Walla Walla County Conservation District

Gose Street Fish Passage

Project Implementation Report

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Final Report

Gose Street Fish Passage

BPA Grant No. 28891
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CTUIR Grant

Walla Walla County
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Project Results

SCOPE OF PROJECT

The scope of this grant was to correct fish passage issues at the Gose Street Bridge on Mill Creek, Walla Walla County, WA. The project site is 5.3 miles upstream from the Mill Creek confluence with the Walla Walla River and marks the downstream end of the Mill Creek Flood Control Channel.

The passage barrier at Gose Street has been problematic for many years, since perhaps as early as the 1960's. While fish passage in Mill Creek is poorly understood, it is probable that the majority of the returning Mid-Columbia steelhead trout and Chinook salmon home in on mainstem Mill Creek. If they can pass the Gose Street barrier, which is possible at certain flows, they continue on up the mainstem. It is possible that some of these fish may encounter barriers in the concrete channel or Bennington diversion upstream of Gose Street and fall back over the Gose Street barrier. If fish cannot pass up the Mill Creek mainstem, they apparently fall back and some continue up the Walla Walla River and of those, an unknown number home in on Yellowhawk Creek (a distributary of Mill Creek) which also carries flow from the upper Mill Creek watershed.

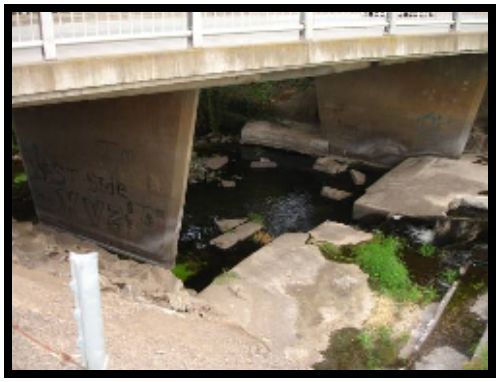
Specifically, the purpose of this project was to remediate the Gose Street passage barrier. The project was completed in two phases:

- Phase 1 – Construction of a new fish ladder under the Gose Street bridge.
- Phase 2 – Construction of two new cross-channel vanes above the fish ladder.

Gose Street project pre-construction

Gose Street downstream apron

Old Gose Street fish ladder



Gose St. fish ladder pre-construction

TARGET SPECIES

Historically, spring Chinook, fall Chinook, chum and Coho salmon (Swindell 1942), steelhead and bull trout were present in the Walla Walla watershed. Of the indigenous salmonids, only three relict populations are present today; bull trout, steelhead trout and mountain whitefish. Steelhead trout and bull trout are listed as "threatened" and as such are provided protection under the Endangered Species Act. The Walla Walla watershed (WRIA 32) is part of the mid-Columbia ESU as defined by NOAA Fisheries. The Confederated Tribes of the Umatilla Indian Reservation (CTUIR) are working in cooperation with state and federal agencies to re-establish self-sustaining populations of spring Chinook in the basin. In 2000, the CTUIR started planting pre-spawning adult Spring Chinook in the Walla Walla Basin. Adults returned to Mill Cr. in 2004 with 25 being observed by underwater video camera at the Bennington diversion and several were seen downstream of the Yellowhawk diversion suggesting that they passed through the Gose Street project area.

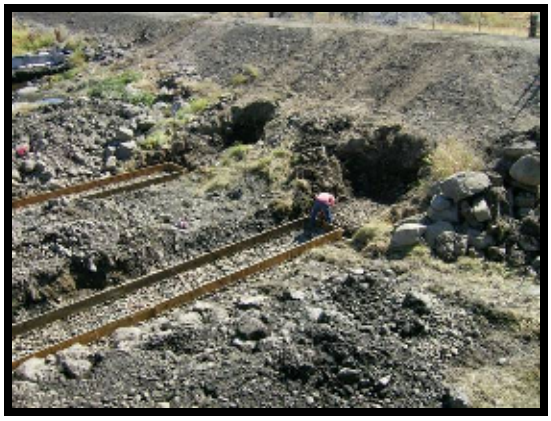
THE ROAD TO IMPLEMENTATION

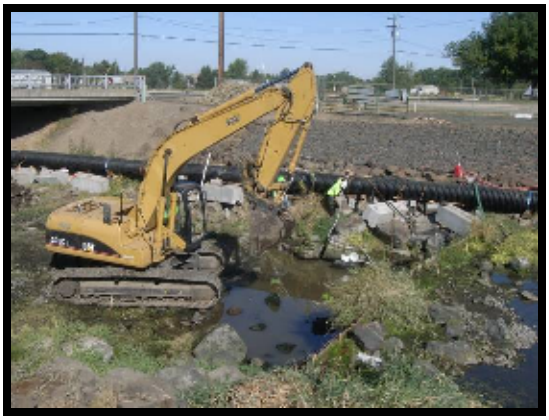
According to local fisheries biologists, Mill Creek is the key to summer steelhead restoration in the Walla Walla Basin. As few as three years ago, there were five significant barriers on Mill Creek: 1) Stiller Diversion, 2) Gose Street fish ladder, 3) the City of Walla Walla Flood Control Channel, 4), the Bennington Lake Diversion, and 5) the dam at Kooskooskie. Prior to the start of construction at Gose Street, independent actions by the Walla Walla County Conservation District and others removed the problems at Stiller's (lift pump station) and at Kooskooskie (dam removal).

In 2005, the Walla Walla County Conservation District received a grant from the Salmon Recovery Funding Board (SRFB) and from Bonneville Power Administration (through the CTUIR) to complete Phase 1 of the Gose Street Fish Passage project. Phase 1 covered: 1) a feasibility level study resulting in an alternative agreed to by all stakeholders, 2) an engineered design and construction cost estimate, 3) all the necessary permits and a landowner agreements, and 4) the construction of the new fish ladder under Gose Street Bridge. In 2008, additional funding was received from Bonneville (again through CTUIR) to complete Phase 2 of the project which was to: 1) construct two new cross-channel vanes above the fish ladder, 2) fill a potential entrapment area with concrete, and 3) do some remedial rock armoring at the downstream end of the ladder. CTUIR did the biological assessment work and compliance work necessary for permitting.

Preliminary estimates for construction of the project ranged between $1.0 and $1.5 million.

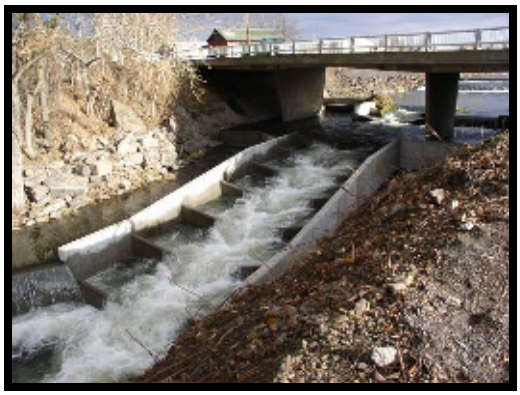
Below are photographs taken at various stages of construction.



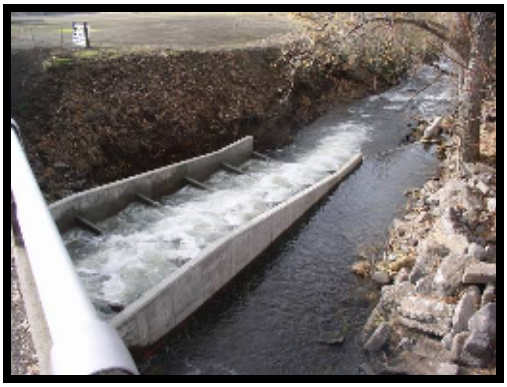


The ultimate objective of this project (Phase 1 and Phase 2) was to improve fish passage conditions for Mill Creek by removing the barrier at Gose Street. This would improve access by adults to 52 miles of stream of which roughly 41 miles is potential spawning and rearing habitat for summer steelhead and spring Chinook. Bull trout spawn further up in the Mill Cr. watershed with larger adfluvial adults moving downstream to feed only during the winter months. The value of the project to bull trout is two-fold: 1) it allows adfluvial bull trout access to winter feeding forays into the Walla Walla River, and 2) it would allow genetic material to be exchanged between the Mill Cr. population and other populations.

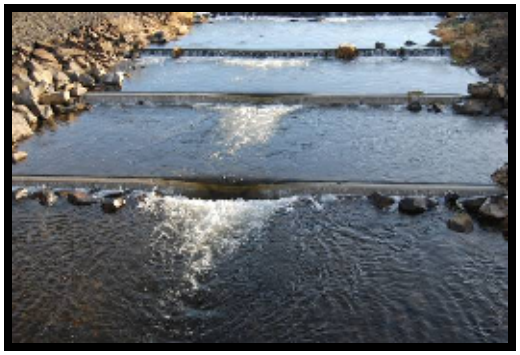
THE COMPLETED PROJECT AT GOSE STREET BRIDGE



Newly completed Gose Street fish ladder

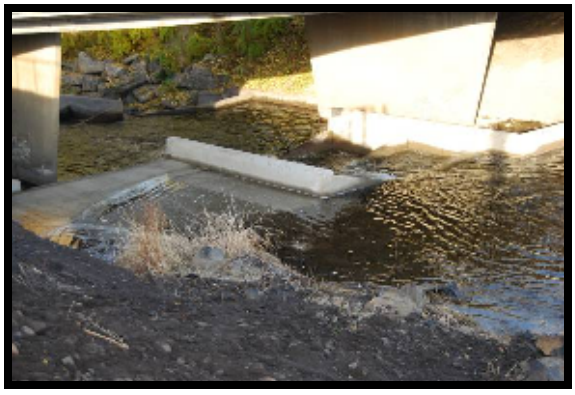


Downstream view of fish ladder



Phase 2 cross channel weirs

Phase 2 cross channel weirs



Upstream fish ladder and filled entrapment area

The final cost of the completed project was $413,300 for Phase 1 and $94,000 for Phase 2. The total of $507,300 was far below project estimates.

The completion of the Gose Street Fish Passage Project opens the way for further actions to improve passage through the Mill Creek floodway and the Bennington Lake Diversion and moves Walla Walla County one step closer to enabling the recovery of steelhead in Walla Walla Basin.