

# Were Bull Trout Successfully Reintroduced into the Wallowa River?

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*+ PacifiCorp*

*Photo: Ryan Koch, USFWS*



**Dedicated to the memory of Bill Knox.**

# Bull trout are likely to be at the brink of extinction in the near future.

U.S. Fish & Wildlife Service

## Revised Draft Recovery Plan for the Coterminous United States Population of Bull Trout

*(Salvelinus confluentus)*



Cover illustration of bull trout by Joel Sartore with Wade F. redenberg.  
National Geographic stock, used with permission.



### on Online System

Conserving the Nature of America



Photo: ODFW

# Whether reintroductions can be effective recovery actions is unclear.



*Photo: USDA.gov*

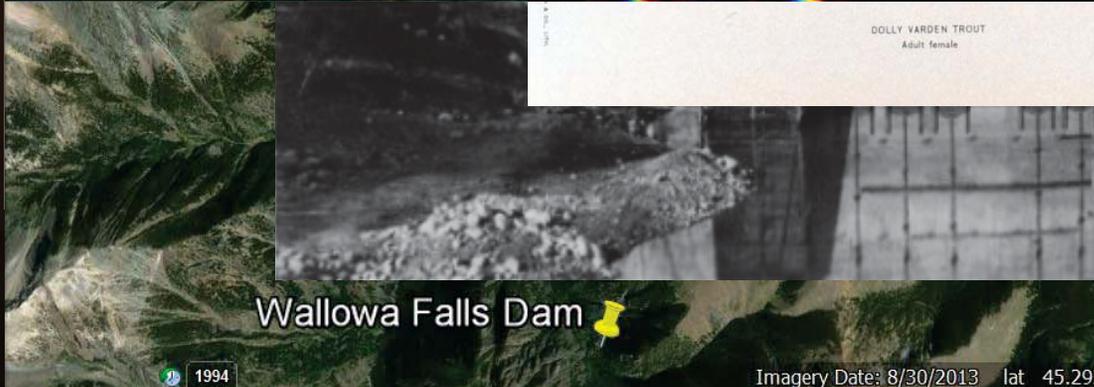


*Photo: Flathead Beacon*

# Bull trout in the upper Wallowa River (WR) were extirpated in the 1950's.



Photo: PacifiCorp



Wallowa Falls Dam

1994

Imagery Date: 8/30/2013 lat 45.292260 lon -117.177547 elev 4941 ft eye alt 44415 ft



Photo: unknown

# Bull trout have colonized the Wallowa Valley Improvement Canal.



# Bull trout from the WVIC were translocated to the WR.

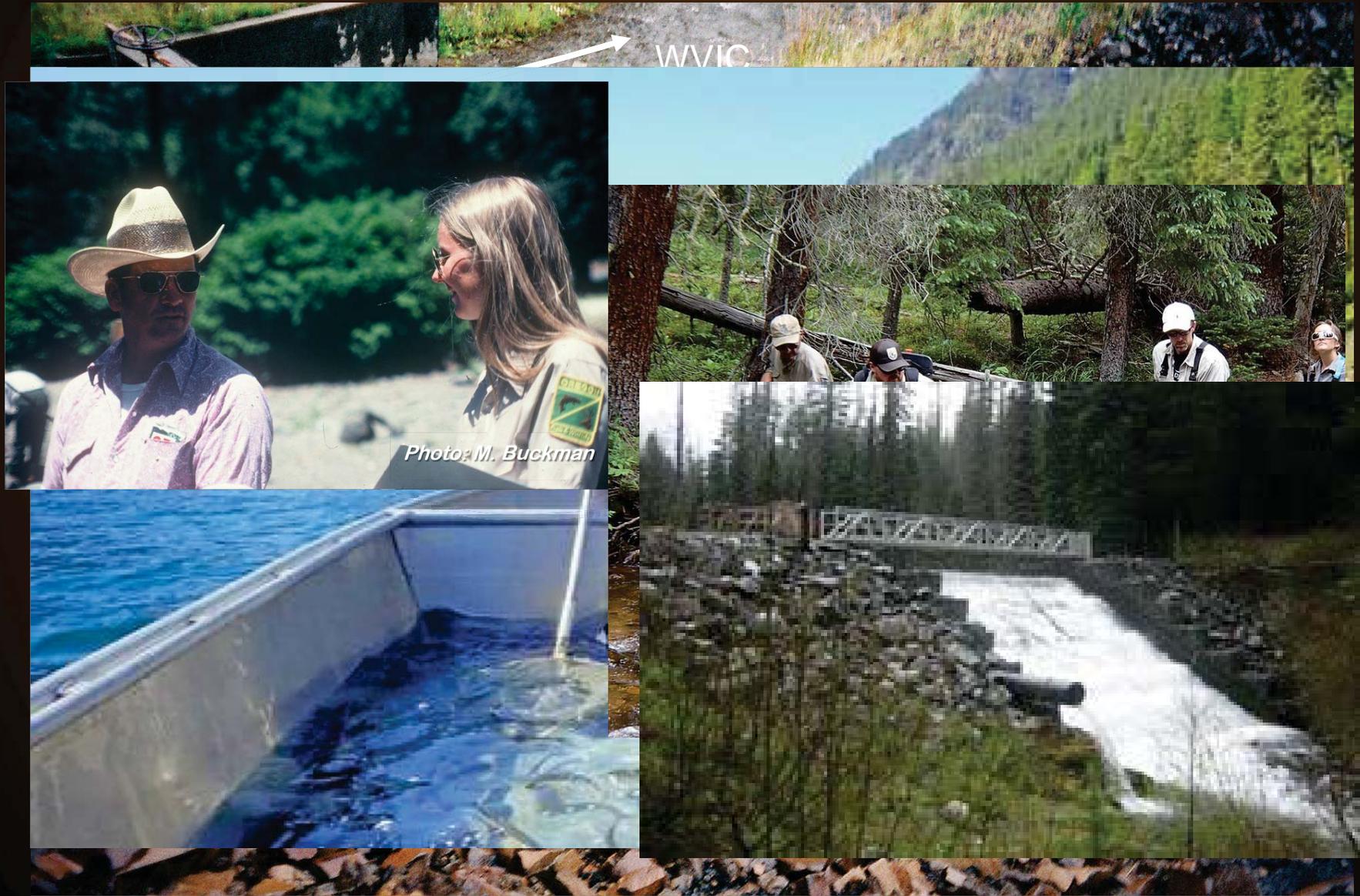
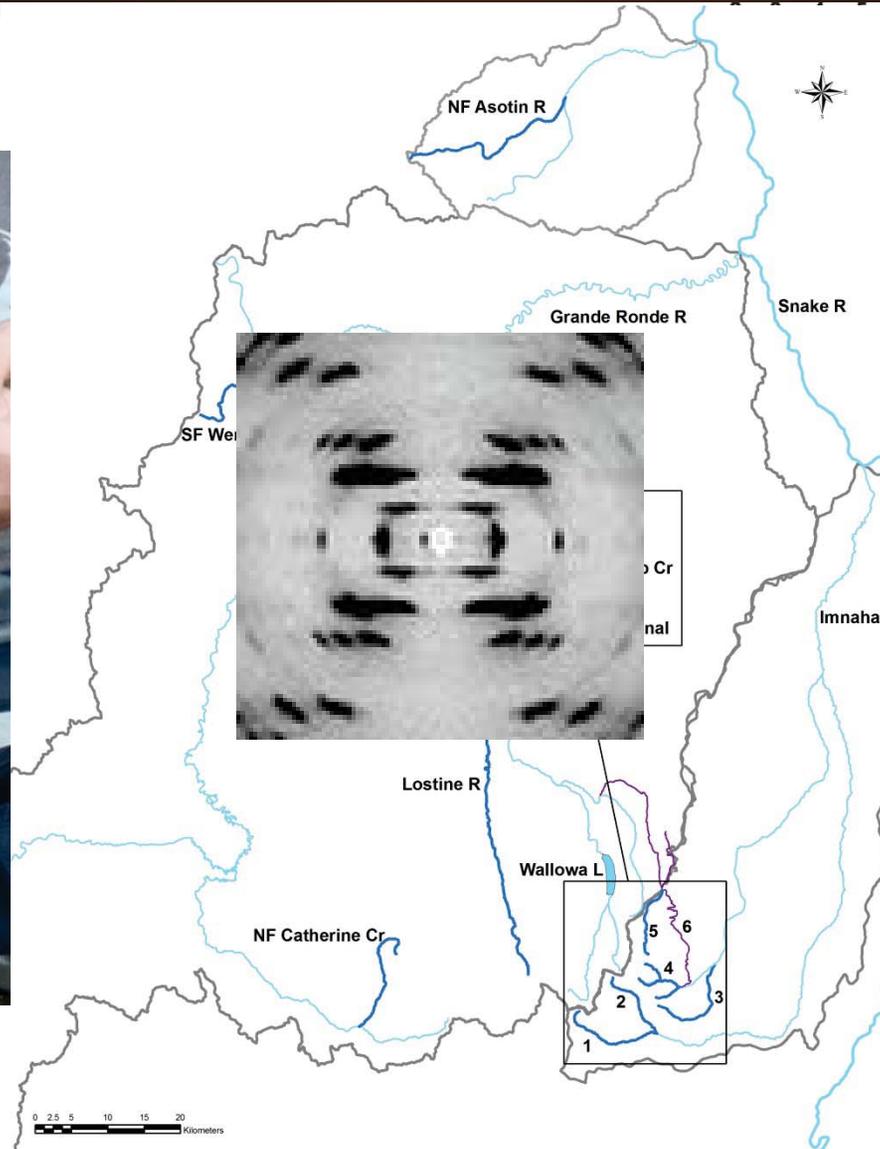


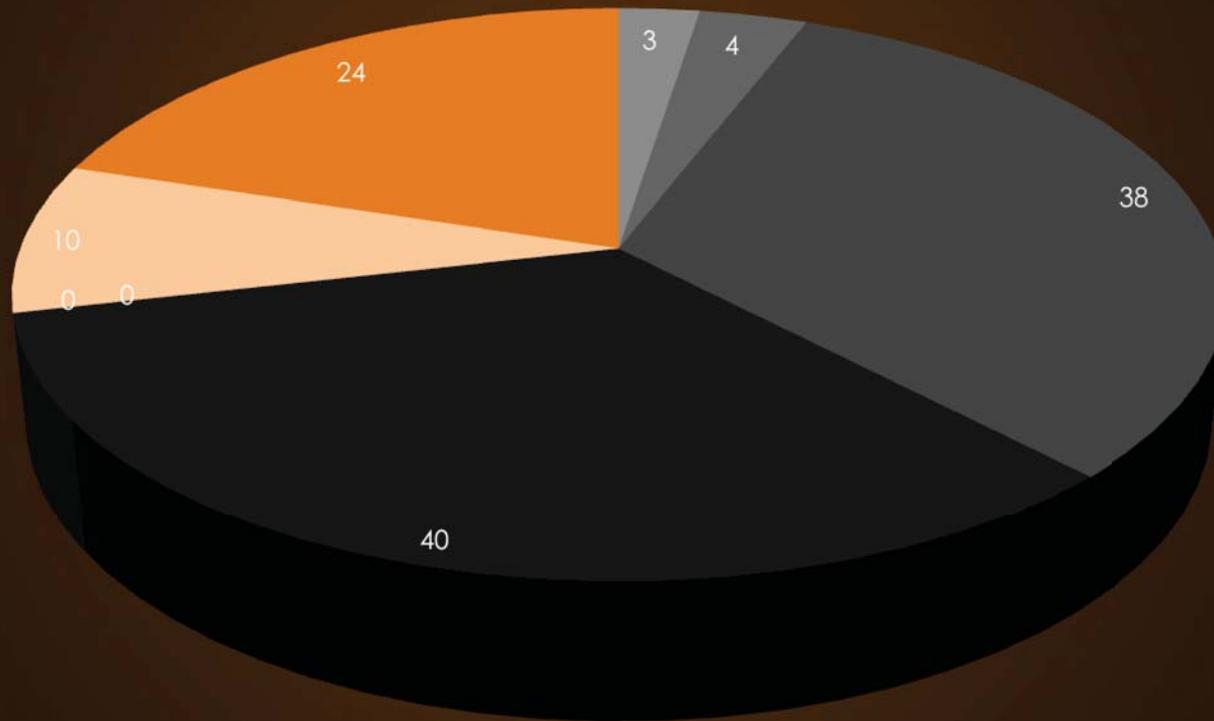
Photo: M. Buckman

# Char currently occupy the WR, but their purity and origin is unclear.



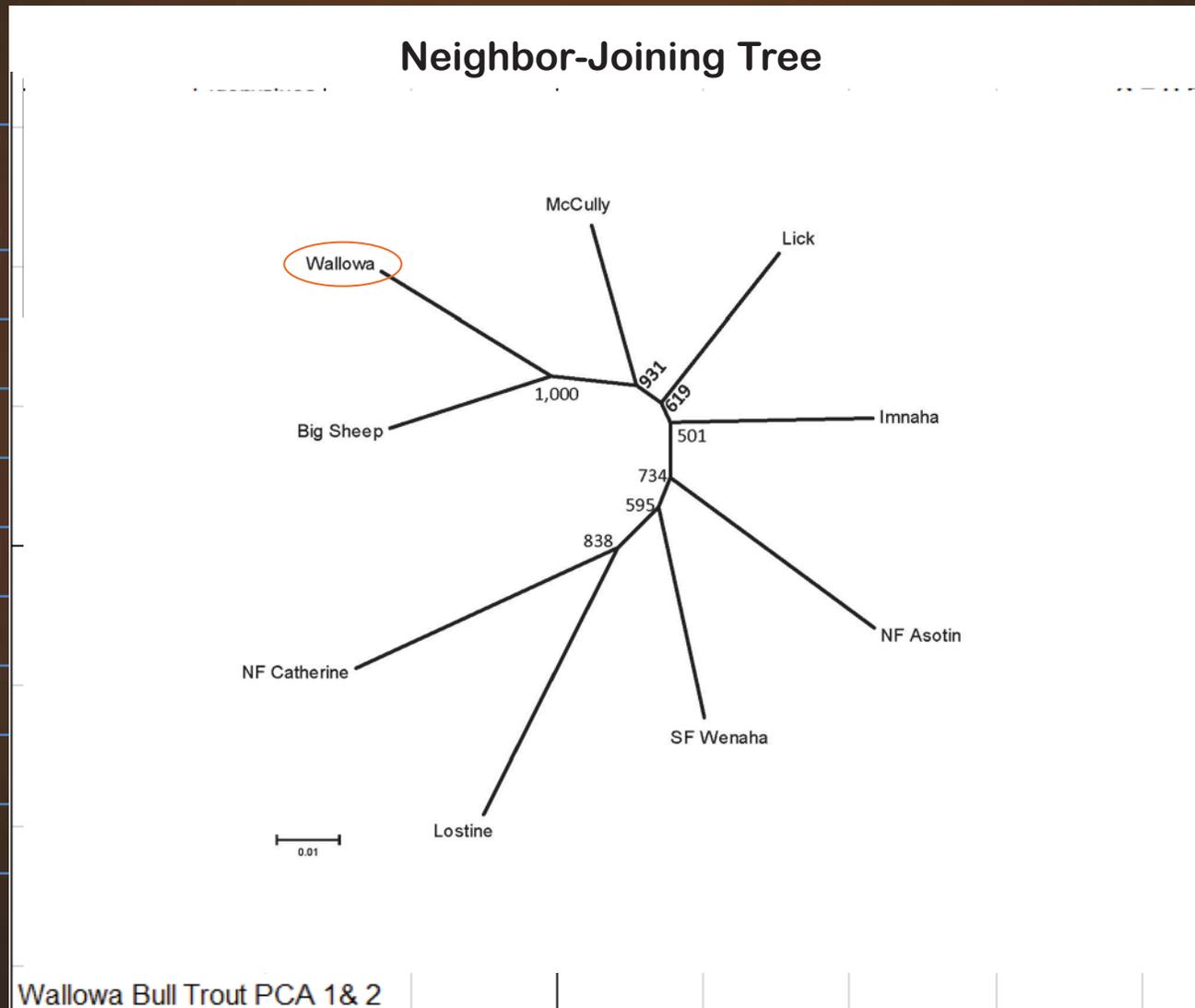
# Pure bull trout occupied the WR.

Bu x Br Trout (28.6%)

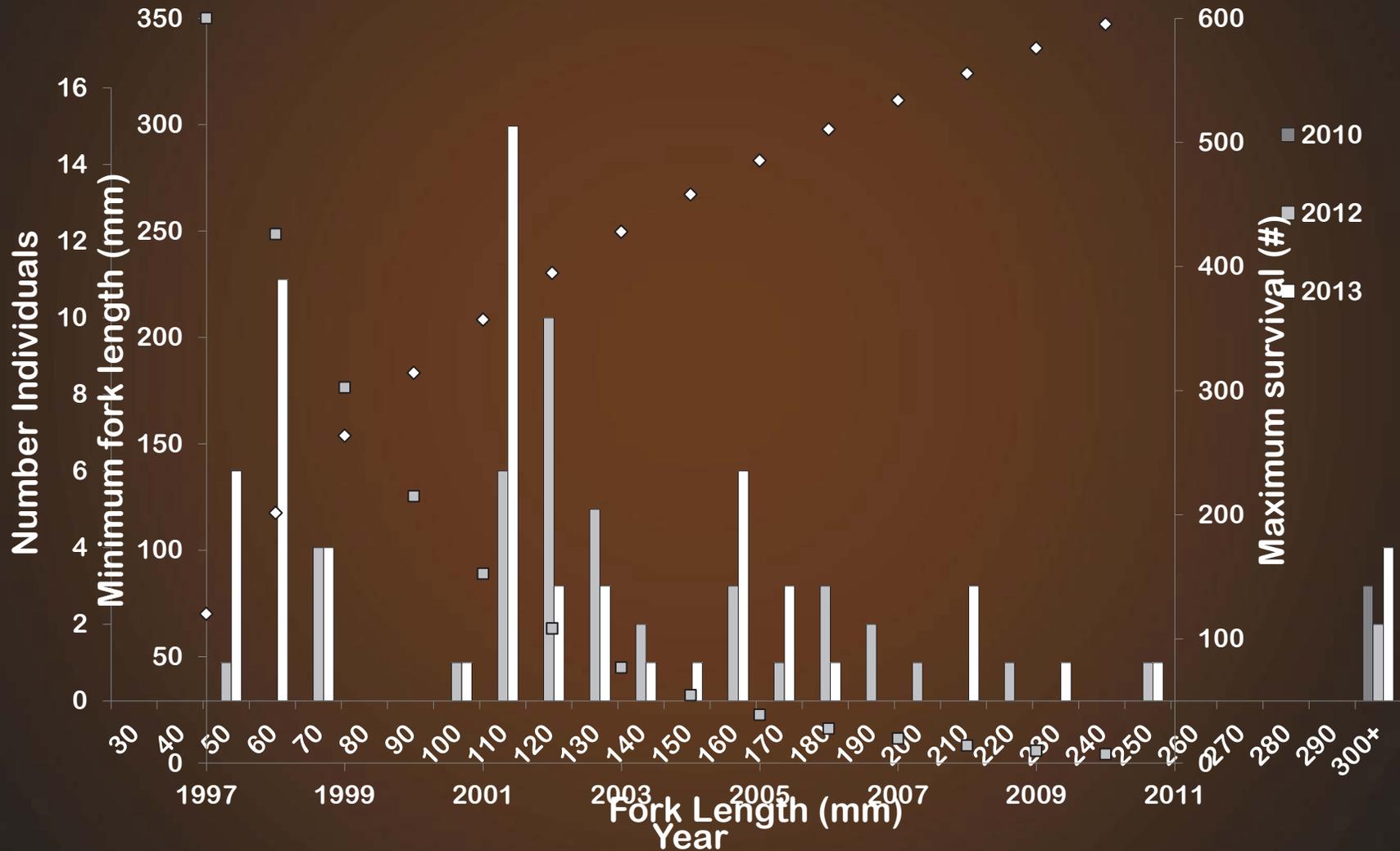


Bull Trout (71.4%)

# WR bull trout were more similar to those from the Imnaha than the Grande Ronde.



# WR bull trout likely came from successful spawning and natural production.

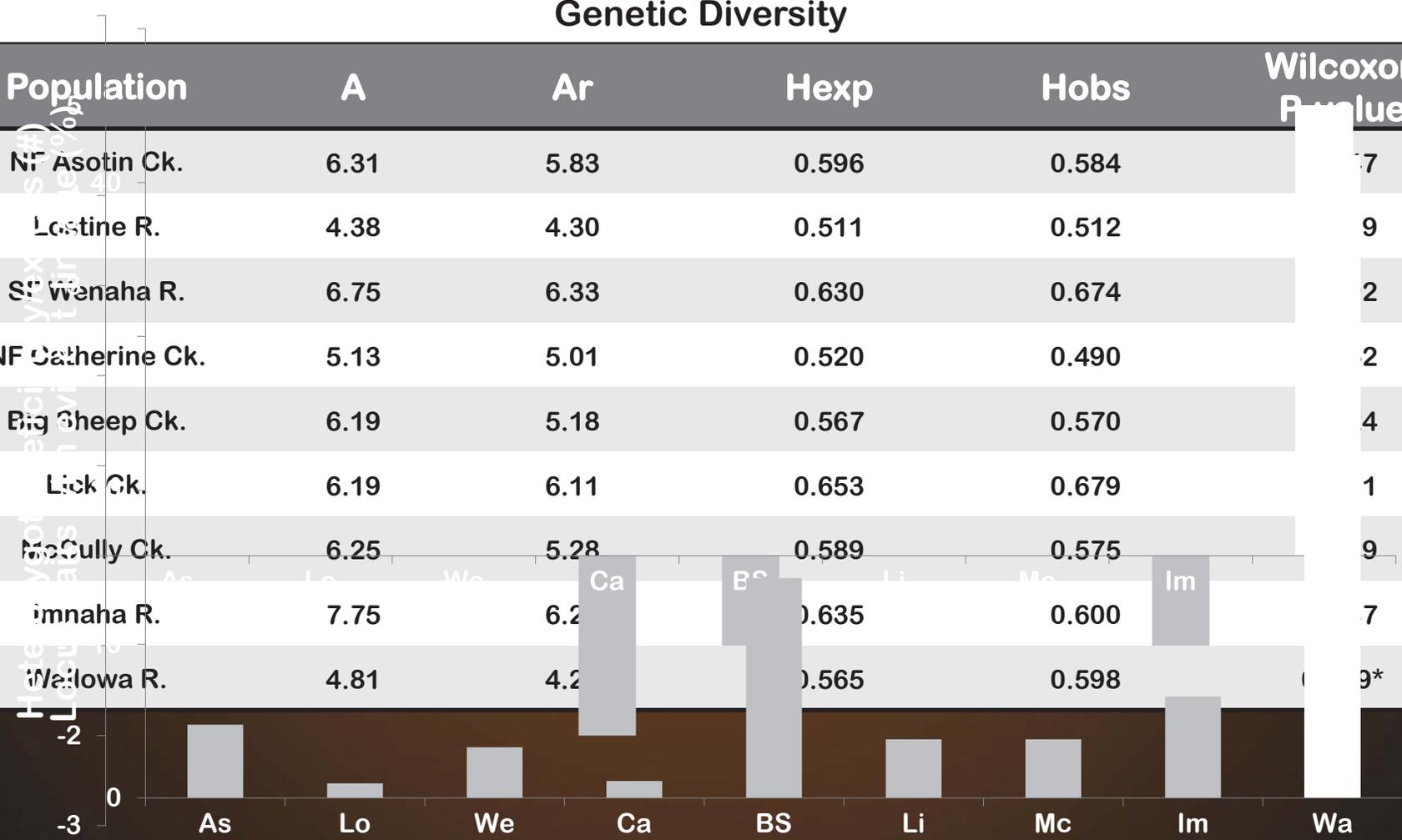


# WR bull trout exhibit a genetic profile consistent with a recent translocation.

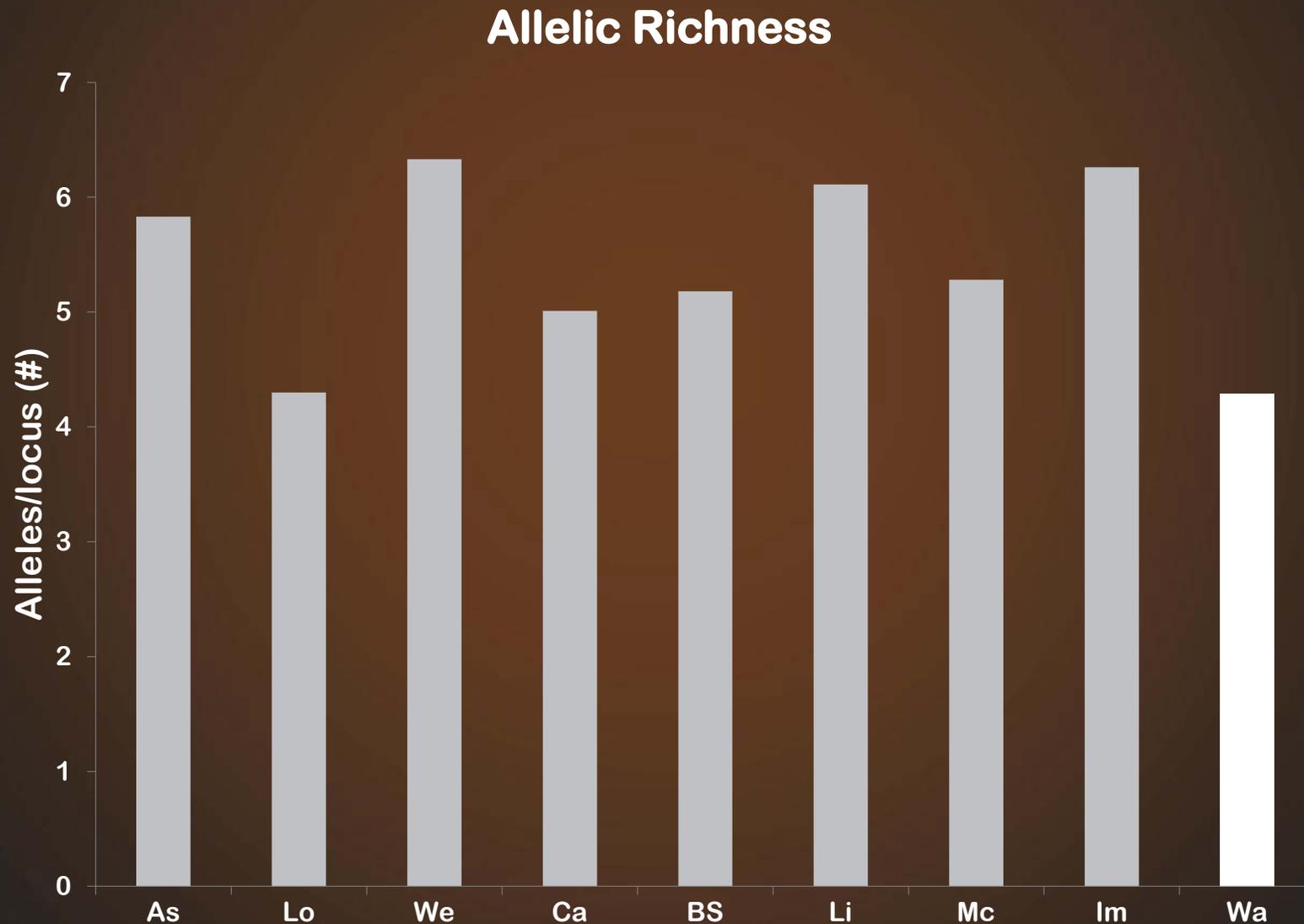
## Deviations from HWE

### Genetic Diversity

Population	A	Ar	Hexp	Hobs	Wilcoxon P-value
NF Asotin Ck.	6.31	5.83	0.596	0.584	0.7
Lostine R.	4.38	4.30	0.511	0.512	0.9
SE Wenaha R.	6.75	6.33	0.630	0.674	0.2
NF Catherine Ck.	5.13	5.01	0.520	0.490	0.2
Big Sheep Ck.	6.19	5.18	0.567	0.570	0.4
Lick Ck.	6.19	6.11	0.653	0.679	0.1
McCully Ck.	6.25	5.28	0.589	0.575	0.9
Winnaha R.	7.75	6.2	0.635	0.600	0.7
Wenaha R.	4.81	4.2	0.565	0.598	0.09*



**The population size of WR bull trout may be relatively small.**



# Were bull trout successfully reintroduced into the Wallowa River ...

- WR bull trout likely of Imnaha origin
- WR bull trout unlikely to be originally translocated fish ...
- Evidence for:
  - Successful spawning
  - Natural production
  - Recolonization
- *However:*
  - *Low genetic diversity*
  - *Unknown/Low population size*
  - *Long-term*

# Conditions may have been important for the success of this reintroduction?



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*Photo: D. Jensen*