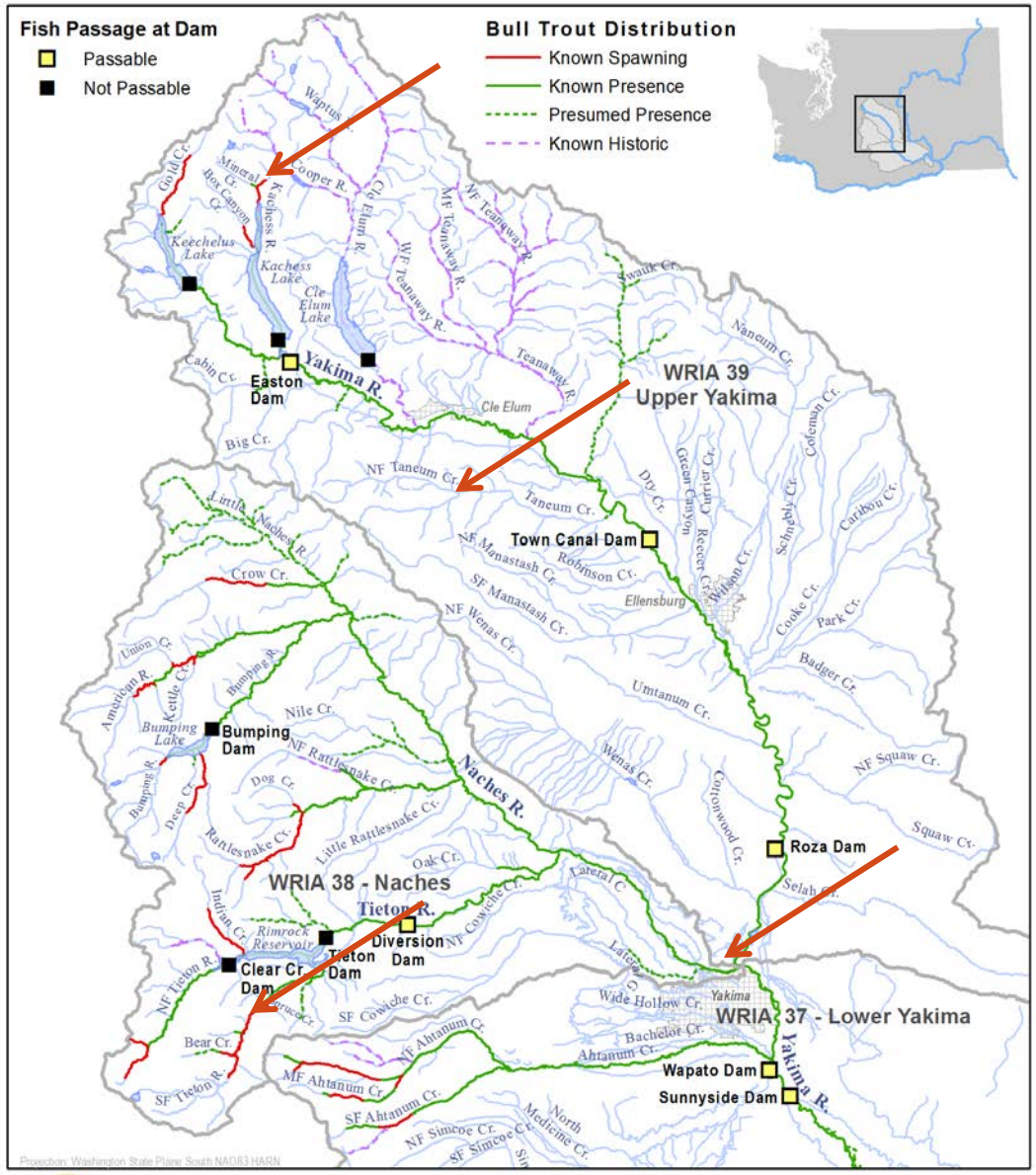
Bull Trout Recovery in the Yakima Basin: A proposal to prevent future declines

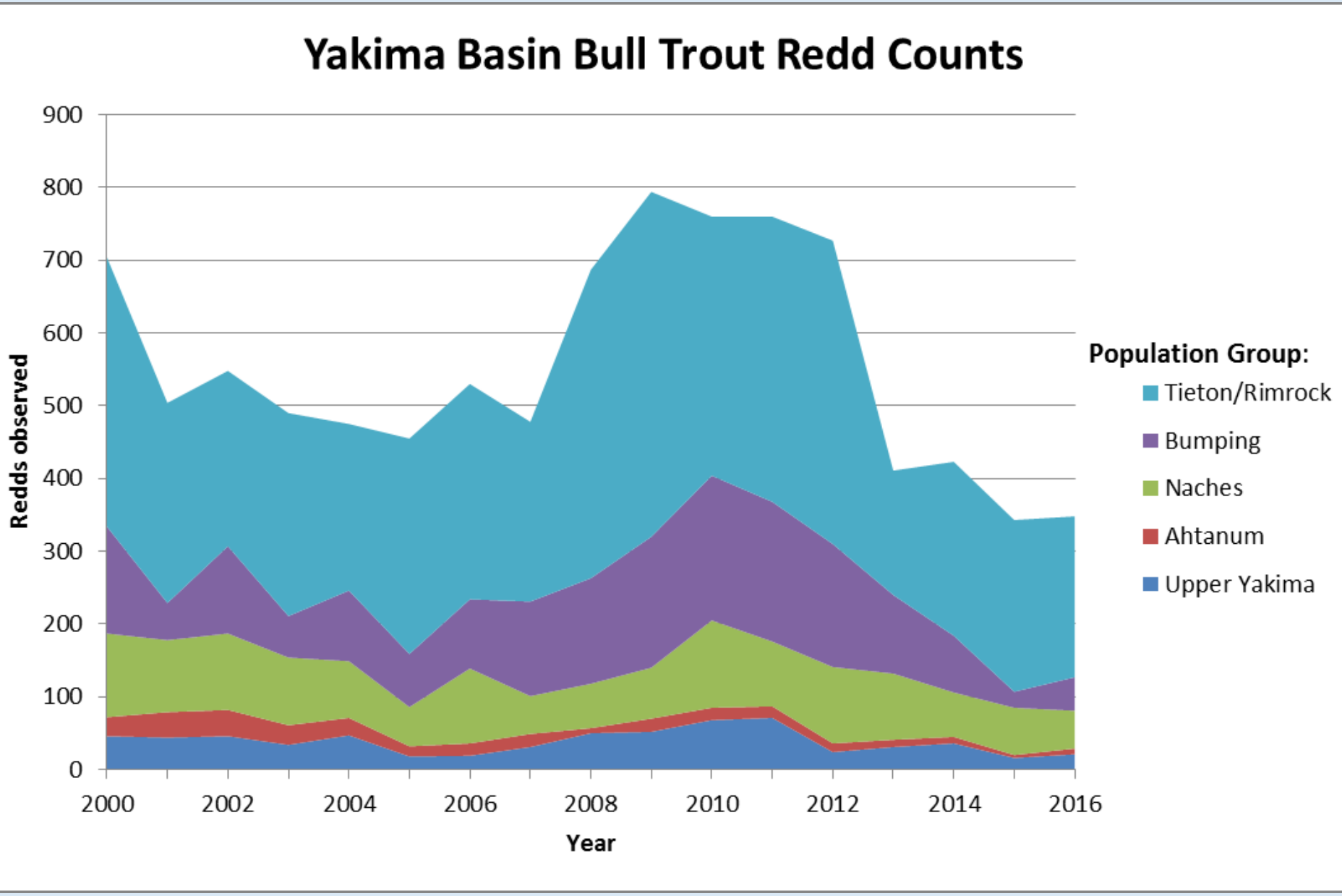
Todd Newsome : Yakama Nation
Gabe Temple: Washington Dept. Fish and Wildlife
Pat Monk: Bureau of Reclamation
Dr. Dave Fast: Yakama Nation

Yakima basin bull trout populations

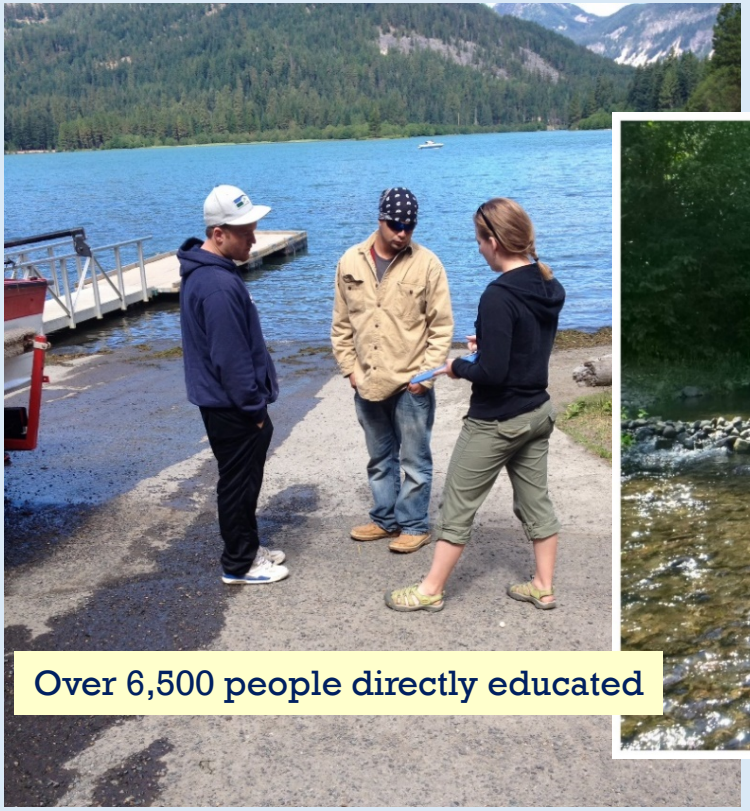
- 15 recognized populations; 12 genetically distinct
- Most are isolated in non-anadromous areas
- Impacted by dams & reservoir operations
- Much of the headwater habitat is in good condition
- Highly protective fishing regulations
- Local extirpations in last decade
- Highly vulnerable to climate change

Yakima Basin Bull Trout



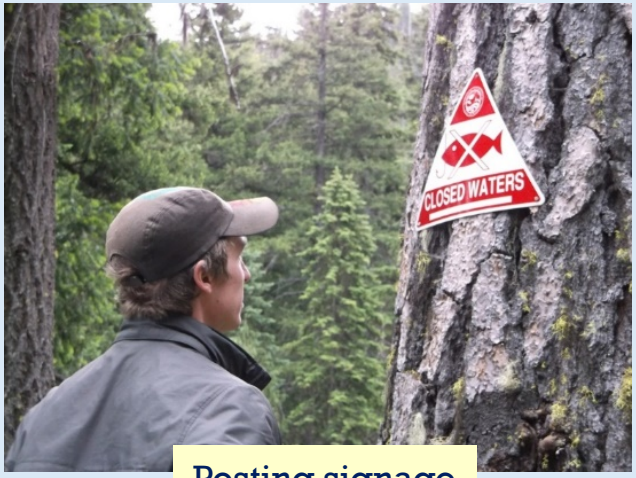

Yakima Basin Bull Trout Redd Counts
900
800
700
600
500
400
300
200
100
0
Redds observed
2000
2002
2004
2006
2008
2010
2012
2014
2016
Year
Population Group:
Tieton/Rimrock
Bumping
Naches
Ahtanum
Upper Yakima

Current Activities

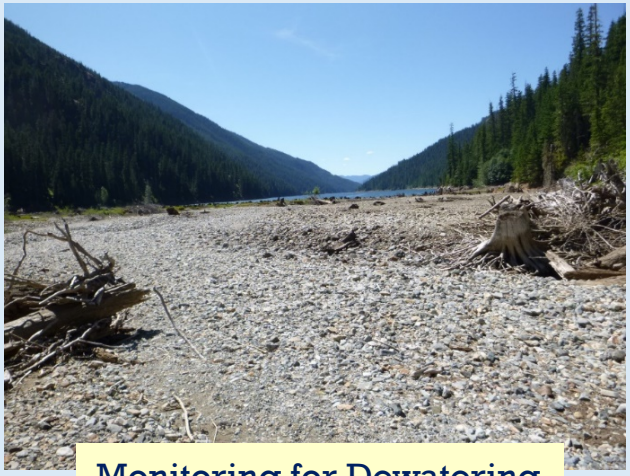


Over 6,500 people directly educated

400+ rock dams removed



Posting signage



Monitoring for Dewatering

Temperature Monitoring

Taneum Creek Bull Trout Translocation Pilot Project

Why Act Now?

- Since listing in 1999, 2 population has gone extinct another is close
- Nearly all populations are decreasing
- There is only one stable, robust population left in the Yakima Basin
- Nearly all Bull Trout in the Yakima Basin are isolated behind storage dams
- Monitoring, Assessing, Modeling streams and habitat is not increasing the populations (We are running out of time)

Bull Trout Recovery using Artificial Rearing and Translocation

Artificial Rearing

South Fork Taneum Creek

Source Population and Methods
First 5 years

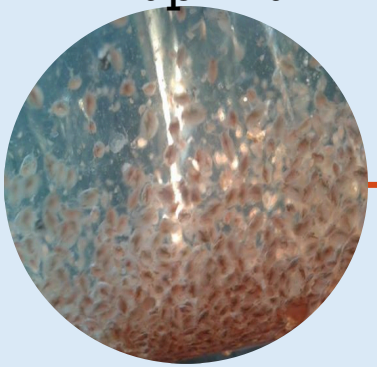
- 350 Fry from South Fork Tieton River
- Up to 1,000 Fry from Upper Kachess River,
  - 350 Released into Taneum Creek
  - The remainder will be released back into Kachess Lake
- Captured in July Released in June

- Bull Trout transported into 20 X 5 X 4 ft. Aluminum Raceways
- Cinder blocks and PVC pipe will be provided for cover
- Water source is well water, temperatures range from 11.6 to 13.8 degrees
- A total of 600 sub-adults to be released into their new habitat in June the following year

Photo by: Ashton Bunce

Diet

Daphnia



Brine Shrimp

Blood Worms

Salmon/Trout Fry

Monitoring and Assessment

- Each released fish will:
- Be Weighed and measured and will receive overall health assessment
- Have a pit tag placed in the ventral girdle
- Be held for 24 hours before release into the new stream

- 3 additional instream pit tag arrays installed in each fork and main-stem
- Movement will be monitored using these pit tags
- Yearly snorkeling and electrofishing will continue in reference sites
- Redd surveys will begin after 4 years
- After 5 years the project will be reassessed, reevaluated, adaptively managed

Taneum Creek Release Locations and Monitoring Locations

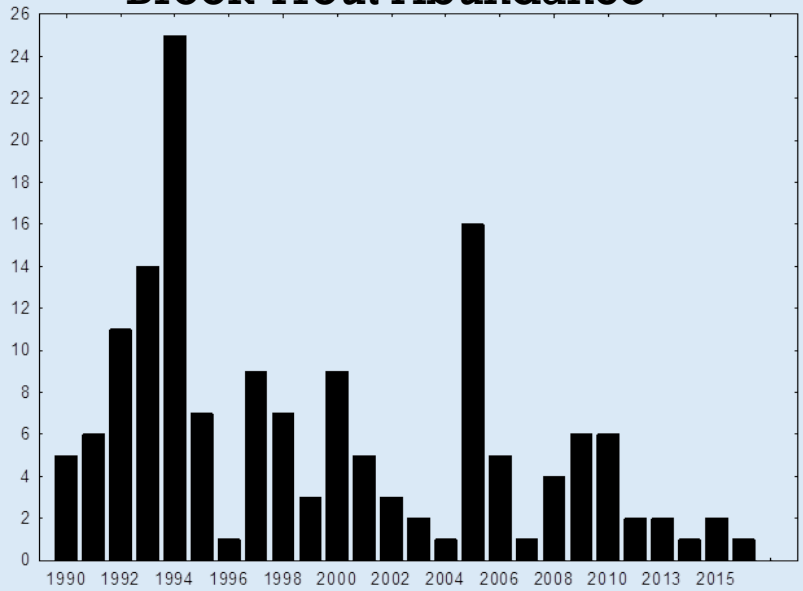
Continued Threats to the Bull Trout

Rock Dams

Sediment

Logging

Brook Trout Abundance



Fishing

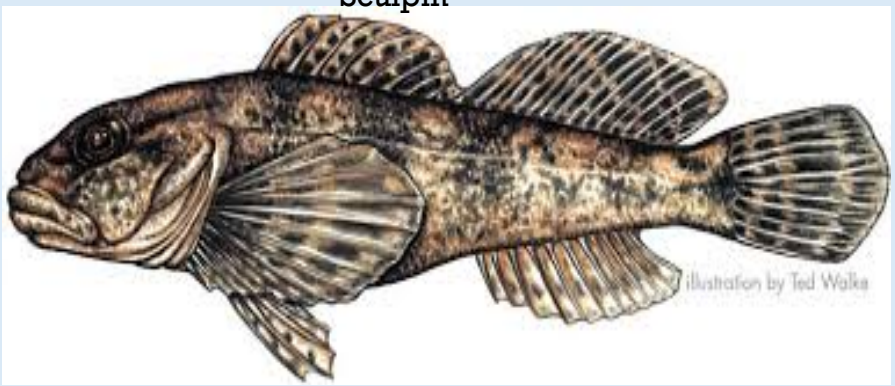
Other Fish Species in Taneum Creek

West slope Cutthroat

Rainbow/Steelhead Trout

Coho Salmon

Sculpin



Chinook Salmon

Speckled Dace

What we may accomplish!

- Successful establishment of a new population of Bull Trout
- Bolster the Kachess River population while implementing habitat improvements

What we will learn!

- How to capture and transport Bull Trout Fry
- How to raise and protect wild Bull Trout fry in an artificial environment
- What best to feed the Bull Trout
- How and when to release the Bull Trout
- This whole project is based on a need to expand the Bull Trout populations, and make sure we give the fish every chance to succeed, then learn from the results!

Photo by: Ashton Bunce

Questions?

Thank you to the Yakima River Bull Trout Working Group