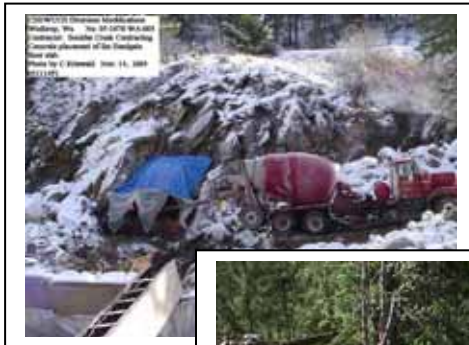


# RECLAMATION

*Managing Water in the West*

## FCRPS Off-Site Habitat Program

### 2005 Accomplishment Report for the Upper Columbia Core Subbasins



*Pacific Northwest Region  
Upper Columbia Area Office  
Habitat Program*

Greg Knott  
Methow Subbasin Liaison



# **FY 05 ACCOMPLISHMENT REPORT**

## **WENATCHEE, ENTIAT, AND METHOW SUBBASINS**

Sec. 7(a)(2) of the Endangered Species Act (ESA) requires all Federal agencies to avoid the likelihood of jeopardizing listed species or adversely modifying or destroying designated critical habitat as a consequence of actions the agency authorizes, funds or carries out. The National Marine Fisheries Service (NMFS) oversees the implementation of the ESA for certain listed species including anadromous salmon and steelhead. NMFS's judgment concerning whether an action will jeopardize listed species or adversely modify or destroy designated critical habitat is presented in a biological opinion (BiOp) issued to the Federal agency contemplating the action.

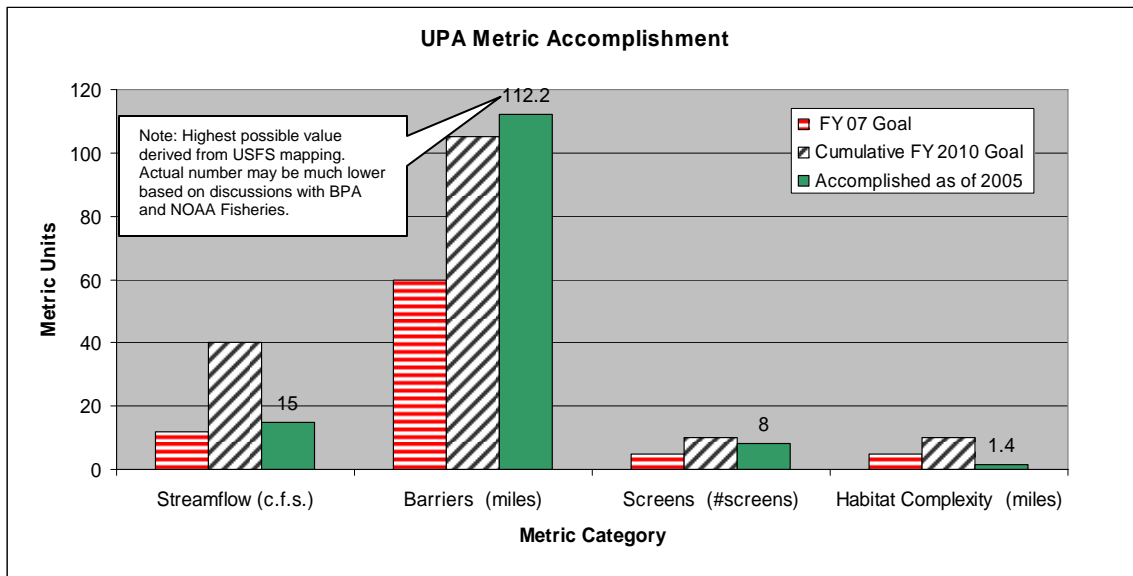
There are 12 listed anadromous Evolutionarily Significant Units (ESU) and one ESU proposed for listing in the Columbia River which are affected by the operation of the Federal Columbia River Power System (FCRPS). The Action Agencies (Bonneville Power Administration, Corps of Engineers, Bureau of Reclamation) have consulted with NOAA Fisheries on these ESUs, with the most recent BiOp issued on November 30, 2004. That consultation included an Updated Proposed Action (UPA) by the Action Agencies which included a tributary habitat program. In 2005, this BiOp was successfully challenged and the BiOp is currently being revised. In the interim, the provisions of the 2004 BiOp and the UPA remain in place.

Reclamation and BPA are implementing the Tributary Habitat Program in the Upper Columbia Area as set forth in the UPA to offset the impacts of operation of the FCRPS on the Upper Columbia steelhead and Upper Columbia spring chinook. The salmonid production limiting factors that BPA and Reclamation are addressing include instream flows (BPA), channel morphology (Reclamation and BPA), entrainment (Reclamation and BPA), and riparian condition (BPA).

The objective of the FCRPS Tributary Habitat Program is to satisfy the UPA metric agreed upon by the Action Agencies and NOAA Fisheries for each limiting factor listed above. The goals of the individual Sub-basin Liaisons are to facilitate the implementation of habitat projects that satisfy the metric requirements by applying Reclamation's technical resources to the efforts of various project sponsors undertaking the specific projects. Reclamation's technical resources include participation in efforts to identify and locate projects, provide technical and engineering designs, provide project management support, including support in the permitting and grant processes, and construction oversight.

Figure 1 displays progress to date by the Upper Columbia Subbasin Liaisons in meeting the UPA metric goals contained in the UPA.

**FIGURE 1**



In this report, construction projects completed in 2005 and some on-going non-construction efforts contributing to metric accomplishment are summarized in tabular form. Then details of each individual project are also provided in an accompanying section illustrating the project.

Tables 1, 2, and 3 summarize the projects that were completed in 2005 in each Upper Columbia subbasin and include technical resources provided by Reclamation, as well as any ongoing or completed technical studies that directly support such projects. Each project either directly provided UPA Metric credit, or indirectly provided credit by making possible a creditable project.

**TABLE 1 WENATCHEE SUBBASIN**

Project Name	Streamflow Credit (c.f.s.)	Barrier Credit (miles)	Screens Credit (# screens)	Habitat Complexity Credit (miles)	Comments
Peshastin		2.0			
Icicle Irrigation District Gage and Data Logger					Supports Flow Acquisition
Icicle PHABSIM Study					Supports Flow Acquisition
Wenatchee Watershed Plan					Project Prioritization
WWFHRP Study					Project Identification
<b>Totals</b>	0	2.0	0	0	

**TABLE 2 ENTIAT SUBBASIN**

<b>Project Name</b>	<b>Streamflow Credit (c.f.s.)</b>	<b>Barrier Credit (miles)</b>	<b>Screens Credit (# screens)</b>	<b>Habitat Complexity Credit (miles)</b>	<b>Comments</b>
Entiat Watershed Plan					Project Prioritization
Bridge to Bridge and Beyond					Project Identification
<b>Totals</b>	0	2.0	0	0	

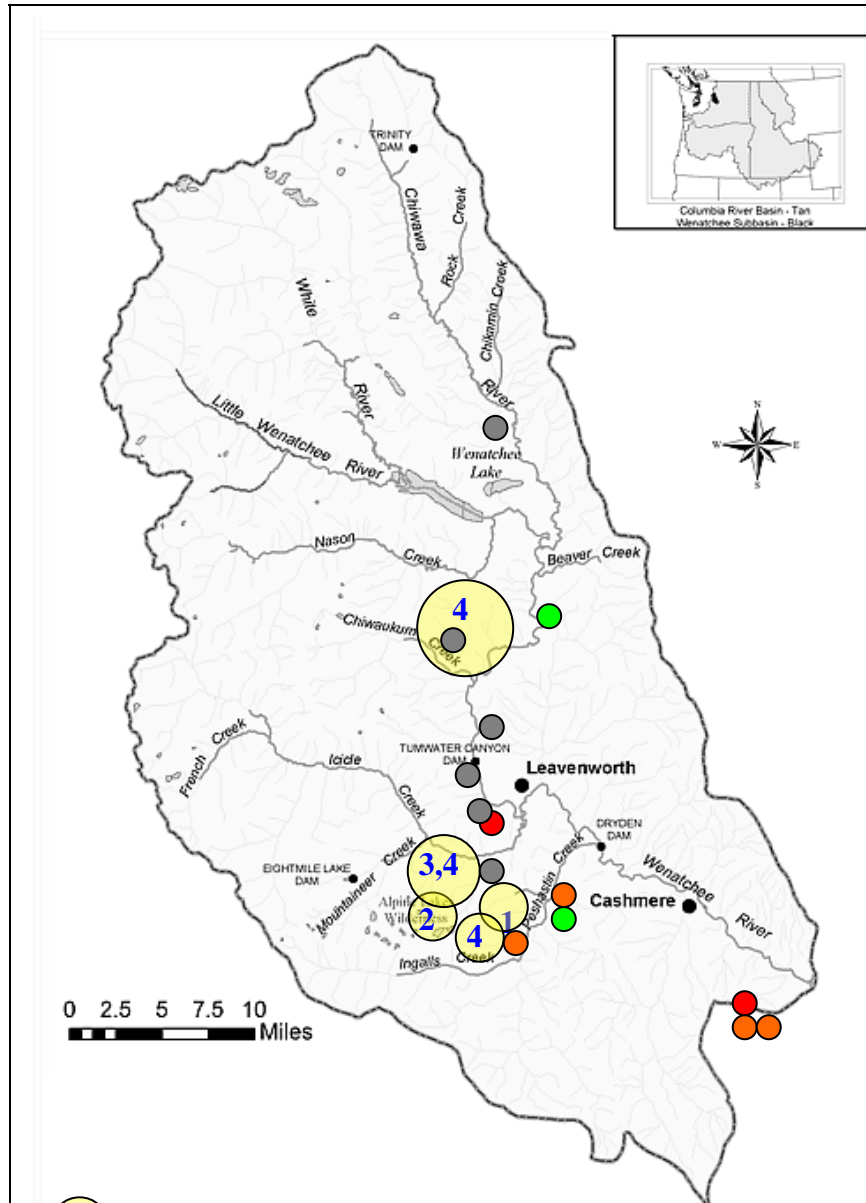
**TABLE 3 METHOW SUBBASIN**

<b>Project Name</b>	<b>Streamflow Credit (c.f.s.)</b>	<b>Barrier Credit (miles)</b>	<b>Screens Credit (# screens)</b>	<b>Habitat Complexity Credit (miles)</b>	<b>Comments</b>
Aspen Meadows Diversion		14.9	1		Barrier Removal and screen replacement
Black Canyon Diversion and Screen		6.0	1		
Chewuch Dam		52.0			
Clees Well			1		Unscreened river pump to well conversion
Fort Thurlow Pipe					Last phase of Fort Thurlow Dam Renovation (2004)
Hancock Springs Restoration				0.8	Yakama Indian Nation lead. Reclamation provided survey and tech assistance.
Hottell Headgate and Screen			1		
Libby Hansler Screen			1		Open ditch to well conversion
Marracci Diversion and Screen		21.8	1		Piping portion to be completed 2006

**TABLE 3 METHOW SUBBASIN (Cont.)**

<b>Project Name</b>	<b>Streamflow Credit (c.f.s.)</b>	<b>Barrier Credit (miles)</b>	<b>Screens Credit (# screens)</b>	<b>Habitat Complexity Credit (miles)</b>	<b>Comments</b>
MVID East Screen			1		
MVID West Screen			1		
MSRF Phase 1				0.6	Pond connections to be modified 2006
Wolf Creek Diversion		15.5			
Methow Instream Habitat Restoration Program Study				?	TSC study to identify and prioritize future habitat projects
MVID East and West Canal Automation					Headgate automation of Reclamation designed screens
Chewuch Canal Piping					Tech assistance on 15 miles canal piping project as part of Chewuch Diversion Reduction Agreement
Chewuch Diversion Reduction Agreement	15.0 (2005 av. amount. Variable from year to year)				Agreement with Chewuch Canal to pay for reducing diversions during low flows
MVID Piping					Agreement to provide tech services for piping 5 miles of ditch. Funded entirely by State grant. Contributes to MVID Diversion Renovation
<b>Totals</b>	15.0	110.2	8	1.4	

# WENATCHEE SUBBASIN PROJECTS



- ① Peshastin Irrigation District – Lower Diversion
- ② Icicle Irrigation District – Gage and Data Logger
- ③ PHABSIM Study
- ④ Wenatchee Watershed Fluvial Habitat Restoration Plan
- Project in Development - Screen
- Project in Development - Access
- Project in Development - Flow
- Project in Development – Habitat Complexity

## Peshastin Irrigation District Lower Diversion

**Project Description:** The Peshastin Irrigation District Lower Diversion is a channel spanning 3 foot high dam that blocks upstream migration of steelhead and spring Chinook except for during periods of high flow. This project consists of a roughened channel constructed through the dam to allow passage at flows down to 3.5 CFS, the administrative minimum flow past the dam.

**Project Sponsor:** Chelan County sponsored the project on behalf of Peshastin Irrigation District.

**Reclamation Contributions:** Reclamation provided project scoping, technical designs and specifications, and contracted permit and grant acquisition.

**Construction Funding Source(s):** Fisheries Resoration and Irrigation Mitigation Act (FRIMA) Program funding was combined with a match from the Salmon Recovery Funding Board (SRF Board).

**Construction Cost:** The final construction cost was approximately \$170,000.

**Construction Contractor:** Rayfield Brothers Excavating of Peshastin was the prime contractor.

**Metric Benefit to Program:** This project opened up 2 miles of access on Peshastin Creek. There is reportedly another partial barrier to fish migration 2 miles upstream from this project.



Before Construction



After Construction



## Icicle Irrigation District Gage and Data Logger

**Project Description:** An integrated gage and data logger was installed at the diversion of the Icicle Irrigation District to allow the District to measure and record its water use.

**Project Sponsor:** Bureau of Reclamation Water Conservation and Field Services Program.

**Reclamation Contributions:** Reclamation provided all materials and labor to install the project.

**Construction Funding Source(s):** Reclamation provided all materials and labor to install the project.

**Construction Cost:** N/A

**Construction Contractor:** Reclamation Water Conservation and Field Services Program.

**Metric Benefit to Program:** This project metered the largest user on Icicle Creek, an adjudicated tributary to the Wenatchee River. The expectation is that Reclamation may in the future be able to lease flow from the Irrigation District.



## PHABSIM Studies

**Project Description:** As part of the instream flow effort under Watershed Planning in the Wenatchee watershed, Reclamation funded PHABSIM studies on the lower Wenatchee River, Peshastin Creek, and performed its own study on Icicle Creek. A PHABSIM study is a method of determining flow requirements for different species at various life histories, thereby assisting in the development of instream flow regulations.

**Project Sponsor:** Wenatchee Watershed Planning Unit/Chelan County.

**Reclamation Contributions:** Reclamation provided funding to the Planning Unit for the studies on the lower Wenatchee and Peshastin Creeks, and the TSC performed the study on Icicle Creek.

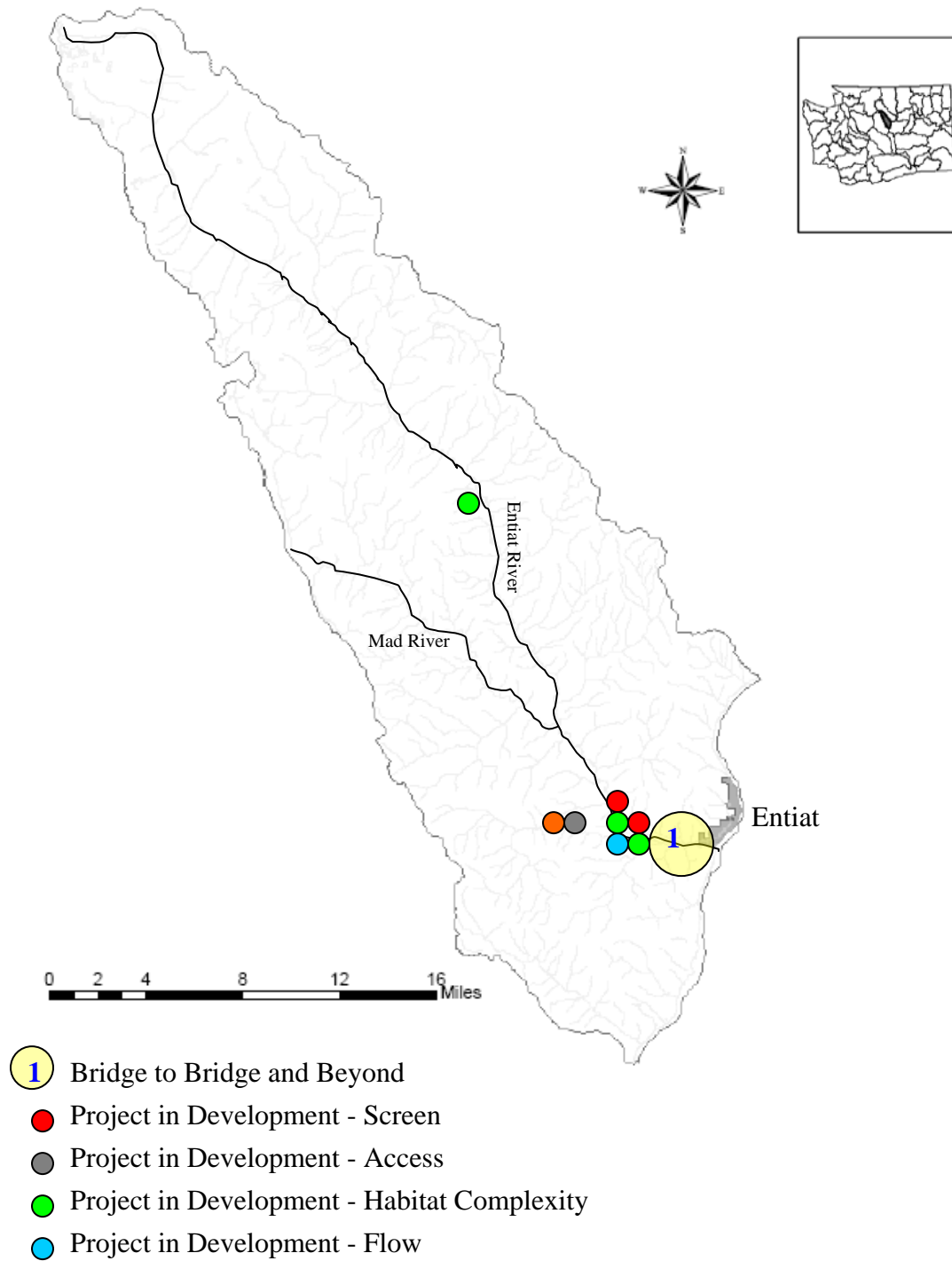
**Construction Funding Source(s):** N/A

**Construction Cost:** N/A

**Construction Contractor:** N/A

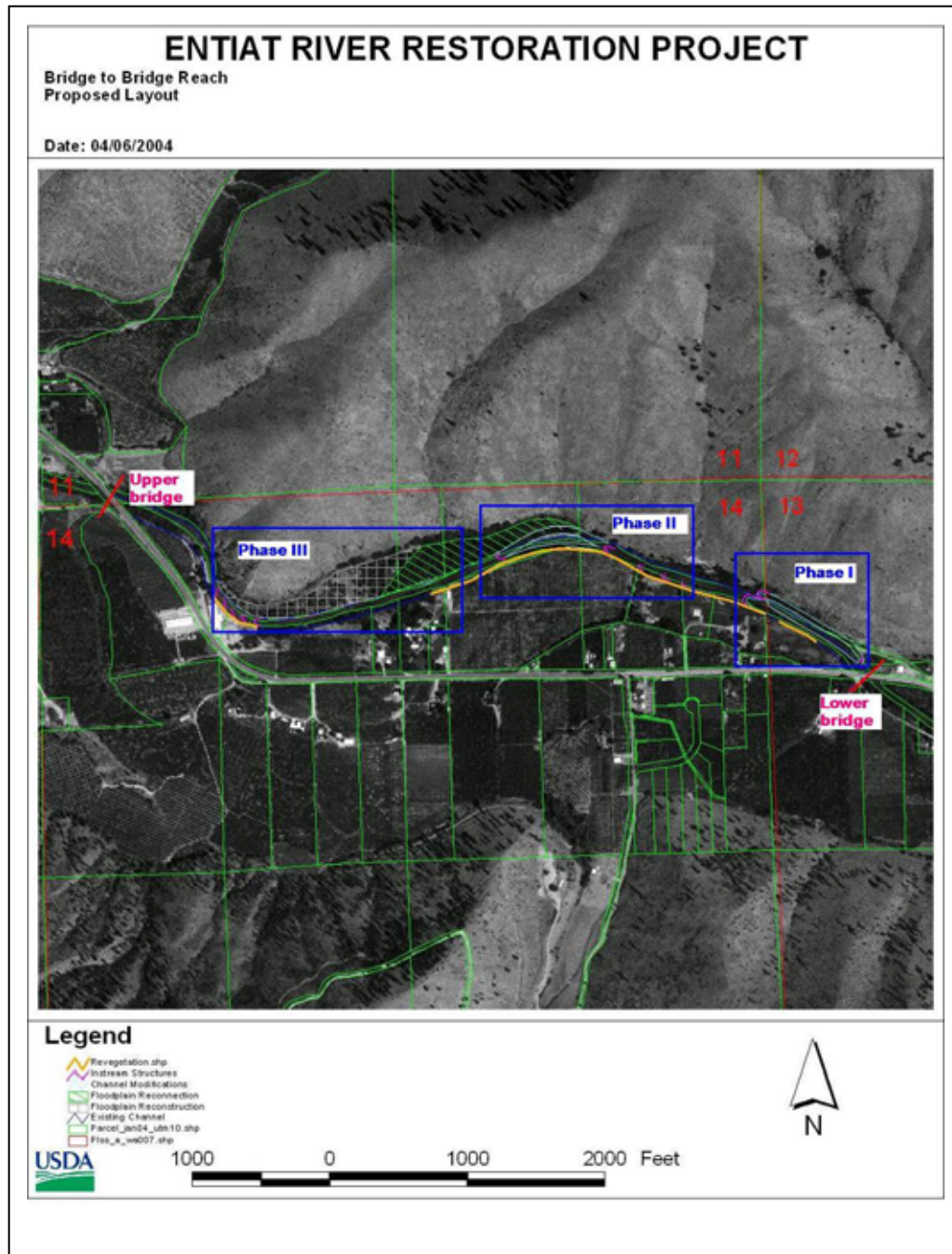
**Metric Benefit to Program:** This project will be used to identify instream flows for water resources management, as well as a separate goal for water acquisition. Reclamation will use this second set of values in pursuit of flow leases.

# ENTIAT SUBBASIN PROJECTS



## Bridge to Bridge and Beyond

**Project Description:** The Bridge to Bridge Project is a reach based habitat restoration project initiated by the Chelan County Conservation District. It covers a 1.2 mile reach in the highly altered and channelized lower Entiat River. Once this reach is addressed, habitat in the adjacent upstream and downstream reaches will be similarly enhanced.



**Project Sponsor:** Chelan County Conservation District.

**Reclamation Contributions:** Reclamation is providing preliminary and final design work, and sponsoring much of the data collection. The project is being led by the TSC.

**Construction Funding Source(s):** Funds will be requested from the Salmon Recovery Funding Board and other sources.

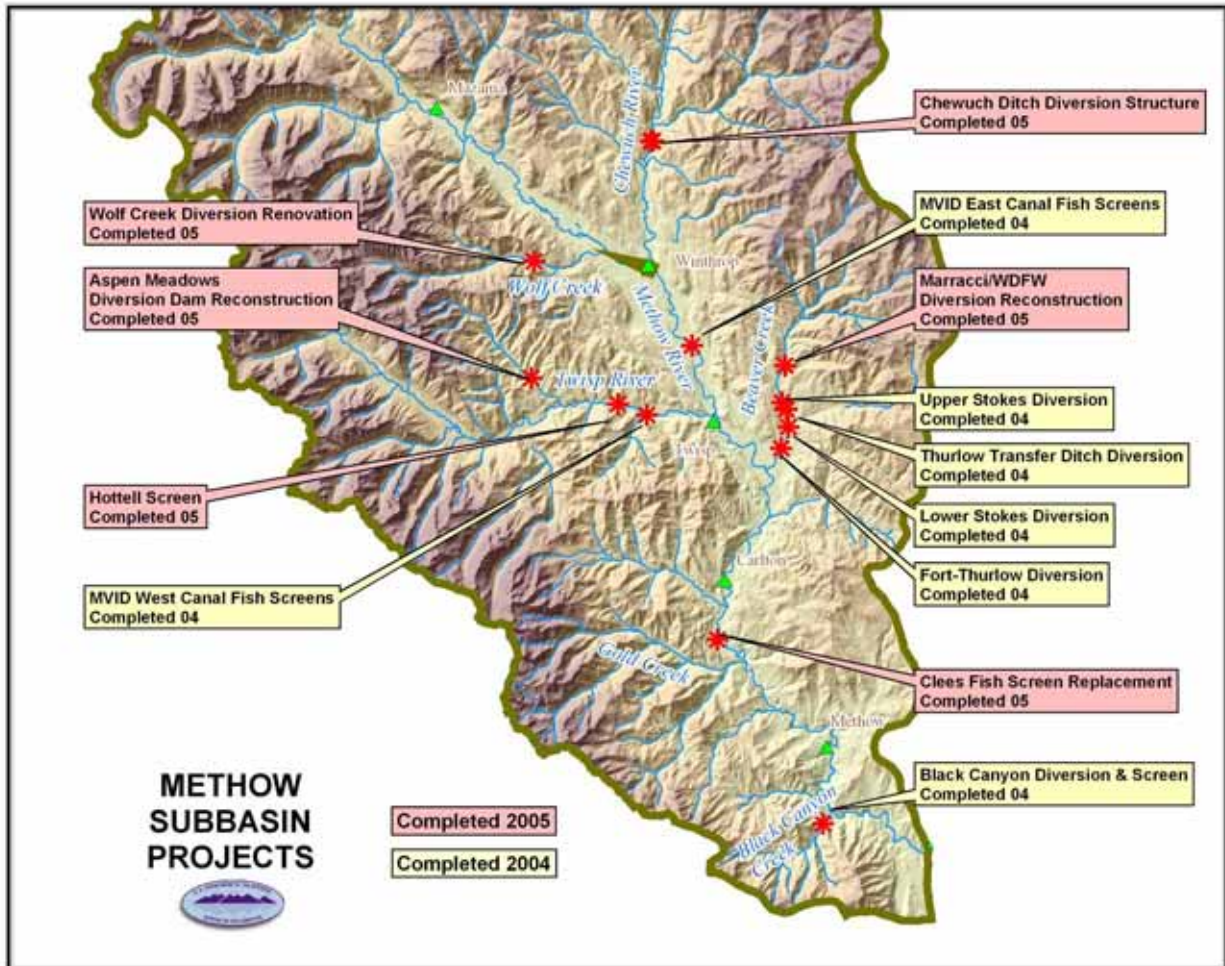
**Construction Cost:**

**Construction Contractor:**

**Metric Benefit to Program:** This project will identify on a reach wide basis numerous opportunities for increasing the habitat complexity of the lower Entiat River. Initially, 1.2 miles of complexity will be gained, with an ultimate addition of up to 5 miles being added.

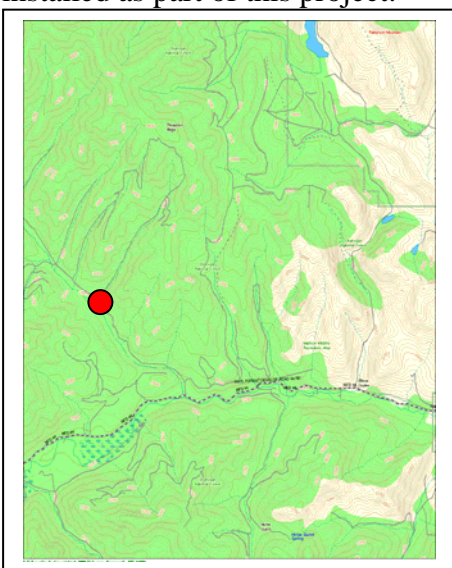


# METHOW SUBBASIN PROJECTS



## ASPEN MEADOWS AND SCREEN RENOVATION

**Project Description:** The Aspen Meadows ditch diversion structure located on Little Bridge Creek, a major tributary of the Twisp River, is a deteriorating weir that is a barrier to juvenile fish at all flows and a barrier to all fish at low flows (August through April). Listed fish species of concern are steelhead and bull trout. To address fish passage and minimally meet ESA requirements, the irrigators constructed a plywood fish pass that they installed annually during fall low flows. This temporary structure was removed to prevent damage in October and thus did not address fish passage during the winter. Reclamation designed a roughened channel weir to maintain irrigation flows and pass fish. A new WDFW fish screen was also installed as part of this project.



**Project Sponsor:** The US Forest Service sponsored the project on behalf of Aspen Meadows Maintenance Corporation.

**Reclamation Contributions:** Reclamation provided project scoping, technical designs and specifications, assistance during ESA consultation, and contracted permitting (NEPA).

**Construction Funding Source(s):** Funding for the project was provided by Title II Rural Development funds.

**Construction Cost:** The final construction cost was approximately \$45,000.

**Construction Contractor:** Christen Inc was the prime contractor.

**Metric Benefit to Program:** This project opened up 14.9 miles of access on Little Bridge Creek. *(Note: This USFS metric is subject to confirmation by BPA and NOAA Fisheries and may be substantially less depending on how metric data are interpreted).*



Before Construction

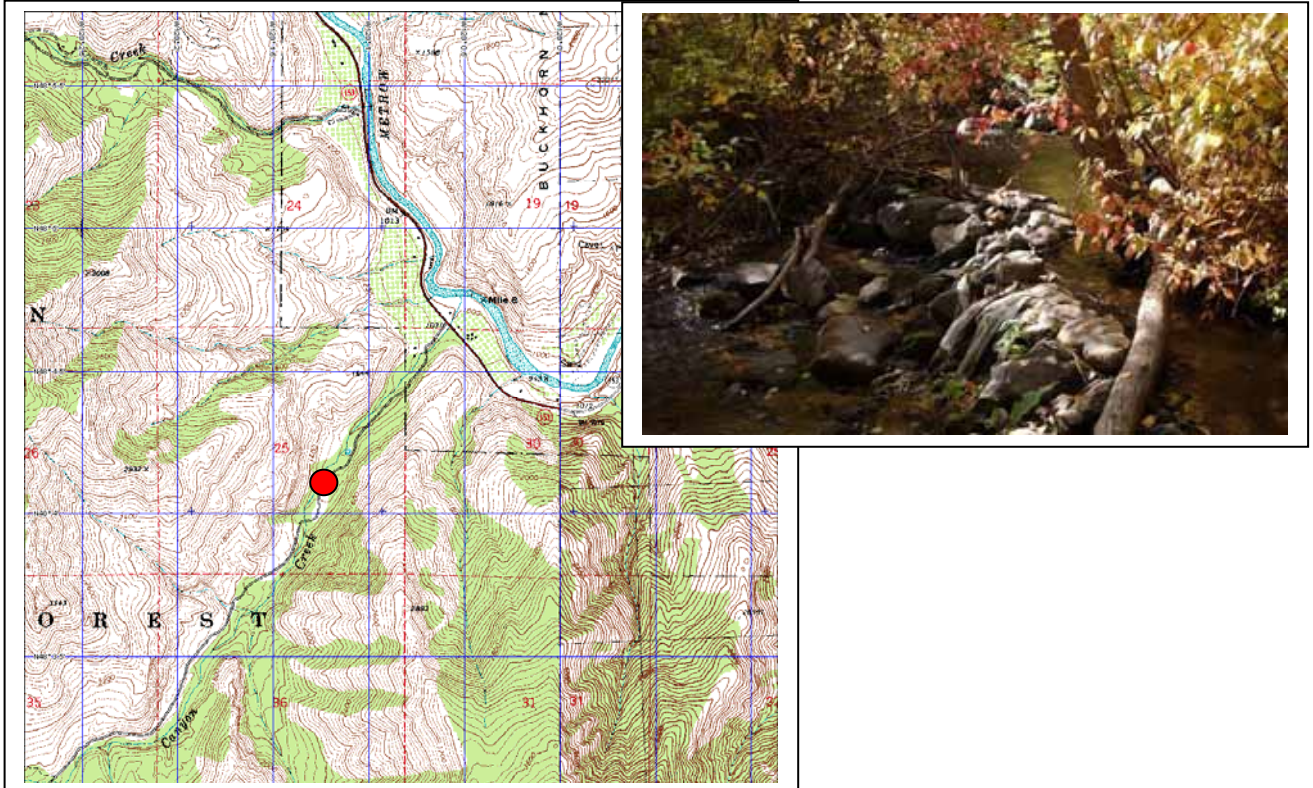


After Construction



## BLACK CANYON DIVERSION AND SCREEN

**Project Description:** Black Canyon Creek is a small tributary of the lower Methow River. Approximately 2.3 c.f.s. is diverted under an adjudicated water right from the creek by irrigators to water commercial orchard lands. This diversion was unscreened, had no headgate, and no measuring device. In the spring of 2002 a steelhead redd was found by the US Forest Service immediately above the point of diversion. Upper Columbia steelhead are listed as “endangered” under the ESA which placed the Black Canyon diversion at risk of “take” under Section 9 of the ESA. The objective of this project was to construct a diversion structure, headgate, fish screen and measuring device to make the Black Canyon compliant with applicable State and Federal laws and regulations .



**Project Sponsor:** The Okanogan Conservation District sponsored the project on behalf of the Black Canyon Irrigators.

**Reclamation Contributions:** Reclamation provided project scoping, technical designs and specifications, assistance during grant applications, ESA consultation, and State permitting.

**Construction Funding Source(s):** Funding for the project was provided by the WDFW's Landowner Incentive Program (LIP).

**Construction Cost:** The final construction cost was approximately \$35,000.

**Construction Contractor:** Carter Excavation of Brewster WA. was the prime contractor.

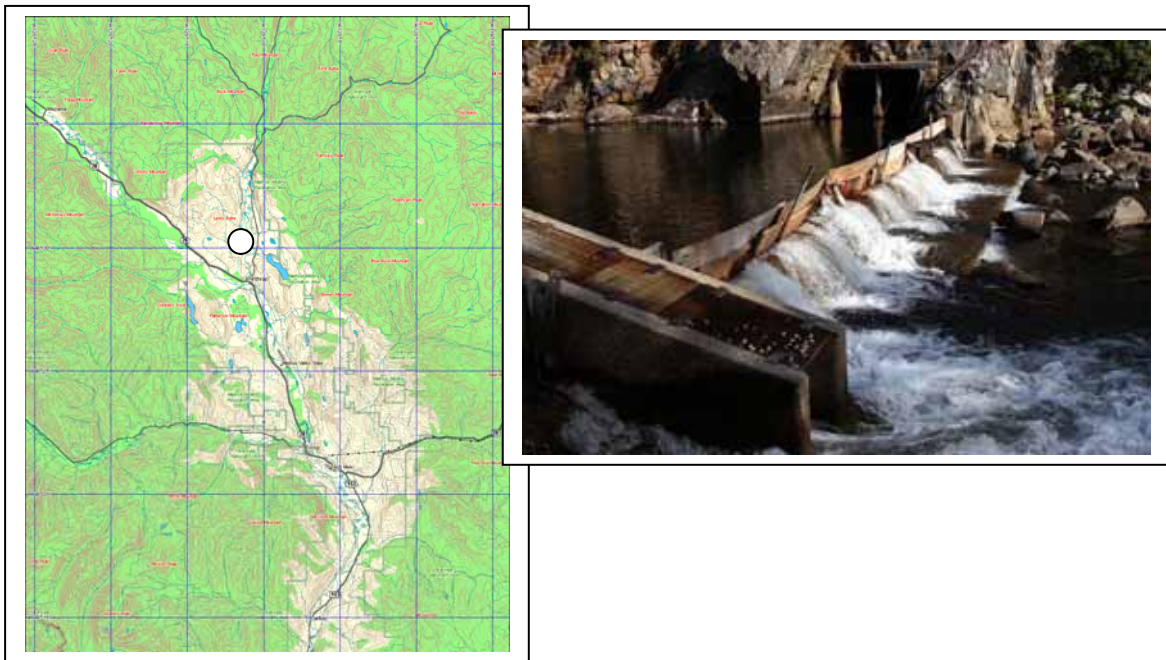
**Metric Benefit to Program:** This project opened up 6.0 miles of access on Black Canyon Creek. *(Note: This USFS metric is subject to confirmation by BPA and NOAA Fisheries and may be substantially less depending on how metric data are interpreted).*

### **Post Construction**



# CHEWUCH DAM

**Project Description:** The present concrete diversion dam was deteriorating as it was undermined during high flows. Although there was fish passage engineered into the existing structure, it did not meet current Washington Department of Fish and Wildlife standards there was no facility for downstream fish movement over the dam. This facility located near the Chewuch Fish Screen. There was no headgate at the diversion. This exposed the first 300' of the canal before the fish screen and the Douglas County fish acclimation ponds to erosion and failure during high water. In addition, both facilities had sediment accumulation problems associated with the inability to control inflow during high sediment transport periods. Finally, because the irrigators could not turn off the intake in the fall and because there were no adult passage barriers, it was being used as spawning habitat by spring Chinook. As the canal froze, these redds were generally exposed. This project rebuilt the fish passage structure replacing it with a roughened channel and replaced the dam and built new headgates to enhance salmonid passage, ensure correct functioning of the fish passage facilities, and eliminated the winter redd-stranding that occurred.



**Project Sponsor:** The Chewuch Basin Council sponsored the project on behalf of the Chewuch Canal Company.

**Reclamation Contributions:** Reclamation provided project scoping, technical designs and specifications, assistance during grant applications, ESA consultation, and State permitting.

**Construction Funding Source(s):** Funding for the project was provided by the Chewuch Canal Company, Washington State Salmon Recovery Funding Board, Bonneville Power Association, Grant County PUD, and WDFW administering FRIMA grant funds for the USFWS.

**Construction Cost:** The final construction cost was approximately \$195,000.

**Construction Contractor:** Boulder Creek Excavating was the prime contractor with two sub-contractors for concrete and steel work..

**Metric Benefit to Program:** This project opened up 52.0 miles of access on the Chewuch River. *(Note: This USFS metric is subject to confirmation by BPA and NOAA Fisheries and may be substantially less depending on how metric data are interpreted).*

## Post Construction



## CLEES WELL CONVERSION

**Project Description:** Landowner John Clees pumped approximately 1 c.f.s. from a side channel of the Methow River to irrigate over 80 acres of orchard and a small cattle farming operation. His pump intake was unscreened and the river is migrating away from his point of diversion. In the past several years he cut through a log jam and constructed a channel out into the river during low flows to obtain his water. Rather than screen his intake and built a structure in the river to maintain low flow diversions, the landowner proposed replacing his present surface diversion with a groundwater well located on his property. The objective of this project was to provide adequate fish screening for the irrigation pump station by replacing the existing surface diversion with a groundwater well supply. A 12” well was drilled and a turbine pump installed.



Unscreened intake

**Project Sponsor:** The Okanogan Conservation District sponsored the project on behalf of the landowner.

**Reclamation Contributions:** Reclamation provided project scoping, technical designs and specifications, assistance during grant applications, ESA consultation, and State permitting. A 6” test well was provided by Reclamation as well as a hydrogeological evaluation of the site.

**Construction Funding Source(s):** Funding for the project was provided by the WDFW’s Landowner Incentive Program (LIP).

**Construction Cost:** The final construction cost was approximately \$19,000.

**Construction Contractor:** Alpine Drilling was the prime contractor.

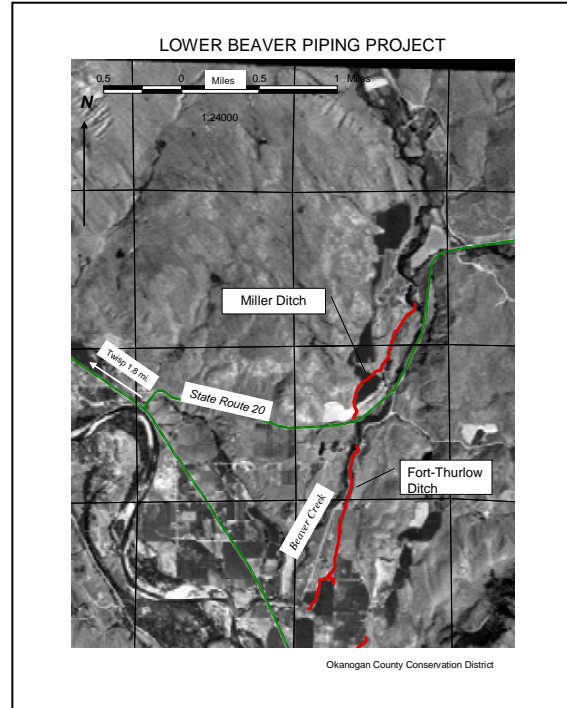
**Metric Benefit to Program:** This project counted as one screen.

# FORT THURLOW PIPING PROJECT

**Project Description:** This project was the final phase of the Fort Thurlow Diversion reconstruction. The irrigators piped approximately 1.5 miles of open ditch leading from their reconstructed diversion.



Fort Thurlow Weir Before and After (2004)



**Project Sponsor:** The Okanogan Conservation District sponsored the project on behalf of the landowners.

**Reclamation Contributions:** Reclamation provided project scoping, technical designs and specifications, assistance during grant applications, and State permitting.

**Construction Funding Source(s):** Funding for the project was provided by the WDFW's Landowner Incentive Program (LIP).

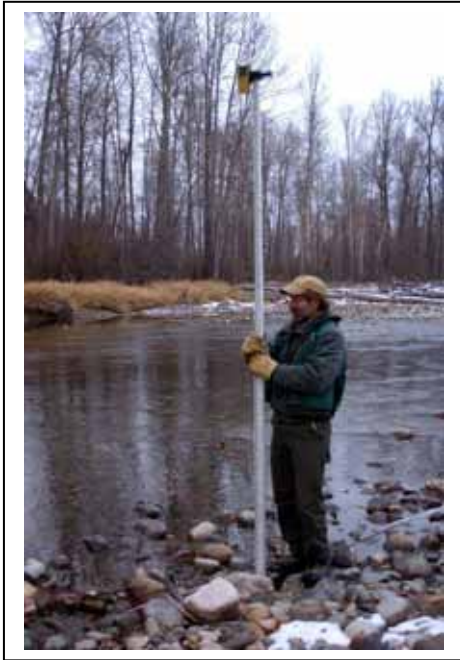
**Construction Cost:** The final construction cost was approximately \$35,000.

**Construction Contractor:** Christen Inc. was the prime contractor.

**Metric Benefit to Program:** This project was the final phase of the Fort Thurlow Diversion Project and counted as 7.2 miles of access metric.

## HANCOCK SPRINGS RESTORATION

**Project Description:** Hancock Springs provides a significant tributary flow to the mainstem Methow River in the Methow subbasin. Flow from the springs travels through a grazed pasture before reaching a beaver pond area and, subsequently, the Methow River. The springs area has been reconnected to the Methow River by prior work on a culvert; however, cattle in the pasture have damaged habitat by removing riparian vegetation and widening the stream to result in shallower flows. The purpose of this project was to provide technical consultation and survey data (thalweg and cross sections) to support continued habitat restoration in cooperation with the Yakama Tribe.



**Project Sponsor:** The Yakama Indian Nation sponsored the project.

**Reclamation Contributions:** Reclamation provided technical advice and survey data.

**Construction Funding Source(s):** Funding for the project was provided by the US Fish and Wildlife Service and the Yakama Indian Nation.

**Construction Cost:** The final construction cost was approximately \$100,000.

**Construction Contractor:** Boulder Creek Excavating was the prime contractor.

**Metric Benefit to Program:** This project counted as 0.8 miles of access metric.



## HOTTELL HEADGATE AND SCREEN

**Project Description:** The Hottell irrigation diversion is located in a reach of the Twisp River that provides spawning and rearing habitat for spring Chinook and summer steelhead. The unregulated intake canal allowed excess flows during the spring freshet to overtop the fish screen located approximately 800' down the canal from the point of diversion

The project designed a headgate structure that laced in the diversion canal just upstream of the existing fishscreen. The headgate structure along with the construction of a rock-lined wasteway channel approximately 50' in length will be used to regulate stream velocity at the screen and prevent spring high flows from over-topping the fish screen and the subsequent entrapment of fish in the irrigation ditch.



Existing non-functional Headgate



**Project Sponsor:** The Okanogan Conservation District sponsored the project on behalf of the landowners.

**Reclamation Contributions:** Reclamation provided project scoping, technical designs and specifications, assistance during grant applications, and State permitting.

**Construction Funding Source(s):** Funding for the project was provided by the Bonneville Power Administration

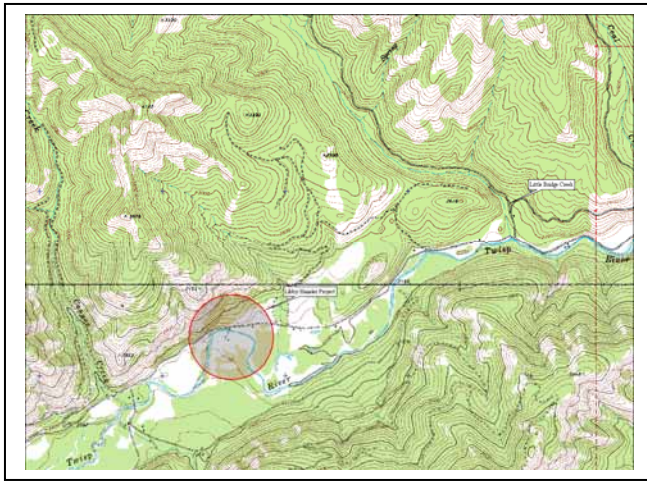
**Construction Cost:** The final construction cost was approximately \$10,000.

**Construction Contractor:** Boulder Creek Excavating. was the prime contractor.

**Metric Benefit to Program:** This project counted for one screen.

## LIBBY HANSLER WELL CONVERSION

**Project Description:** The Libby-Hansler diversion is located on the upper Twisp River, about nine miles upstream of the town of Twisp and about 1.5 miles upstream of the confluence with Little Bridge Creek. The diversion headgate is located on USFS property and provides water to the Libby-Hansler ditch, which serves five private landowners. The objective of the project was for Reclamation to provide technical assistance to the landowners in assessing technical feasibility and funding sources for replacing the current diversion/screen/ditch system with groundwater wells. Well replacement provided fish benefits by addressing technical inadequacies with the current screen system and by eliminating the need for in-stream work to maintain the diversion's effectiveness.



**Project Sponsor:** The Methow Salmon Recovery Foundation sponsored the project on behalf of the landowners.

**Reclamation Contributions:** Reclamation provided project scoping, technical designs and specifications, assistance during grant applications, and State permitting.

**Construction Funding Source(s):** Funding for the project was provided by the National Fish and Wildlife Foundation and the Washington State Salmon Recovery Funding Board.

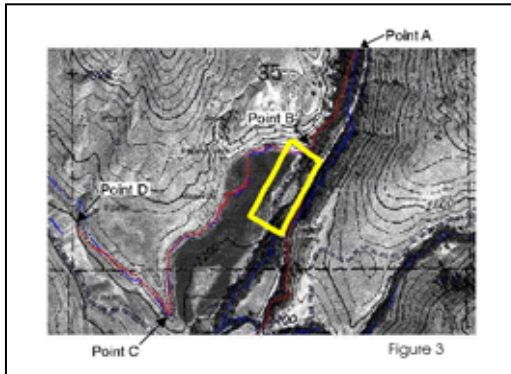
**Construction Cost:** The final construction cost was approximately \$35,000.

**Construction Contractor:** Town and Country Drilling was the prime contractor.

**Metric Benefit to Program:** This project counted for one screen.

## MARRACCI DIVERSION, SCREEN, AND PIPING

**Project Description:** The Marracci Irrigation Diversion is located in the Beaver Creek drainage of the Methow Valley Subbasin. Beaver Creek is listed in the Washington Conservation Commission's Limiting Factors Report and the USFS Middle Methow Watershed Assessment as potential habitat for listed Upper Columbia steelhead, Upper Columbia spring Chinook, and bull trout. At low flows, the Marracci/WDFW Diversion structure was a barrier to these species. The project objective was to replace this temporary structure with a permanent structure incorporating engineered fish passage, replace the existing fish screen, and pipe a portion of the ditch.



Marracci Weir Before



Marracci Weir After

**Project Sponsor:** The Okanogan Conservation District sponsored the project on behalf of the landowners.

**Reclamation Contributions:** Reclamation provided project scoping, technical designs and specifications, assistance during grant applications, and State permitting.

**Construction Funding Source(s):** Funding for the project was provided by the Bonneville Power Administration

**Construction Cost:** The final construction cost was approximately \$109,000.

**Construction Contractor:** McHugh Excavating. was the prime contractor.

**Metric Benefit to Program:** This project counted for one screen and opened up 21.8 miles of access. *(Note: This USFS metric is subject to confirmation by BPA and NOAA Fisheries and may be substantially less depending on how metric data are interpreted).*

## METHOW VALLEY IRRIGATION DISTRICT SCREENS

**Project Description:** The MVID East and West Canals divert from 20- 30 c.f.s each from the Methow and Twisp Rivers respectively to service irrigation users in the Methow River Basin. Although the drum screens had been re-meshed to meet the 3/32” NMFS mesh size standard, they were antiquated and do not meet NMFS criteria for approach velocities or angle. In 1999, fish were found downstream of the screens by NMFS and WDFW inspectors. The objective of this project was to replace these screens with new designs that met all applicable criteria for screening. A 3 drum screen was built for the West Canal and a traveling belt design was built on the East Canal. These screens were completed in the fall of 2004 and operated for the first time in the spring of 2005.



MVID West Old Screen Typical of East Screen



MVID West Screens



MVID East Screen

**Project Sponsor:** The Methow Valley Irrigation District sponsored the project on behalf of the landowners.

**Reclamation Contributions:** Reclamation provided project scoping, technical designs and specifications, assistance during grant applications, and State permitting.

**Construction Funding Source(s):** Funding for the project was provided by the Bonneville Power Administration.

**Construction Cost:** The final construction cost for MVID West was approximately \$200,000 and for MVID was approximately \$300,000.

**Construction Contractor:** Montgomery Watson Harza Inc. was the prime contractor.

**Metric Benefit to Program:** This project counted for 2 screens.



**Project Sponsor:** The Methow Salmon Recovery Foundation sponsored the project on behalf of the landowners.

**Reclamation Contributions:** Reclamation provided project scoping, technical designs and specifications, assistance during grant applications, and State permitting.

**Construction Funding Source(s):** Funding for the project was provided by the Bonneville Power Association, National Fish and Wildlife Foundation, and the Washington State Salmon Recovery Funding Board.

**Construction Cost:** The final Phase I construction cost was approximately \$35,000.

**Construction Contractor:** Pipkin Construction Inc. was the prime contractor.

## WOLF CREEK DIVERSION REPLACEMENT

**Project Description:** The existing log diversion dam on the Wolf Creek Reclamation District's (WCRD) canal at RM 4.2 on Wolf Creek did not meet current State or NMFS standards for flow fish passage and was deteriorating. Fish passage over the 5' high structure by a temporary aluminum 12" wide "Alaska High Pass" cabled at a steep angle over the dam. This project rebuilt the present diversion structure to current standards to allow adult and juvenile passage to steelhead, Upper Columbia spring Chinook, and bull trout. The final design was an innovative roughened channel anchored by channel-spanning steel plates.





**Project Sponsor:** The Wolf Creek Reclamation District sponsored the project on behalf of the landowners.

**Reclamation Contributions:** Reclamation provided project scoping, technical designs and specifications, assistance during grant applications, and State permitting.

**Construction Funding Source(s):** Funding for the project was provided by the Wolf Creek Reclamation District, US Forest Service, and the Washington State Salmon Recovery Funding Board.

**Construction Cost:** The final construction cost was approximately \$95,000.

**Construction Contractor:** Boulder Creek Excavation was the prime contractor.

**Metric Benefit to Program:** This project opened 15.5 miles of access. *(Note: This USFS metric is subject to confirmation by BPA and NOAA Fisheries and may be substantially less depending on how metric data are interpreted).*

## METHOW INSTREAM HABITAT RESTORATION PROGRAM

**Project Description:** This investigation will provide data on the fluvial geomorphologic characteristics of the Methow subbasin. The resulting plan will be used as a basis for implementing complex and large restoration projects that can reliably improve habitat, be sustainable over the long term, and not create undue liability for Reclamation. Reclamation's Denver TSC group will work on the investigation in fiscal years 2005, 2006, and 2007 in cooperation with the PNRO Geology group to produce a final Restoration Plan report in September 2007. USFS staff will provide locally-based assistance to the UCAO under Interagency Agreements to complete study tasks as defined in the TSC proposal. In addition, various PN region staff will be involved in a coordination/review role to coordinate the study with ongoing construction efforts.