

Fish Field of Dreams: If You Blow It Up, Will They Come? Juvenile Salmonid Monitoring in the White Salmon River Following Dam Removal

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Background

Methods

First Year Results

Future

Photo Credit:
Andy Maser and
Steve Stampfli

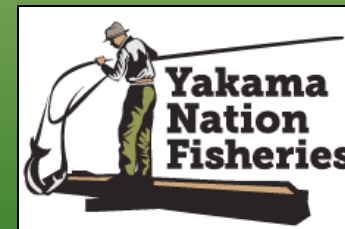
Funded by: Mid-Columbia Fisheries Enhancement Group

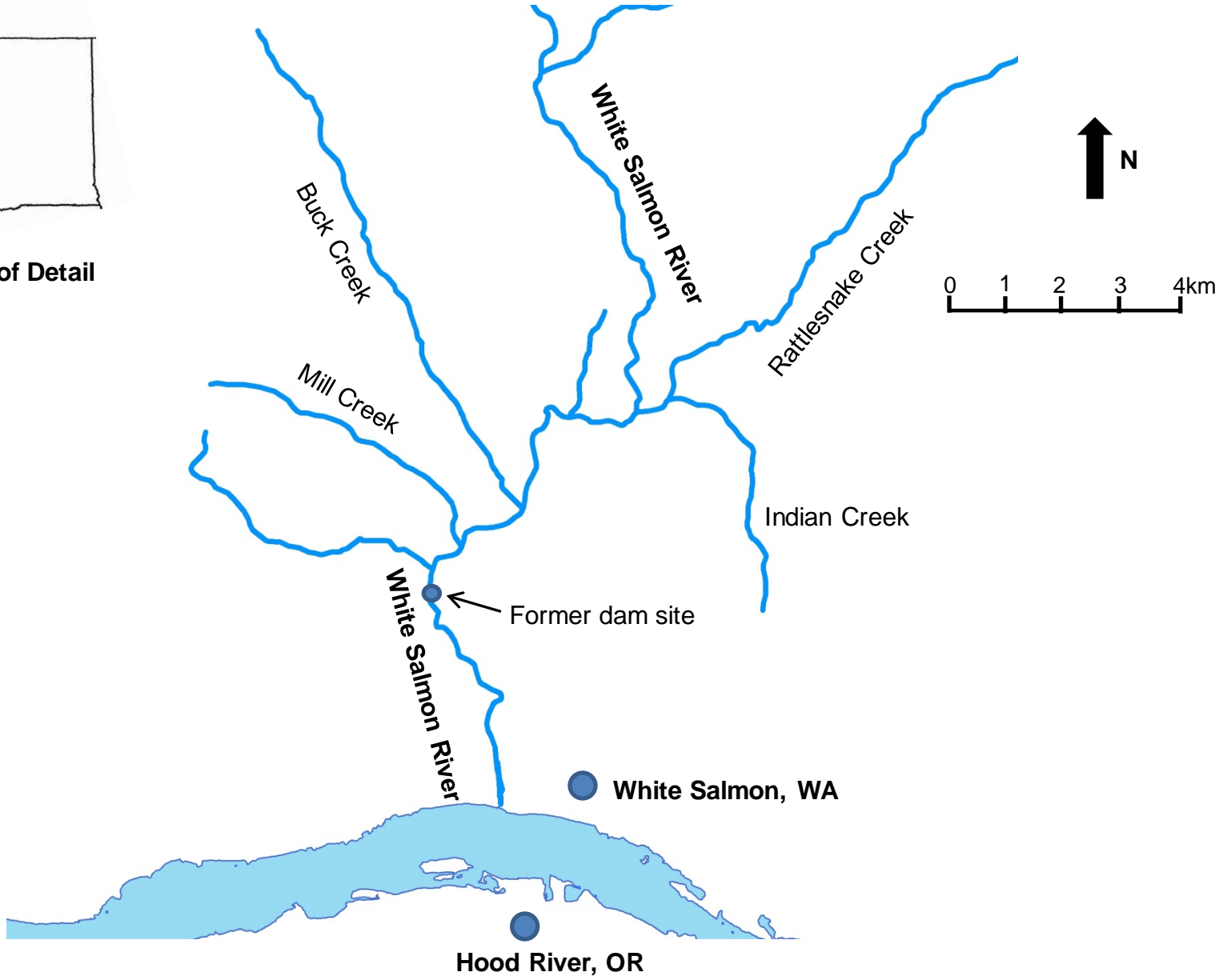
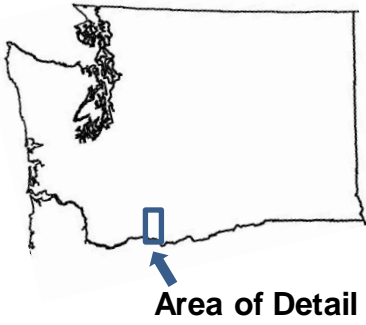


with a grant from WA State Salmon Recovery Funding Board



White Salmon River monitoring collaborators:



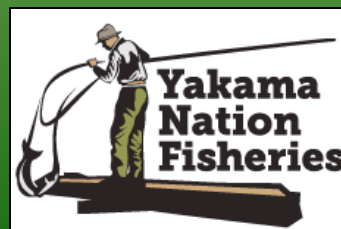
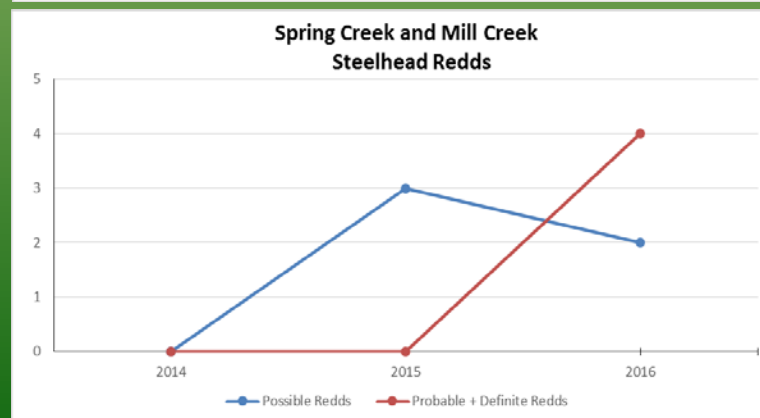
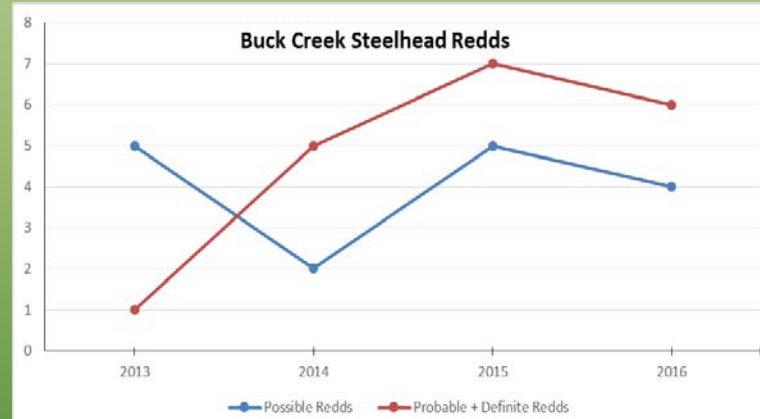
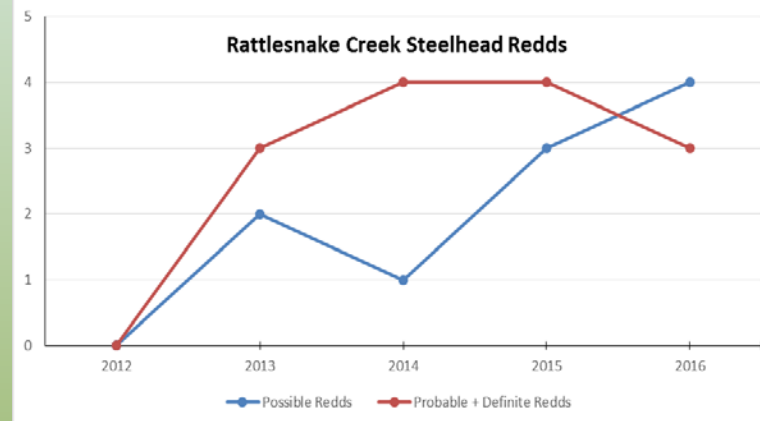
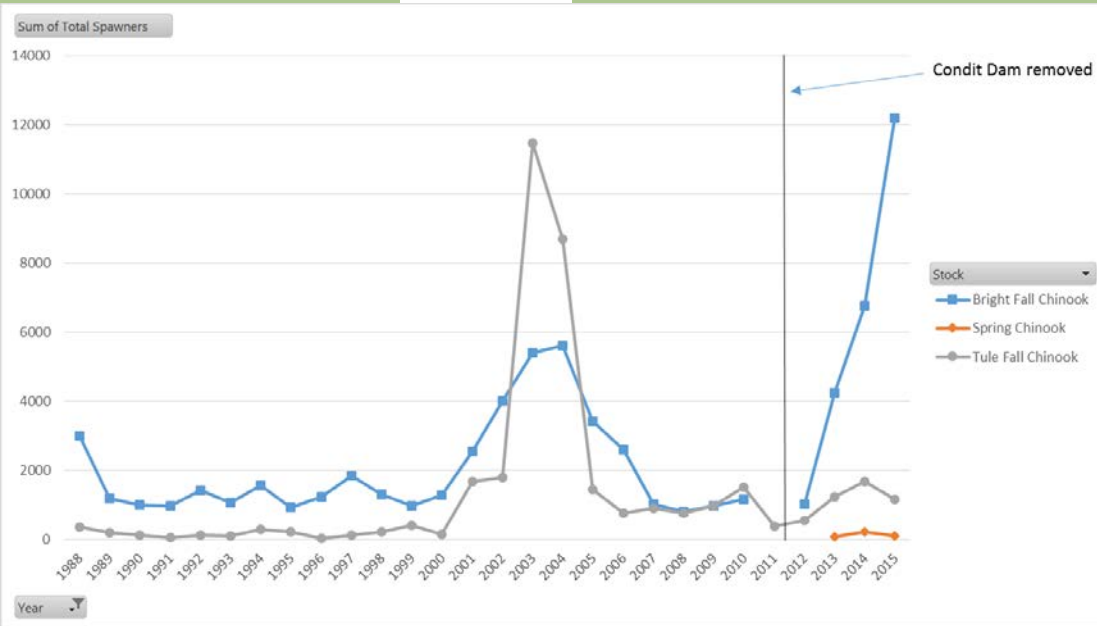


Background

- The White Salmon River likely supported steelhead, spring and fall Chinook salmon, coho salmon, chum salmon, coastal cutthroat trout, bull trout.
- Condit Dam - 125 feet high. Blocked upstream fish passage for nearly 100 years.
- Breached in 2011 and completely removed in 2012, opened up to 50 km of steelhead habitat.
- Prior to dam removal, a multi-agency workgroup agreed to a natural recolonization strategy.
- Five year monitoring period and recolonization would be evaluated.

Steelhead spawning surveys - tributaries

Chinook spawning surveys - mainstem



Goals

- Assess species composition and smolt abundance at a site in the lower mainstem river.
- Assess distribution, species composition, and abundance in tributaries.
- Document life history traits via Passive Integrated Transponder (PIT) tags.
- Collect genetics samples to investigate parental/stock origin of colonizing fish.



Sampling Methods



Operated a rotary screw trap at rkm 2.3 to assess smolt production.

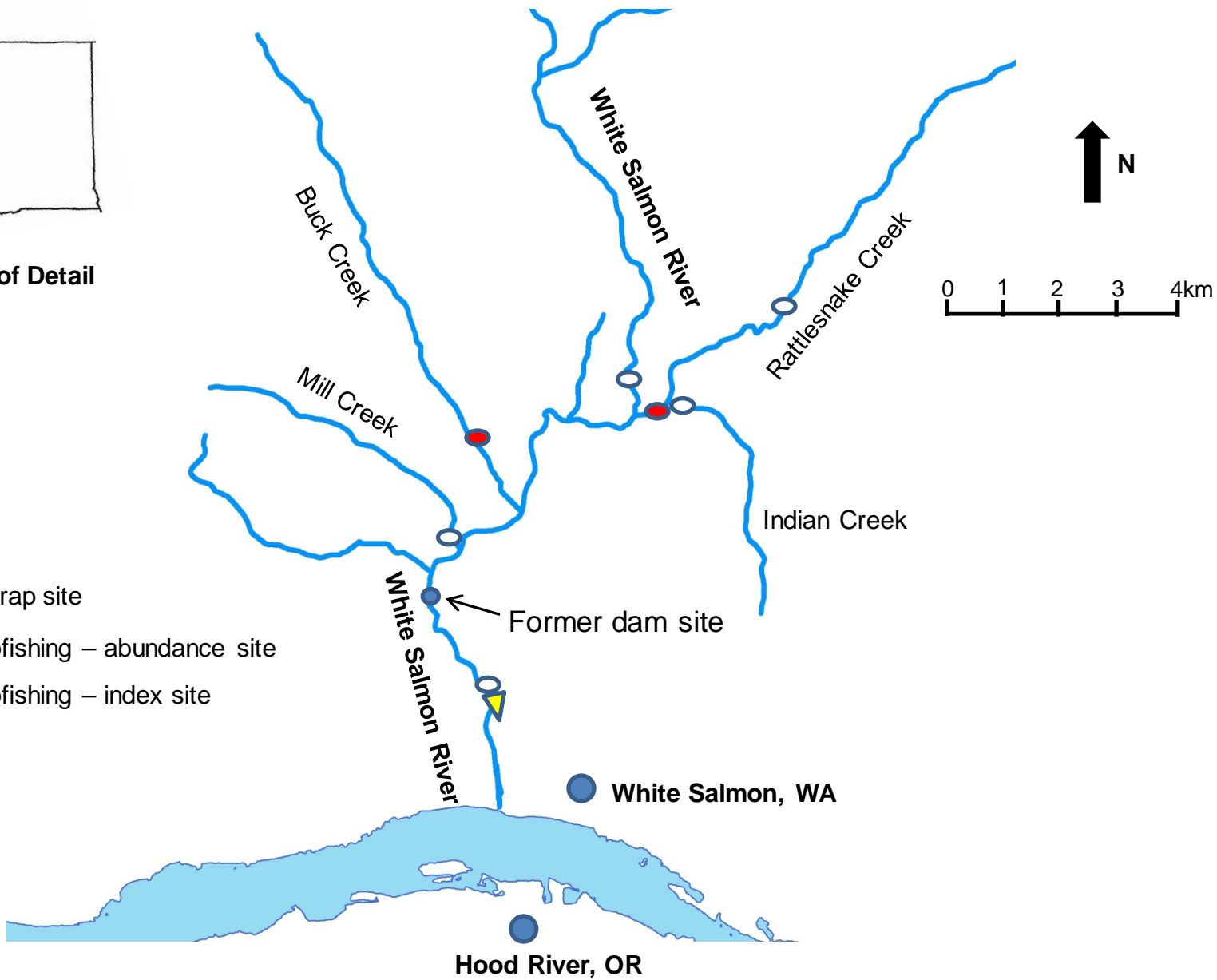
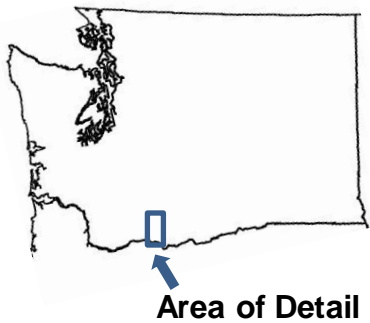
Species, life stage, PIT tagged juvenile salmonids (mark-recapture), collected genetics samples

Electrofishing surveys in tributaries and mainstem for distribution and species composition.

Abundance estimates in sections of two tributaries .

PIT tagged juvenile salmonids (mark-recapture)





Preliminary Findings from 2016 Smolt Trapping

3/24/16 through 5/30/16

- Steelhead smolts, parr, and fry captured.
Smolt estimate about 3,800
- Coho smolts and fry captured.
Smolt estimate about 1,100
- Chinook (4 fry)
- Genetic samples collected
- PIT-tagged steelhead and coho detected at Bonneville



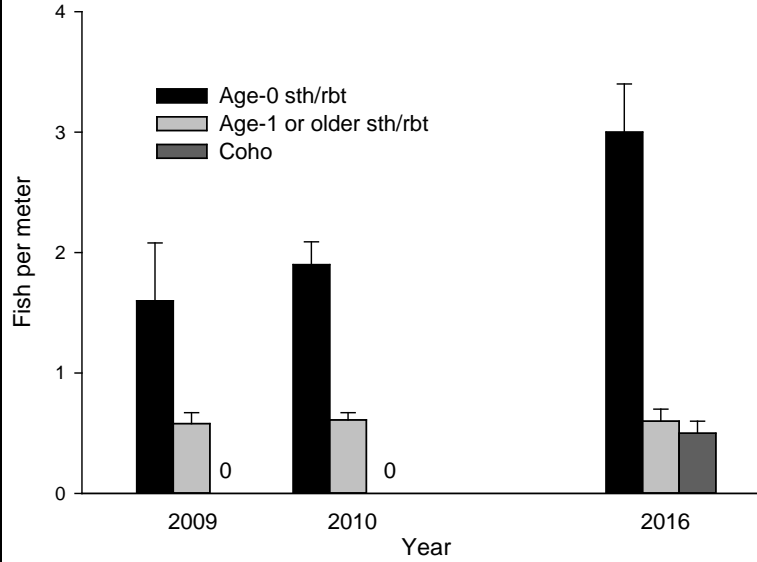
Preliminary Findings from 2016 Electrofishing Surveys

Site	Date	Start point		Present (P), Absent (A)			
		distance from mouth (km)	Length of survey (km)	Sth/Rbt	Coho	Chinook	Cutthroat
White Salmon	Aug. 2	2.3	0.25	P	P	A	A
Mill Creek	Aug. 8	0.5	0.10	P	P	A	P
Buck Creek	July 28 & 29*	2.0	0.20	P	P	A	A
Rattlesnake Creek	July 26 & 27*	0.3	0.20	P	A	A	P
Indian Creek	27-Jul	0.0	0.06	P	A	A	A
Rattlesnake Creek	Sept. 1	3.4	0.20	P	A	A	A
White Salmon	Aug. 3	12.6	0.15	P	A	A	A

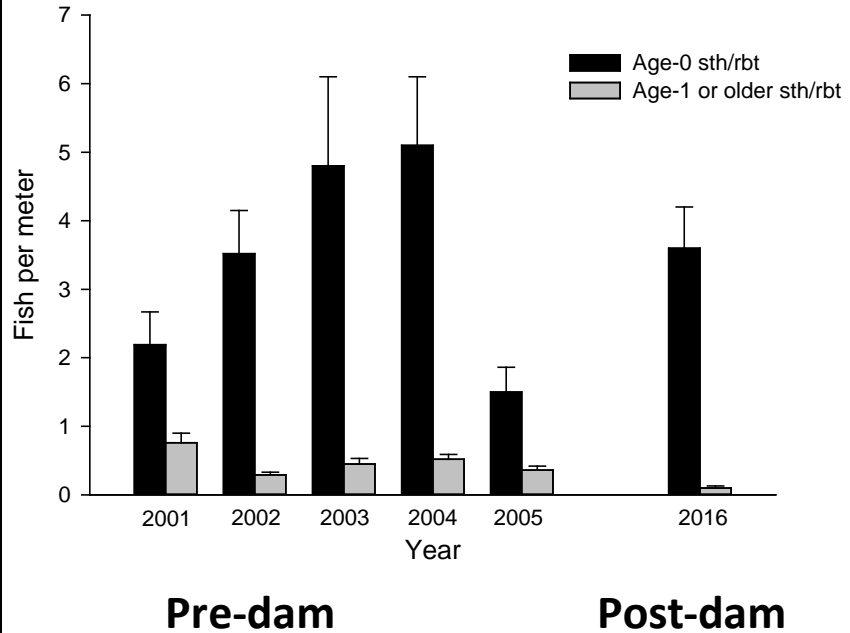
* = abundance estimate

Electrofishing Abundance Sites

Buck Creek



Rattlesnake Creek



What we know

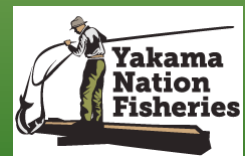
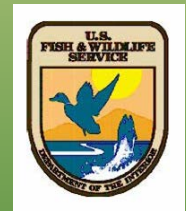
- Spawning upstream of former dam site.
 - Steelhead, Chinook salmon, and coho salmon
- Smolt production by steelhead and coho (1 year of data)
- Distribution of juveniles.
- Post-dam juvenile abundance estimates in two tributaries. (1 year of data)

What we don't know, but are working toward

- Smolt / juvenile abundance trends, spawner smolt recruit relationships.
- Chinook smolts from upstream of screw trap / dam site.
- Fine scale distribution of juveniles – life history expressions.
- Parental origin.

Future Monitoring?

- Continue juvenile and adult monitoring for trends.
- Continue PIT tagging, follow tagged fish.
- Analyze genetic samples for stock / parentage.
- Continue multi-agency coordination and cooperation.



Questions?