

## **UPPER COLUMBIA RIVER BASIN FISH REINTRODUCTION PROJECT- Phase 1**

### **DRAFT PROJECT WORK AND COORDINATION PLAN**

#### **PURPOSE / INTENT OF THIS DOCUMENT**

Fish reintroduction will be pursued to mitigate for the construction and operation of the two federal FCRPS dams as required by the Northwest Power Act through a phased approach that engages partners and stakeholders throughout the Columbia Basin. This UCUT proposal outlines a structured coordination framework and work plan to implement the first phase of the Northwest Power and Conservation Council's Fish and Wildlife Program element *Reintroduction of anadromous fish above Chief Joseph and Grand Coulee dams to mainstem reaches and tributaries in the United States*. This Draft Phase 1 Project Work and Coordination Plan for the Upper Columbia River Basin Fish Reintroduction Project (Project) will be finalized over the coming months using the proposed coordination framework described below. The plan, once finalized, will provide the basis for multiple project proposals by the UCUT and partners (statements of work, schedules and budgets) to implement the Project's Phase 1 actions specified in the Council's 2014 Program.

UCUT proposes to administer Phase 1 of this Project in a collaborative manner on behalf of the region and the Columbia Basin Tribes Coalition. Completion of most work tasks would be scheduled for December, 2016 as specified by the Council's Program. Some tasks would extend beyond this deadline depending on final Phase 1 project scope and date of actual initiation of the Project.

#### **INTRODUCTION**

The tribes sought adoption of a domestic, 2-dam reintroduction project in the Council's 2014 Fish and Wildlife Program to implement a reintroduction concept that has been in the Council's Program since 2000. This phased reintroduction approach has gained wide support by many fish and wildlife agencies and in particular by the WA Department of Fish and Wildlife. The tribes believe that reintroduction of fish at these dams may now be possible given the demonstrated viability of salmon runs below Chief Joseph Dam and recent advancements in reintroduction technologies for high-head dams.

In October 2014, the Council adopted its new Fish and Wildlife Program with measures to reintroduce anadromous fish above Chief Joseph and Grand Coulee dams. The Program directed a science-based, three-phased approach to investigate reintroduction (see Attachment 1 for Program language). Phase 1 of this Program element, to be completed by the end of 2016, includes three components:

- a) Evaluate previous fish passage studies at Chief Joseph, Grand Coulee and other blockages,
- b) Investigate habitat availability and suitability, and potential survival in habitats above the dams, include selective releases of salmon and steelhead, and
- c) Investigate the scientific feasibility and possible cost of upstream and downstream passage options for salmon and steelhead.

Phase 1 concludes with a report to the Council followed by discussions with tribal, state and federal agencies regarding new investigations on critical uncertainties, the purpose and scope of Phase 2 investigations on interim passage facilities, and full testing of fish reintroductions. Upon completion of Phase 2, the Council and other relevant entities would then decide whether and how to proceed with Phase 3: construction of permanent passage facilities and other reintroduction measures.

### **COORDINATION & COMMUNICATION – Phase 1**

The scope and scale of this Project is immense. The Project could affect many federal, state, tribal and local governments and agencies along with shareholder interests. Consequently, these effects warrant a comprehensive and collaborative Project coordination structure and communication plan. However, this structure must also be efficient in consideration of work progress and cost effective to focus available funding towards collection and reporting of key information. Based upon what is learned during the implementation of Phase 1 of the Project, UCUT will return with proposals to implement Phase 2, including proposed revisions to the coordination framework. Importantly, UCUT will regularly coordinate Project information with and seek advice through the existing Columbia Basin Tribes Coalition. We propose a three-tiered coordination framework for Phase 1 as follows. UCUT will provide draft charters for each Group for their consideration to guide their function and purpose.

#### PROJECT EXECUTIVE COLLABORATION GROUP – Phase 1

- Federal – Action Agency (BPA, COE, BOR)
- Tribal – UCUT Chairman (or designee)
- Regional – NW Council, Washington member

The Project Executive Collaboration Group would be comprised of representative executives from the federal, regional and tribal government. This Group would meet as needed to consider initial Project scope, review milestone results, and address any major policy concerns regarding Phase I initiation.

#### PROJECT MANAGEMENT ADVISORY GROUP – Phase 1

- Upper Columbia United Tribes – Group Chair
- Spokane Tribe
- Colville Confederated Tribes
- US Bureau of Reclamation

US Army Corps of Engineers  
Bonneville Power Administration  
National Park Service  
Washington Department of Fish and Wildlife  
Northwest Power and Conservation Council  
Eastern Washington local government representative

The Project Management Advisory Group, consisting of the two tribes with reservations on the mainstem Columbia River upstream of Chief Joseph Dam, federal and state agencies with direct resource and dam project responsibilities in this reach of the Columbia River and a representative from local governments (for local land-use planning and regulatory authorities) would meet as needed to advise, coordinate and address Project goals, objectives, timelines and work activities, and coordinate agencies' budgets related to the Project. The Management Group would also help delineate and clarify definitions of passage and reintroduction as these terms relate to agencies' authorities and responsibilities. The Group would also evaluate pertinent information and reports arising from the Project Science Advisory Group and from Project contractors.

#### PROJECT SCIENCE ADVISORY GROUP – Phase 1

Upper Columbia United Tribes – Group Chair  
Colville Confederated Tribes  
Spokane Tribe  
US Bureau of Reclamation  
US Army Corps of Engineers  
Bonneville Power Administration  
Washington Department of Fish and Wildlife  
Columbia River Inter-Tribal Fish Commission  
NOAA Fisheries  
US Geological Survey  
US Fish and Wildlife Service  
Independent Science Review Panel member

The Project Science Advisory Group would meet as needed to advise on and review the Project's scientific and technical tasks, methods, priorities and results. The Group would also assist in preparation of a draft research plan for critical uncertainties.

#### PUBLIC OUTREACH TEAM – Phase 1

Upper Columbia United Tribes – Team Chair  
Northwest Power and Conservation Council  
Bonneville Power Administration  
National Park Service  
Washington Department of Fish and Wildlife

The Public Outreach Team would create and issue regular Project information to agencies, stakeholders, organizations, publics and press. The Team would assist in keeping the Project

Management and Scientific Advisory groups apprised of comments and concerns of the above entities. The Team would establish and facilitate regular meetings between the Project's technical and policy coordinators and stakeholder groups (i.e. local governments, conservation organizations, fishing groups, irrigators, Mid-Columbia PUDs, BPA customer groups) to seek comments and ensure dialogue and Project transparency. These meetings would be scheduled as needed at the behest of the stakeholders and at important Project milestones. Finally, the Team would host open public meetings at appropriate milestones during Phase 1.

UCUT would circulate draft technical, policy and strategic work products electronically within and between groups on a constant basis to seek comment. Final work products would be broadly circulated to stakeholders and publics with interest in fish and reintroductions.

UCUT expects that each of the above Groups would adopt operating charters upon first meeting.

## **PHASE 1 WORK PLAN**

This Phase 1 work plan is based on the Council's Fish and Wildlife Program and questions regarding key scientific uncertainties on fish reintroduction into the upper Columbia River Basin. Phase 1 is to be largely completed by the end of 2016. The following draft objectives and tasks describe the work UCUT proposes to see implemented in Phase 1 of the Project. However, this work would be refined with greater detail through the advice of the coordination groups described above, prior to creation of the statements of work.

**Objective 1, PROCESS:** Define Project purpose, goals, definitions; Phase 1 scope and products. Articulate roles and procedures for the Advisory Groups.

Task 1.1: Develop and adopt operating charters for each Advisory Group that define their roles, procedures and contributions to the Project and the Phase 1 products.

Task 1.2: Seek regional consensus on Project and Phase 1 purpose, goals, objectives and scope. Ensure planned Phase 1 work meets the needs of the Northwest Power and Conservation Council for its decision on the Project progressing to Phase 2.

Task 1.3: Finalize the Phase 1 Work and Coordination Plan as a document to guide development of specific Phase 1 project proposals (statements of work, schedules and budgets) for ISRP and IEAB review and then funding.

**Objective 2, PROJECT MANAGEMENT:** Develop an adaptive Structured Decision Framework and multi-phase Project Strategic Plan for guiding Project planning, investigation, implementation budgeting, evaluation activities, and decision milestones. Create a decision tree for key reintroduction uncertainties

Task 2.1: Integrate Project purpose, goals, objectives and scope from Objective 1 into a Strategic Plan to create a logical and prioritized schedule of Project actions aligned with

available Action Agency budget(s) and planning processes; delineate agency and Council decision milestones.

Task 2.2: Create a Structured Decision Framework (decision tree) to guide decision making regarding key fish reintroduction uncertainties (integrate work from Objectives 7 and 8). Include appropriate decision triggers and measures of success to guide research of critical uncertainties, Project milestones and phases.

**Objective 3, FISH REINTRODUCTION INFORMATION:** Evaluate information from pertinent fish passage studies, assessments, workshops and operations at other dams, including previous assessments at Chief Joseph and Grand Coulee dams, relative to fish reintroduction into the upper Columbia River.

Task 3.1: Assess fish passage strategies, studies, facilities, operations, and results (including collection efficiency, passage survival, passage timing, and population growth) at individual and multiple barriers (emphasis on high-head dams) for information pertinent to anadromous and resident fishes indigenous to the upper Columbia River. This assessment will include identifying biological and technical viabilities, critical uncertainties, and research methods that would be important in developing a Phase 2 plan of investigation for Chief Joseph and Grand Coulee dams.

Task 3.2: Assess information from previous reports and workshops on fish passage and reintroduction at Chief Joseph or Grand Coulee dams on technical and biological viabilities, scientific uncertainties and passage strategies that would be important in developing the Phase 2 plan of investigation.

**Objective 4, HABITAT ASSESSMENT:** Evaluate the extent, availability, suitability and potential production of salmon, steelhead, sturgeon and other migratory species' by life stage in historical U.S. habitats above Chief Joseph and Grand Coulee dams.

Task 4.1: To the extent possible with available Phase I time and funding, adopt habitat and productivity assessment methods for consistent habitat evaluation and quantification for a reconnaissance type study.

Task 4.2: Document the extent, availability, suitability and potential production of salmon, steelhead, sturgeon and other migratory species' habitat by life stage from Chief Joseph Dam upstream to the U.S. border, including associated tributaries. Identify potential spawning sites to support pilot reintroductions and research.

Task 4.3: Assess anticipated effects of climate change on extent and suitability of upper Columbia Basin fish habitats. Relate this information to potential climate effects on the extent and suitability of existing Columbia Basin salmon and steelhead habitats.

Task 4.4: Assess the ecological benefits of anadromous fish reintroductions to the ecosystem in the blocked areas.

**Objective 5, SPECIES INTERACTIONS:** Assess potential effects and risks of pilot and permanent fish reintroductions to extant populations above and below the dams.

Task 5.1: Evaluate risks (particularly disease and intra- and inter-species population effects) and procedures associated with passing donor stocks of Chinook and sockeye in pilot releases above Chief Joseph and above Grand Coulee dams in the United States. Investigate procedures in other locations (i.e. Boise River, Willamette, Deschutes, Elwha, San Joaquin). Develop disease and other protocols for pilot reintroductions above UCR dams

Task 5.2: Evaluate potential effects of anadromous fish passage and reintroductions on resident fish management and fish culture in Rufus Woods Lake and Lake Roosevelt, including potential for capture and transplanting invasive fish species to other waters. Assess potential genetic and ecological interactions, prey and predator relationships, competition for food and space, addition of marine nutrients, and physical changes to the ecosystem with anadromous fish reintroduction.

**Objective 6, DONOR POPULATIONS:** Evaluate potential donor stocks of salmon and steelhead (not ESA-listed) for use in pilot and permanent reintroductions, including their use in research of critical uncertainties. Evaluate strategies of reintroductions using various life stages; hatchery-origin or natural-origin fish.

Task 6.1: Conduct Chinook donor stock assessments. Consider NOAA scientific guidance and recent work of W. Warnock, et.al.

Task 6.2: Conduct sockeye donor stock assessment. Determine if anadromous O. nerka runs should be reinitiated from stocks above Grand Coulee Dam, from stocks below Grand Coulee Dam (i.e. Okanagan), or both..

Task 6.3: Conduct steelhead donor stock assessment. Determine if anadromous O. mykiss runs can be reinitiated as part of this Project from stocks above Grand Coulee Dam (i.e. redband trout), from stocks below Grand Coulee Dam, or both; and whether anadromy can be developed from a potential donor stock without application of the ESA. The assessment also needs to consider whether any redband trout returning to interim fish passage facilities should be passed upriver.

Task 6.4 Conduct coho donor stock assessment. Assess and designate potential coho donor stock(s) from downstream of Chief Joseph Dam for use in this Project.

**Objective 7, MODELING:** Develop or apply life-cycle model(s) of potential donor stocks of salmon and steelhead to inform development of the Phase 2 research plan, including potential collection and survival performance necessary to measure success and guide evaluation of optional fish reintroduction facilities and strategies.

Task 7.1: Assess productivity rates needed for salmon and steelhead stocks in blocked areas necessary to achieve Project goals and objectives. Integrate findings into

conceptual design of adult and juvenile fish reintroduction facilities, multi-project passage strategies, research plan development, the Project decision tree, and potential application of artificial propagation.

**Objective 8, RESEARCH PLAN:** Develop an initial draft research plan for addressing critical scientific uncertainties related to successful reintroduction of salmon and other species into the upper Columbia Basin of the U.S. Organize the plan around species' life cycles.

Task 8.1: Develop key questions of uncertainty regarding adult and juvenile reintroduction at dams and through reservoirs, use of habitat for spawning, incubation, emergence and rearing, subsequent life-cycle survival through the lower Columbia River and to returning adults. Develop key questions of uncertainty and risks to resident species above Chief Joseph Dam and extant anadromous populations below the Dam.

Task 8.2: Develop an initial draft of a prioritized research plan to address key uncertainties based on a logical order of needed information; capital and operational budget requirements and availability; needed reintroduction facilities and equipment; and needed propagation facilities (if any).

Task 8.3: Develop alternative strategies for reintroducing adult and juvenile fish at Chief Joseph and Grand Coulee dams. Consider sequential project passage and potential for bypassing a project during pilot reintroductions and research.

Task 8.4: Plan evaluation of potential effects of optional juvenile and adult fish reintroduction facilities in management of resident fish (including use of floating surface collectors to prevent entrainment of resident fish and to collect and transplant invasive fish to isolated water bodies), and passage of sturgeon, lamprey and other migratory species.

Task 8.5: Assess availability of existing or potentially expanded artificial propagation facilities in the upper Columbia Basin for production of any fish required for later research.

**Objective 9, PRELIMINARY REINTRODUCTION:** Conduct preliminary, pilot releases of adult Chinook and sockeye salmon above Chief Joseph and Grand Coulee dams to inform options, methods and planning for pilot reintroductions in Phase 2 research on critical uncertainties and to initiate tribal cultural and spiritual benefits of salmon reintroduction.

Task 9.1: When ready, available, and appropriate (as a selected donor stock) pass surplus adult UCR summer/fall Chinook over Chief Joseph Dam (i.e. from Chief Joseph Hatchery) to initially evaluate Chinook migration, spawning and incubation in habitat in upper Rufus Woods Lake.

Task 9.2: When ready, available, and appropriate (as a selected donor stock) collect and transport surplus adult UCR summer/fall Chinook to sites in Lake Roosevelt for initially assessing Chinook migration through the reservoir, spawning and incubation in the Spokane

River, the mainstem reach of the Columbia River and other tributary habitats in the United States..

Task 9.3: When ready, available, and appropriate (as a selected donor stock) collect and transport UCR adult sockeye to sites in Lake Roosevelt for initially assessing sockeye migration, spawning and incubation in the mainstem reach, Spokane River and tributary habitats in the United States.

Task 9.4: Coordinate any salmon pilot reintroductions with tribal cultural and educational programs.

**Objective 10, EMERGING, INNOVATIVE TECHNOLOGY:** Investigate the utility and cost of new, innovative fish passage technologies (e.g. Whooshh) for interim and permanent adult and juvenile fish reintroduction at Chief Joseph and Grand Coulee dams to determine if it can be an element of an interim fish reintroduction solution in Phase 2.

Task 10.1: Design and test a negative pressure passage system (e.g. Whooshh) for adult Chinook and, sockeye in the upper Columbia watershed. Determine maximum feasible distance, elevation and passage timing of transport. Evaluate injury, stress and short term survival relative to controls. Evaluate effects of negative pressure fish passage on success of subsequent long distance migration and spawning (consider Rufus Woods for Chinook and Wells Dam for sockeye).

Task 10.2: Design and test a negative pressure passage system (e.g. Whooshh) for juvenile yearling and sub-yearling Chinook and yearling sockeye in the upper Columbia watershed. Evaluate injury, stress and short term survival relative to controls. Evaluate effects of negative pressure fish passage on smolt survival and SAR survival through subsequent migration through the Columbia River (consider Chief Joseph Hatchery facilities for Chinook and Zosel dam for sockeye).

Task 10.3: Create conceptual design alternatives for incorporation of negative pressure passage technology in transporting juvenile fish from a Floating Surface Collector or other collection facility to and over a high head dam or to a land-based transport facility; and for transporting adult fish over a high-head dam in one or more stages.

**Objective 11, FACILITY COSTS:** Document the capital and operational costs of existing adult and juvenile fish reintroduction facilities and emerging technologies with potential application to Chief Joseph and Grand Coulee dams, including potential for foregone benefits to existing project objectives.

Task 11.1: Document types of existing juvenile reintroduction facilities, including those in mainstem Columbia River, Baker, Lewis, Pend Oreille, Clark Fork, Deschutes, Clackamas, and McKenzie rivers, and proposed facilities (if available) at Willamette Basin and California projects; assess capital and operational costs (including electricity, staffing, maintenance, supplies). Investigate new and innovative technologies that may have potential application to the two federal dams (i.e. Whooshh system). Quantify any effects of operating

reintroduction technologies on other project purposes, including flood risk management, irrigation, recreation and facility water needs diverted from power generation.

Task 11.2: Document types of adult fish reintroduction facilities (i.e. trap and haul), including in existing mainstem Columbia River, Baker, Lewis, Pend Oreille, Clark Fork, Deschutes, Clackamas, and McKenzie rivers, and proposed facilities (if available) at Willamette Basin and California projects; assess capital and operational costs (including electricity, staffing, maintenance, trucking, supplies). Investigate new and innovative technologies that may have potential application to the two federal dams. Quantify any effects of reintroduction facilities' operations on other project purposes, including flood risk management, irrigation, recreation and facility water needs diverted from power generation.

**Objective 12, PUBLIC OUTREACH:** Create and maintain a regular flow of Project information to agencies, Mid-Columbia PUDs, local governments, stakeholders, organizations, publics and press.

Task 12.1: Create and distribute quarterly releases and press releases on Project developments.

Task 12.2: Schedule and host meetings of stakeholder groups to regularly seek comments and ensure project transparency. Conduct open public meetings at appropriate milestones during Phase 1.

Task 12.3: Create or expand an existing web site for Project policy and technical information to be accessible to group members and for the public.

Task 12.4: Conduct survey of stakeholder and public perceptions, needs, values and concerns regarding reintroduction of anadromous fish into the Columbia Basin above Chief Joseph Dam to inform the development of Project Phase 2 studies to address key concerns.

**Objective 13, IMPLEMENTATION OPTIONS:** Assess options for implementing Phases 2 and 3 of the Project

Task 13.1: Describe and assess Project authorization, funding and management options should later Project phases be pursued under direct authorities of the Corps of Engineers (Chief Joseph Dam), Bureau of Reclamation (Grand Coulee Dam) and/or the Bonneville Power Administration.

Task 13.2: Describe and assess means for how options in Task 12.1 could be integrated with reviews and decisions by the Northwest Power and Conservation Council and scientific review by the ISRP.

## ATTACHMENT 1

### Fish and Wildlife Program Language

#### **Reintroduction of anadromous fish above Chief Joseph and Grand Coulee dams to mainstem reaches and tributaries in the United States**

- **Phased approach.** Pursue a science-based, phased approach to investigating the reintroduction of anadromous fish above Chief Joseph and Grand Coulee dams including juvenile and adult passage at the dams. The phases shall include:
  - Phase 1 (to be completed no later than the end of 2016):
    - Evaluate information from passage studies at other blockages and from previous assessments of passage at Grand Coulee and Chief Joseph dams
    - Investigate habitat availability, suitability and salmon survival potential in habitats above Grand Coulee. This might include selective releases of salmon and steelhead. Investigate the scientific feasibility and possible cost of upstream and downstream passage options for salmon and steelhead. Before funding new investigations, provide the Council with a report for consideration of subsequent work to advance the fish passage planning process.
    - As part of Phase 1, the Council will engage in discussions with tribal, state, and federal agencies and others regarding the purpose, scope and progress of reintroduction efforts above Chief Joseph and Grand Coulee dams.
  - Phase 2:
    - Based on the results in the first phase, the Council in collaboration with the other relevant entities will decide how to proceed. Phase 2 activities may include one or more of the following:
      - design and test salmon and steelhead reintroduction strategies and interim fish passage facilities at Chief Joseph and Grand Coulee Dams
      - investigate alternative approaches to passage
      - identify additional studies necessary to advance the fish passage planning process
      - reintroduction pilot projects
      - monitoring, evaluation, and adaptive management of the Phase 2 activities
  - Phase 3:
    - Based on the results of Phase 2, the Council in collaboration with the other relevant entities will decide whether and how to proceed to implement and fund reintroduction measures as a permanent part of the program, including construction and operation of passage facilities.
    - Monitor, evaluate, and adaptively manage the reintroduction efforts.
- **Transboundary reintroduction.** The United States should pursue a joint program with Canada, with shared costs, to investigate and, if warranted, implement the reintroduction of anadromous fish on the mainstem Columbia River to Canadian spawning grounds. This joint program would proceed on an incremental basis, comparable to the phased approach described above.

- **Reintroductions above Grand Coulee to mainstem reaches and tributaries in the United States.** Bonneville and the relevant federal action agencies, working in collaboration with state and federal fish and wildlife agencies and tribes, shall investigate and, if warranted, implement passage and reintroduction of anadromous fish into suitable habitats within the United States. This shall include:
  - Funding research associated with critical uncertainties at Chief Joseph and Grand Coulee dams required to inform Phase 1
  - Funding work required for Phases 2 and 3 based on Council recommendations