

# Ecosystem Monitoring Program 2017

## Fish Community Preliminary Results

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**NOAA**  
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**Northwest  
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# Outline

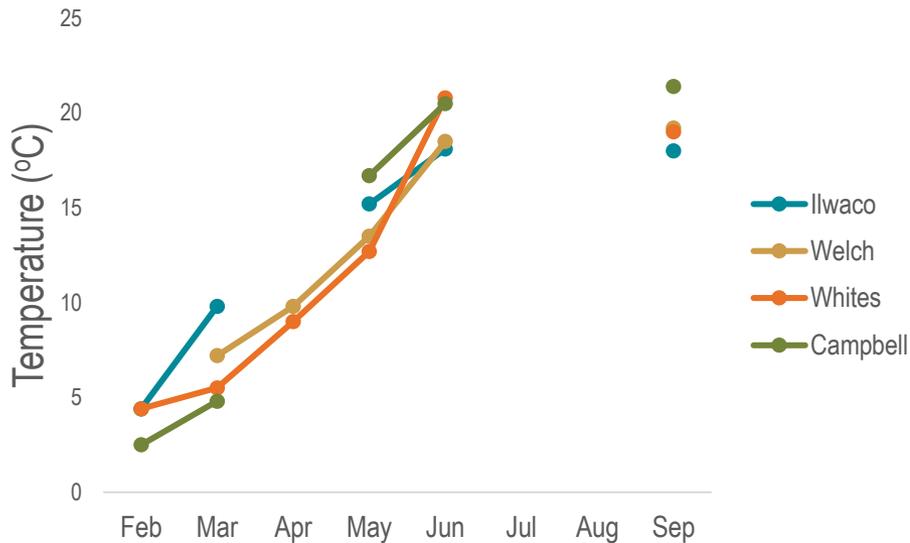
- Sites sampled
- Physical properties
- Fish Community
- Salmonid Community
- PIT arrays



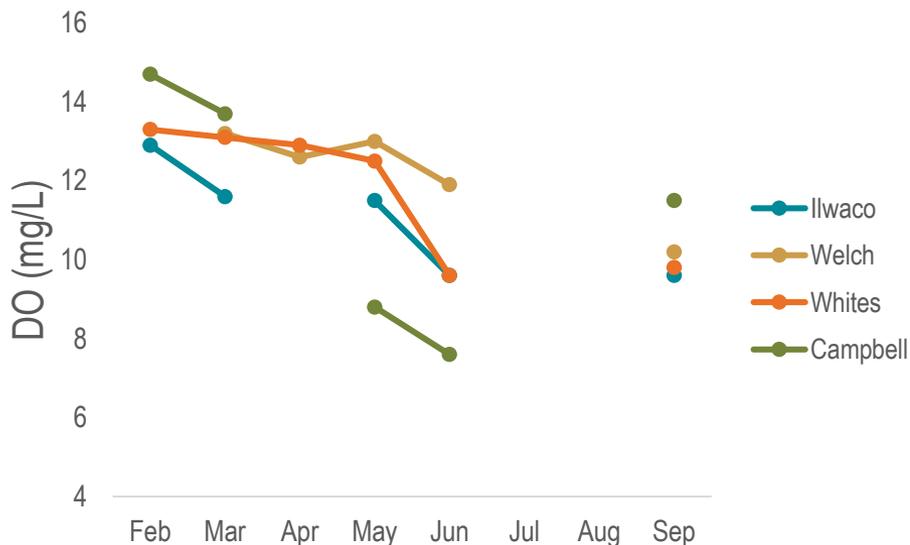
# Trend Sites and PIT Arrays



# Temperature and DO at time of sampling

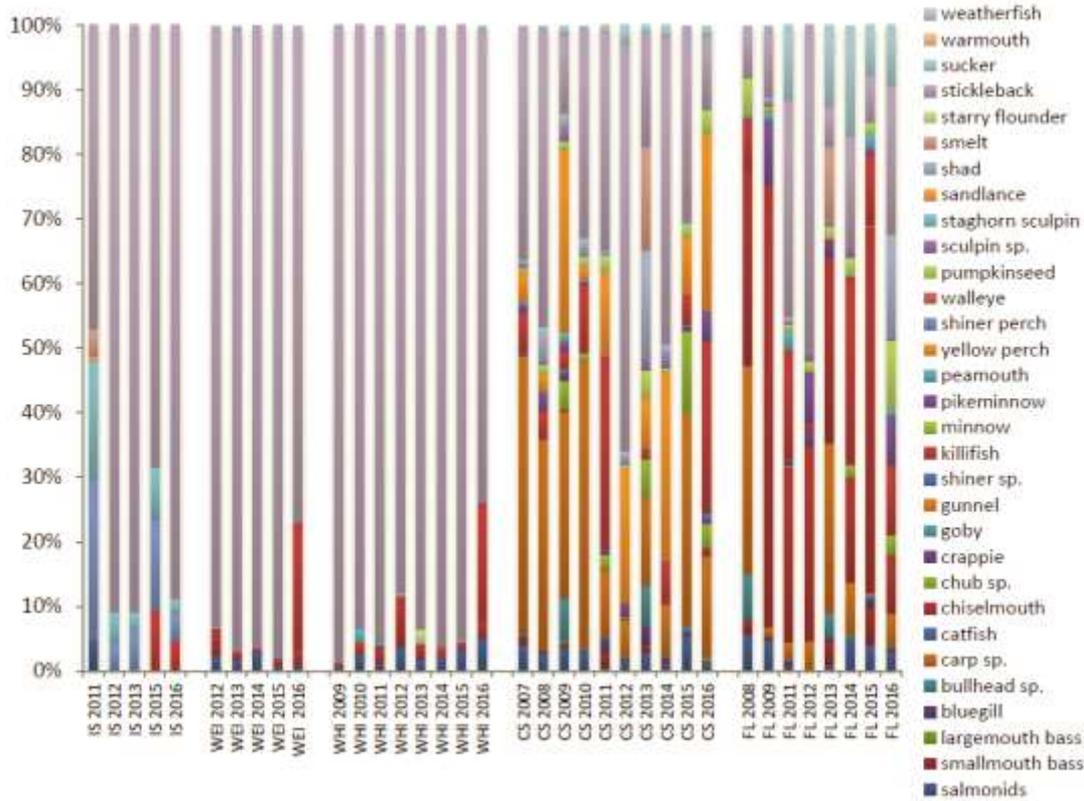


- Water temperature increasing with time
- Approaching stressful levels by June
- Still high in September

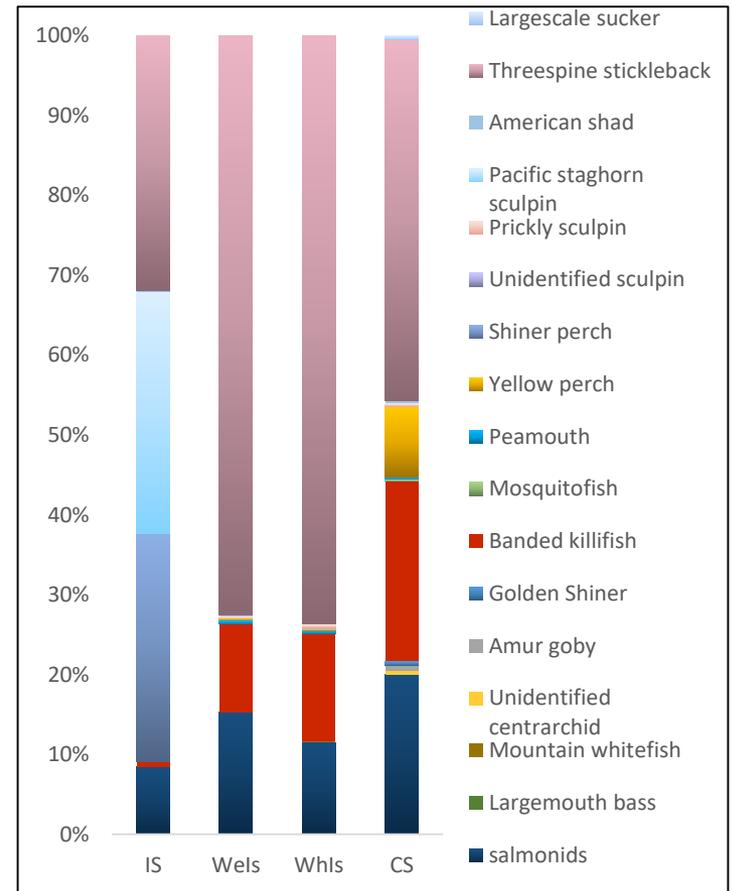


- Dissolved oxygen decreasing with time
- Levels taken at time of sampling are within parameters of adequate water quality, however night time levels at Campbell are likely hypoxic

# Fish Community Composition

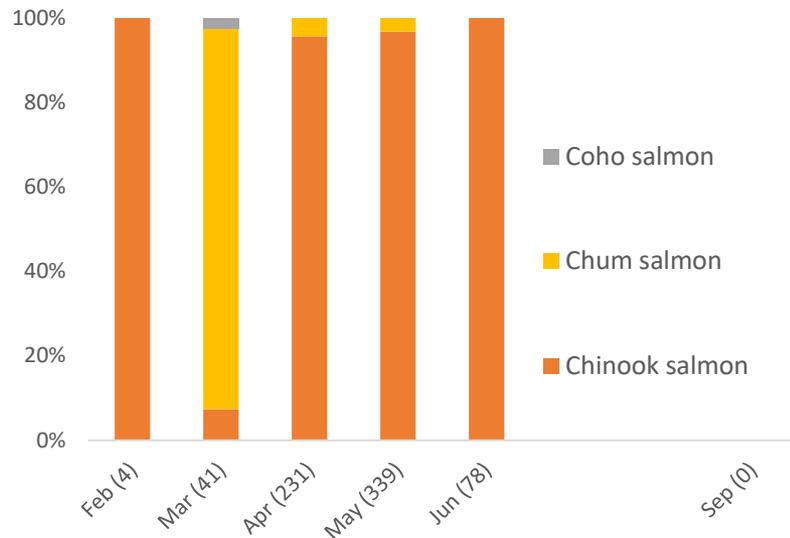


Previous Years



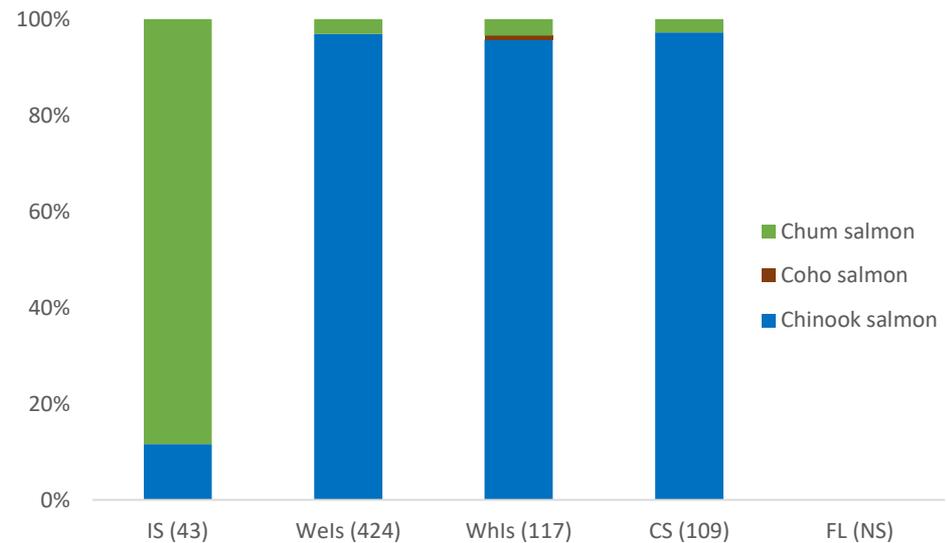
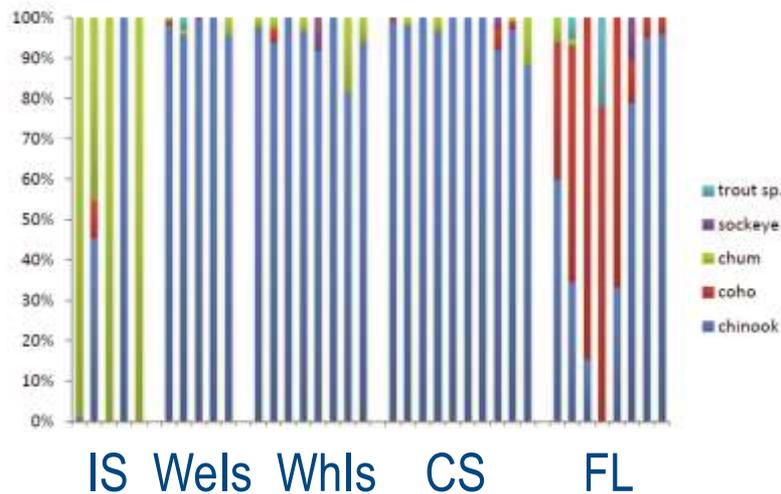
2017

# Seasonal and Site Composition of Salmonids

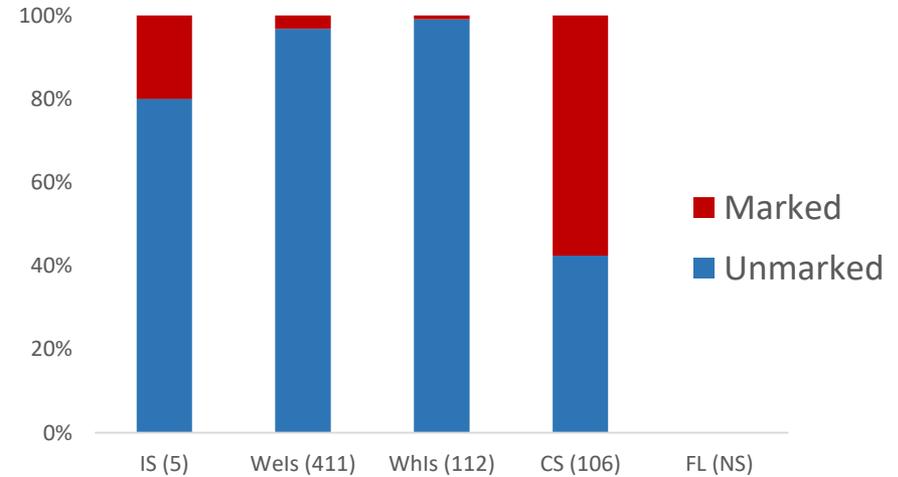
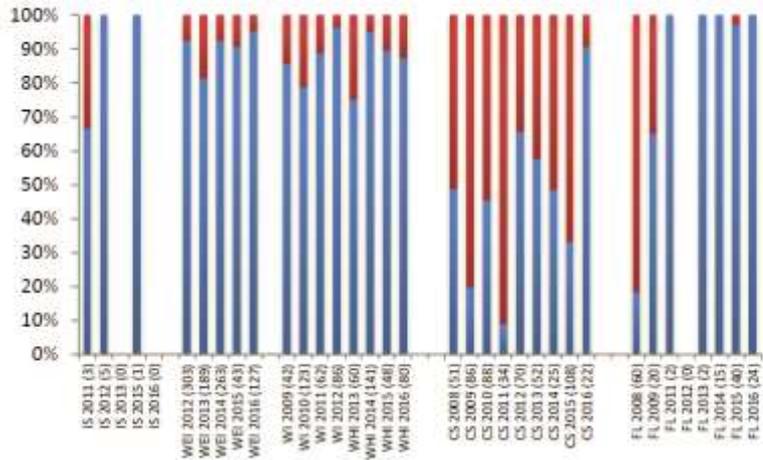


- Chinook present throughout the season
- Chum presence highest in March
- Single subyearling coho
- No trout or sockeye in 2017

- Chinook and chum present at all sites
- Chum presence highest in Ilwaco
- Chinook dominated salmon catches at most sites

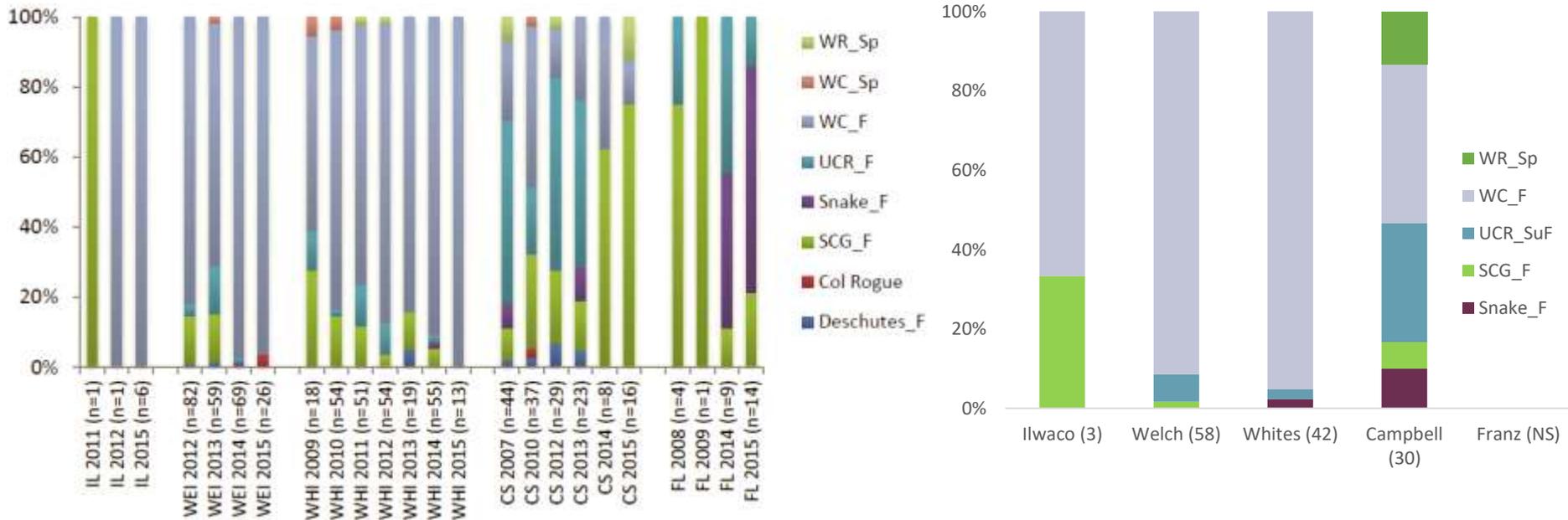


# Percentage of marked and unmarked Chinook

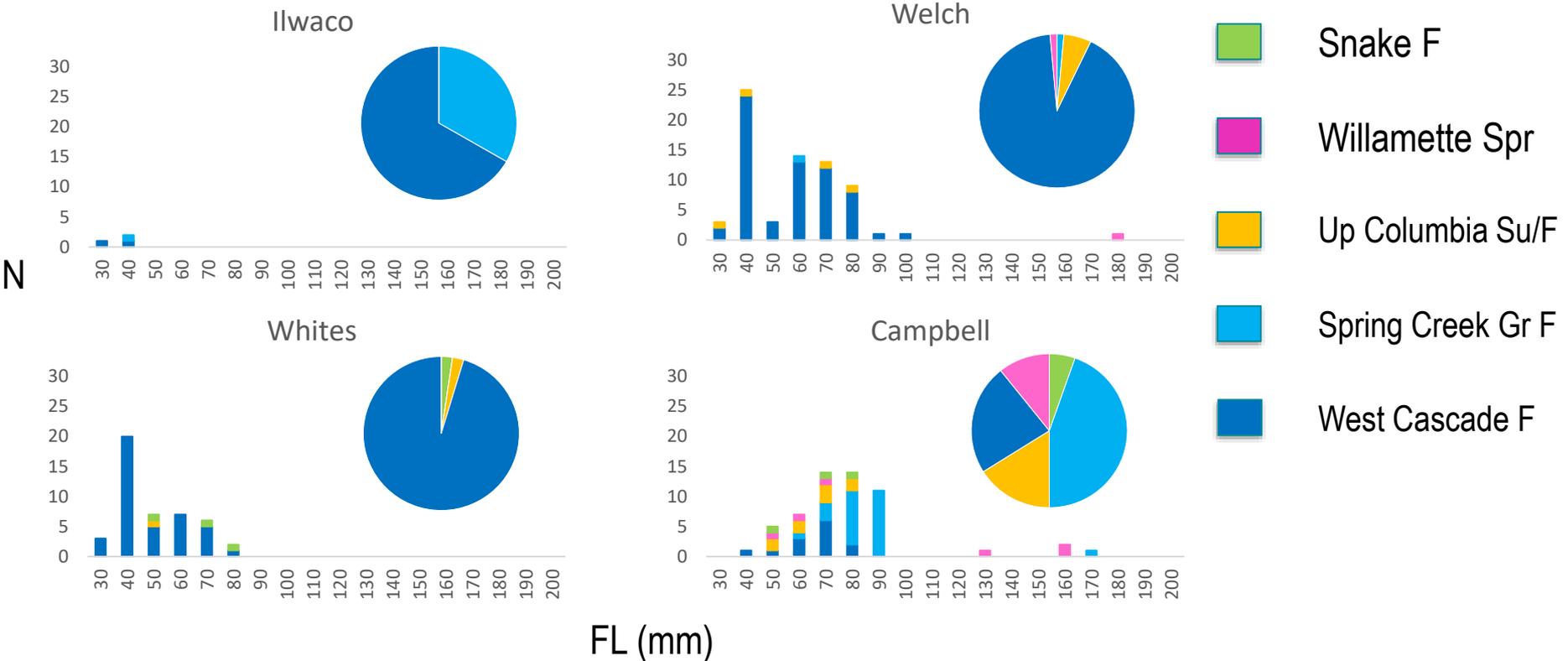


- Percentages are similar to previous years
- Slight decrease in marked fish at Welch and Whites in 2017

# Genetic Composition of Unmarked Chinook



# Length Frequency of Stocks 2017



- Greatest diversity at Campbell
- Welch and Whites have similar proportions of stocks, predominately West Cascade Fall

# PIT Arrays

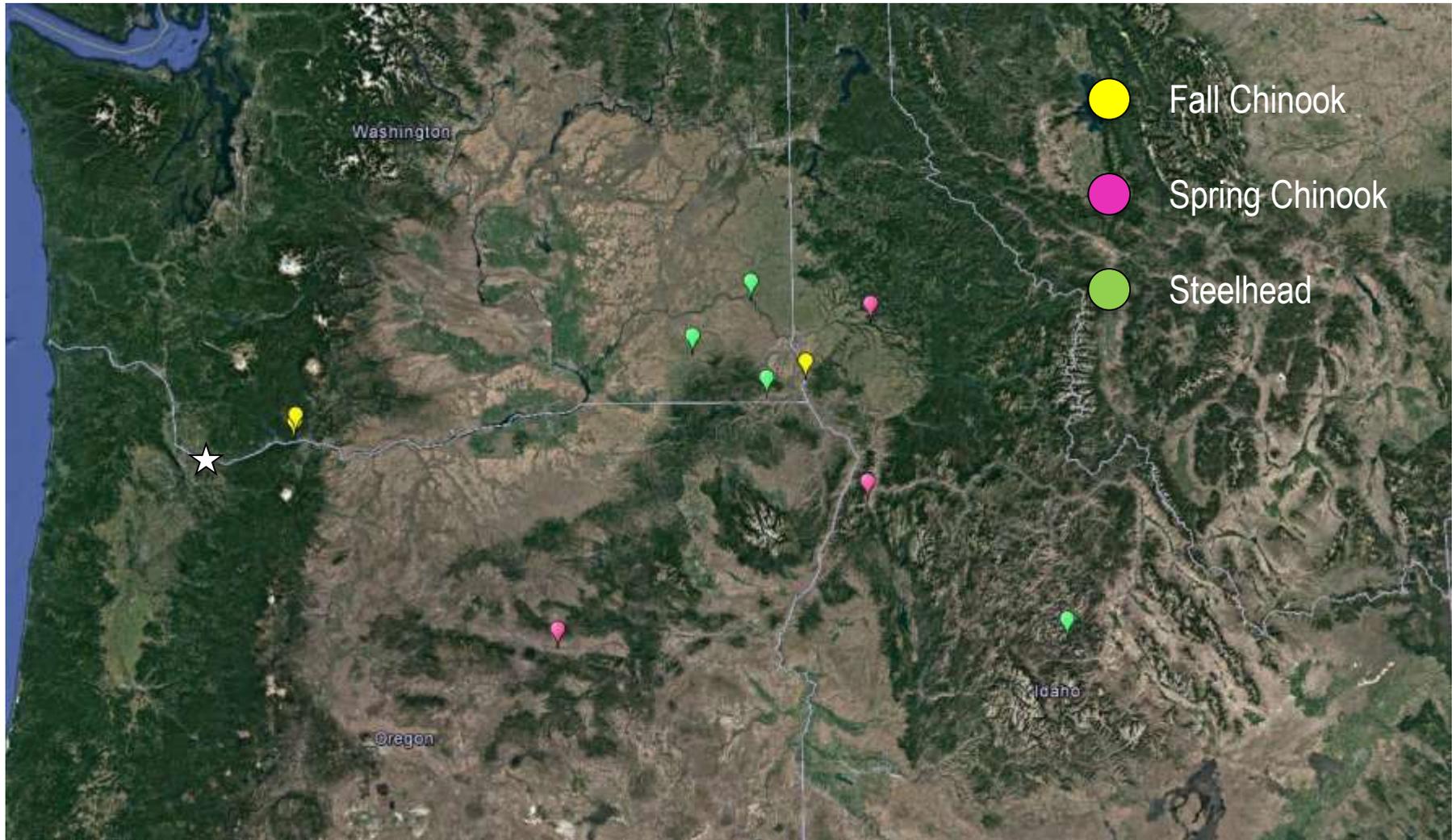
- Campbell: operational in 2016, but problem with rodents severing cables prevented data collection
- Horsetail: two antennas on downstream side and three antennas on the upstream side of culvert
  - Appears to have survived the wildfire



# Horsetail Overview

- 26 unique detections from May 7 – Sep 1
- 10 fall Chinook (hatchery)
  - Max residence time = 2.5 hours, median 35 min
- 4 Spring Chinook (1 wild)
  - Max residence time = 1 hour, median 12 min
- 5 Summer steelhead (2 wild)
  - Max residence time = 24.5 days, median 43 min
- 1 Northern Pikeminnow
  - Residence time = 21 days
- 6 “Orphans”
  - Max residence time = 46 min, median 24 min

# Origins of detected salmonids



# Highlights

- High flow year-not able to sample Franz
- Temperatures more typical than past two years
- Fish community patterns similar to previous years, though less diversity at Campbell, could be attributed to sample timing
- Typical seasonal and geographic trends of Chinook and chum
- No trout or sockeye
- Similar patterns of marked and unmarked Chinook at sampled sites
- Similar genetic stocks-greatest diversity at Campbell
- West Cascade fall stock make up the majority of fry except at Campbell
- Yearlings tend to be Willamette River stock
- Diversity of stocks detected at Horsetail
- PIT arrays indicate greater use of off-channel habitat by steelhead



Thanks to all that helped with the field work and cutting fish, especially Amanda Hanson, Matt Schwartz, Mary Ramirez, Bob Oxborrow, Stuart Dwyer, Bill Brady, Wayne Haimes

# Questions