

Bill Bradbury
Chair
Oregon

Henry Lorenzen
Oregon

W. Bill Booth
Idaho

James A. Yost
Idaho



Jennifer Anders
Vice Chair
Montana

Pat Smith
Montana

Tom Karier
Washington

Phil Rockefeller
Washington

July 30, 2013

MEMORANDUM

TO: Council Members

FROM: Karl Weist

SUBJECT: Presentation by the Deschutes Resources Conservancy on anadromous fish reintroduction efforts in Whychus Creek

Zach Tillman, Program Manager for the Deschutes Resources Conservancy, will present on the status of the anadromous fish reintroduction efforts in Whychus Creek and how flow restoration has contributed to the restoration of anadromous fish runs above the Pelton-Round Butte Project.

Members of the Deschutes Partnership will accompany Zach and be available to answer questions.

c:\users\weist\documents\briefing\8-13 bend\drc packet memo.docx (Karl Weist)



Conservation and Recovery Plan for Oregon Steelhead Populations
in the Middle Columbia River Steelhead Distinct Population
Segment:

1st Annual Implementation Progress Report
February 5, 2010 – June 30, 2011

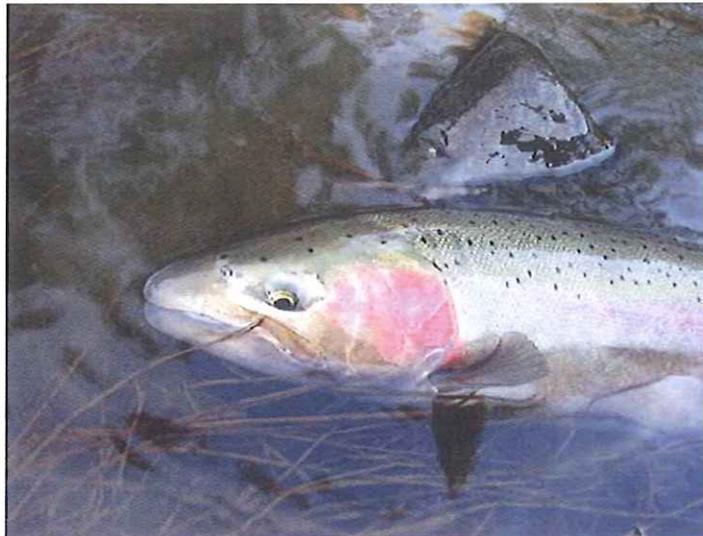


Photo: Jim Ruzycki

Oregon Department of Fish & Wildlife

April 2012



Current Status

- Section 6 and Appendix B of the Oregon Mid-C Plan¹ summarizes the current status of each population based on the Interior Columbia Technical Recovery Team's (ICTRT) assessment³ of viability using the Viable Salmonid Population⁴ (VSP) criteria.

The Viable Salmonid Population (VSP) criteria (or viability criteria) describe four key population attributes:

- **Abundance**—the average number of spawners in a population over a generation or more;
- **Productivity**—performance of a population over time in terms of recruits per spawner;
- **Spatial structure**—a population's geographic distribution and the processes that affect that distribution; and
- **Diversity**—the distribution of genetic, life history and phenotypic variation within and among populations.

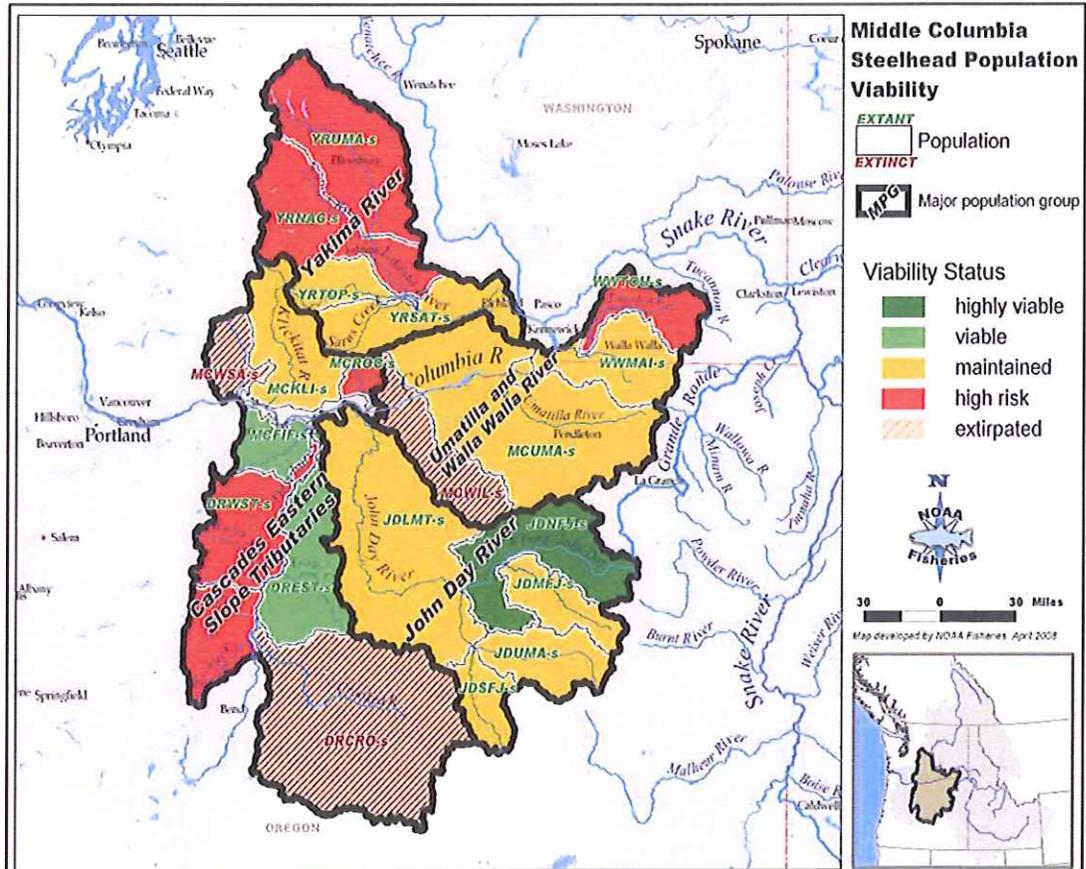
- Current viability status for Oregon's 12 Mid-C steelhead populations (Figure 2, Table 1):
 - The North Fork John Day River population is the only highly viable (very low extinction risk) population in the DPS;
 - Two populations, Fifteenmile Creek and Eastside Deschutes, are viable (low extinction risk);
 - Six populations, Lower Mainstem John Day, South Fork John Day, Upper Mainstem John Day, Middle Fork John Day, Umatilla, and Walla Walla, are rated maintained (moderate extinction risk) status;
 - The Westside Deschutes population is rated high extinction risk status; and
 - Two populations, Crooked River and Willow Creek, are extirpated.
- In 2010, NOAA completed a 5-year status review update for Pacific salmon and steelhead listed under the Endangered Species Act⁵ which evaluated status based on recent viability (VSP) criteria data and trends in the threats limiting salmon and steelhead viability.
- The 2010 NOAA review did not indicate a change in the risk status of the Mid-C Steelhead DPS, its four MPGs—Cascades Eastern Slope Tributaries, John Day River, Umatilla/Walla River, and Yakima River—or its 17 extant, independent populations. The **Mid-C Steelhead DPS remains listed under ESA and classified as threatened.**

Figure 2. Current viability status of populations within the Middle Columbia River Steelhead Distinct Population Segment (DPS).

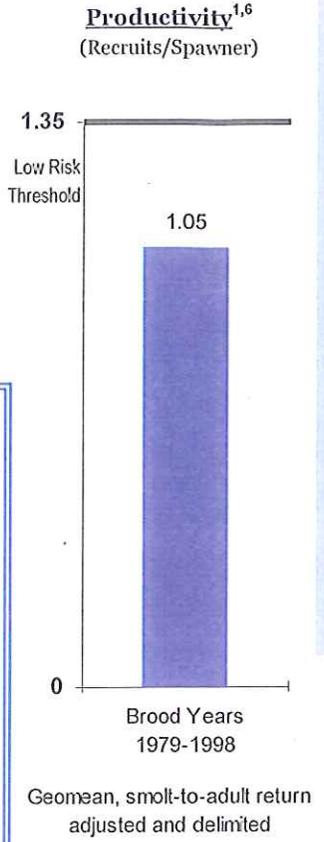
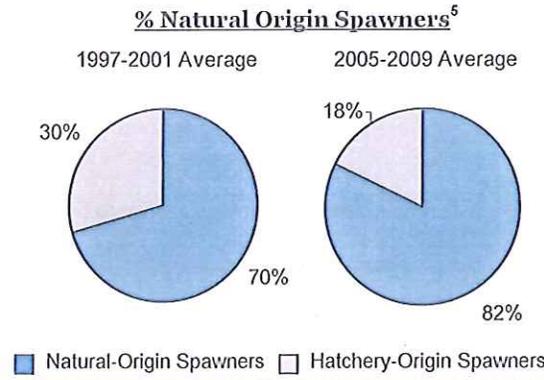
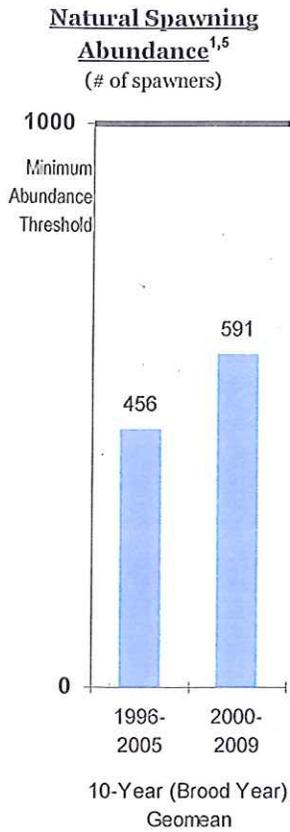
Viability status ratings are defined as probabilities of extinction risk over a 100 year time period:

- **Highly viable**—very low extinction risk (<1%);
- **Viable**—low extinction risk (1-5%);
- **Maintained**—moderate extinction risk (6-25%); and
- **High Risk**—high extinction risk (>25%).

Extirpated means the loss of a population (local extinction). Extirpated areas on the map represent the absence of only the anadromous form of *Oncorhynchus mykiss*.



Deschutes River Westside Summer Steelhead Population

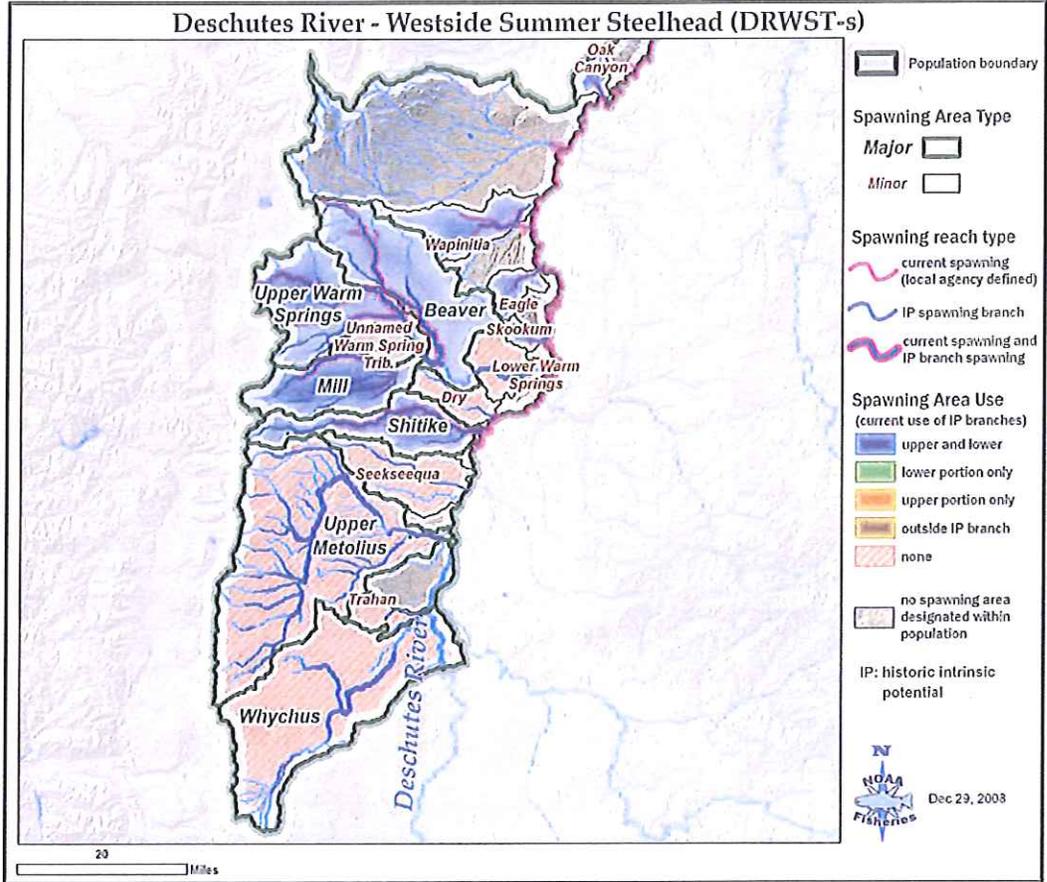


Population Status & Trends

- Current Viability Status: **High Risk**
- The recent 10-year geometric mean natural-origin abundance estimate of 591 spawners is **below** the minimum abundance threshold of 1,000 for low risk extinction.
- Hatchery-origin fish comprise a **significant** proportion (> 5%) of natural spawners.
- The delimited productivity⁶ estimate of 1.05 recruits per spawner is **below** the minimum productivity threshold of 1.35 for low risk extinction at the minimum abundance threshold.
- Current spawner distribution is **substantially reduced** from historic distribution. Four of five major spawning areas are occupied.

Population Distribution¹

- The Deschutes Westside population is classified as "large" in size and complexity based on historically accessible habitat and "intermediate" based on currently accessible habitat.
- The population contains five major spawning areas (MaSAs): Upper Warm Springs, Mill, Beaver, Shitike, Upper Metolius and Wychus.
- The nine minor spawning areas (MiSAs) are: Lower Warm Springs River, Oak Canyon, Seekseekqua, Wapinitia, Lower Warm Springs Tributaries, Trahan, Eagle, Skookum and Dry Creeks.
- The Wychus MaSA and Trahan and Seekseekqua MiSAs above Pelton-Round Butte Dam are currently inaccessible.
- Major production areas currently include Warm Springs River, Shitike Creek and the mainstem Deschutes between Trout Creek and Pelton Dam.



Deschutes River Westside Summer Steelhead Population

Table 6, continued. Status summary of protection and restoration activities completed during February 5, 2010—June 30, 2011⁷.

| Location | Project #'s | Project Title | Project Type | Treatment Quantity & Metrics | Implementing Entities |
|-------------------|-----------------------------------------------------------------------------|-----------------------------------------------------------------------------------------------------------------------|--------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------|-----------------------------------------------------------------------------------------------------------------------|
| Lake Creek | OWEB 206-833-6003 (20100411) | Deschutes National Forest Road 12 Culvert Replacement | Habitat | 1 culvert replaced with bridge; 40 boulders placed instream; 0.10 total linear stream miles treated; 3.25 total miles of fish habitat made accessible | Upper Deschutes Watershed Council, USFS |
| Long Hollow Creek | BPA 200201900 (47611) | Lower Wasco County Riparian Buffers | Habitat | 34.4 riparian, non-wetland acres protected by lease or purchase; 0.87 riparian, non-wetland miles protected by lease or purchase | Wasco County SWCD |
| Metolius River | OWEB 208-4032 (20110073) | Metolius River Fish Habitat | Habitat | 160 large wood structures placed instream; 582 logs placed instream; 6.7 total stream miles treated | Upper Deschutes Watershed Council, PGE, CTWSRO, USFS, Cold Springs Resort, student volunteers |
| Shitlike Creek | BPA 200830100 (52000) | Plant Riparian Vegetation at Shitlike Creek Restoration Project | Habitat | 0.50 riparian miles treated; 0.50 riparian, non-wetland acres treated | CTWSRO |
| Spring Creek | OWEB 208-4074-7214 | Spring Creek Conservation Easement | Habitat | Acquisition of a conservation easement on 25 acres encompassing the headwaters of Spring Creek, a tributary of the Metolius River | Deschutes Land Trust, Deschutes River Conservancy, Upper Deschutes Watershed Council, Crooked River Watershed Council |
| Tumalo Creek | OWEB 209-4045 (20100622) | Tumalo Creek Fish Passage and Habitat Enhancement | Habitat | 1 sluiceway constructed; 1 fish ladder installed at existing dam; 2.5 total linear stream miles treated; 8.0 total miles of fish habitat made accessible | Tumalo Irrigation District, ODFW, Bend Metro Parks and Recreation District |
| Whychus Creek | OWEB 210-4023-7707 | Whychus Canyon Preserve | Habitat | Acquisition of 440 acres encompassing approximately 2 linear miles of Whychus Creek | Deschutes Land Trust, Deschutes River Conservancy, Upper Deschutes Watershed Council, Crooked River Watershed Council |
| Whychus Creek | OWEB 19-08-33 (20100133) | Hinshaw Ranch Juniper Control | Habitat | 160 total upland acres treated for juniper by clearing, burning, thinning, or removal | Jefferson SWCD, Hinshaw Ranch |
| Whychus Creek | OWEB 19-08-001 (20100220) | Whychus Creek Riparian Restoration Project | Habitat | 2 riparian acres planted with riparian hardwood and conifer trees; 2 riparian acres planted with riparian plant species; 0.25 total linear stream miles treated | Upper Deschutes Watershed Council, USFS, Wolfree, Sisters High School |
| Whychus Creek | OWEB 208-4074-6838 (20100276) | Three Sisters Irrigation District McKenzie Canyon Phase 1 Piping Project | Habitat | Irrigation system improvement (pressurization); 1.2 cfs of conserved streamflow permanently protected through instream water right | PGE, CTWSRO, Deschutes River Conservancy, Three Sisters Irrigation District, NRCS, BOR |
| Whychus Creek | OWEB 2010-4023-7706 (Implementation) 2008-4031, 2008-4074 (Design) | Three Sisters Irrigation Diversion | Habitat | 1 irrigation diversion upgraded; 16 miles of habitat accessed; approximately 6.5 cfs returned instream to Whychus Creek | USFS, Upper Deschutes Watershed Council, Three Sisters Irrigation District |
| Whychus Creek | | Reintroduction of steelhead into the upper Deschutes River subbasin above the Pelton-Round Butte Complex ⁷ | Hatchery | 229,797 steelhead fry and 3,600 steelhead smolts released (2010); 288,768 steelhead fry and 5,456 steelhead smolts released (2011) | ODFW, CTWSRO |

DESCHUTES RIVER CONSERVANCY



Zachary Tillman
NPCC Board Meeting – August 7th, 2013

Deschutes River Conservancy

- ▣ Mission: to restore streamflow & improve water quality
- ▣ Formed in 1996
- ▣ Multi-stakeholder Board of Directors
- ▣ Consensus driven



DRC Board





Protecting land & restoring rivers for salmon & steelhead

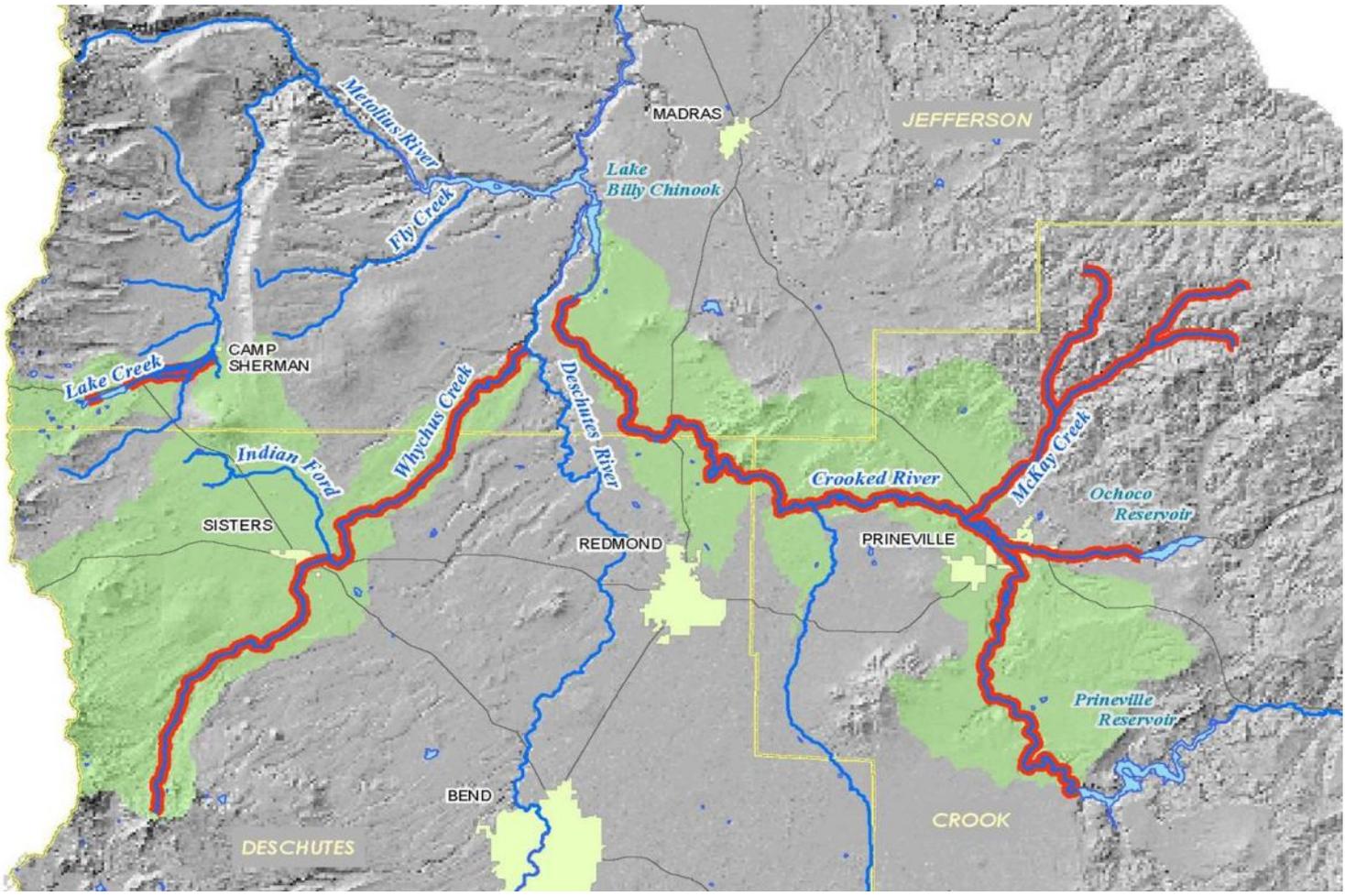
Crooked River Watershed Council, Deschutes Land Trust,
Deschutes River Conservancy, Upper Deschutes Watershed Council

Higher Purpose

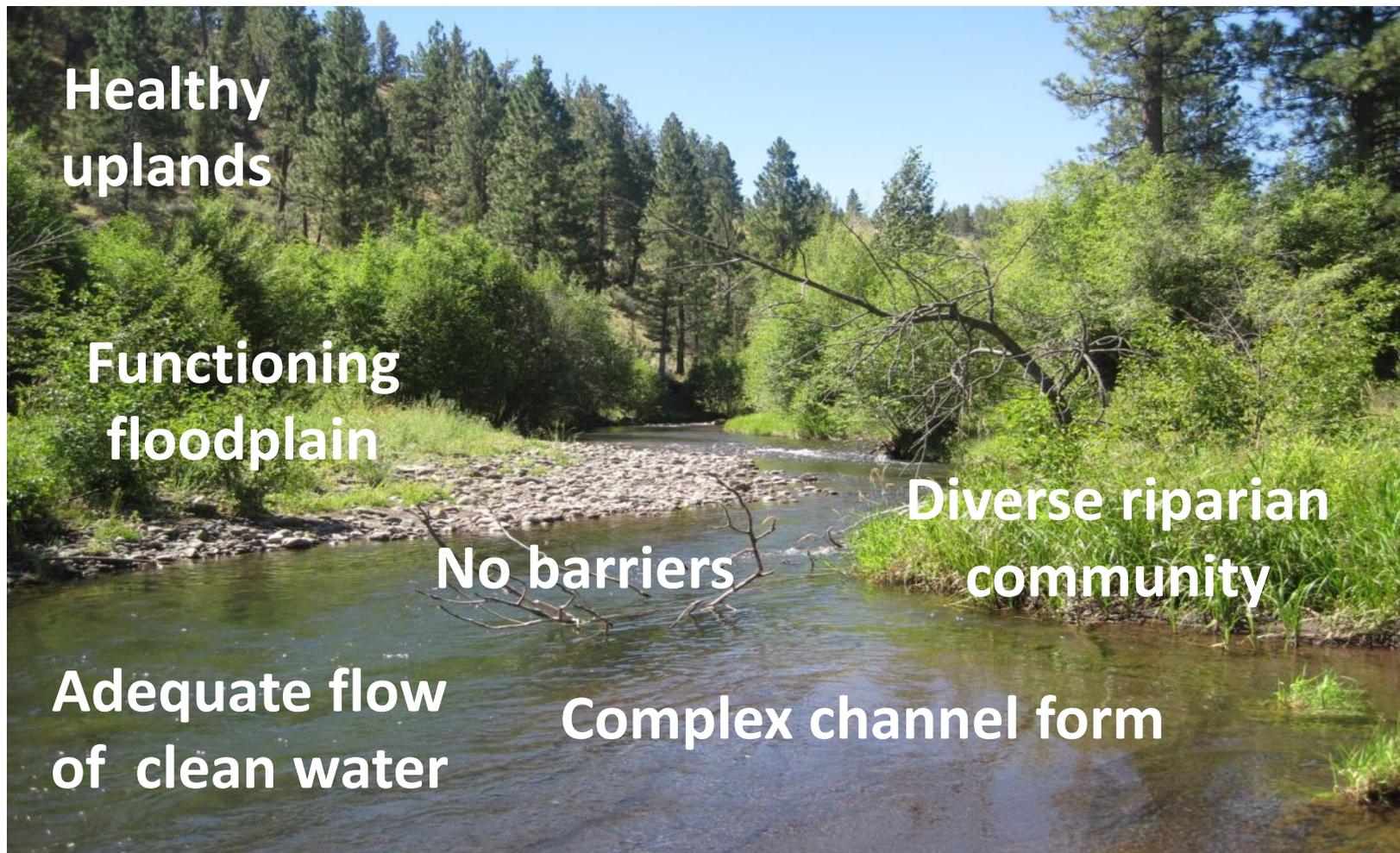


**Restore physical conditions
necessary to support salmon
and steelhead**

Reintroduction Reaches



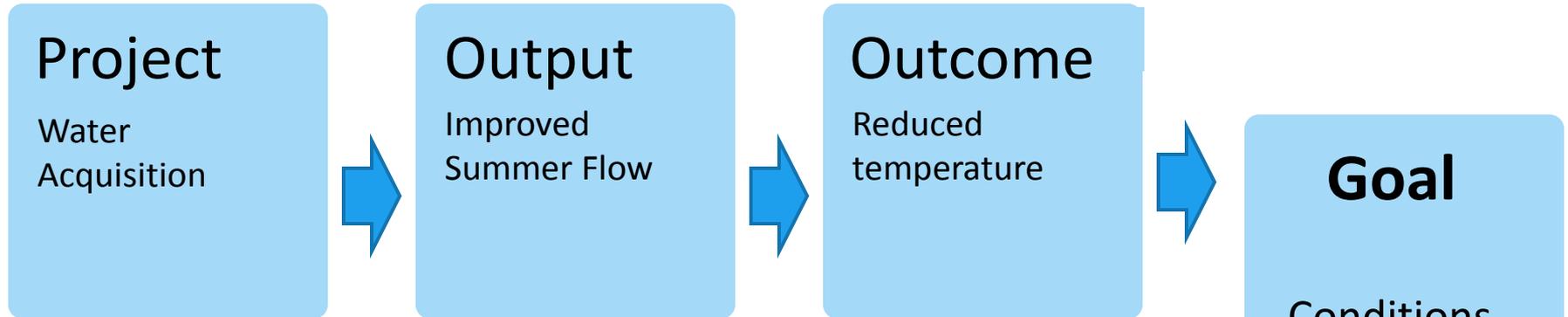
Desired Conditions



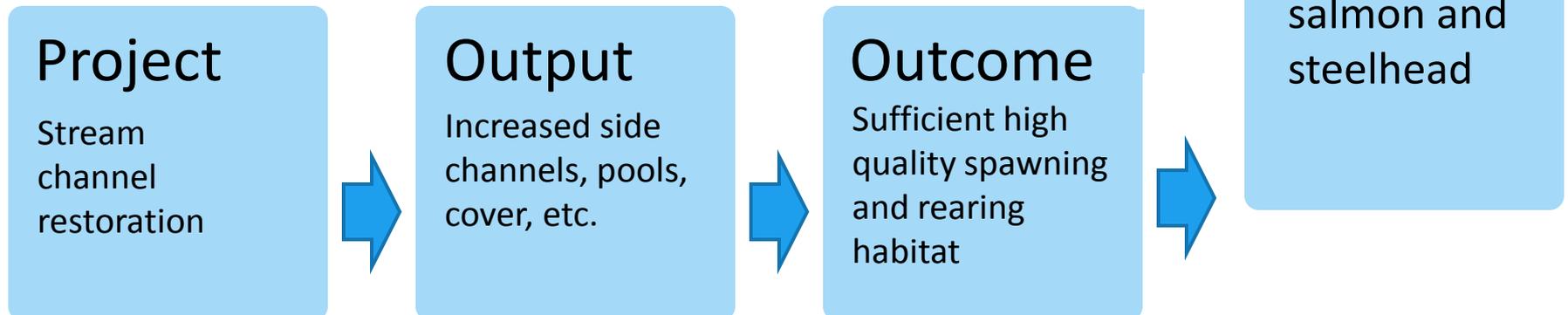
Outcome Driven



Streamflow Restoration



Habitat Restoration



Integrated Strategy



Ecological Outcome

Necessary and Sufficient Conditions to Support Salmonids

Limiting Factors

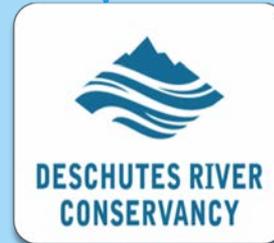
Land

Water

Habitat

Passage

Institutional Niches



Coordination of Action



Rimrock Ranch Easement & Stream Restoration
(1,200 ac / 2.0 miles)

Discovery Outpost Preserve & Stream Restoration
(58 ac / 0.25 miles)

Camp Polk Meadow Preserve & Stream Restoration
(145 ac / 1.7 miles)

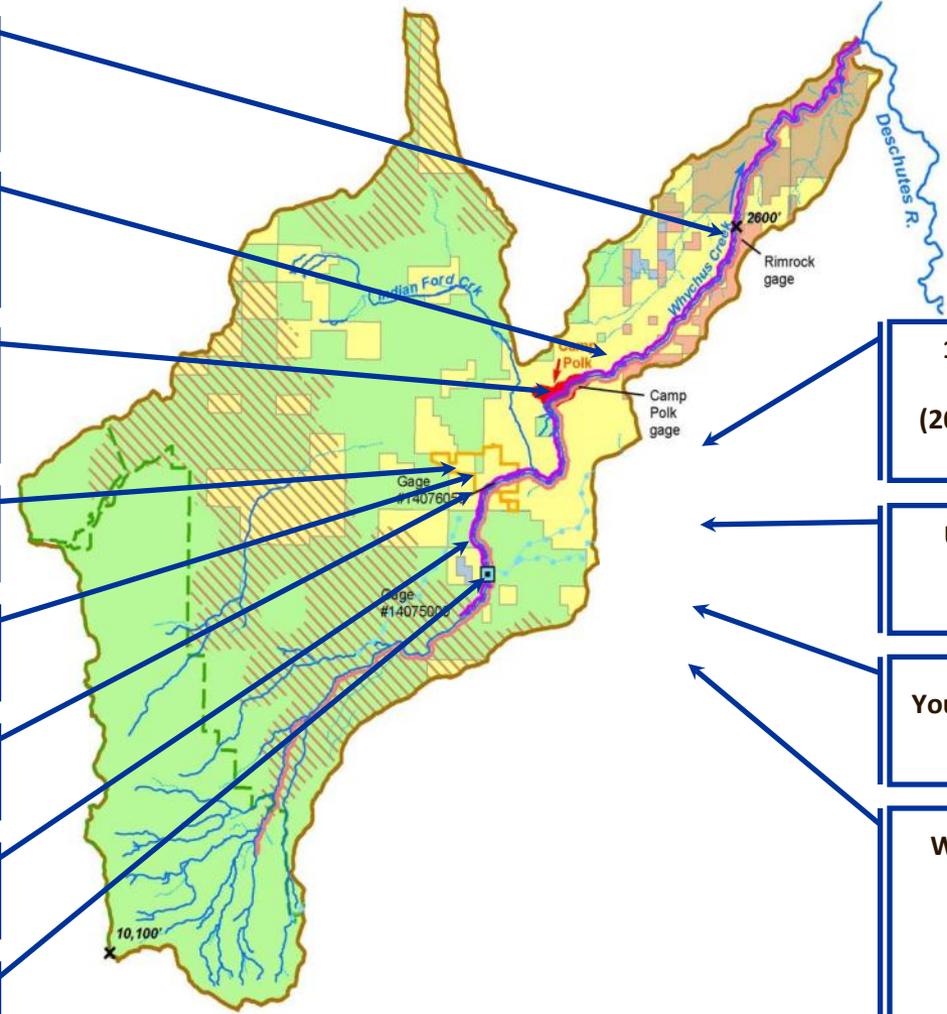
City of Sisters Stream Corridor Restoration Planning (4.0 miles)

Fish Passage and Screening
(6 projects)

Stream Restoration on U.S. Forest Service land (4 projects)

Stream Restoration @ Frisbee Property (0.6 miles)

Three Sisters Irrigation District Dam Retrofit



10 Streamflow Restoration Projects
(20 cfs of conservation, leasing and purchases)

US Forest Service Wild and Scenic River Management Planning

Youth education and watershed stewardship projects

Watershed-wide Restoration Effectiveness Monitoring
(18 parameters including fisheries, water quality, macroinvertebrates, streamflow, etc.)

Upper Basin Reintroduction

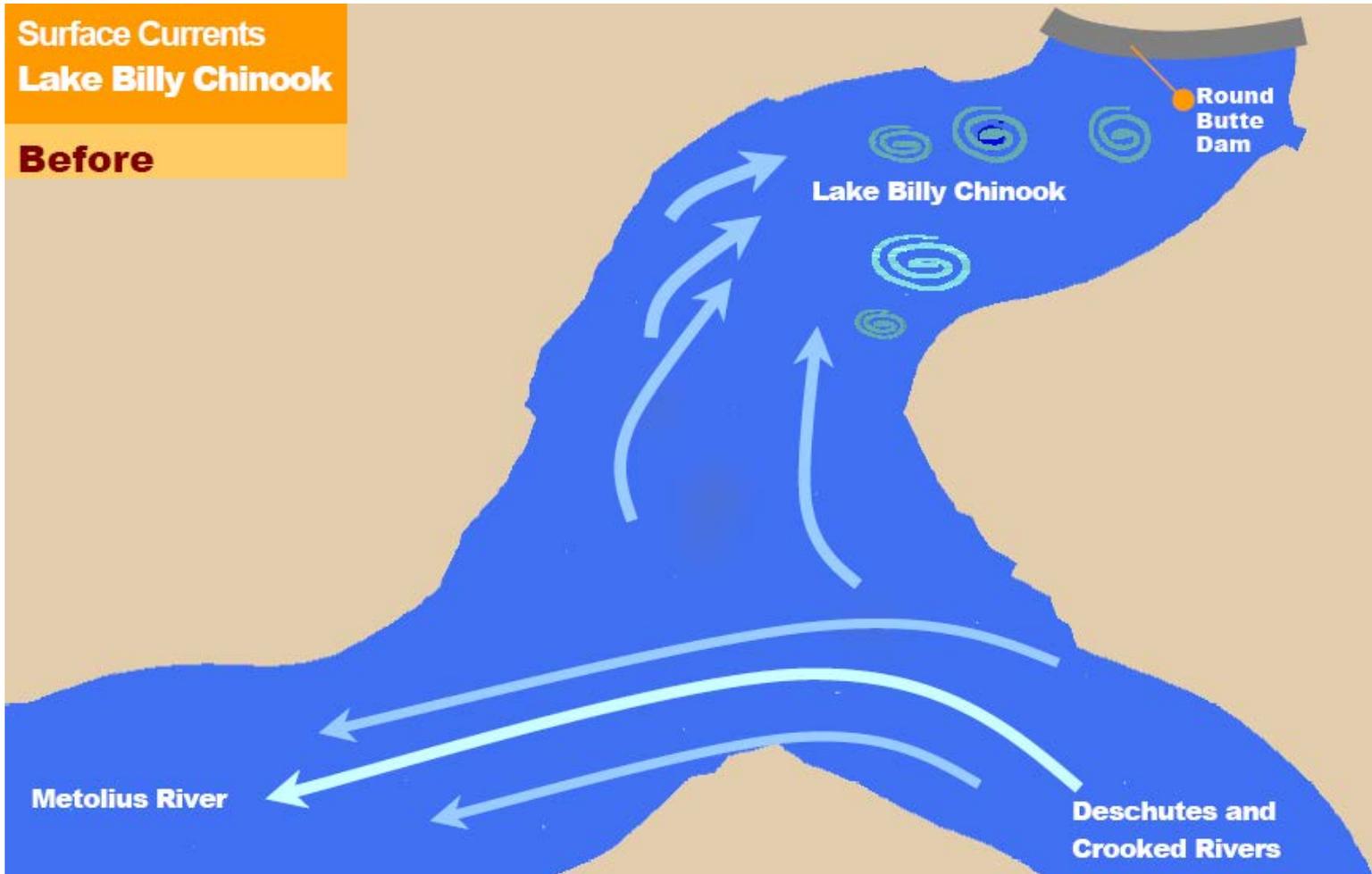


ESA Status & Timeline

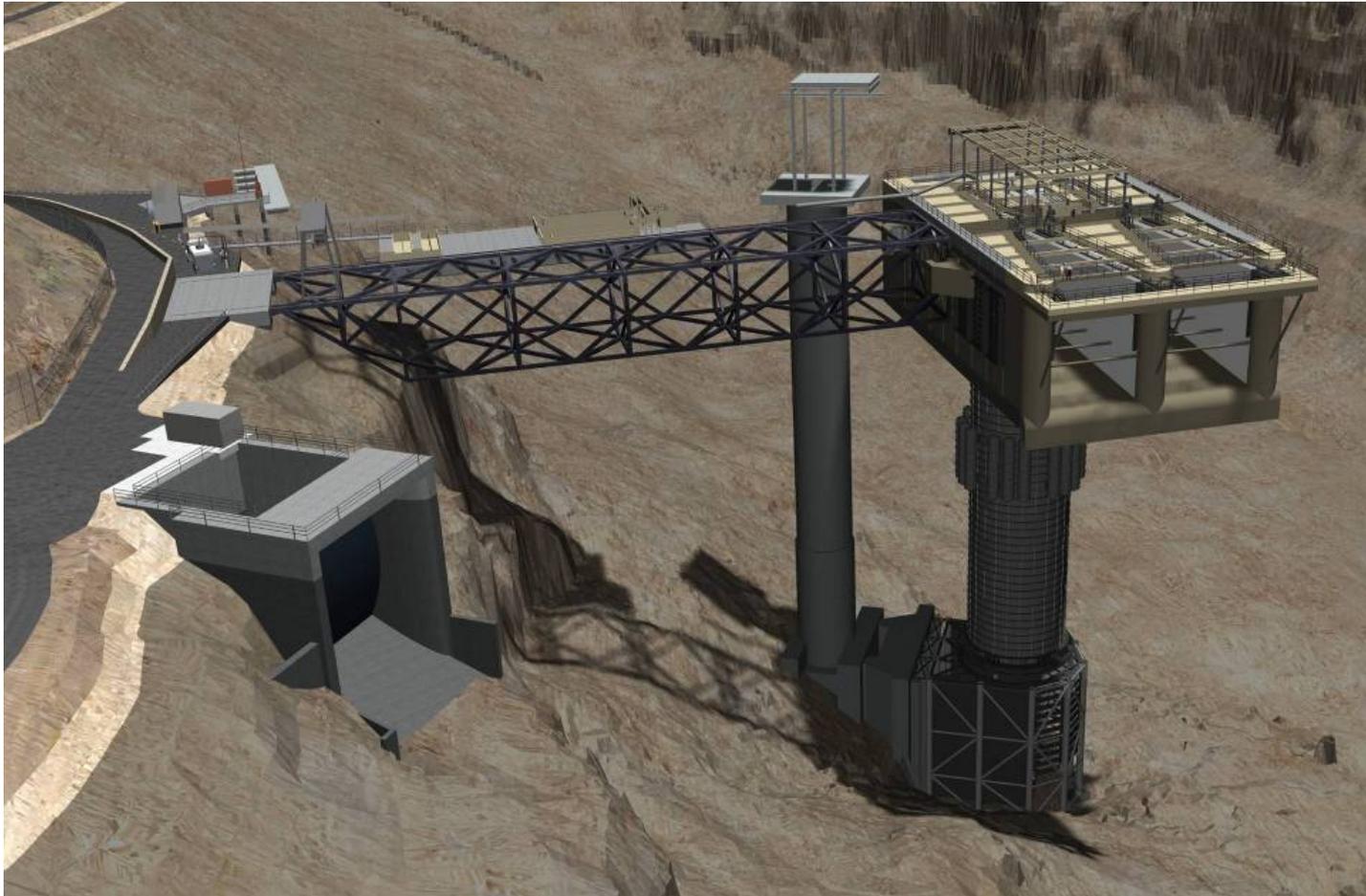
- Mid-C Steelhead listed (1999)
- FERC license issued for Pelton-Round Butte (2005)
- Courts include hatchery fish under ESA (2006)
- Reintroduction begins (2007)
- Downstream passage achieved (2009)
- First adult steelhead return (2012)



Passage Failure



Passage Solution



2012 – First Steelhead!

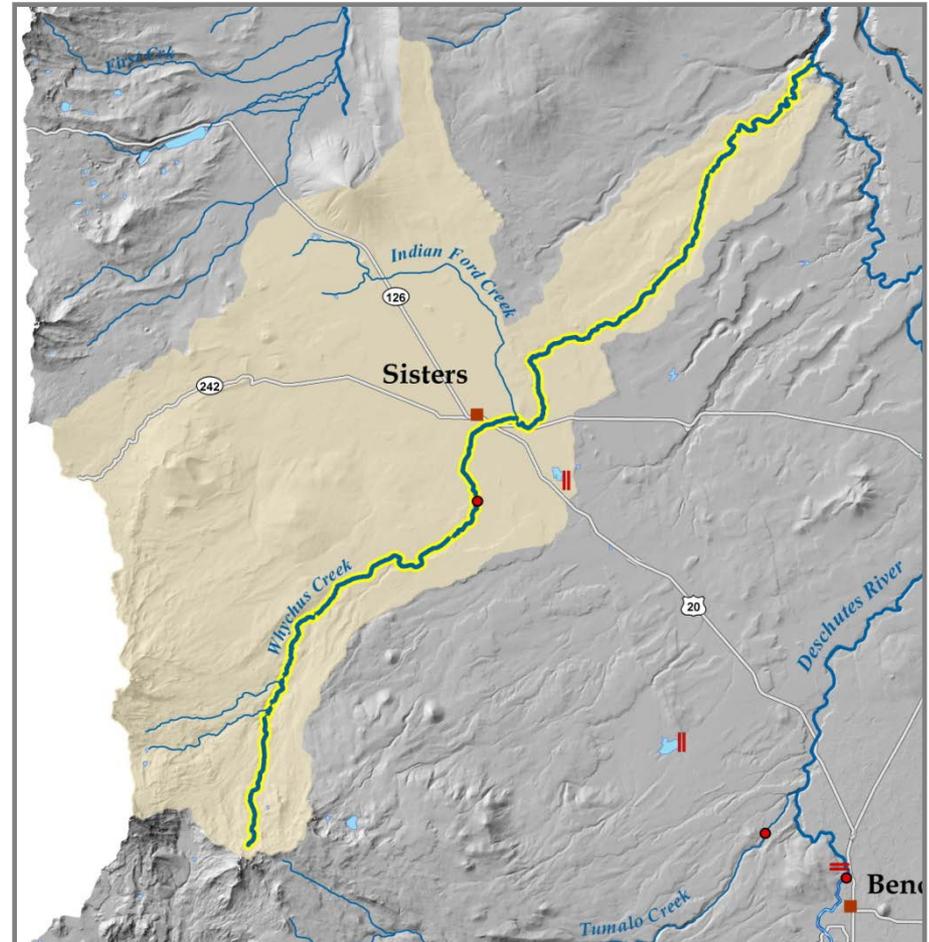


2012-13

- 111 Steelhead returned through February
- 51 Have been passed upstream to spawn

Whychus Creek Overview

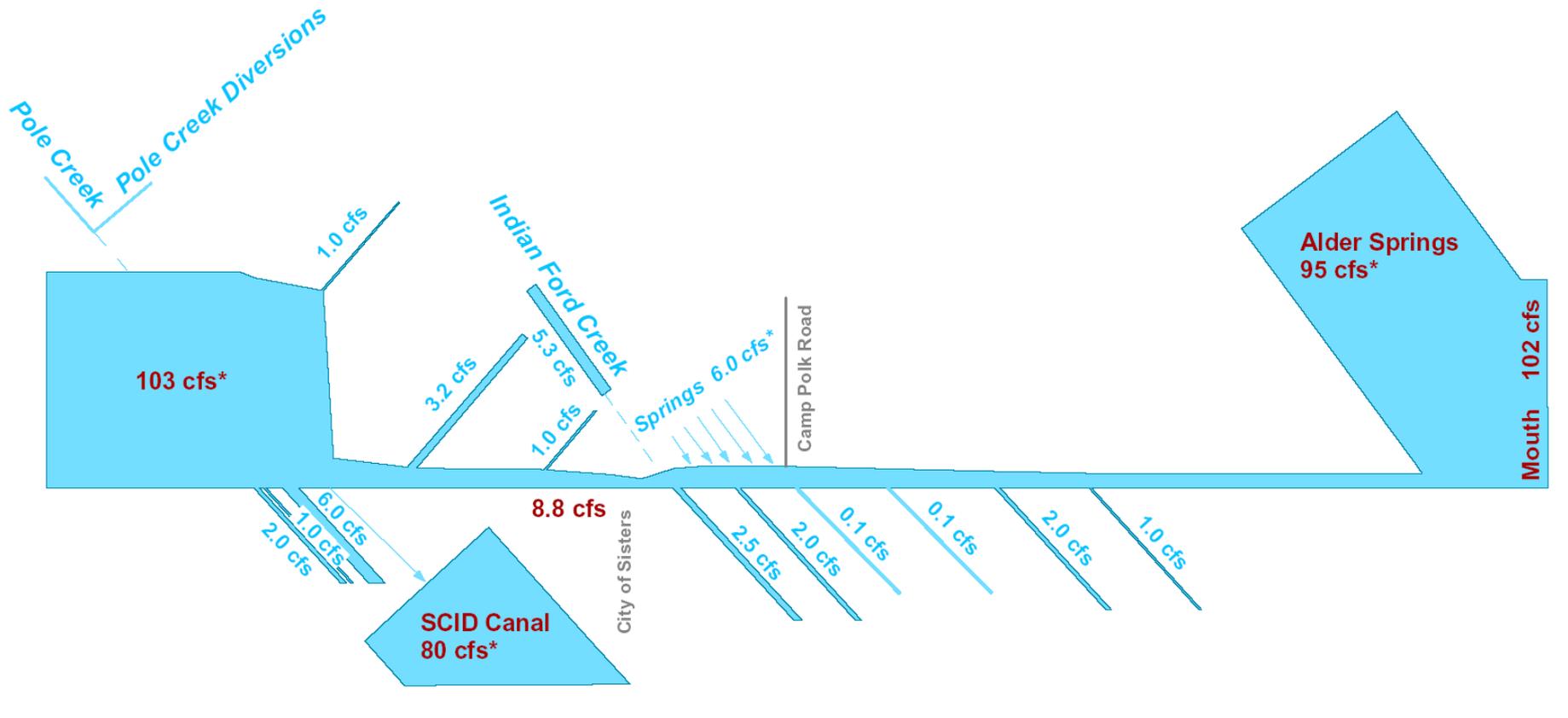
- Focus of steelhead reintroduction efforts
- Over appropriated
- One large water user and several smaller users
- Agreements in place
- Well established partnerships



Problem: Low Streamflow



Low Streamflows



District Conservation



The Payoff

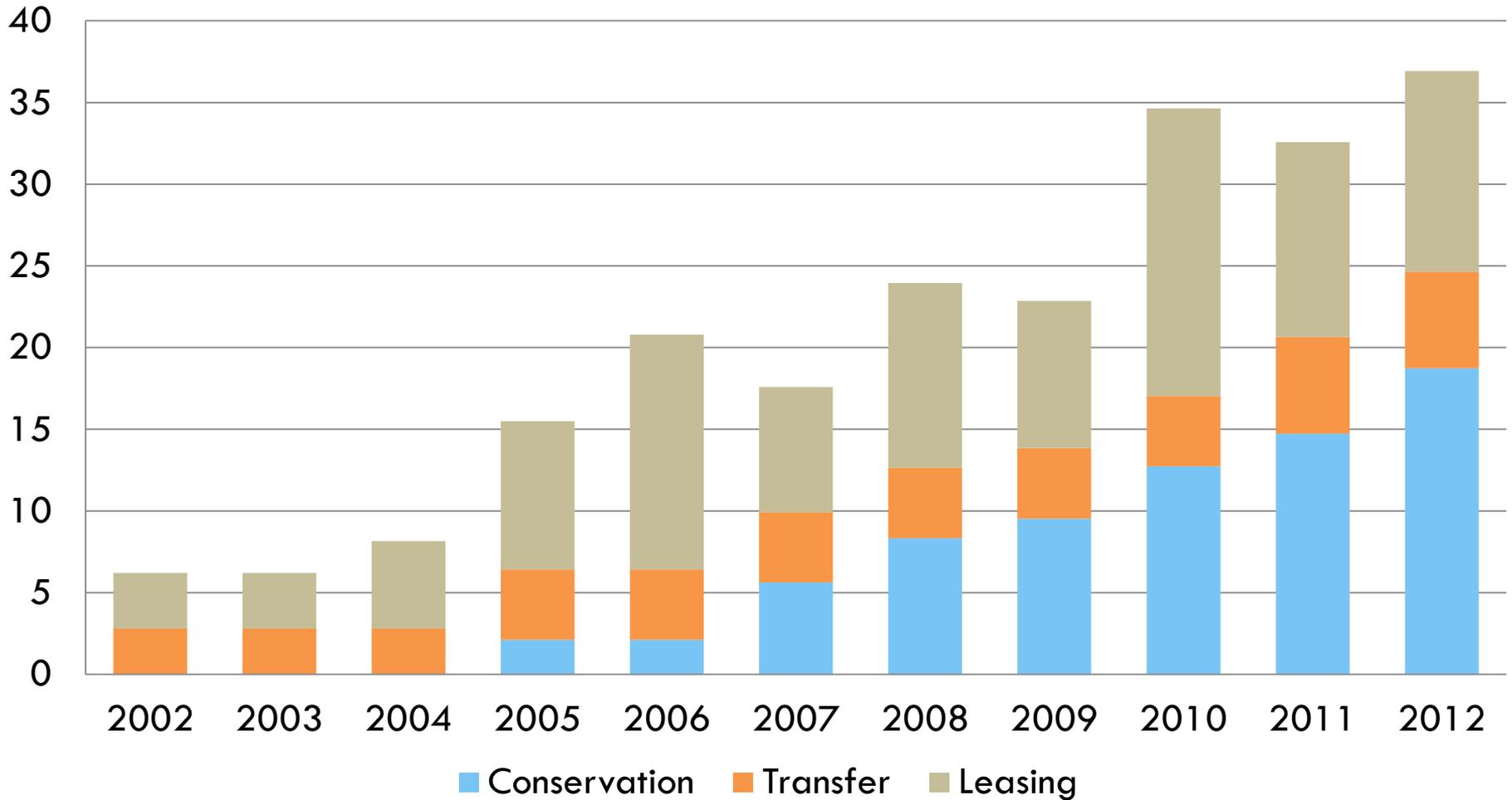


Barely There (1997)



20 cfs (2012)

Progress to Date



Leveraged Investment



- ✓ Bureau of Reclamation
- ✓ Oregon Watershed Enhancement Board
- ✓ Pelton Round Butte Fund
- ✓ National Fish & Wildlife Foundation
- ✓ National Forest Foundation
- ✓ Private Foundations



Questions?

