

# Getting It Done in the Wenatchee

WWPU IMPLEMENTATION UPDATE

NOVEMBER 2009

## Welcome

Welcome to the Wenatchee Watershed! The Wenatchee Watershed Planning Unit (WWPU) and our Project Sponsors are busy **"Getting It Done"** by implementing the recommendations of the Wenatchee Watershed Management Plan (April 2006) and the Upper Columbia Salmon Recovery Plan (October 2007).

The Wenatchee Watershed Planning Unit and its technical subcommittees, established and supported under Washington State's Watershed Planning Act (RCW 90.82) with funding from Washington Department of Ecology (DOE), provide the framework for implementation and enable coordination with many related natural resource processes like watershed planning, salmon recovery, lead entity and Total Maximum Daily Load (TMDL) implementation.

## WRIA 45 Summary of Completed Activities

This Implementation Update provides an overview of activities that have taken place from 2006 to 2009.

### Access

- Replacement of 27 fish barrier culverts, opening up more than 38 miles of habitat.

### Complexity

- Completed 8 projects since 2006 to create or improve off-channel habitat for juvenile salmonids.

### Habitat Protection

- Protection of 411 acres and 3.6 miles of shoreline through land acquisitions and conservation easements involving 8 parcels.

### Riparian Habitat

- Restored 3.2 miles (13.3 acres) of riparian habitat by planting native trees and shrubs.

### Irrigation Improvements

- Replaced 2 log cross-vanes, installed 2 rock weirs, enhanced diversions and replaced fish screens.

## Wenatchee River Clean-Up

On August 22, 2009 seventy-five volunteers took part in the 1<sup>st</sup> annual Wenatchee River Clean-up. The river from Leavenworth to Monitor was scoured for metal debris and trash. A large group at Riverside park in Cashmere picked up close to three thousand pounds of metal debris and trash from the banks of the park. Staff from Osprey Rafting, River Recreation, Let's Go Tubing and Trout Unlimited members floated different reaches and removed hazardous debris as well. Car and tractor parts, metal pipe and fencing made up the majority of what was pulled from the Wenatchee, which was disposed and recycled by Chelan County Public Works (CCPW). The clean-up which was funded by the WA Dept. of Ecology and hosted by both the Chelan County Natural Resource Dept. (CCNRD) and Cascadia Conservation District (CCD) is part of a larger effort to remove hazardous debris from the river. The CCNRD will continue to identify and remove large metal from the river as long as funding persists.



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The WWPU successfully revised the Instream Flow Rule for the Wenatchee Watershed (*WAC 173-545, Instream Resources Protection Program for the Wenatchee River Basin, WRIA 45*) with the Department of Ecology adopting the new rule on December 11, 2007. The original water management rule (adopted in 1983) was amended to guide water use planning and decision-making for future human domestic needs while maintaining enough water in streams to protect important fish species and existing water rights. The rule amendments were recommended by the Wenatchee Watershed Planning Unit. Specifically, the rule amendments:

- revise existing instream flow levels based on salmon habitat needs
- establish a reservation of water for future out of stream use
- set maximum allocations above the instream flows for the Wenatchee River and its tributaries

The new rule became effective January 12, 2008 and efforts are currently underway to implement projects to increase instream flows in the Wenatchee Watershed. To view the Instream Flow Rule in it's entirety, visit Ecology's website:

[www.ecy.wa.gov/biblio/wac173545.html](http://www.ecy.wa.gov/biblio/wac173545.html)

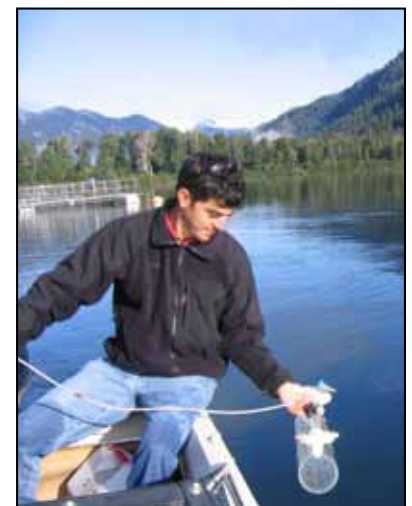
Implementation of the instream flow rule has included the completion of the Cumulative Impact Assessment for Mission and Chumstick Creeks, hydro-geologic monitoring for Mission and Chumstick Creeks and the development of the Water Reservation Accounting and Metering Plan for the entire watershed to track water use under the 4 cfs reservation. Accounting has been completed for the first year.

## Instream Flow & Irrigation Projects

Year	Project Name	Project Sponsor	Funding	Project Details
2007	Mission Creek Cross-Vanes	CCD	USFWS & WDFW	Repair of 2 log cross-vanes and the construction of a new rock weir to provide pools for irrigation outtake along Mission Creek.
2007	Jones-Shotwell Ditch	CCD	USFWS & WDFW	Diversion improvement, screen replacement, enhancement of off-channel refugia on lower Wenatchee River (RM 7.2) to reduce salmon mortality caused by water withdrawal and diversions.
2008	Mission Creek Diversion Screens	CCD	PRCC & USFWS	Installed an engineered low stage rock weir with LWD to provide plunge pool habitat, control bank erosion, increase complexity and develop a low flow channel in a channelized section of Mission Creek. These structures were installed to create both fish habitat and a location for surface water withdrawal for orchardists.
2009/ 2010	Peshastin Pipeline	CCNRD & PID	TBD	Approximately 9900 ft of the Peshastin Irrigation District Canal will be converted from an open canal to a closed pipeline. The construction of a pipeline will eliminate seepage creating a water savings resulting in less diversion and increased instream flows.
TBD	Lower Wenatchee River In-Stream Flow Enhancement	WRC & PWUA	SRFB 10th Round Proposal	Increase instream flow by 15 cfs in the lower 7.5 miles of the Wenatchee River by changing the point of diversion to the Columbia River.

The WWPU is currently working to improve water quality within the Watershed. Efforts include:

- Approved multi-parameter TMDL and Water Quality Improvement plans covering temperature, pH, dissolved oxygen, fecal coliform and DDT.
- Water Quality sampling on Lake Wenatchee with local resident volunteers.
- Development of a strategy to reduce phosphorous in the Watershed.
- Outreach for Best Management Practices (BMPs).



# Lake Wenatchee Water Quality Monitoring

This past summer volunteers assisted CCNRD staff and Water Quality Engineers in collecting water quality data from Lake Wenatchee. This season of monitoring is part of a multi-year assessment to document changes to the lake's water quality. There have been numerous concerns by local residents that water quality conditions are declining. Monitoring data will be used to verify any changes that may be taking place and determine what is causing them.

## Hydro-geologic Monitoring

Hydro-geologic monitoring equipment has been installed at various locations in the Chumstick and Mission Creek sub-basins as part of the implementation of the Instream Flow Rule for the Wenatchee Watershed. The equipment includes groundwater monitoring wells, staff gages and piezometers which are being used to measure water levels inside existing wells, hydraulic pressure, stream flows and changes in water discharge along the stream length due to groundwater inflow and outflow. These efforts are underway to evaluate the gaining and losing reaches within each sub-basin. The monitoring data will assist us in better understanding the interaction between groundwater and surface water which will inform future water use decisions.



Monitoring Well



Staff Gage



Piezometer with manometer board

## Project Implementation Monitoring

Monitoring of specific projects after construction is important to determine if the goals of the project have been met. The CCNRD is currently monitoring the following projects with funding from DOE, BPA and USBOR, along with help from USFWS, Yakama Nation and DOE staff.

- Culvert Replacements: Alder, Beaver and Clear Creeks (eight culverts).
- Habitat Improvements: Nason Creek Oxbow Reconnection, Gagnon Backchannel, CMZ 11 and CMZ 12/13.
- Riparian Habitat Restoration: Fromm, Irwin, Hagman Road and Wendlandt.

Projects that will be monitored after construction in 2009 include: N4 Oxbow Reconnection, Chumstick Barrier Culvert Replacements (17 culverts) and Cashmere pond.

### GAGNON 2008 SNORKELING DATA

- Channel: 12 Chinook (7-9 cm), 63 Coho (9-13 cm), 23 Red Shiners (7 cm), 299 Dace (5-7 cm) and 37 unknown species (1-9 cm) for a total of 434.
- Pond: 55 Chinook (7-9 cm), 121 Coho (7-11 cm), 2 Red Shiners (7 cm), 268 Dace (5-7 cm) and 7 suckers (7-11 cm) for a total of 453.



Snorkeling at Gagnon

# Opening up the Chumstick

This past summer the CCNRD replaced 17 fish barrier culverts on Chumstick Creek by replacing 16 of the culverts with bridges and removing one culvert crossing that was no longer being used by the landowner by restoring the stream channel and riparian area. Additionally, the Chelan County Public Works Department (CCPW) replaced the North Road culvert with a bridge downstream of the CCNRD project sites.

## Biological Benefit

- Opening up 7 miles of Chumstick Creek to greatly improve access for Upper Columbia spring Chinook and steelhead.

## Project Funding

- Chumstick Culverts: Bonneville Power Administration (BPA), Yakama Nation (YN), US Bureau of Reclamation (USBOR) and the US Fish & Wildlife Service (USFWS)
- North Road Culvert: County Roads Administration Board (Chelan County, CRAB), Salmon Recovery Funding Board (SRFB) and with stimulus money through the American Recovery and Reinvestment Act of 2009 (ARRA).



Placement of the bridge deck at the Dolozycki project site.

Year	Sub-basin	Project Name	Sponsor	Funding	Project Details
2006	Upper Wenatchee	Skinney Creek Culvert	CCNRD	SRFB, USBOR & Shoreline Block Grant	Replacement of an existing fish passage barrier culvert with a 30-foot span modular bridge unit to open up habitat for spring Chinook, steelhead, bull trout and Coho.
2006	Peshastin	Peshastin Fish Ladder	CCNRD	SRFB, FRIMA & USBOR	A fishway was constructed at the Peshastin Irrigation District diversion structure on lower Peshastin Creek. The structure allows access to spawning and rearing habitat for steelhead, bull trout and Spring Chinook.
2007	Chiwawa	Alder Creek Culverts	CCNRD & USFS	SRFB, USBOR, & TRIB	Replacement of 2 fish barrier culverts with bottomless structures to improve access for spawning and rearing habitat for spring Chinook and steelhead.
2007	Chiwawa	Beaver Creek Culverts	CCNRD	SRFB & USBOR	Replacement of 3 fish barrier culverts with concrete bridge structures to open up fish spawning and rearing habitat.
2007	Chiwawa	Clear Creek Culverts	CCNRD & USFS	SRFB & Shoreline Block Grant	Replacement of 3 fish barrier culverts with bottomless arch structures to improve access.
2009	Chumstick	Chumstick Culvert Replacement	CCNRD	BPA, YN, USBOR & USFWS	Replacement of 17 fish barrier culverts with bridges at 16 sites and the removal of one culvert to greatly improve access.
2009	Chumstick	North Road Culvert	CCPW	CRAB, SRFB & ARRA	Replacement of one fish barrier culvert with a bridge downstream of the Chumstick Culvert project to improve access.
2010	Chumstick	Chumstick Creek Culverts	CCNRD	YN & USBOR	Replacing the remaining 4 ( <i>or more</i> ) fish passage barrier culverts with bridges based on the survey conducted in June 2009.

Clear Creek Culvert #1  
Before Construction



Clear Creek Culvert #1  
After Construction in 2007

ACCESS

Lower Wenatchee River

Year	Project Name	Project Sponsor	Funding	RM (bank)	Linear Feet Restored	Acres Restored
2007	Leavenworth Golf Course	CCNRD	NFWF	27.3 (left)	2,380	1.6
2008	Irwin Riparian	CCNRD	BPA	25.2 (right)	1,400	1.64
2009	Hagman Road Riparian	CCNRD	BPA	10.9 (right)	1,700	1.37
2009	Wendlandt Riparian	CCNRD	BPA	13.6 (right)	325	0.9
2010	Cohen Riparian	CCNRD	BPA	15.1 (right)	1,200	0.96
2010	Dormaier Riparian	CCNRD	BPA	1.4 (right)	1,375	1.26

Tributaries to the Lower Wenatchee River

Year	Project Name	Project Sponsor	Funding	Linear Feet Restored	Acres Restored
2007	Fromm (Icicle)	CCNRD	NFWF	740	1.6
2007	Yaksum	CCPW & CCD	USFWS	1,400	0.96
2007	Chumstick/ Eagle	CCNRD	NFWF	7,140	4.1
2007	Mission Creek	CCNRD	NFWF	1,950	1.1
2009-2010	Lower Icicle Riparian Initiative	CDLT & CCNRD	NFWF	1,840	2.1

The CCD, CCNRD, Chelan County Public Works Department (CCPW) and the Chelan-Douglas (CDLT) have been working with multiple private landowners throughout the Wenatchee Watershed to implement riparian habitat restoration projects. Funding for the projects has been provided by the Bonneville Power Administration, the National Fish and Wildlife Foundation and the US Fish & Wildlife Service. The projects have been planted using crews from the Washington Conservation Corps, high school students as part of a cooperative agreement with the WSU Extension 4-H Youth Development Program and volunteers from the CDLT.

Crowell Riparian (Mission Creek)  
Before Construction



Crowell Riparian (Mission Creek)  
After Construction



RIPARIAN HABITAT

Year	Sub-basin	Project Name	Sponsor	Funding	Project Details
2006	Lower Wenatchee	Dryden Fish Enhancement CMZ	CCPUD	TRIB, SRFB, WWRP	A cooperative habitat enhancement project, connecting isolated freshwater in-stream habitat designed to help endangered spring Chinook, endangered summer steelhead trout and other salmonids within the lower Wenatchee River.
2007	Lower Wenatchee	Gagnon (CMZ 10)	CCNRD	SRFB, USBOR & Shoreline Block Grant	Created approximately .56 acres of off-channel high-flow (>3,000 cfs) refuge and rearing habitat while connecting 0.5 acres of currently isolated high-flow habitat; directly benefiting juvenile Chinook, steelhead, and Coho.
2007	Nason	Nason Oxbow Reconnection	CCNRD	SRFB, TRIB & BPA	Reconnected a half-mile long historic oxbow of Nason Creek by installing two 12 foot fish friendly culverts under Highway 207.
2008	Lower Wenatchee	CMZ 11	CCNRD	BPA	Construction of a backchannel to create high-flow and over-wintering off-channel juvenile salmonid refuge and forage habitat.
2008	Lower Wenatchee	CMZ 12/13	CCNRD	SRFB & Shoreline Block Grant	Levee breach, reconnection of off-channel habitat and Large Woody Debris (LWD) enhancement in the existing high flow side-channel.
2009	Lower Wenatchee	Cashmere Ponds	CCNRD	SRFB, TRIB, USBOR & PRCC	Connection of critical off-channel habitat for juvenile salmonids.
2009	Nason	N4	CCNRD	BPA	Reconnect 1,100 foot long oxbow to Nason Creek to provide access to 4.6 acres of aquatic habitat for low and high-flow refuge.
2009	Lower Wenatchee	Blackbird Island Side Channel Habitat Complexity	PRCC	PRCC	Provide cover for juvenile rearing during low flows and holding areas during high flows through the placement of LWD structures.
2010	Nason	Nason Creek UWP Reconnection	CCNRD, CCPUD & USFS	USBOR & SRFB 10th Round Proposal	Breach a levee to reconnect 25 acres of off-channel habitat and floodplain to lead to increased refuge and rearing habitat and improve the river's ability to recruit LWD.
2010	Lower Wenatchee	CMZ 6 Side Channel	CCNRD	SRFB 10th Round Proposal	Increase off-channel juvenile salmonid refuge and forage habitat through existing channel enhancement and creation of a new flow through channel.
TBD	Lower Wenatchee	CMZ 20	CCNRD	TBD	Reconnect off-channel and floodplain habitat at RM 24.8 Lower Wenatchee River.
TBD	Lower Wenatchee	CMZ 2	CCNRD	TBD	Utilize natural processes to restore floodplain functions in an approximately 5-acre area located along the left bank (north side) of the Wenatchee River at RM 1.4.



Nason Creek Oxbow Inlet



CMZ 11 side channel outlet

# Creating Off-Channel Habitat

The Gagnon Off-Channel Habitat Reconnection project was constructed in October 2007 by the CCNRD on private property west of Cashmere along the Wenatchee River, just past the locally named “Drunkard Drop” rapids. The project connected an existing off-channel spring fed pond to the Wenatchee River using a back-channel. Large woody structures were placed throughout the pond and backchannel to enhance fish habitat. The biological benefit of this project provides essential high-flow refuge to juvenile salmonids including Endangered Species Act listed spring Chinook and summer steelhead. In addition, the pond and channel will serve as refuge from predators and high temperatures.

COMPLEXITY



The Chelan-Douglas Land Trust has been working with various landowners throughout the Wenatchee Watershed to complete land acquisitions and conservation easements in order to protect critical floodplain and riparian habitats.

## Completed

- Recently completed transactions to acquire 7 parcels in the White River and one parcel in the Little Wenatchee drainages for a total of 411 acres and approximately 3.6 miles of shoreline.
- Funding: SRFB, TRIB, WWRP and Icicle Fund

## In-Process or Proposed

- Currently working to complete a conservation easement on 65 acres and 5,900 linear feet along Icicle Creek. *This project is partially funded and more funding is needed to complete the transaction.*
- Currently working to complete a conservation easement on 14 acres and 1,200 linear feet along the White River. *This project is partially funded and more funding is needed to complete the transaction.*
- Proposed for funding in the SRFB 10th Round, an additional 157 acres and 2.7 miles of protection:
  - White River Tall Timber Ranch Conservation Easement- 40 acres of intact unconfined floodplain, CMZ and riparian habitat adding an additional 8,030 linear feet of riverbank to protection.
  - White River Nason View Acquisition- acquire 117 acres of intact unconfined floodplain, CMZ and riparian, adding an additional 6,200 linear feet of riverbank to protection.



White River Sub-basin

## Assessments

Assessments and feasibility studies are important to identify specific projects and project locations, evaluate various options and refine project details. Below are some of these assessments that are helping to guide implementation efforts.

### Habitat Reach Assessments:

- Nason Creek: Upper White Pine (February 2009, USBOR)
- Nason Creek: Lower White Pine (March 2009, USBOR)
- Nason Creek: Kahler (March 2009, USBOR)
- Peshastin Creek Reach Assessment (2009, YN)
- Upper Wenatchee Reach Assessment (planned for 2010, YN)
- Icicle Creek Reach Assessment (planned for 2010/2011, USBOR)

### Other Assessments & Studies:

- Cumulative Impact Analysis for Mission Creek and Chumstick Creek (2009)
- Channel Migration Zone Study for lower Mainstem Wenatchee and lower Nason Creek (2004, CCNRD)
- Wenatchee River Subbasin Storage Study (2009/2010, CCNRD)
- Peshastin Creek Storage Needs and Alternatives and subsequent Campbell Creek Storage Study (2009)

## Implementation Partners

The accomplishments and the future planned activities of the WWPUP have been made possible by the organizations listed below either through project funding and/or project assistance. Thanks to all Implementation Partners for helping "Getting It Done in the Wenatchee".

American Recovery and Reinvestment Act (ARRA) • Bonneville Power Administration (BPA) • Cascadia Conservation District (CCD) • Chelan-Douglas Land Trust (CDLT) • Chelan County Natural Resource Department (CCNRD) • Chelan County PUD (CCPUD & TRIB) • Chelan County Public Works (CCPW) • Colville Confederated Tribes (CCT) • County Roads Administration Board (CRAB) • Douglas County PUD (DPUD) • Fisheries Restoration and Irrigation Mitigation Act (FRIMA) • Grant County PUD, Priest Rapids Coordinating Committee (PRCC) • Icicle Valley Trout Unlimited (IVTU) • National Fish & Wildlife Foundation (NFWF) • Peshastin Irrigation District (PID) • Pioneer Water Users Association (PWUA) • Salmon Recovery Funding Board (SRFB) • Trust for Public Land (TPL) • US Bureau of Reclamation (USBOR) • US Fish & Wildlife Service (USFWS) • US Forest Service (USFS) • Upper Columbia Salmon Recovery Board (USCRB) • Washington Conservation Corps (WCC) • Washington Rivers Conservancy (WRC) • WA State Department of Ecology (DOE) • WA State Dept. of Fish & Wildlife (WDFW) • WA State Dept. of Transportation (WSDOT) • Washington Wildlife Recreation Program (WWRP) • Yakama Nation (YN)