



2011 Kootenai River Habitat Restoration Project site

Kootenai River Habitat Restoration Program

Kootenai Tribe of Idaho - July 2012 Update

The Kootenai River Habitat Restoration Program is a large-scale, adaptively implemented and managed, ecosystem-based habitat restoration program to restore and maintain Kootenai River habitat conditions that support all life stages of Endangered Kootenai sturgeon and other native fish. The program will be implemented within a 55-mile reach of the Kootenai River in Idaho, over about 7 to 15 years. Implementation of the program, in coordination with other Tribal and agency programs, will help to restore native fish populations and sustain the Tribal and local culture and economy. Funding for the Program is primarily from the Bonneville Power Administration through the Northwest Power and Conservation Council's Fish and Wildlife Program. The Kootenai River Habitat Restoration Program is being developed in collaboration multiple agency partners.

In July 2009 the Kootenai Tribe of Idaho completed the *Kootenai River Habitat Restoration Program Master Plan*, which outlined a framework for implementing an ecosystem-based restoration program in the Idaho portion of the Kootenai River.



Program Goals

1. Restore physical habitat by reducing the negative effects to river and floodplain ecological processes caused by river response to the altered landscape.
2. Restore native vegetation by establishing stream bank and floodplain conditions that sustain plant community development processes.
3. Restore aquatic habitat conditions that support all life stages of native fish (including Endangered Species Act listed Kootenai River white sturgeon) and promote sustainable populations.
4. Create opportunities for river and floodplain stewardship in the community.

Kootenai River Habitat Restoration Program

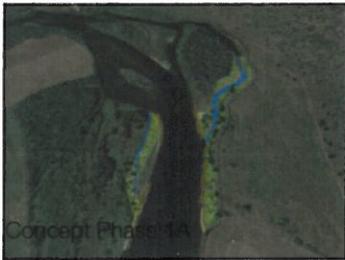
The Tribe will be implementing approximately 8 to 12 individual habitat restoration projects under the Kootenai River Habitat Restoration Program. Projects are prioritized for implementation and designed in collaboration with a multi-disciplinary team including biologists, river design experts, engineers, hydrologists, geomorphologists and other technical experts. As part of the design process the Tribe has also convened a Peer Reviewer Advisory Team and a Policy Team to provide critical review, analysis and technical and policy advice. Collaborators include a range of agency, co-

managers and other stakeholders. Development of each project also includes extensive coordination with local landowners and members of the local community.

Kootenai River Habitat Restoration Program projects will be implemented in three segments of the Kootenai River – the Braided Reaches, Straight Reach and Meander Reaches. The Tribe initiated implementation of the first two projects in the Braided Reaches in 2011. An additional seven projects are slated for implementation between 2012 and

2014. Concept designs for additional projects to be implemented in 2015-2017 are currently in development.

Idaho Department of Fish & Game plays a critical role as a project collaborator providing information about sturgeon and other native fish to support the development and analysis of project designs. They are also critical to implementing monitoring and evaluation activities that support hypothesis testing and adaptive management associated with the Kootenai River Habitat Restoration Program.



2011 Projects

Two projects, Phase 1A and Phase 1B, were completed in 2011. Both projects were located in the Braided Reach upstream of the town of Bonners Ferry and were located on

privately owned lands. Prior to the projects the sites had severe bank erosion and land loss. The Tribe worked closely with agency partners and local landowners to review and refine the design and implementation plans.

The two projects were constructed during the short in-water work window from August to November 2011. The completed projects contributed to ecosystem restoration by restoring valuable side channel habitat for fish, restoring and enhancing floodplain and riparian habitat, and reducing sediment loading to the river. In addition, the projects contributed to community needs by stabilizing severely eroding banks, thus preventing ongoing land loss.

Throughout the project construction the Tribe and its general contractor relied extensively on local subcontractors and material suppliers. Economic benefits to the community were further multiplied through use of local gas stations, hotels and restaurants, housing rental, equipment rentals, food purchases and more.

A monitoring and adaptive management program is in place and both projects were monitored throughout the winter and spring of 2012. Both projects performed exceptionally well in high water conditions through the first season.



From top to bottom: 2011 project immediately after construction completed, during construction, site visit in 2012.

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2013 Projects

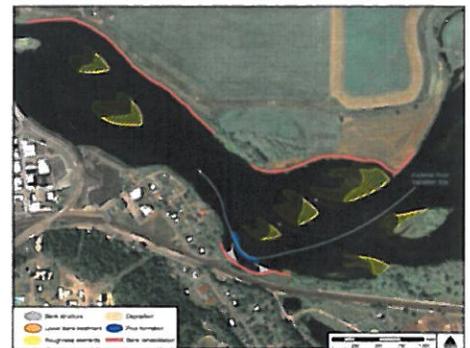
The Tribe will complete 35% designs and a feasibility analysis document for two 2013 projects in the summer of 2012. The two projects, 1A and 1B Extensions, are both located upstream of Bonners Ferry in the Braided Reaches. Both projects will expand on work completed in 2011 by stabilizing additional eroding banks and restoring and enhancing side channel, floodplain and riparian habitat.

The Tribe may also implement a substrate placement project in the Meander Reach of the river near Shorty's Island. This small-scale project would test the sustainability and effectiveness of placing rock substrate over existing clay surfaces in a reach of the river where wild Kootenai sturgeon currently spawn. Right now the sturgeon are successfully spawning in this reach but there is no rocky substrate, which is needed for sturgeon egg adhesion and as a hiding place for the larvae once they emerge. Idaho Department of Fish & Game in coordination with USGS has provided substantial information and analysis in support of the substrate placement project.

2014 Projects

The Tribe is also currently working on development of 35% designs for two projects slated for construction in 2014. One project located in the Straight Reach adjacent to the town of Bonners Ferry will incorporate instream structures that create deep pools for sturgeon migration and resting, as well as riparian and floodplain habitat enhancement.

The second project, the Bonners Ferry Islands project, will include construction of vegetated floodplain islands on existing gravel bars in the river channel. These islands will create nodes of ecological productivity to enhance the food web, create hydraulic complexity, and create hiding and resting areas for Kootenai sturgeon and other native fish. The Bonners Ferry Island site is located just upstream from Bonners Ferry.



Bonner Ferry Islands concept



Straight Reach project location



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