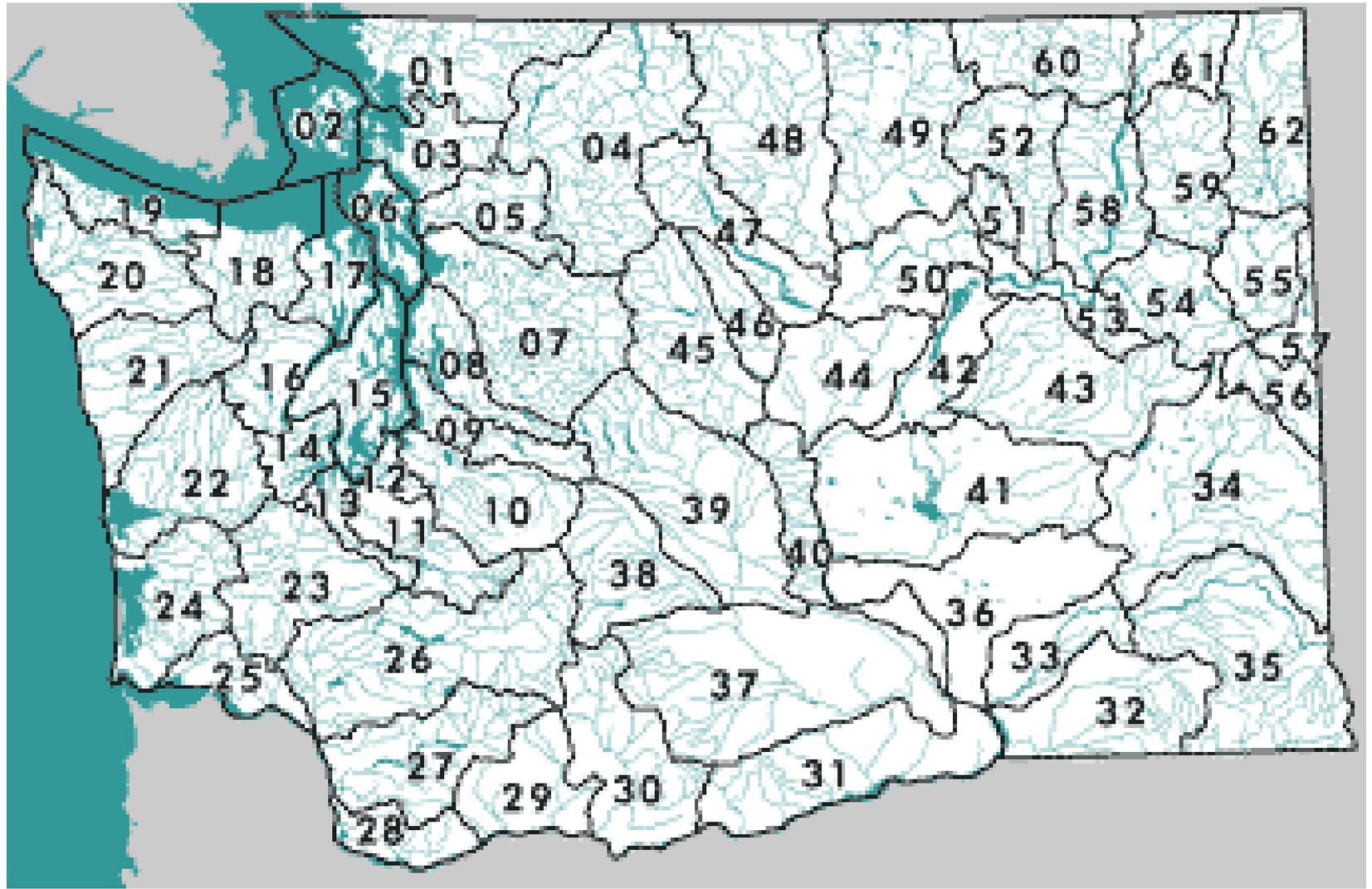


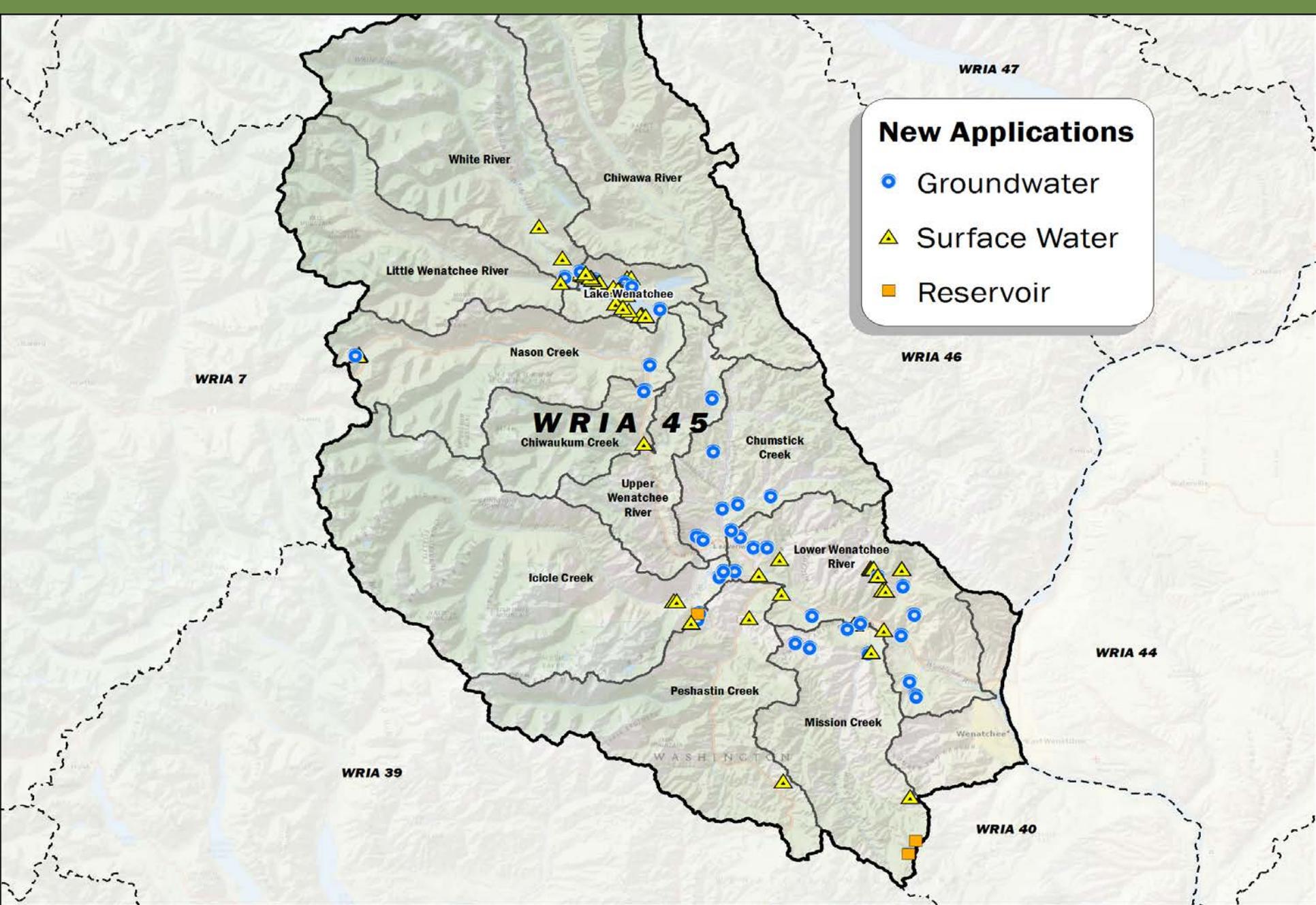
Icicle and Wenatchee Efforts

Columbia River Policy Advisory Group

December 13, 2012







Wenatchee Basin Characterization

- 1,370 square miles
- 85% USFS-managed
- ~30,000 residents (excluding City of Wenatchee)
- Cities of Cashmere and Leavenworth
- 9,000 acres of tree fruit production, primarily pears

Existing Wenatchee Basin Plans

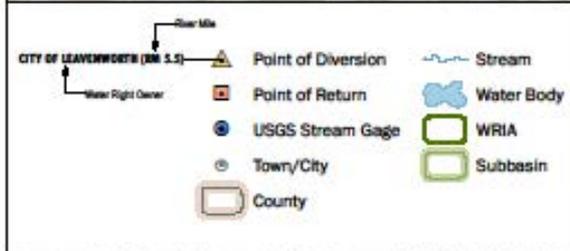
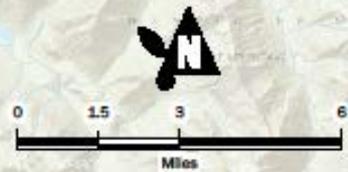
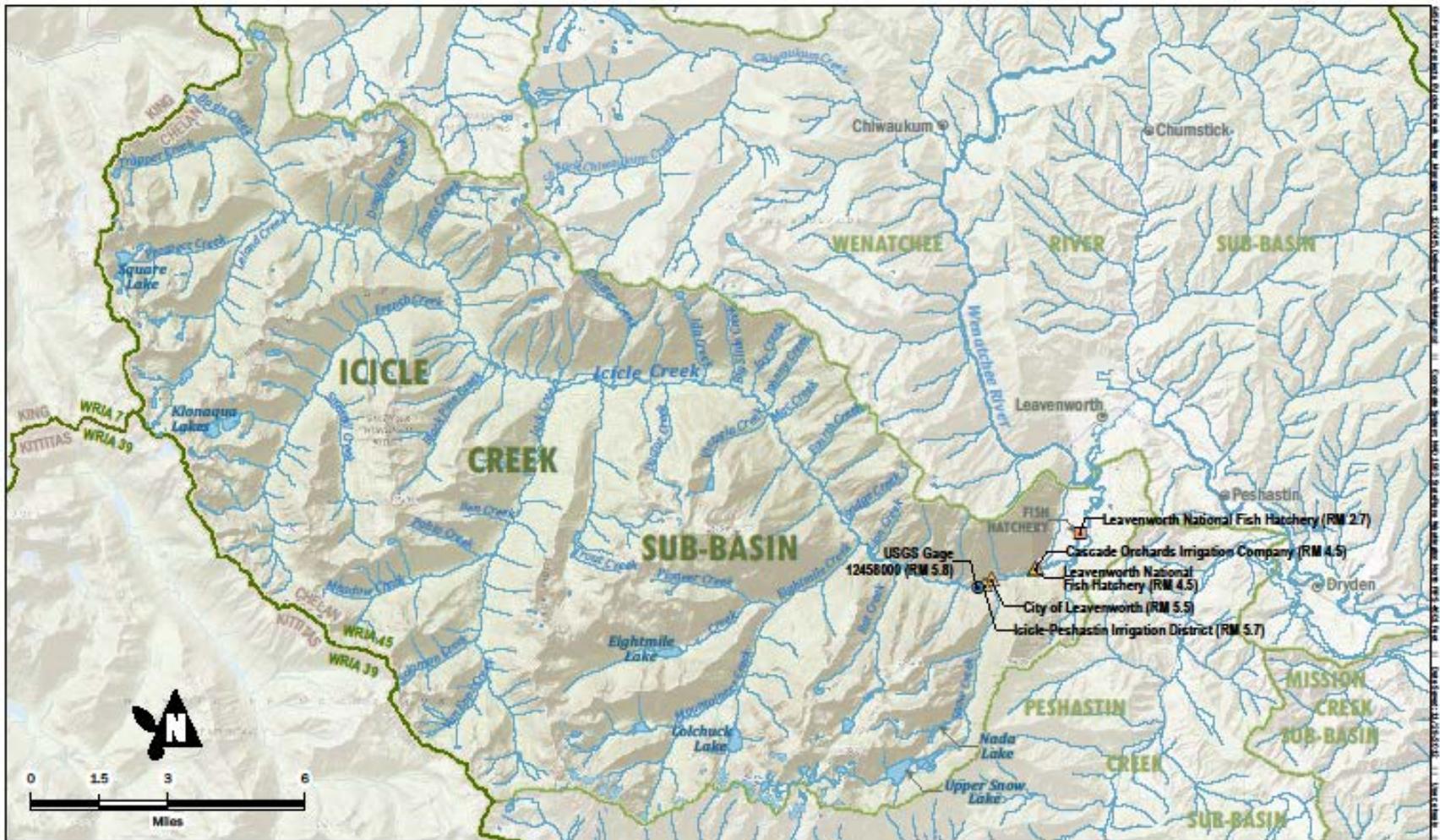
- Wenatchee Watershed Plan and Detailed Implementation Plan
- Salmon and Bull Trout Recovery Plan
- Wenatchee Subbasin Plan



Icicle Creek

- Comprehensive Water Plan
- History of conflict and ongoing litigation
- Icicle Workshop





**Icicle Creek Subbasin
Vicinity Map**

Icicle Creek Comprehensive Water Management Strategy
WRIA 45, Washington

	NOV 2012	BY EAH / JRB	FIGURE NO. 1
	PROJECT NO. 120045	REV BY ---	

Map Layer Credits | Sources: Esri, DeLorme, NAVTEQ, Swisstopo, IGN, USGS, ARD, NPS, NRCAL, GEBCO, Esri, Rockswold, IGN, Ordnance Survey, Esri Japan, METI, Esri China (Hong Kong), and the USGS (Garmin Contributor). Copyright © 2009 ESRI

Colchuck Lake



Icicle Creek Workshop

- December 4-5, 2012
- Attendees
- Guiding Principles
- Scoping Table
- Next Steps

Workshop Attendees

- Yakama Nation
- Icicle/Peshastin Irrigation District
- Chelan County
- Icicle Creek Watershed Council
- Wild Fish Conservancy
- NOAA-Fisheries
- Confederated Tribes of the Colville Reservation
- Cascade Orchard Irrigation Company
- Trout Unlimited
- WA Water Trust
- WDFW
- Center for Law and Environmental Policy
- Department of Ecology
- City of Leavenworth
- USFWS—Leavenworth National Fish Hatchery
- US Bureau of Reclamation
- Aspect Consulting
- Office of the Columbia River

Icicle Guiding Principles

1. Streamflow that:
 - a. Provides passage,
 - b. Provides healthy habitat,
 - c. Serves channel formation function,
 - d. Meets aesthetic and water quality objectives,
 - e. Solutions that are climate change resilient.
2. Sustainable hatchery that:
 - a. Provides healthy fish in adequate numbers,
 - b. Is highly efficient,
 - c. Significantly reduces phosphorus loading,
 - d. Has appropriately screened diversion(s),
3. Tribal Treaty Rights are met at all times (harvest).
4. Meet municipal and domestic demand.
5. Improved agricultural reliability that is:
 - a. Operational,
 - b. Flexible,
 - c. Decreases risk of drought impacts,
 - d. Economically sustainable.

Problem	Scope / Parameters (e.g. location and quantity)	Data	Tools
Inadequate Flow	<p>RM 0 to 2.7 (68,000 ac-ft?). WAC* 173-545 flows on the order of 267 cfs to 550 cfs (Aug-Oct).</p> <p>RM 2.7 to 4.5 (3,600 + IFIM ac-ft?); WAC 173-545 flows on the order of 267 cfs to 550 cfs (Aug-Mar).</p> <p>RM 4.5 to 5.8 (? ac-ft)</p>	<p>IFIM (estimated completion July 2013)</p> <p>Water re-use pilot LNFH (2013 – 2018?)</p> <p>401 Cert studies</p> <p>BiOps (Bull Trout, New NOAA)</p> <p>Boulder field study (estimated completion April 2013).</p>	1, 2, 3, 4, 5, and 8.
Habitat improvements	<p>RM 0 – RM 2.7</p> <p>RM 2.7 – RM 4.5</p> <p>RM 4.5 and above</p>	<p>RTT Biological strategy revisions</p> <p>IFIM (estimated completion July 2013).</p> <p>USFS info.</p>	7
Fish Passage, Impediments, Distribution, and Movement Issues	<p>Structure 5 @ RM 2.7 (movement)</p> <p>Structure 2 @ RM 3.7 (impediment and distribution)</p> <p>Hatchery Intake @ RM 4.5 (impediment)</p> <p>Boulder field @ RM 5.6 (impediment)</p>	<p>Boulder field study (estimated completion April 2013)</p> <p>401 Cert studies</p> <p>Wild Fish Conservancy studies</p> <p>US F&W Service studies.</p>	6
Screening	<p>LNFH/COIC Intake structure</p> <p>Icicle/Peshastin ID intake</p>	<p>Studies complete per WDFW, USFWS, and NOAA criteria.</p>	7
Municipal and domestic needs	<p>0.1-0.5 cfs (73-365 ac-ft) in reserve through 2025</p> <p>City of Leavenworth 800 ac-ft need</p> <p>Municipal/domestic 1,400 ac-ft need through 2050.</p>	<p>Established in or extrapolated from existing planning documents.</p>	1, 2, 3, 4, 5.
Agricultural needs	<p>Restore 1,000 ac-ft additional storage, increased automation and reliability.</p>	<p>Continue the optimization storage study. Perform a reservoir refill and climate change resiliency study.</p>	1, 2, 3, 4, and 5.

Next Steps

- Jan. 2013 – Wenatchee Ag Caucus (exact date TBD)
 - Jan. 23, 2013 – Wenatchee Watershed Planning Unit Meeting
 - February 6, 2013 - 2nd Icicle Creek Workshop
-
- Develop a public involvement and stakeholder integration strategy.
 - Match conceptual tools with specific projects to develop integrated project list.
 - SEPA/NEPA scoping and programmatic approach.

Big Picture: Wenatchee 2050

- Integrated Project List across Wenatchee basin
- Import Icicle possibilities
- ~Complete by end of 2013
- Linkages across instream flows, habitat, water quality, water supply

Current Efforts

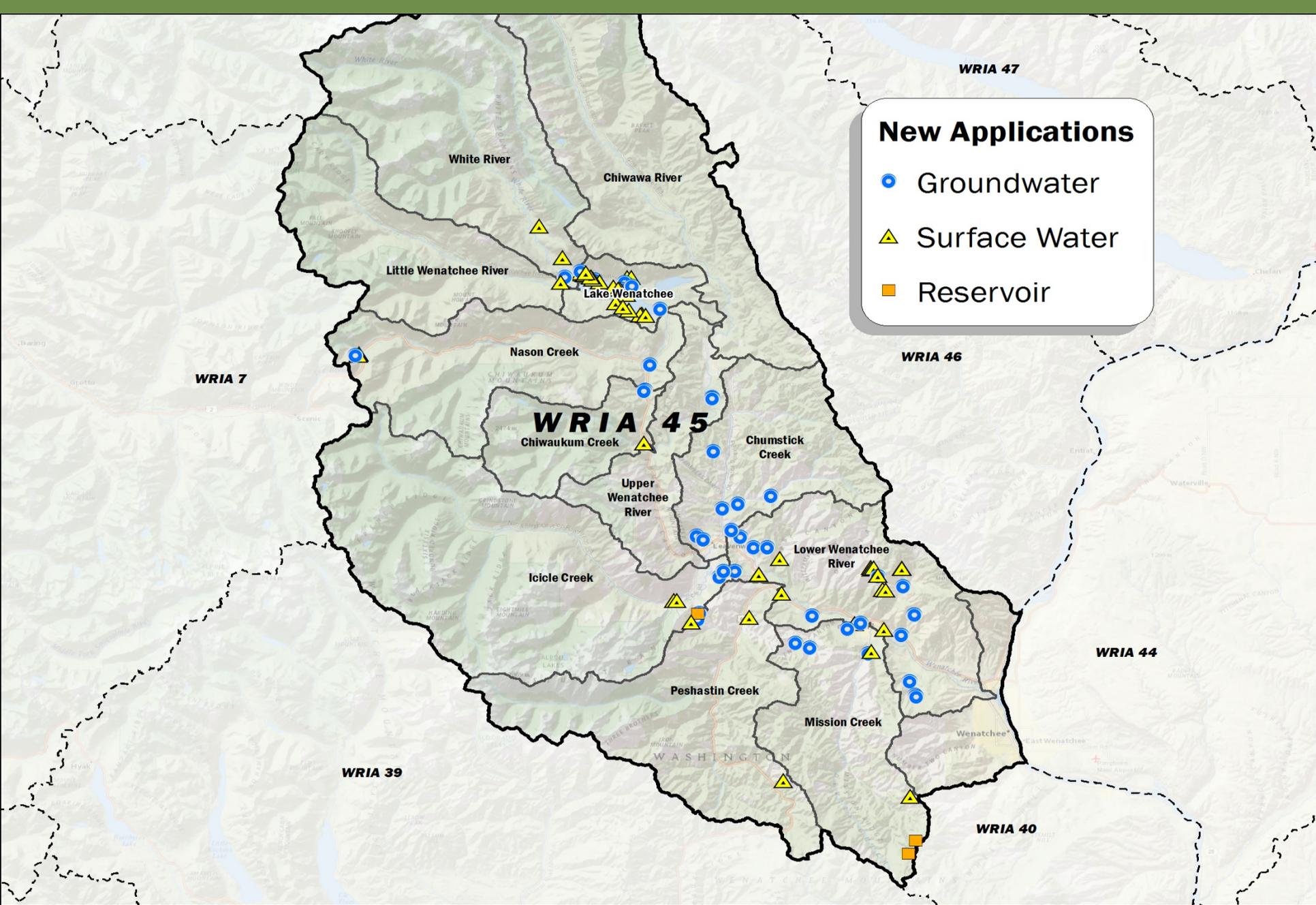
- Wenatchee Water Work Group
- Salmon Recovery
- Water Conservation Projects
- Land Conservation

Wenatchee Water Work Group

- Municipal suppliers, County, irrigation districts
- Instream flow rule reserve: coordinated cost reimbursement
- Interlocal agreement
- Local water control authority

Wenatchee Reserve Summary

Management point	Reservation quantity (cubic feet per second)
Chiwawa River near Plain	Up to 0.5 cfs
Nason Creek near the mouth	0.16 cfs
Wenatchee River at Plain	1.0 cfs, including the 0.5 cfs Chiwawa River and 0.16 cfs Nason Creek reservations
Icicle Creek near Leavenworth	0.1 cfs ¹
Peshastin Creek at Green Bridge Road	0.1 cfs
Chumstick Creek	0.043 cfs for three years and potentially up to 0.13 cfs subject to the outcome of a cumulative impacts analysis and instream flow evaluation
Mission Creek near Cashmere	Up to 0.03 cfs for two years
Wenatchee River at Monitor	Up to 4 cfs including all upstream sub-watershed reservations



Cost-Reimbursement Processing

(RCW 90.03.265)

- Process where a prequalified consultant hired by Ecology processes applications.
- An applicant pays for his application and Ecology's review time.
- An applicant may also have to pay for other senior applicants unless:
 - There is no diminishment of the source.
 - Ecology runs a coordinated cost-reimbursement process.

Coordinated Cost-Reimbursement

- In “coordinated” processing, everyone pays their own processing or gets out of line.
- Each applicant chooses to be “in” or “out”.
 - If “in”, they pay their own way.
 - If “out”, they stay in line and retain their priority date.
- Processing ranges from \$5,000 to \$15,000 per application.

Timeline of Efforts

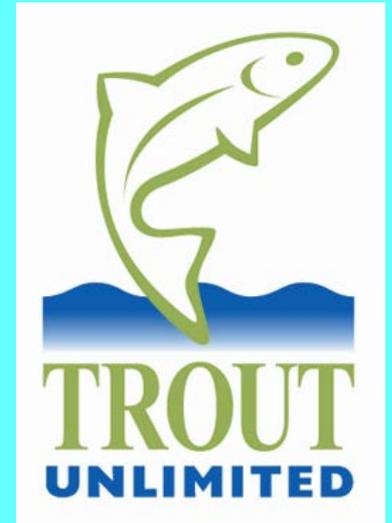
- Approximately 150 applicants notified of opportunity to participate this week.
- Responses verifying contact information and initial interest due January 25, 2013.
- Processing of assignments, development of template Report of Examination, and final cost development in February / March 2013.
- Formal letter for program sent in April, 2013.
- Processing of applications starts in June 2013.

Trout Unlimited-Washington Water Project

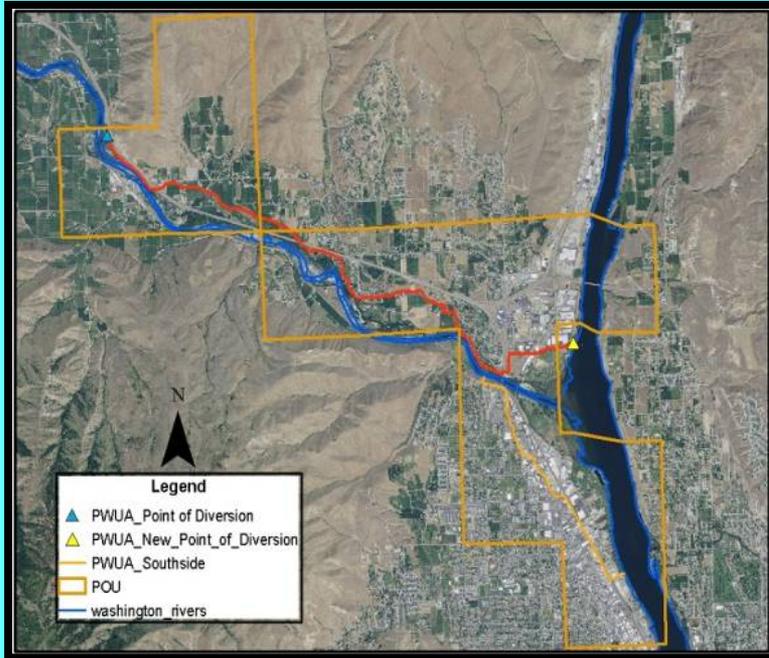


TU-WWP works throughout Washington to conserve, protect and restore healthy stream flows in Washington's coldwater fisheries and their watersheds.

- 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



Pioneer Water Users Association



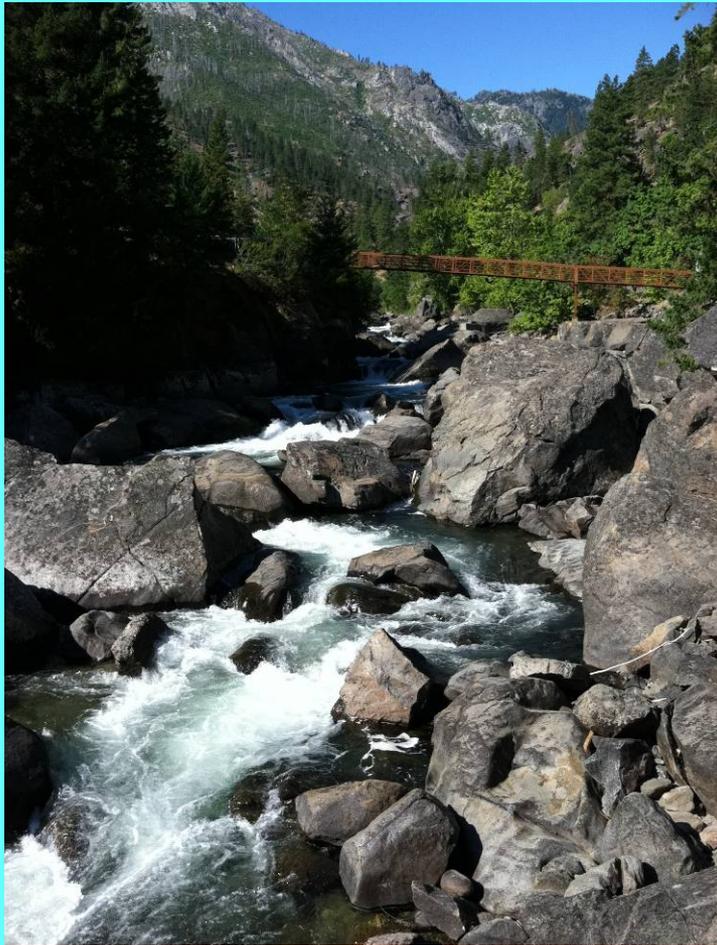
- Constructed in 1896
- 385 acres, 110 members
- Approximately 7 miles gravity fed system
- 4th largest diversion in the Wenatchee

Pioneer Water Users Association

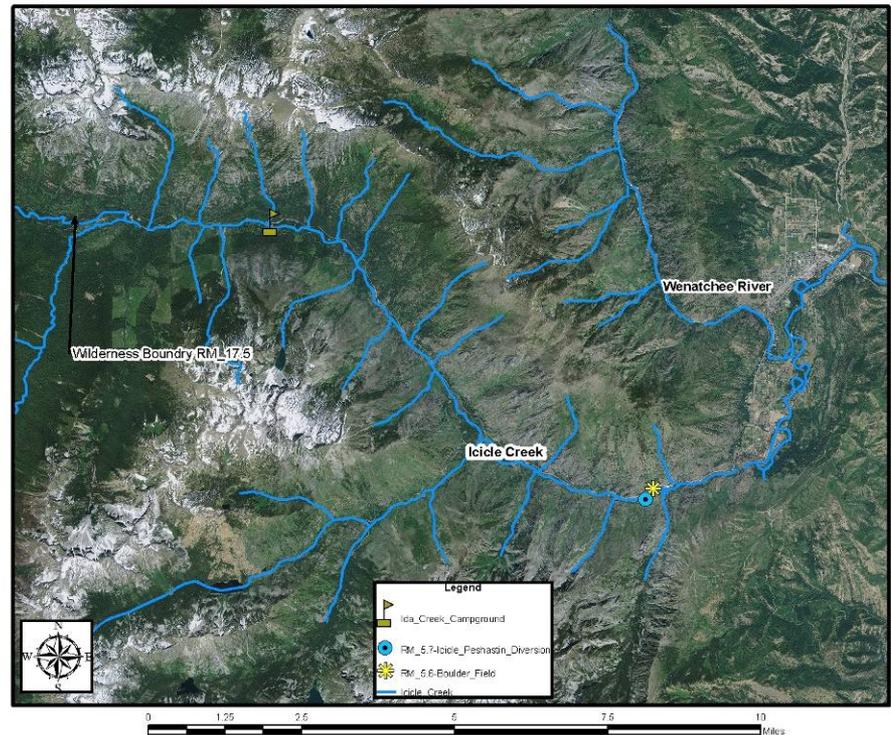


- Project initiated by TU and PWUA in 2008
- POD change from Wenatchee River to the Columbia River
- Improved delivery, 5.5 miles pressurized system
- Up to 35 cfs protected in TWRP in Wenatchee River

Icicle Creek Boulder Field Study



Icicle Creek Boulder Field Assessment Project



Icicle Creek Boulder Field Study

The Upper Columbia (RTT) and NOAA →priority action

Goals:

- to understand anthropogenic impact to boulder field passage
- Identify potential passage barriers
- Develop at least 3 alternatives to achieve passage

Icicle Creek Boulder Field Study

Tasks:

- Review of Existing Data
- Geomorphic/Historic Assessment
- Hydrology Survey/Hydraulic Model Development
- Consult Regional Fish Biologists
- Develop 3 alternatives



Target Species:

Bull trout- 200 cfs during October and November.

330 to 450 mm (12" fish)

Steelhead- sub 600 cfs flow during April –May. We

650-750mm (~26" fish)

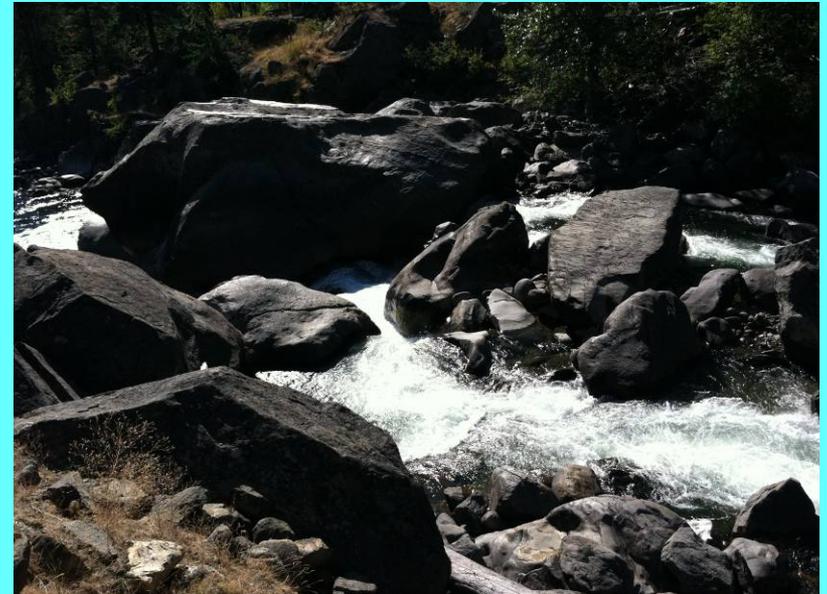
Icicle Creek Boulder Field Study

Next Steps:

- Draft Report April 1, 2013
- Final Report April 30, 2013
- Pit Tag Array Installation Fall 2013
- Upper Icicle Habitat Conditions

TU Wenatchee Projects

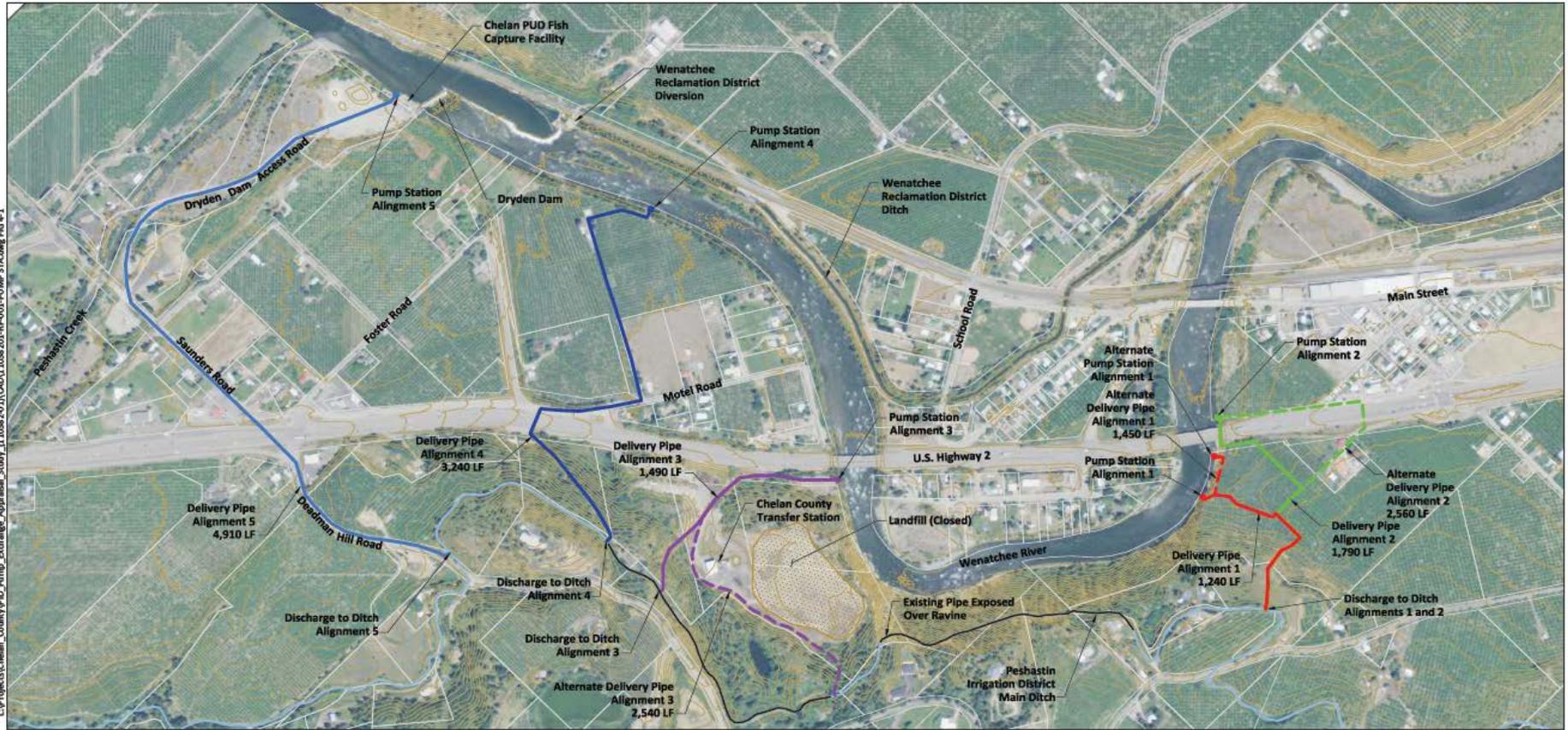
- Boulder Field Pit Tag Array
- Icicle Creek Tributary Assessment
- Icicle Irrigation District
- Beaver Creek Wenatchee



Example: Peshastin Pump Exchange

- Serve Peshastin Irrigation District
- Pump from Wenatchee River (Dryden)
- Peshastin Creek channel modifications
- Icicle Creek operational flexibility

Peshastin Pump Exchange



LV\Projects\Chelan County\PD_Pump_Exchange\Approval_Study\110381201\CAD\110381201-PP-001-PUMP STA.dwg FIG 4-1

SOURCE: Screened with 2005 S110 aerial photography and 10 foot contour. LEGEND:

Wenatchee Basin Salmon Recovery

- Partners: TU, WWT, Cascadia CD, Cascade Columbia FEG, Chelan County, USFS, YN (Accords), WFC
- Funders: BPA, YN, Bureau of Reclamation, SRFB, PUD Tributary Committees, OCR
- Projects: Riparian, instream flow, habitat reconnection

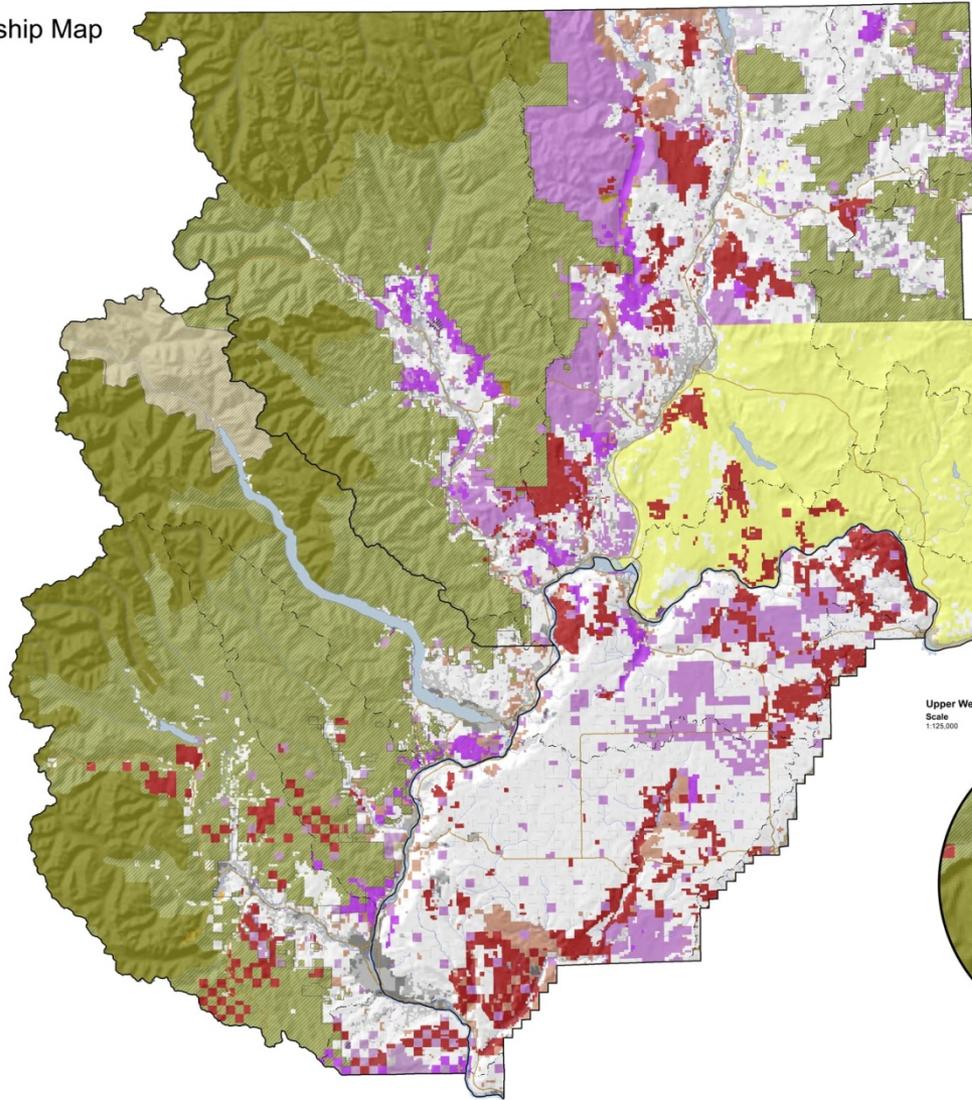
Example: Wenatchee Basin Land Conservation

- Land Protection and Utilization Assessment
- Forest Collaborative (UCSRB)
- Land Exchange and Transfer (Chelan County Lands Dialogue)

Preliminary Tri-County Land Ownership Map

Legend

- County Boundary
- Water Resource Inventory Assessment Boundary
- Roads
- City Area
- Urban Growth Boundary
- Rivers and Streams**
- National Forest
- National Forest Boundary
- Federal Other - National Recreation Area
- Federal Other - National Park
- MANAGEMENT TYPE**
- Fish Hatchery
- Non Designated Forest
- Park/Non Wilderness
- Recreation
- Wilderness
- Wildlife Area
- Wildlife Refuge
- MANAGER, OWNER**
- Federally Owned
- National Park Service, US Federal Government
- US Bureau of Land Management, US Federal Government
- US Fish and Wildlife Service, US Federal Government
- US Forest Service, US Federal Government
- Washington State Department of Fish and Wildlife, State
- Washington State Department of Fish and Wildlife, Washington State
- Washington State Parks and Recreation Commission, CO
- Washington State Parks and Recreation Commission, Washington State
- Washington State Department of Natural Resources
- Private Land Holdings Above 5,000 Acres



SCALE:
1:200,000

Prepared By:

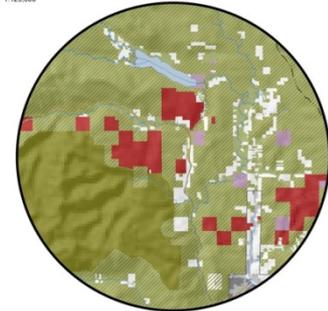
project

GROUNDWORK

Prepared For:



Upper Wenatchee River Detail Map
Scale
1:125,000





- LEGEND:**
- Roads
 - Watercourse
 - Railroad
 - Power Line Corridor
 - Chelan County
 - Grant County PUD
 - Washington State Misc.
 - Washington DNR
 - Washington State Parks
 - USFS
 - Designated Wilderness Area
 - Privately Owned Parcel
 - High
 - Medium
 - Low

Biological Benefit
 Source: 2009 Jones & Stokes Report

Nason Creek Study Area: Property Ownership

Prepared By:
Project
GROUNDWORK



MARCH 2011

Original Size:
 22" x 34"



Questions?