be included in the construction contract specifications (the directions to the contractor) for the project. This will obligate the contractor to implement the mitigation measures that relate to their responsibilities during construction and post-construction.

If you have general questions about the project, contact the Project Manager, Jan Brady, at 503-230-4514 or jebrady@bpa.gov. If you have questions about the MAP, contact the Environmental Lead, Ted Gresh, at 503-230-5756 or esgresh@bpa.gov. This MAP may be amended if revisions are needed due to new information or if there are any significant project changes.

Environmental Resource	Mitigation Measures	Timing of Implementation
Land Use and Recreation		
LUR-1	Post a construction schedule in the local newspapers, public places (such as libraries, post offices, and local government buildings), and at the Twin Rivers Canyon Resort to inform recreationists of construction activities and campground closures.	Pre-Construction During Construction
LUR-2	Provide contact information of contractor liaisons and Tribal staff at the construction site for any concerns or complaints during construction.	During Construction
LUR-3	Install permanent signage at the Twin Rivers Canyon Resort describing efforts to help restore the native fish of the Kootenai River.	Post Construction
Vegetation and Wetlands		
VW-1	Plant 100 new trees in and around the Twin Rivers Resort and Hatchery to replace the trees that would be removed.	Post Construction
VW-2	Restrict activity and traffic to construction areas to limit unnecessary disturbance of native plant communities and reduce the spread of non-native species and noxious weeds.	During Construction
VW-3	Identify clearing limits on all construction drawings and on site using high-visibility construction fencing.	Design/Pre-Construction
VW-4	Revegetate temporarily disturbed areas (including wetlands) with appropriate native species using seed mixes that meet the requirements of federal, state, and county noxious control regulations and guidelines.	Post Construction

VW-5	Take actions to control potential noxious weed infestations (treat known infestations before ground disturbance, ensure construction equipment is free of weeds and weed seeds, clean equipment and vehicles after working in infested areas, maintain weed-free staging areas, implement post-construction noxious weed as-needed).	During Construction Post Construction
VW-6	Implement BMPs during construction to minimize adverse effects on wetlands (e.g., limit wetland disturbance areas; flag or stake wetland boundaries; refuel machinery and store fuels away from wetlands; develop and implement erosion and sedimentation control plan).	During Construction
Floodplains		
FP-1	Deposit and stabilize all excavated material not reused in an upland area outside of floodplains.	During Construction
FP-2	Install erosion-control measures prior to work in or near floodplains.	During Construction
FP-3	Avoid construction within floodplains to protect floodplain function, where possible.	Design/Pre-Construction
Geology and Soils		
GS-1	Prepare and implement an Erosion and Sedimentation Control Stormwater Pollution Prevention Plan for construction activities to minimize erosion and soil loss (e.g., use silt fences, straw bales, interceptor trenches or other perimeter sediment management devices that would be maintained as necessary throughout construction).	Pre-Construction During Construction
GS-2	Use proper seismic and septic system location-specific designs.	Design/Pre-Construction
GS-3	Use appropriate shoring for all excavation conducted during facility construction as required by applicable federal, tribal, state and local regulations.	During Construction

GS-4	Conduct peak construction activities during the dry season (between June 1 and November 1), as much as possible, to minimize erosion, sedimentation, and soil compaction.	During Construction
GS-5	Locate staging areas in previously disturbed or graveled areas to minimize soil and vegetation disturbance, where practicable.	During Construction
GS-6	Design and construct access roads to minimize drainage from the road surface directly into surface waters and direct sediment-laden waters into vegetated areas.	Design During Construction
GS-7	Reseed disturbed areas and monitor seed germination and implement contingency measures as necessary until stabilization has been achieved.	Post Construction
GS-8	Inspect and maintain access roads and other facilities after construction to ensure proper function and nominal erosion levels.	Post Construction
GS-9	Implement dust abatement during construction.	During Construction
Water Quantity and Water Quality		
WQ-1	Prepare and implement a Stormwater Pollution Prevention Plan for construction activities to minimize erosion and soil loss (e.g., use silt fences, straw bales, interceptor trenches or other perimeter sediment management devices; maintain as necessary throughout construction).	Pre-Construction During Construction
WQ-2	Implement measures to prevent stockpile erosion during rain events (e.g., surround piles with compost berms, cover piles with impervious materials or other equally effective methods).	During Construction
WQ-3	Implement any mitigation measures specified in the Clean Water Act Section 404 permit(s) issued by the U.S. Army Corps of Engineers and the Section 401 water quality certification issued by Idaho Department of Environmental Quality.	During Construction Post Construction
WQ-4	Follow the Idaho Department of Environmental Quality's Catalog of Stormwater Best Management Practices for Idaho Cities and Counties (IDEQ, 2005).	During Construction Post Construction

WQ-5	Prevent construction vehicles from tracking sediment offsite or onto roadways.	During Construction
WQ-6	Install removable pads or mats to prevent soil compaction in all temporary construction access points and staging areas in riparian or wetland areas.	During Construction
WQ-7	Identify construction and staging areas with orange plastic fencing or similar methods to delineate disturbance areas.	Pre-Construction
WQ-8	Minimize staging areas to the size necessary to practically conduct the work and locate in previously disturbed areas at least 150 feet from any stream or wetland.	During Construction
WQ-9	Develop and implement a Spill Prevention, Control and Countermeasure Plan to minimize the potential for spills of hazardous material and protect public safety, which includes provisions for storage of hazardous materials and refueling of construction equipment outside of riparian zones, a spill containment and recovery plan, and notification and activation protocols.	Pre-Construction During Construction
WQ-10	Store spill containment kits at each work site and the construction crews will be trained in proper use.	
WQ-11	Wash all equipment, prior to mobilizing to the project site, to minimize the introduction of foreign materials and fluids to the project site. All equipment will be free of oil, hydraulic fluid, and diesel fuel leaks.	
WQ-12	Inspect all equipment to ensure it is free of oil, hydraulic fluid, and diesel fuel leaks. Any detected leaks must be repaired in the vehicle staging area before the vehicle resumes operation. Inspections must be documented in a record that is available for review on request.	During Construction

WQ-13	Locate vehicle staging, cleaning, maintenance, refueling, fuel storage areas, and sanitary facilities, such as chemical toilets, at least 150 feet from streams or wetlands.	During Construction
WQ-14	Clean all equipment operated instream before beginning operations below the bankfull elevation to remove all external oil, grease and dirt. All power equipment within 150 feet of the water will be inspected daily for fluid leaks.	During Construction
WQ-15	Diaper any stationary power equipment (e.g., generators) operated within 150 feet of any stream, water body or wetland to prevent leaks.	During Construction
WQ-16	Store all fuel and lubricants, as well as potentially hazardous materials necessary for hatchery operations, in containers and areas that conform to applicable Tribal, federal, state and local regulations.	During Construction
WQ-17	Isolate in-water work areas (Kootenai and Moyie intake sites, and pipelines) using bulk bags, floating silt curtains, and sheet pile coffer dams around the work areas.	During Construction
WQ-18	Fill bulk bags with river sand and gravels from an adjacent upland source.	During Construction
WQ-19	Ensure that the silt curtains, bulk bags, and sheet pile coffer dams remain in place for the duration of work. Remove to introduce free flowing water in a controlled manner and at low velocities (approximately 3 feet/second) to minimize turbidity.	During Construction
Visual Resources		
VR-1	Close the Twin Rivers Canyon Resort for one season during the summer of 2013.	During Construction
VR-2	Restore disturbed vegetation as soon as possible after construction is completed.	Post Construction
VR-3	Retain as many trees as possible to limit changes in the observable character of the landscape.	During Construction
VR-4	Paint all new structures a non-reflective color that blends with the natural environment.	During Construction

VR-5	Replant 100 trees around the Twin Rivers Canyon Resort to replace the trees that will be removed.	Post Construction
Fish and Wildlife		
FW-1	Place a wood cushion between any pile and hammer to reduce noise above water, and install a bubble curtain to lessen noise below the surface.	
FW-2	Implement all terms and conditions included in the Tribe's ESA Section 10 Permit issued by the USFWS. Implement required BMPs associated with the Section 404 Clean Water Act permit.	During Construction
FW-3	Implement the proposed Monitoring and Evaluation Plan which includes the Annual Program Review process.	Operation
FW-4	Use settling ponds to remove organic waste (i.e., uneaten food and feces) from the proposed hatchery water to minimize discharge of these substances to the receiving waters.	Operation
FW-5	Ensure that the existing and proposed hatchery facilities are operating in compliance with all applicable fish health guidelines and facility operation standards and protocols by conducting annual audits and producing reports that indicate the level of compliance with applicable standards and criteria.	Operation
FW-6	Plant 100 new trees to replace those that would be removed to accommodate the new hatchery facility.	Post Construction
FW-7	Avoid clearing native habitats during the avian breeding season (March through July). If clearing cannot be avoided during these times, survey the clearing zone prior to ground-disturbing activity to determine whether any active nests of migratory birds are present. If active nests are detected, develop a plan to avoid impacts until young have fledged.	During Construction

Cultural Resources		
CR-1	Use appropriate BMPs including the preparation and use of an Inadvertent Discovery Plan, which would establish procedures to deal with unanticipated discovery of cultural resources before and during construction to minimize impacts. The plan, among other provisions, would require immediate work stoppage and appropriate notification in the event of the discovery of previously unknown cultural or historic materials.	Design/Pre-Construction During Construction
Socioeconomics and Environmental Justice		
SEJ-1	Most socioeconomic impacts would be indiscernible and potentially positive and no impacts on environmental justice populations are expected. Therefore, no mitigation for socioeconomics or environmental justice populations is anticipated.	N/A
Noise		
N-1	Employ a liaison, who would be available to provide information, answer questions, and address concerns during project construction.	During Construction
N-2	Schedule all construction work during daylight hours.	During Construction
N-3	Require sound-control devices on all construction equipment powered by gasoline or diesel engines that are at least as effective as those originally provided by the manufacturer.	During Construction
N-4	Operate and maintain all construction equipment to minimize noise generation.	During Construction
Transportation		

T-1	Keep construction activities and equipment clear of residential driveways, to the greatest extent possible.	During Construction
T-2	Employ traffic control flaggers and post signs along roads warning of construction activity and merging traffic for temporary interruptions of traffic, where needed.	During Construction
Air Quality		
AQ-1	Transport all vegetation or other debris associated with construction clearing to an approved landfill.	During Construction
AQ-2	Use water trucks to control dust during construction, as needed.	During Construction
AQ-3	Ensure that all vehicle engines are maintained in good operating condition to minimize exhaust emissions.	During Construction
Climate Change		
CC-1	Implement vehicle idling restrictions.	During Construction
CC-2	Encourage carpooling and the use of shuttle vans among construction workers to minimize construction-related traffic and associated emissions.	During Construction
CC-3	Locate staging areas in previously disturbed or graveled areas, where practicable, to minimize soil and vegetation disturbance.	During Construction
CC-4	Encourage the use of the proper size of equipment for each job.	During Construction
CC-5	Use alternative fuels for stationary equipment at the construction sites, such as propane, or use electrical power, where practicable.	During Construction
CC-6	Reduce electricity use in the construction office by using compact fluorescent bulbs and turning off computers and other electronic equipment every night.	During Construction
CC-7	Recycle or salvage nonhazardous construction and demolition debris, where practicable.	During Construction