

Bull Trout Surveys  
2006:  
North Fork Teanaway  
Upper Yakima River



# North Fork Teanaway

A group of rainbow trout swimming in a stream with a rocky bottom. The fish are dark with numerous orange and red spots. The water is clear, and the rocks are dark and wet.

- ◆ Night snorkel surveys: Aug 21-24; Sept 4, 2006.
- ◆ The purpose was to survey suitable tributaries for presence/absence and to collect additional genetic samples.
- ◆ This is an identified "local population" in the draft Mid-Columbia Draft Recovery Plan.



# History of Teanaway

- ◆ Splash dams
- ◆ Irrigation diversions
- ◆ Timber harvest
- ◆ High road density

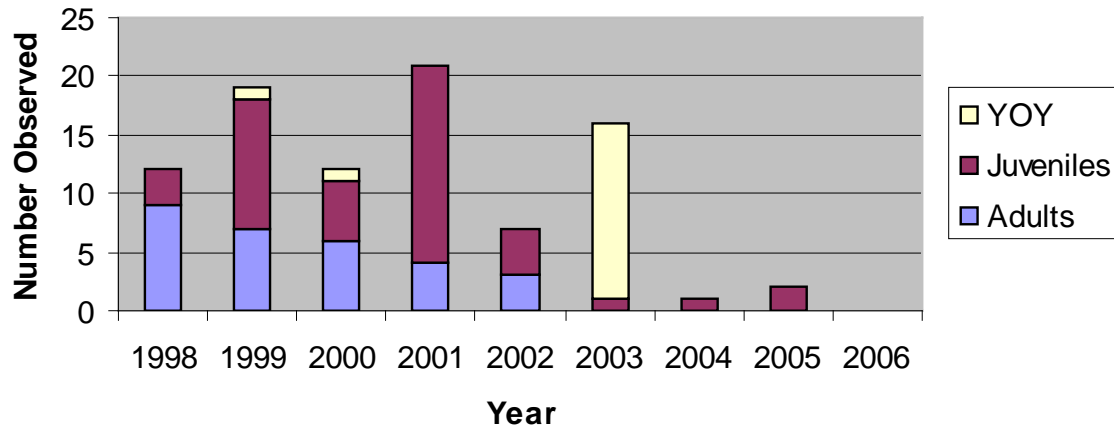


# Past Bull Trout Sightings

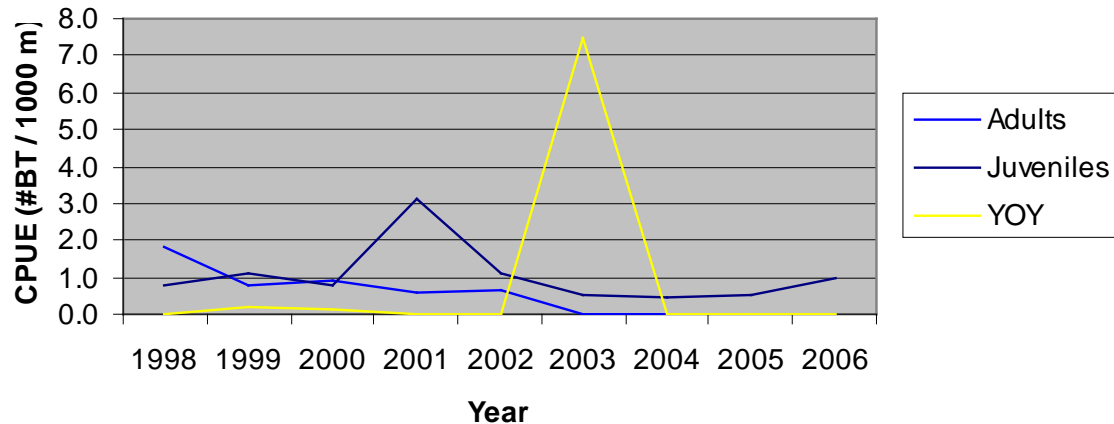
- ◆ WDFW redd surveys: 1996 (2); 2005 (2)
- ◆ Reiss thesis work 2001: Night snorkel surveys for genetic samples (11)
- ◆ Yakima Species Interaction Study (YSIS) sampling 1998-2006

# YSIS Night Snorkel Data

## YSIS Night Snorkel BT Observations



## YSIS NFT Bull Trout CPUE

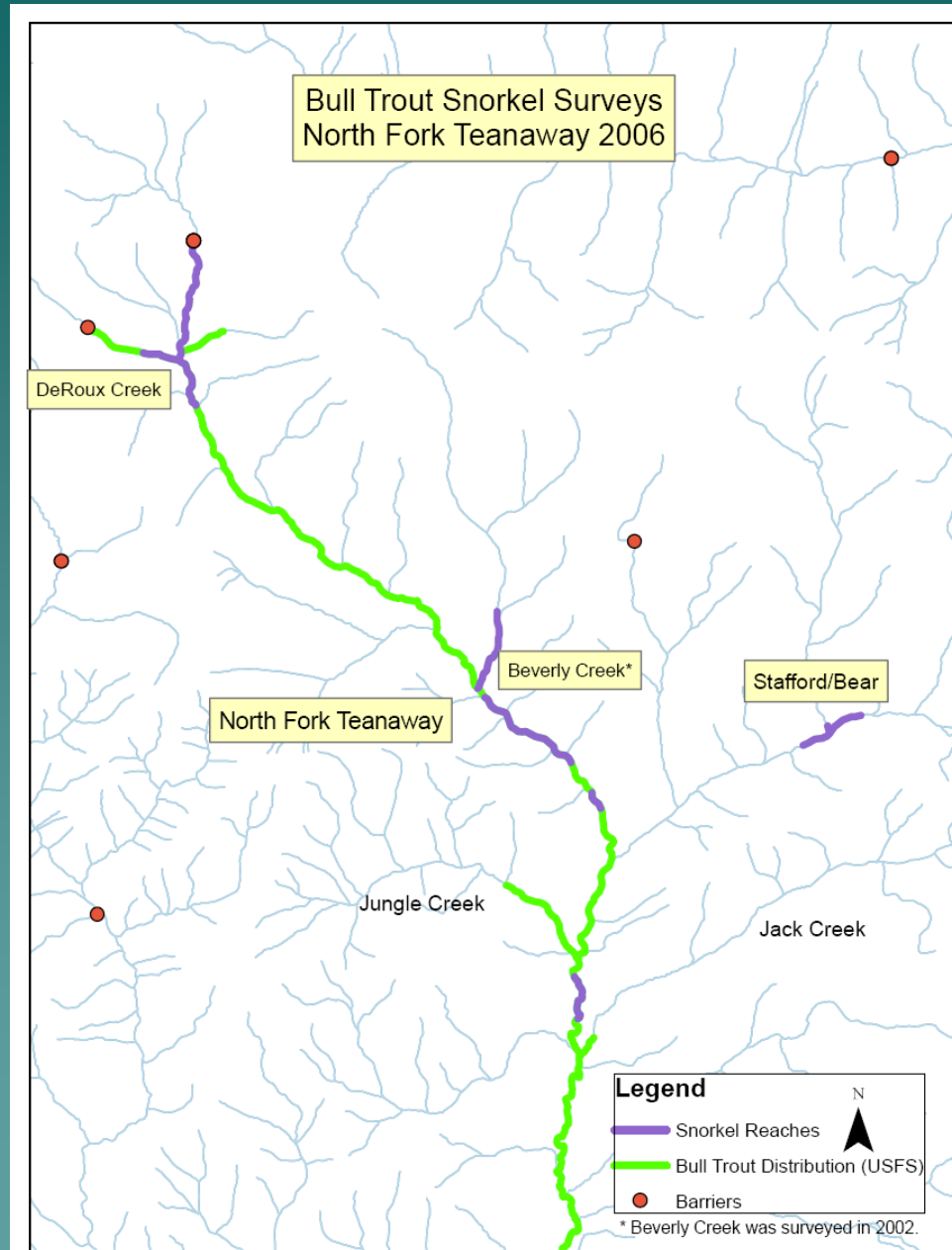


# Methods



- ◆ Selected night snorkel reaches, based on known habitat availability.
- ◆ Interagency effort:  
USFS, USFWS, WDFW, YN, BOR
- ◆ Recorded only species presence.

# Snorkel Site Locations





# DeRoux Creek



Temp during night snorkel: 10 C



# Stafford Creek



Max summer temperature 2005: 16.5 C (YN Data)



# Beverly Creek



7 day average max temperature 2006: 13.8 C (USFS data)



# North Fork Teanaway



7 day average max temperature 2006: 12.7 C (USFS data)



# Results

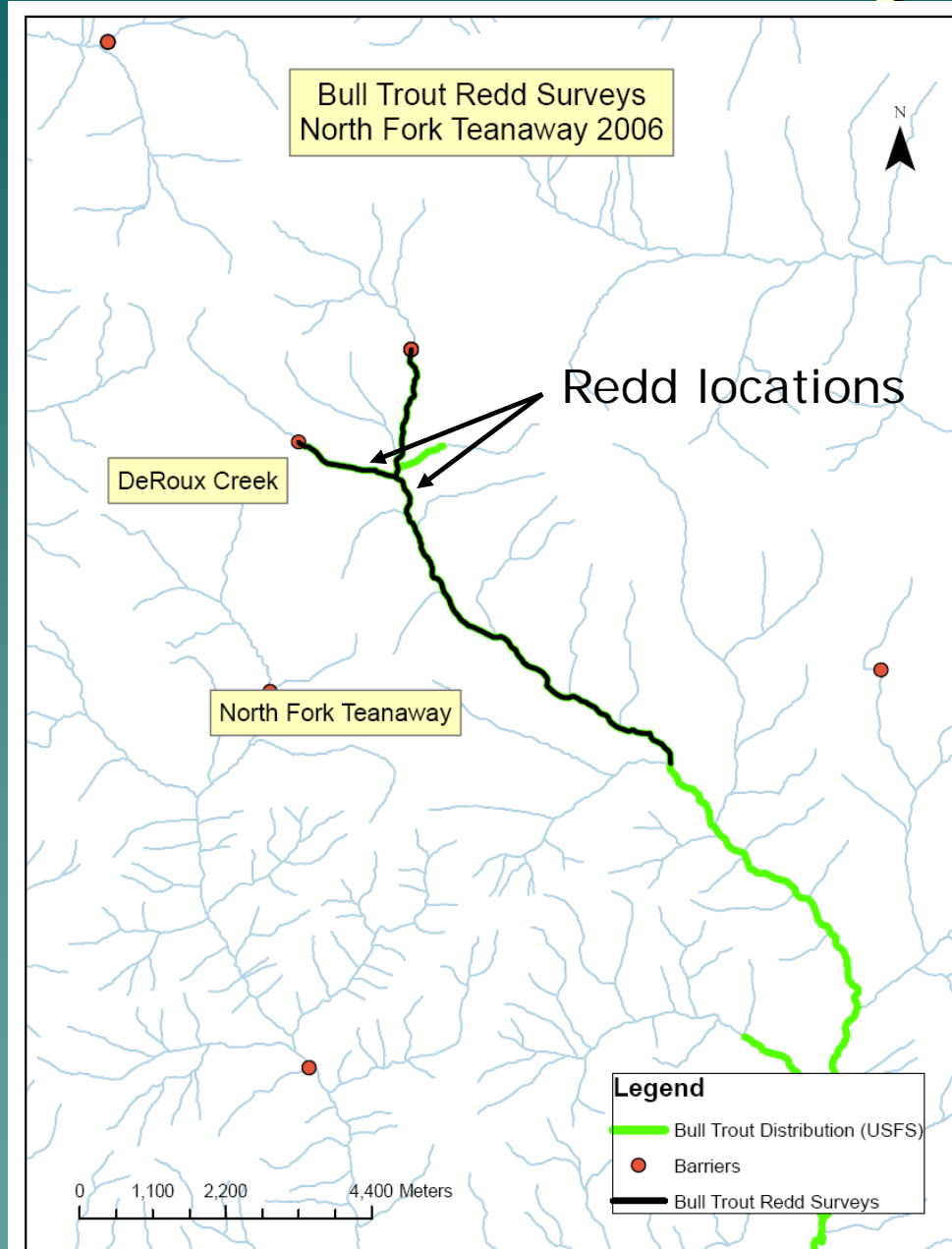
- ◆ 7.8 km snorkeled
- ◆ No bull trout seen Aug 21-24. Five were observed Sept 4 by USFWS crew
- ◆ Other species seen: Rainbow trout, cutthroat trout, spring Chinook, sculpin, long-nosed dace, tailed frog tadpoles, river otter, and crayfish.



NFT Barrier Falls



# 2006 Redd Surveys





# Redd Surveys

- ◆ Two passes completed (Johnson Creek to barrier and DeRoux Creek)
- ◆ 2 bull trout redds observed

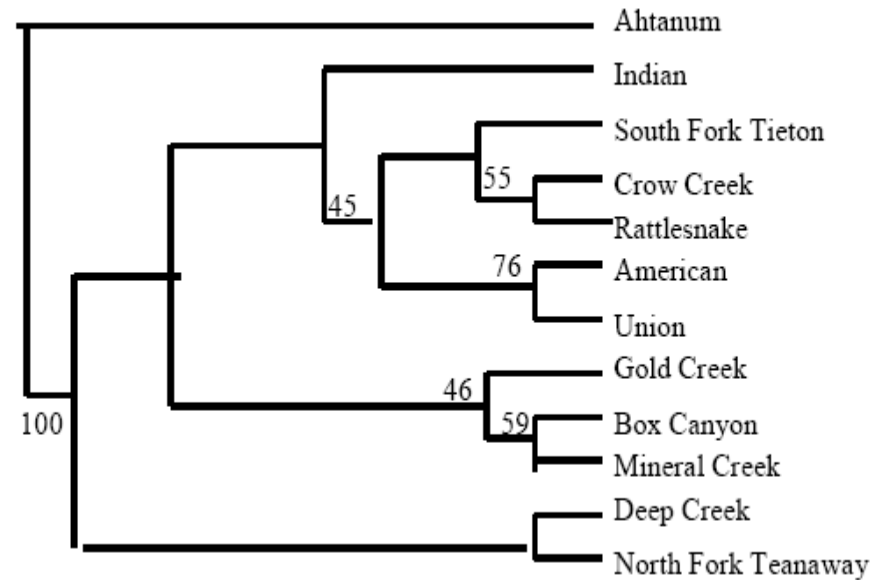


2006 Deroux Redd



# Discussion


- ◆ Downward trend in the number of bull trout in this system.
- ◆ There is a remnant population.
- ◆ These fish are genetically distinct



UPGMA Consensus tree based on CSE chord distances



# Theories on why...

- ◆ Fishing regulations
  - ◆ Land use in Teanaway system
  - ◆ Road densities
  - ◆ Passage, stream temperatures, flow
  - ◆ Brook trout? Not likely
  - ◆ Upper Yakima is fragmented
- 



# Theories on why...





# Upper Yakima Bull Trout Sightings

- ◆ Yakama Nation found a juvenile bull trout near Easton acclimation site (1989)
- ◆ 2000 snorkel/redd survey from quarry to Keechelus dam (2 redds, 4 adult bull trout)
- ◆ Redd surveys: 2001 (1); 2002 (0); 2003 (1).
- ◆ Yakama Nation found a dead adult bull trout below Crystal Springs (~2002).



# Upper Yakima Sightings Contd.

- ◆ 2 adult bull trout on redd near Cabin Creek (Mayo, Oct 2003)
- ◆ 2 adult bull trout in Keechelus outlet works (2004)
- ◆ This is identified as a "local population" in recovery plan – many questions!





# Upper Yakima Redd Survey Reaches

Lake Keechelus

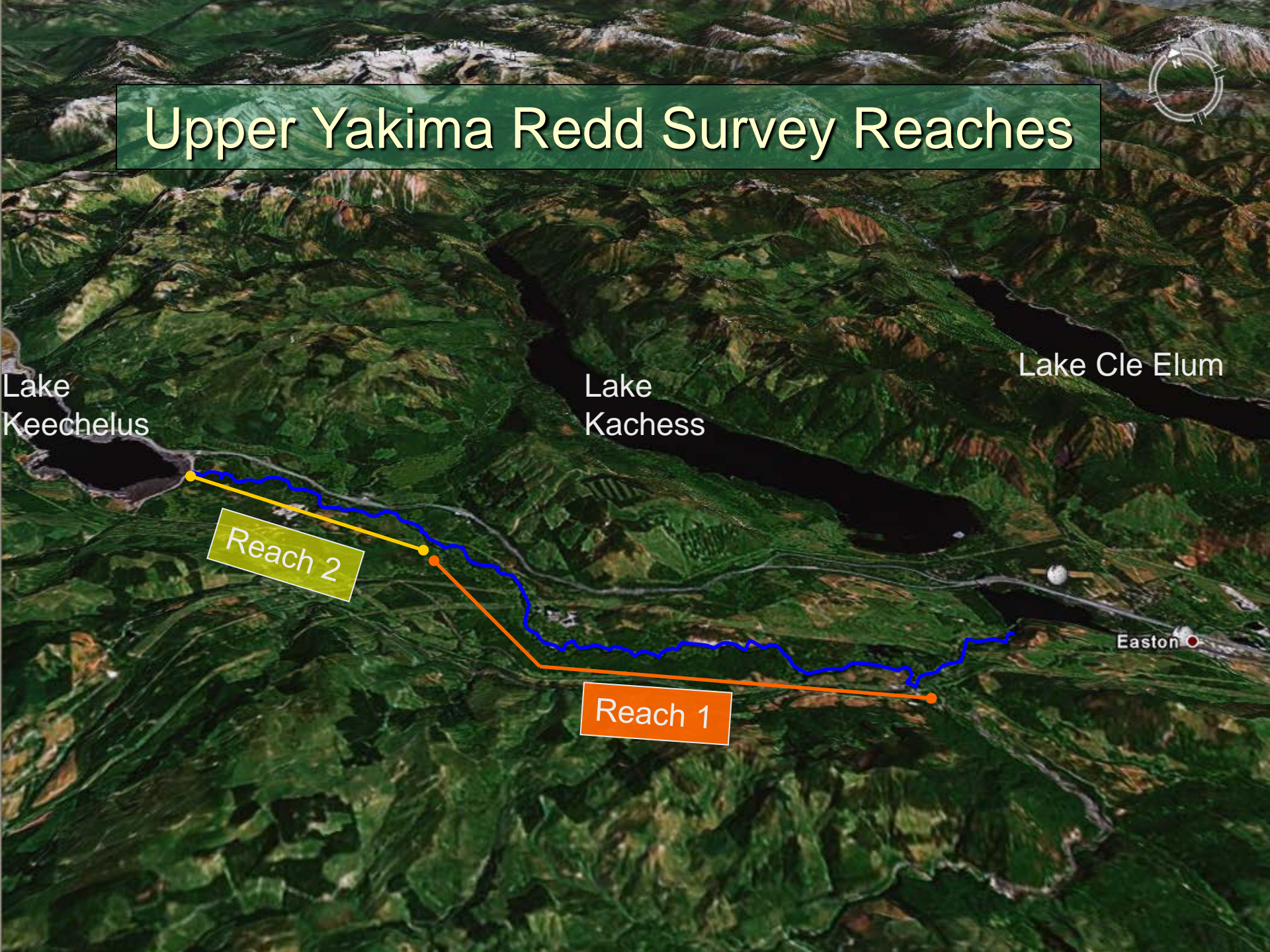
Lake Kachess

Lake Cle Elum

Reach 2

Reach 1

Easton





# 2006 Redd Surveys

- ◆ Redd surveys from Cabin Creek to powerline x-ing. Spot snorkel in places.
- ◆ RESULTS: Identified 3 bull trout redds, saw 5 adult bull trout holding in a pool above redd location.



# 2006 Snorkel Surveys

- ◆ Night snorkel surveys: Crystal Springs (.5 mile up), Keechelus dam (.5 m down).
- ◆ Also snorkeled below and above Lake Easton.



# Snorkel Results

- ◆ RESULTS: 3 bull trout, 1 possible hybrid, 1 hybrid (bull x brook). Many brook trout observed.





# Discussion

- ◆ Need for continued surveys to determine extent of population.
- ◆ Genetic sampling could tell us if these bull trout are entrained from reservoirs. Related to Teanaway bull trout?



# Acknowledgements

A large, colorful fish, possibly a rainbow trout, is shown swimming in a stream. The fish has a mix of green, yellow, and red colors on its body. It is swimming over a rocky riverbed. The background is a dark, textured surface, possibly a forest floor or a cave wall.

- ◆ NFT Snorkelers: Judy De La Vergne , Jeff Krupka, David Morgan, Jeff Thomas, Scott Wiley, Dave Fast, William Meyer and Yuki Reiss
- ◆ Upper Yakima snorkelers: Judy De La Vergne, David Morgan, William Meyer, Scott Kline.
- ◆ Thank you to USFWS, BOR, YN and USFS for great teamwork! Thanks to YSIS for Index data.