



# Science Priorities Panel, Idaho

John Cassinelli; Anadromous Program Manager, IDFG

PSMFC Annual Meeting – Boise, ID - 2025



# Idaho is Unique

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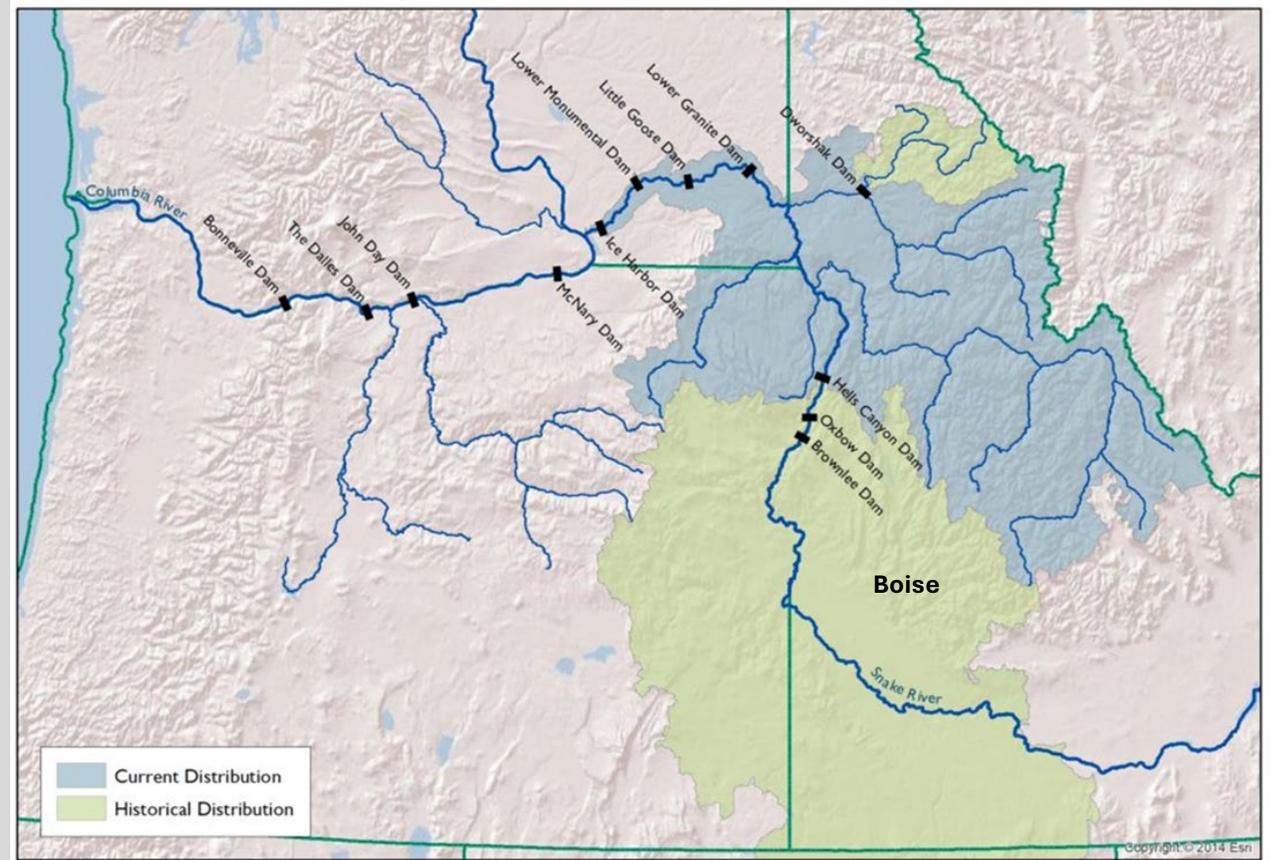
- Only west coast state tied to Pacific Ocean management and research, that doesn't have a coast



# Idaho is Unique

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- **Salmon and steelhead-specific**



# Salmon and Steelhead Landscape

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- **Spring/Summer & Fall Chinook**
  - > 45% of entire Columbia River run (historically, one of the world's largest)
- **Steelhead**
  - > 50% of entire Columbia River run
  - 2-ocean aged NF Clearwater run considered some of largest steelhead in North America
- **Sockeye**
  - Furthest inland migration, southernmost population in the world
- **Coho**
  - Extirpated and reintroduced



# Freshwater Habitat is Important



FEATURE

## How do Management Goals for Wild Chinook Salmon Align with Feasibility?

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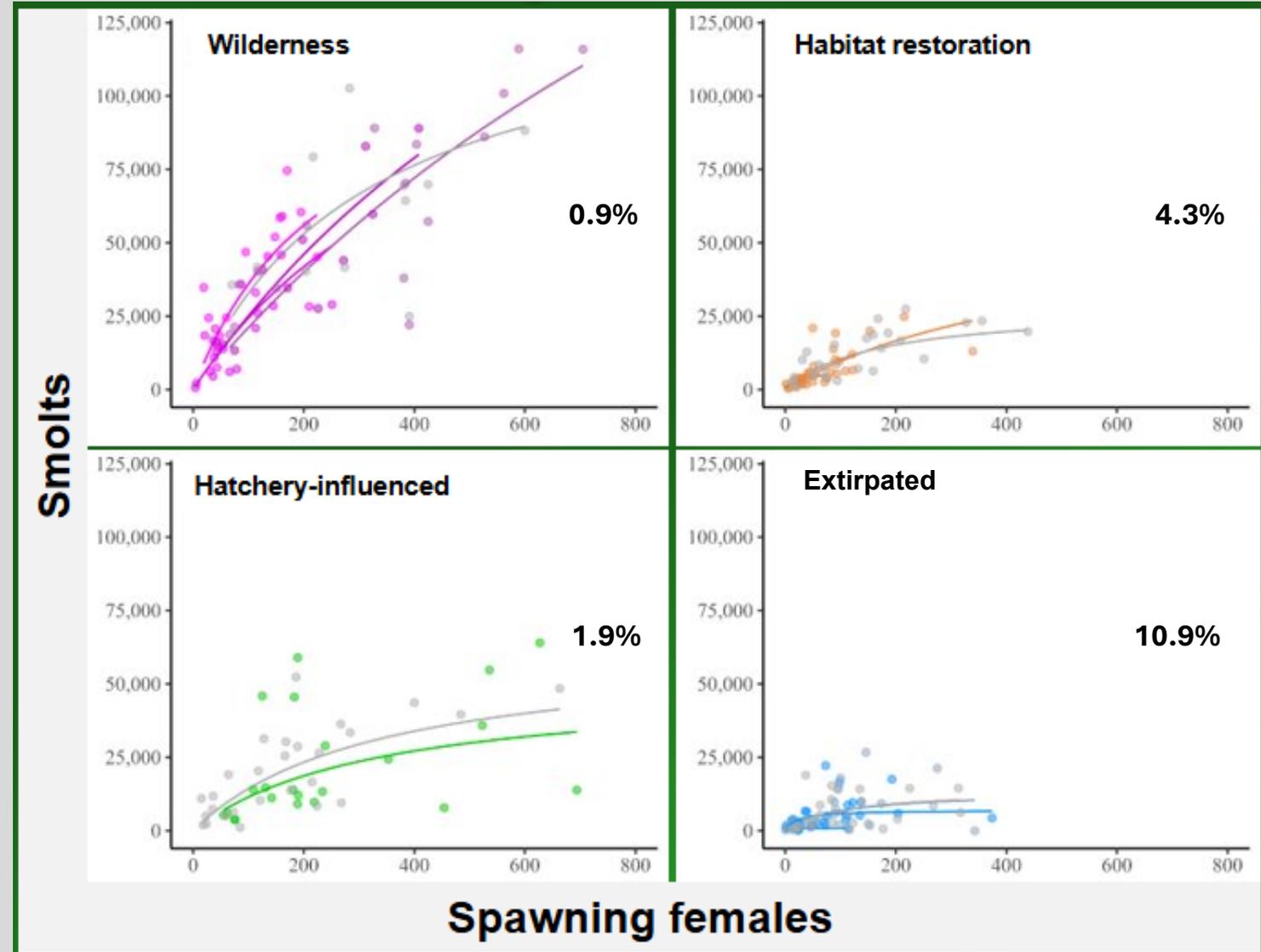
An adult Chinook Salmon *Oncorhynchus tshawytscha* in the Salmon River, Sawtooth Valley, Idaho.  
Photo credit: Idaho Department of Fish and Game Image/Glenn Oakley.

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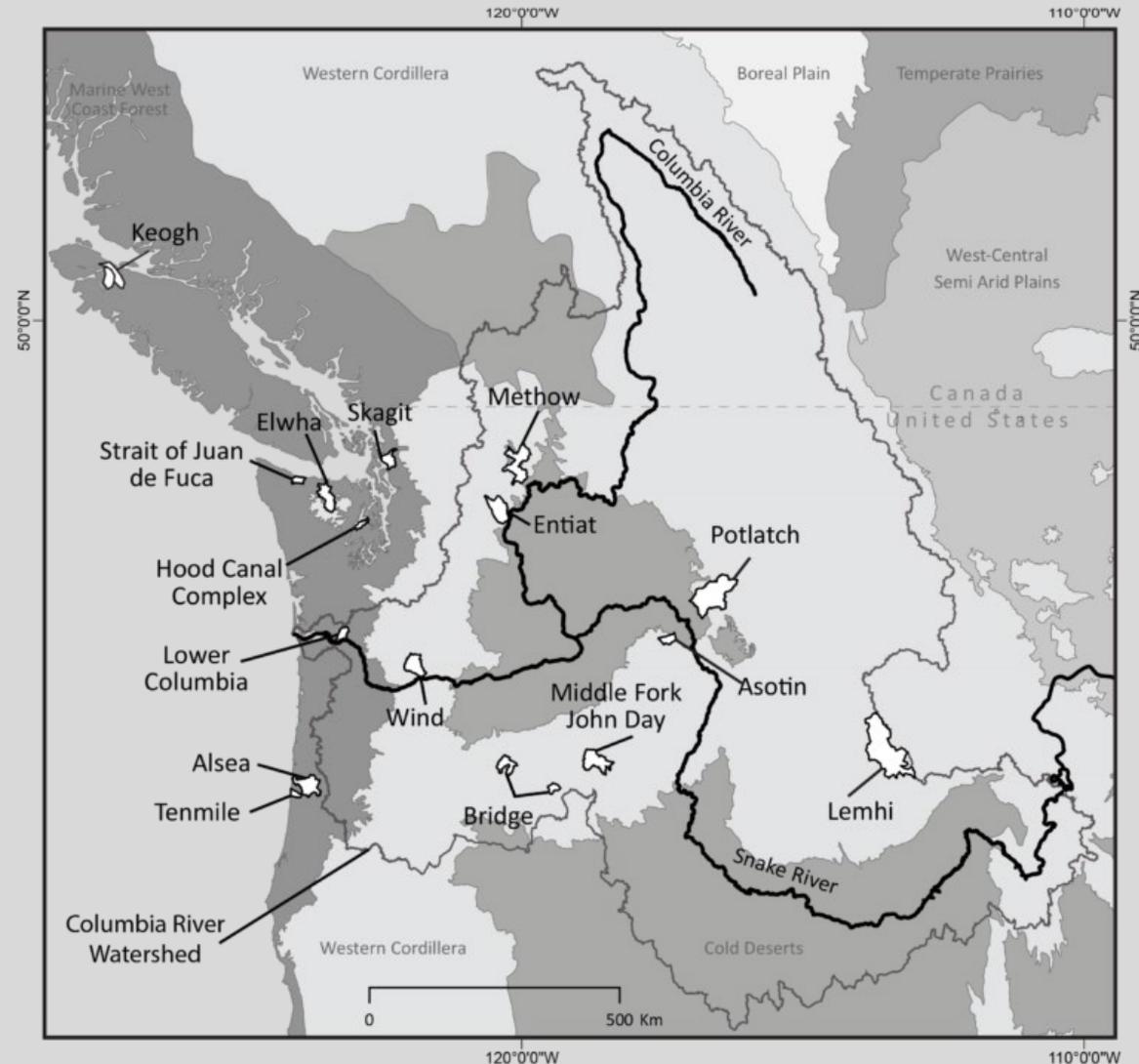
# Freshwater Habitat is Important

- Wilderness habitat is extremely valuable
- Habitat restoration is necessary



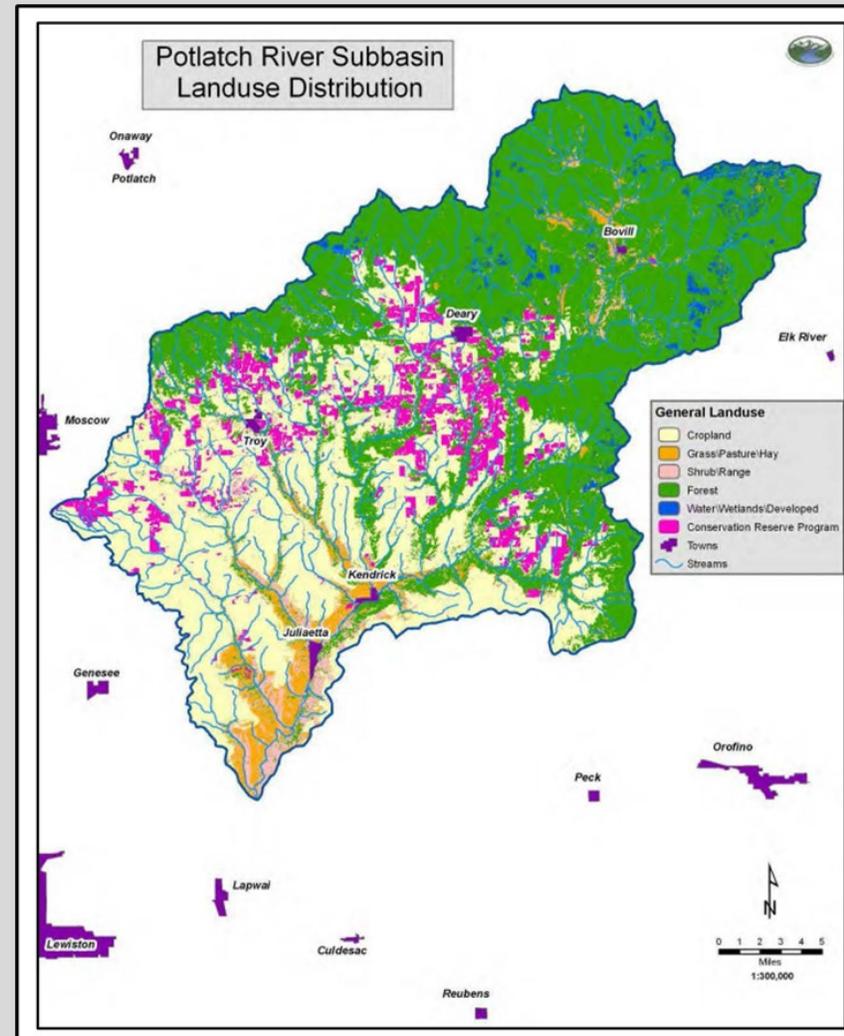
# Habitat Restoration and Intensively Monitored Watersheds (IMWs)

- **IMWs - Long-term research and monitoring to document how fish populations respond to habitat restoration**
  - Are restoration efforts working to increase salmon and steelhead numbers?
- **Projects are strategically located across the Pacific Northwest**
- **Two IMW projects located in Idaho, the Potlatch River basin and the Lemhi River basin**



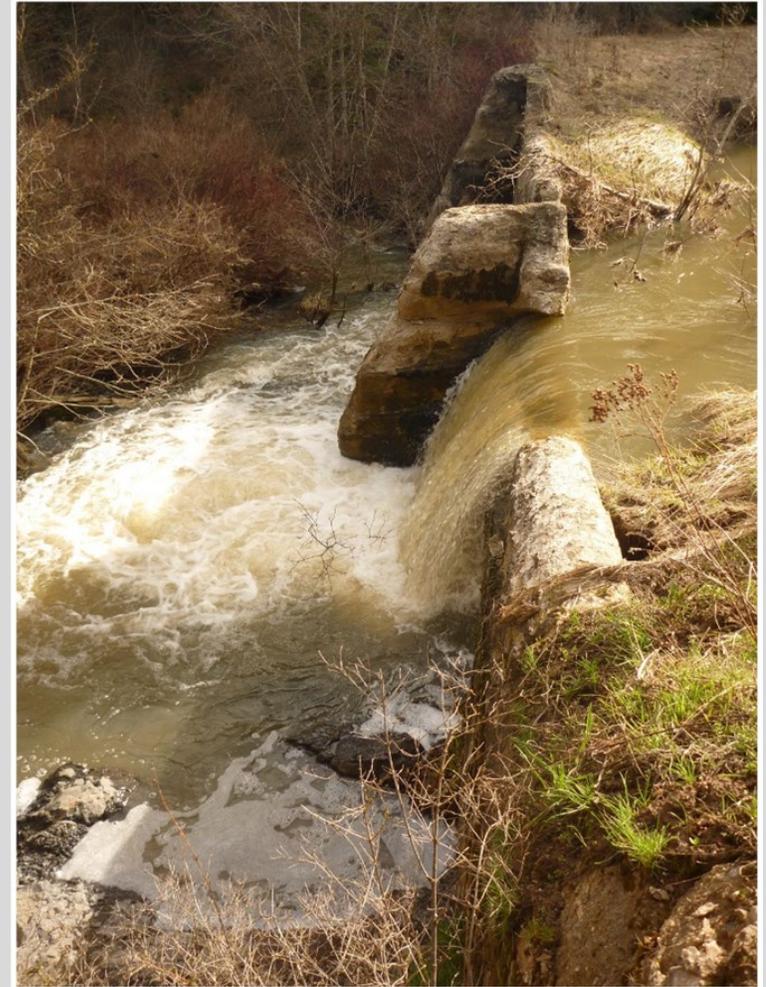
# Habitat Restoration and Intensively Monitored Watersheds (IMWs)

## Potlatch River



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## Potlatch River



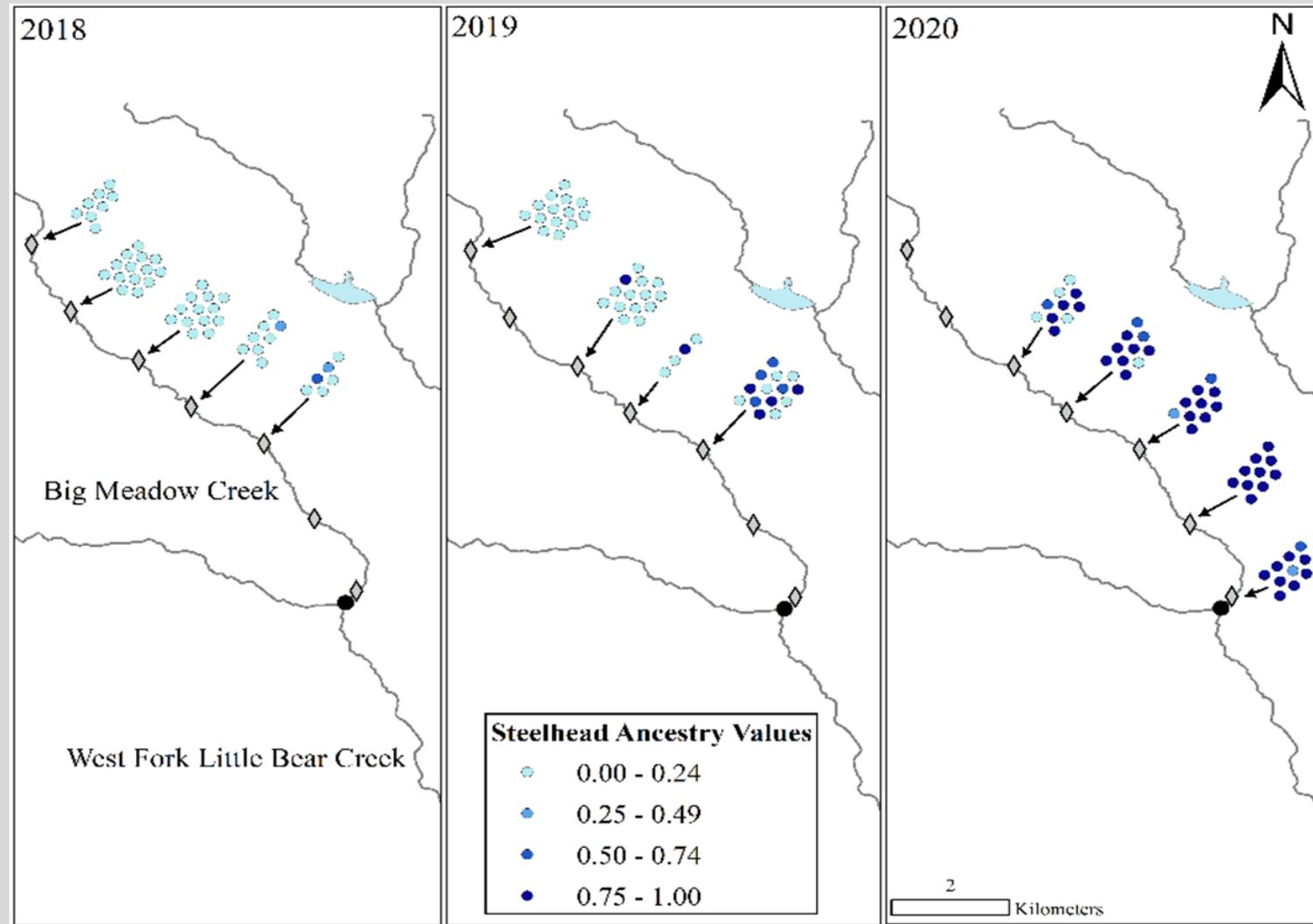
# Habitat Restoration and Intensively Monitored Watersheds (IMWs)

## Potlatch River



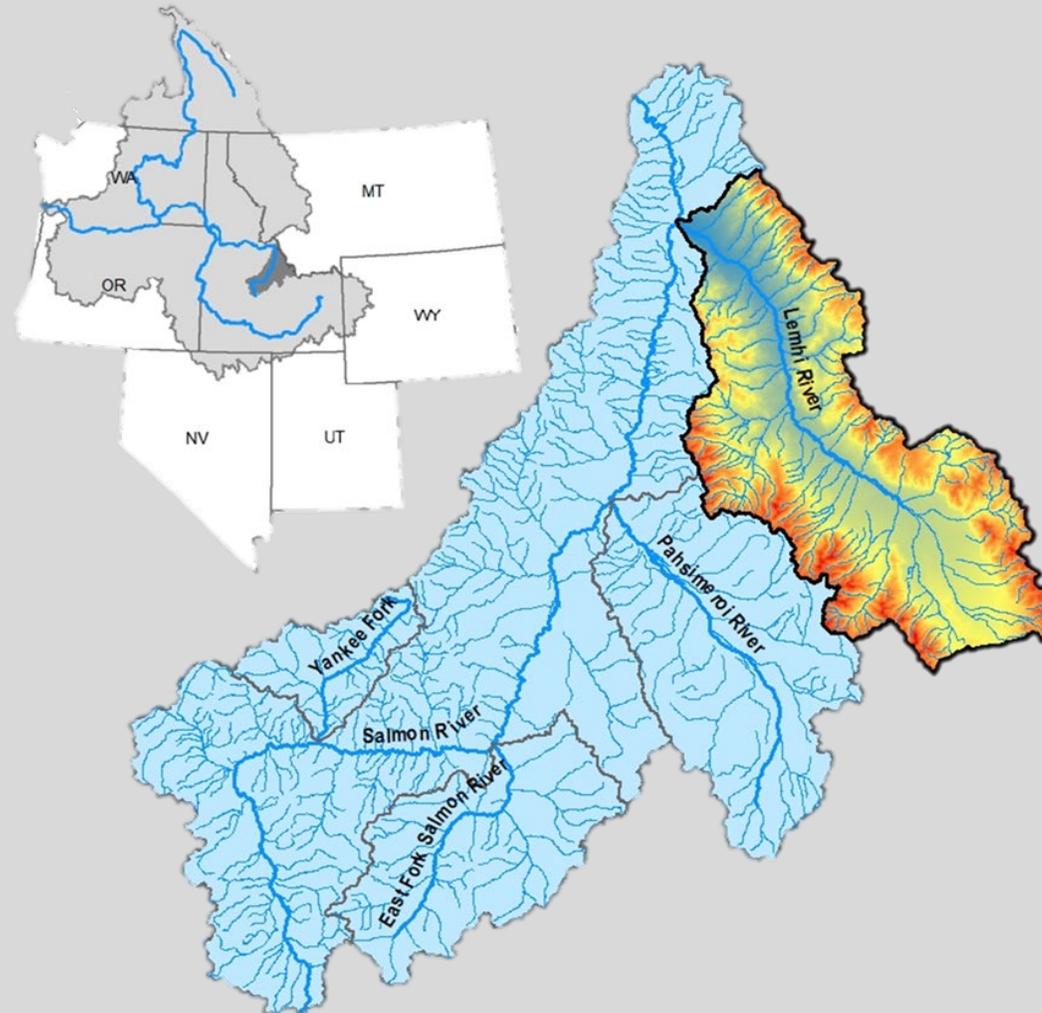
# Habitat Restoration and Intensively Monitored Watersheds (IMWs)

## Potlatch River



# Habitat Restoration and Intensively Monitored Watersheds (IMWs)

## Lemhi River



# Habitat Restoration and Intensively Monitored Watersheds (IMWs)

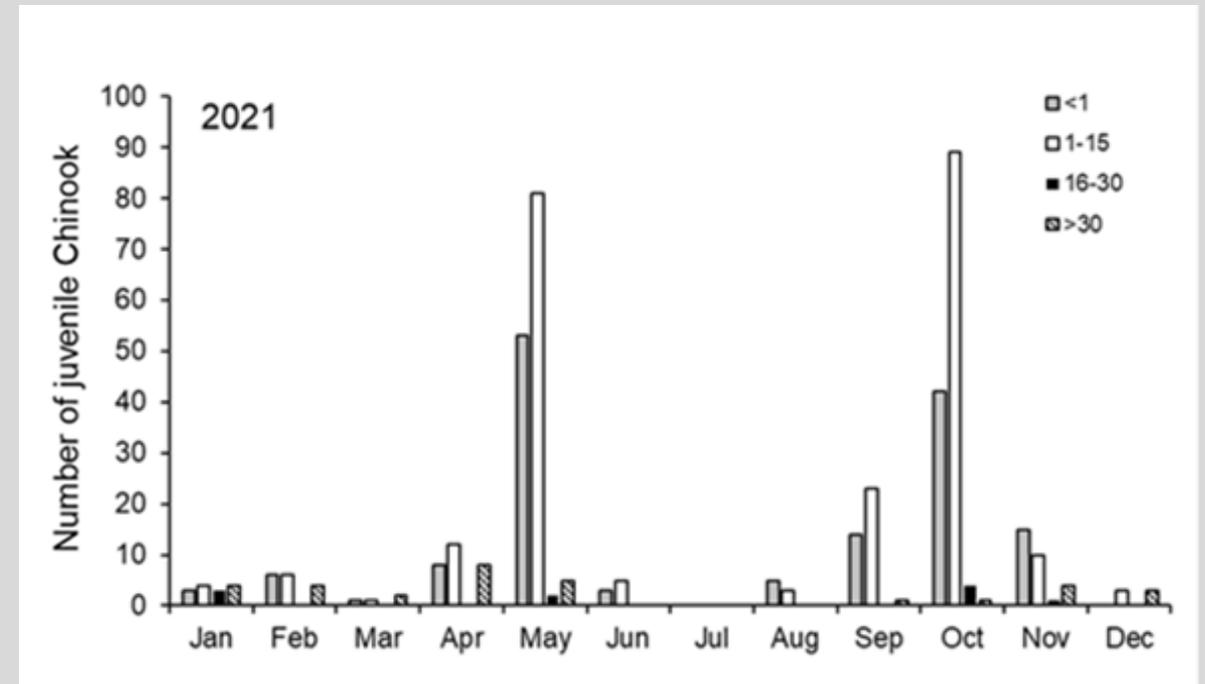
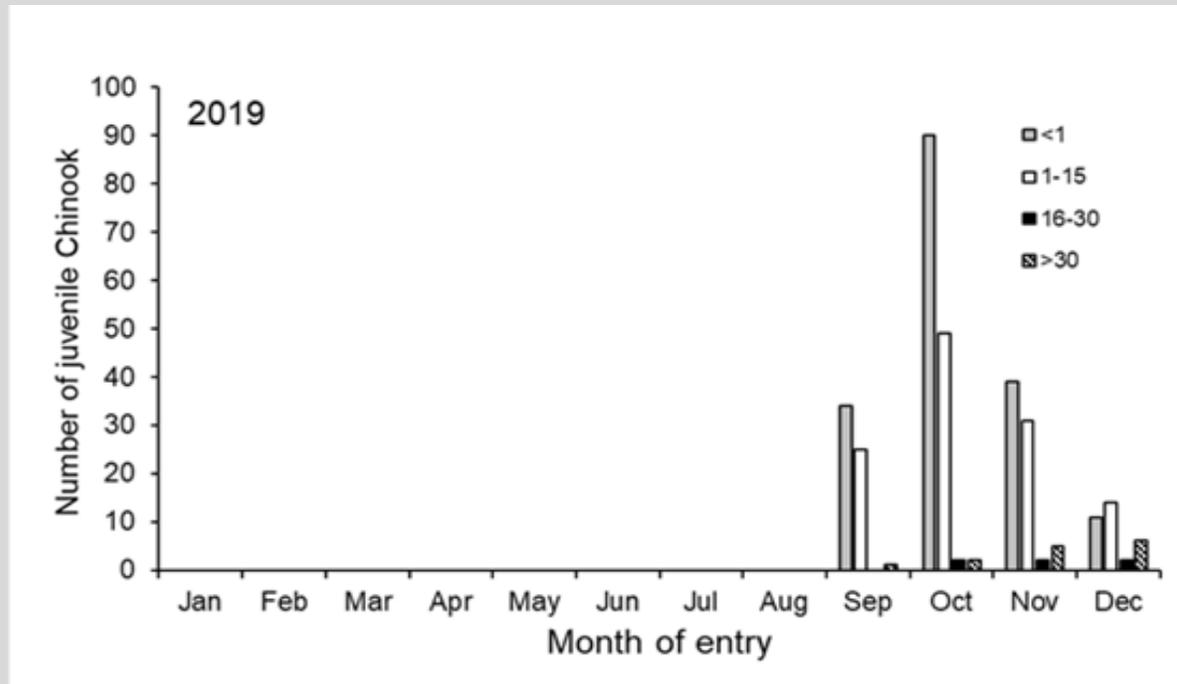
## Lemhi River





# Habitat Restoration and Intensively Monitored Watersheds (IMWs)

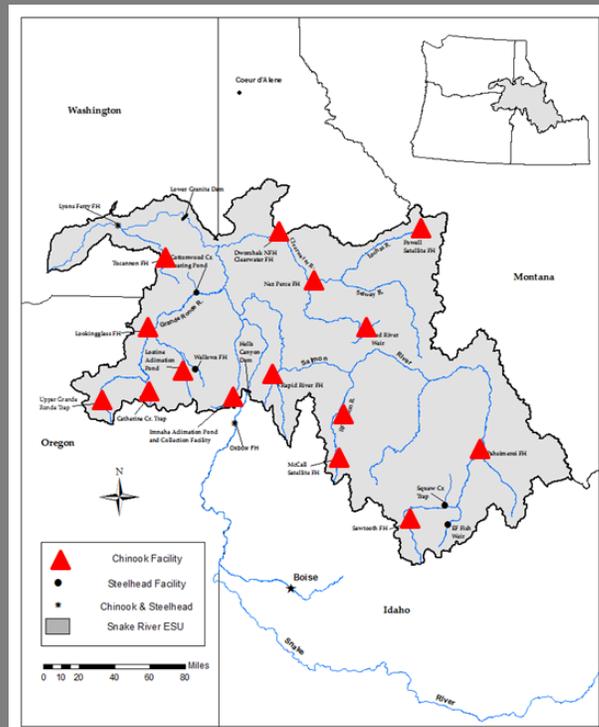
## Lemhi River



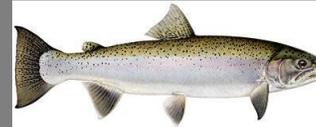
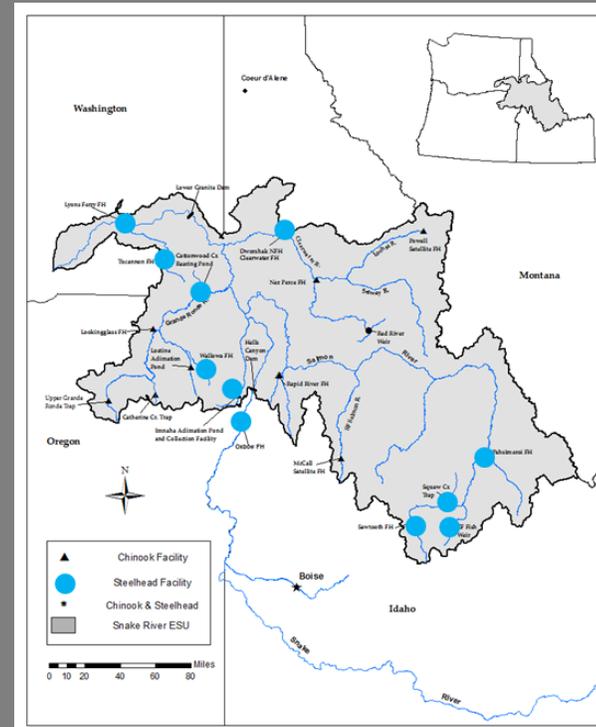
# Emerging Genetic Tools

## Parental Based Tagging (PBT) of Snake River Chinook Salmon and steelhead

- All Spring/Summer Chinook salmon broodstock sampled since **2008** (~10,000 samples annually)
- All Fall Chinook salmon (Lyons Ferry/NPT) since **2011** (~5,000 samples annually)
- Most Snake River steelhead broodstock sampled in **2008**, all since 2009 (~5,000 samples annually)

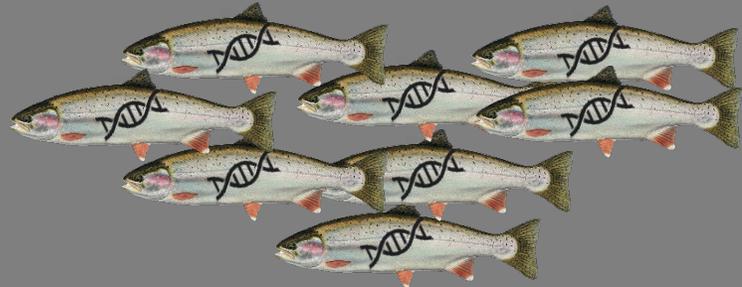


Chinook salmon



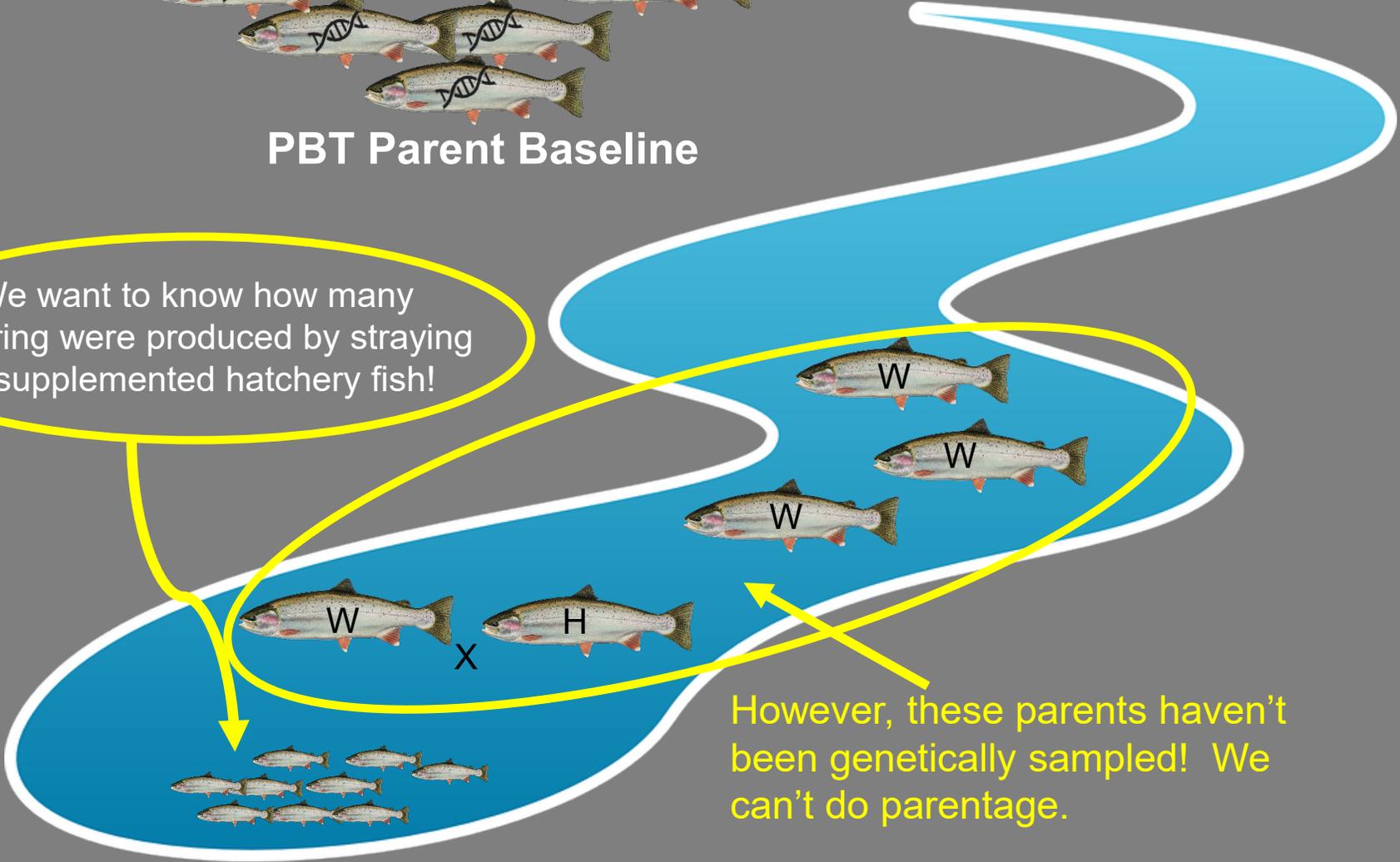
steelhead

# Emerging Genetic Tools



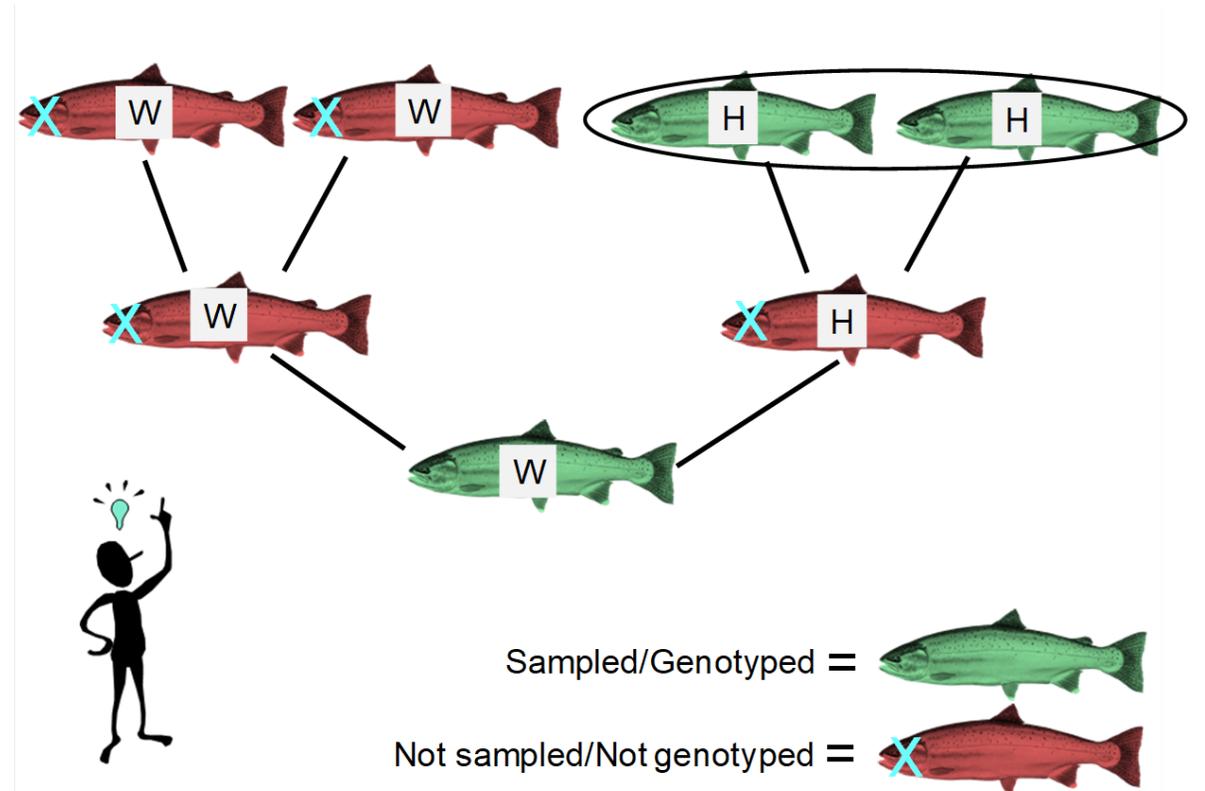
PBT Parent Baseline

We want to know how many offspring were produced by straying or supplemented hatchery fish!



However, these parents haven't been genetically sampled! We can't do parentage.

# Grandparentage Testing



# Grandparentage Testing

## Proof of concept work completed for steelhead

### Adults

- False positive rate  $<0.0001$ ; false negative 0.07
- SY2013: 18.6% of wild fish had at least one hatchery parent
  - All hatcheries were represented
  - Most fish were returning to areas managed for hatchery fish
  - Few grandchildren were identified in areas managed for wild fish

### Juveniles

- SY2013: 6.2% of fish assigned to at least one hatchery parent
  - Not all hatcheries represented
  - Low or no assignments for sites managed for wild fish

# Research Priorities

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- **Recognition of research important to member states**
  - Use of resolution process to highlight support and needs
- **Ongoing funding support for important work**

