Instream Flow Protection in the Columbia River Basin

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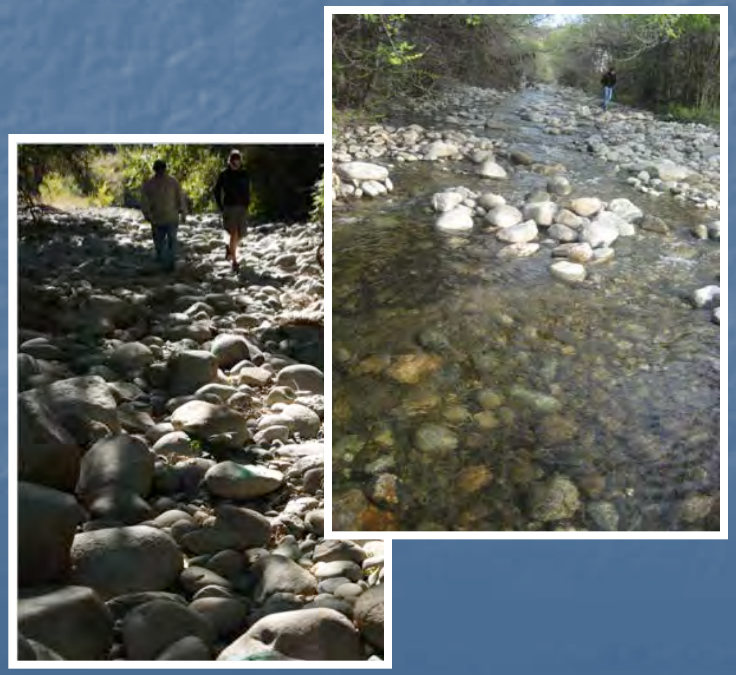
AWRA-Washington 2012

WASHINGTON WATER TRUST
Working to restore our state's rivers and streams.

Washington Water Trust

Washington Water Trust works to improve and protect stream flows and water quality throughout Washington that benefit agriculture, fisheries and wildlife by using innovative, market-based transactions and cooperative partnerships to create balanced solutions.



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Trout Unlimited-Washington Water Project

TU-WWP works throughout Washington to conserve, protect and restore healthy stream flows in Washington's coldwater fisheries and their watersheds.

- Non-regulatory, incentive-based approaches to restore Washington's rivers and streams
- Bring funding sources and technical expertise
- Offer non-regulatory, confidential water-rights expertise

TROUT UNLIMITED

Instream Flow

Instream flows are usually defined as the stream flows needed to protect and preserve instream resources and values, such as fish, wildlife and recreation. **Washington Department of Ecology**

Limiting Factor: *Instream Flow is cited as a significant limiting factor in recovery plans throughout the Columbia River for the recovery of ESA listed steelhead and salmon.*

RECOVERY PLAN:

"Use practical & feasible means to increase streamflows"

Lower Columbia River and Columbia River Estuary Subbasin Plan

To improve the biological performance of salmonids over the long term, it is necessary to address the underlying causes of ecological problems ....This means improving ecological processes and conditions—such as flow regimes

Wenatchee Plan

*"*low instream flow and elevated temperatures pose the greatest threats to anadromous fish production."

Mid-Columbia Steelhead ESA Recovery Plan

Restore altered hydrograph to provide appropriate flows during critical periods.

Climate Change-Instream Flows

Rising stream temperature will reduce the quality and quantity of freshwater salmon habitat substantially.

The Yakima basin reservoir system will be less able (compared to 1970-2005) to supply water to all users, especially those with junior water rights.

April 1 WA snowpack:
↓ 28% by the 2020s
↓ 40% by the 2040s
↓ 59% by the 2080s

Climate Impacts Group-UofW

ACTIONS

- New supply, timing, and transfers (high-priority strategy, suite of options available).
- Options for in-stream and out of stream benefits.
- Improve legal and fiscal framework for water banking.
- Improve supply for streamflow mitigation

Washington State Climate Change Response Strategy

Instream Flow Funding

- BPA-Columbia Basin Water Transactions Program
- Washington State Department of Ecology
- Office of the Columbia River
- USBR
- State SRFB
- Tribal Entities
- Private Grants
- Fundraising

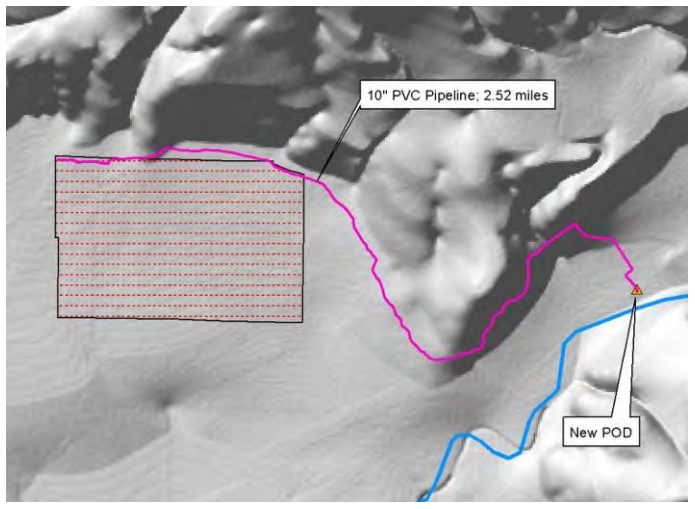
Instream Flow Restoration Tools

- Change of POD
  - Source Substitution
- Diversion Reduction
- Temporary Agreements
  - Late Season
  - Dry year option
  - Non-divert agreement
- Permanent Agreements
  - Late Season
  - Full Season
  - Non-divert agreement
- Water Conservation
- Auctions
- Pulse Flows
- Water Banking and Mitigation
- Land Conservation
  - CREP
  - Riparian restoration
  - Conservation easements

WWT - Masterson Ditch, Teanaway

POD Change, Water Conservation, and Partial Purchase

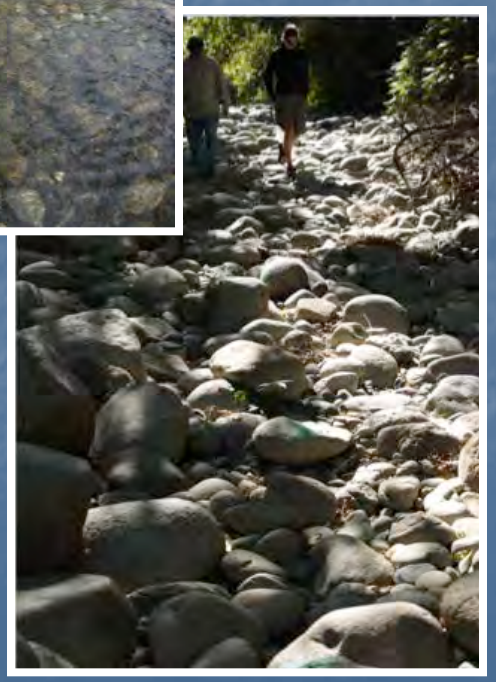
- POD change from earthen ditch to piped-pressurized system
- Landowner financed
- Up to 7.6 cfs instream flow
- 2.21 cfs remaining on farm for 155 acres and a mitigation bank formed
- After several years of leasing, WWT purchased conveyance water and some irrigation water



WWT - Salmon Creek, Okanogan

Pulse Flow Lease

- **Challenge**
  - Salmon Creek ran dry 100 years
  - 5,032 acres, 250 landowners
- **Strategy**
  - Partnership with Colville Tribe and Okanogan Irrigation District
  - Non-divert agreement restores flows and maintains irrigation
  - Targeted 2-week migration
- **Results**
  - Lawsuit avoided ($avings)
  - Compensation to irrigators
  - Water for farms *and* fish (50 percent improvement)



WWT – Taneum Creek, Yakima

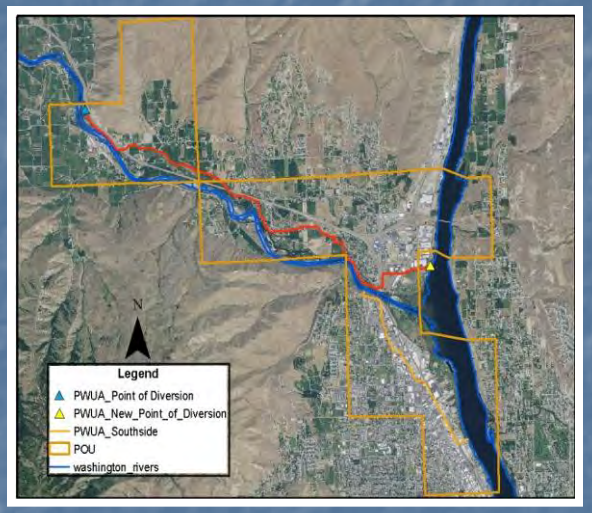
Source Substitution

- Placed 28.8 cfs (winter) and 1.89 cfs (summer) to Taneum Creek through source substitution
  - Restored access to 30 miles of fish habitat
  - Water users sourced to groundwater and irrigation district
  - Changed 130-yr practices
- Voluntary agreement with Taneum Canal Company and Bruton Ditch

TU - Pioneer Water Users, Wenatchee

Change POD

- Constructed in 1896.
- 385 acres, 110 members.
- Approximately 7 miles gravity fed system.
- 4th largest diversion in the Wenatchee
- POD change from Wenatchee River to the Columbia River
- Upgraded delivery efficiency, 5.5 miles Pressurized system
- Up to 35 cfs protected in TWRP in Lower Wenatchee River



TU – Chewuch Canal Co., Methow

Diversion Reduction and Water Conservation

- UCR spring Chinook, UCR summer steelhead and Columbia River bull trout
- Chewuch Canal Company (CCC), 34 cfs with agreed to reduce withdrawl to 24 cfs if river is at 100 cfs or below, NOAA recommended target
- Modify (Pearryagin Lake) reservoir operations, fill in spring instead of late season, reducing fish impact

TU - 9 Mile Creek, Okanogan

Change POD, Diversion Reduction, Water Conservation, and Riparian Restoration

- Ninemile Creek-tributary to Lake Osoyoos and Okanogan River
- Northernmost steelhead spawning in U.S.
- Surface diversion @ SM 3.99 removed in perpetuity
- Irrigated acres reduced from over 340 to 203
- Irrigation from ground water only and ~150 acres now under pivot
- Riparian restoration plan


Instream Flow = Beneficial Use
Thank You