

## Restoration of Bull Trout Passage at Albeni Falls Dam

The goal of this project is to provide temporary upstream passage, investigate long term fish passage solutions, and fill data gaps for bull trout and westslope cutthroat associated with Albeni Falls Dam. This project provides direct on-the-ground benefits for threatened bull trout in the Pend Oreille Basin as it allows fish, whose migration corridor has been blocked by a dam without fish passage, to return to their natal streams and contribute their genes (which would otherwise have been lost)

Bull trout in the Columbia River Basin were listed as Threatened by the US Fish and Wildlife Service (USFWS) in 1998 (USFWS 2000). Bull trout and westslope cutthroat trout populations are threatened by habitat degradation and fragmentation, past fisheries management practices, poor water quality, and blockage of migratory corridors. The Pend Oreille River and Lake Pend Oreille are core areas within the Northeast Washington Recovery Unit of the Columbia Basin (USFWS 2002a, 2002b). Recovery of Pend Oreille bull trout is limited by the fact that dams on the mainstem Pend Oreille River (Albeni Falls, Box Canyon, and Boundary dams) have blocked migration corridors of bull trout between Lake Pend Oreille, the lower Pend Oreille River, and spawning/rearing areas (USFWS 2002a, 2002b). Albeni Falls Dam is a federal facility under the responsibility of the action agencies (US Army Corps of Engineers, Bonneville Power Administration, and Bureau of Reclamation). Albeni Falls Dam created two problems for bull trout and westslope cutthroat trout in the Pend Oreille Basin. First, bull trout and cutthroat trout from natal tributaries above the dam, that either became entrained or had elected to voluntarily pass below the dam, are unable to return to spawn in their natal tributaries. (Source populations could include bull trout spawning in the Priest River, inlet tributaries of Pend Oreille Lake, or tributaries of the Clark Fork River below or above Cabinet Gorge Dam.) Second, adfluvial bull trout and westslope cutthroat trout that formerly spawned in tributaries below the dam and migrated upstream to Lake Pend Oreille for forging and thermal refugia were no longer able to do so.

There are two goals of this project. One is to provide temporary upstream passage for bull trout at Albeni Falls Dam on the Pend Oreille River. We collect bull trout below the dam using boat electrofishing and angling. Any bull trout captured is biopsied via hole punch and their DNA sent to the USFWS lab in Abernathy, Washington for genetic analysis. Each DNA sample will be compared to DNA from other bull trout populations in the Priest River drainage, Pend Oreille Lake tributaries, and Clark Fork drainage and an assignment is made as to its probable region of origin. Prior to release each fish is implanted with a radio transmitter to ascertain if the spawning tributary it selected was the same as its assigned tributary. A system of stationary radio receiving stations and mobile tracking surveys are used to monitor the movement of each tagged fish. This project provides direct on-the-ground benefits for threatened bull trout in the Pend Oreille Basin because it will allow fish, whose migration corridor has been blocked by a dam without fish passage, to return to their natal streams and contribute their genes to the spawning population.

The second goal of this project is to comprehensively identify the genetic characteristics for westslope cutthroat trout within the Pend Oreille Subbasin. During this project in addition to collecting bull trout below Albeni Falls Dam we have collected a large number of westslope cutthroat trout that appear to be from tributaries upstream of the dam. In order to pass westslope cutthroat trout at Albeni Falls Dam in the future we need a comprehensive genetic catalog of cutthroat trout tributaries above the project. The genetic characteristics for westslope cutthroat trout below the project and from Priest Lake tributaries have previously been collected through the BPA funded Genetic Inventory of Bull Trout and Westslope Cutthroat Trout in the Lower Pend Oreille Subbasin Project. This collection of westslope cutthroat trout genetics from above Albeni Falls Dam would complete the entire Pend Oreille Subbasin and greatly improve the understanding of genetic diversity of native fish populations throughout the Pend Oreille Subbasin as a whole. It will also be working towards the passage of westslope cutthroat trout at Albeni Falls Dam, encouraging the opportunity for genetic exchange among local populations in the future. Once the genetic catalog of westslope cutthroat trout is completed and passage allowed at Albeni Falls Dam the "take" of this species of concern will be greatly reduced.