



**NOAA
FISHERIES**

Habitat Quality – Trends in Juvenile Chinook Salmon Growth and Condition.

- Northwest
Fisheries
Science
Center



Jeff Grote and Curtis Roegner

Yearly Water Differences

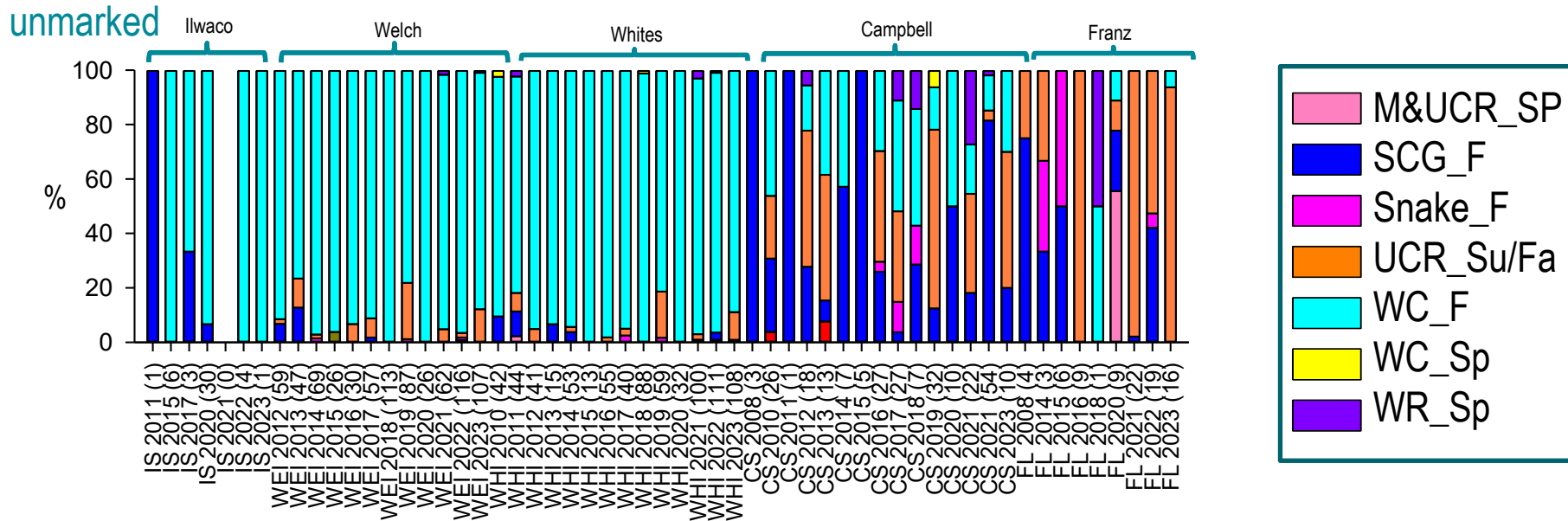
Seasonal and yearly differences

Sampling issues associated with high flows: Franz and Campbell

We know high flows can effect catchability.....How about the condition of the subyearling fall Chinook?



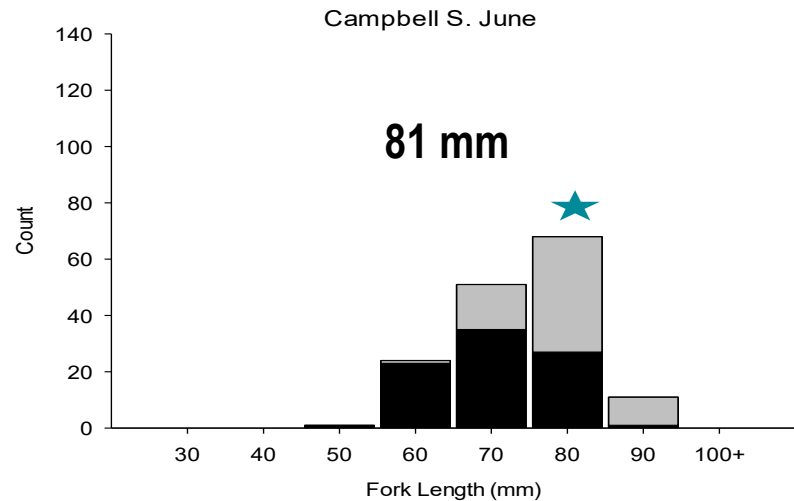
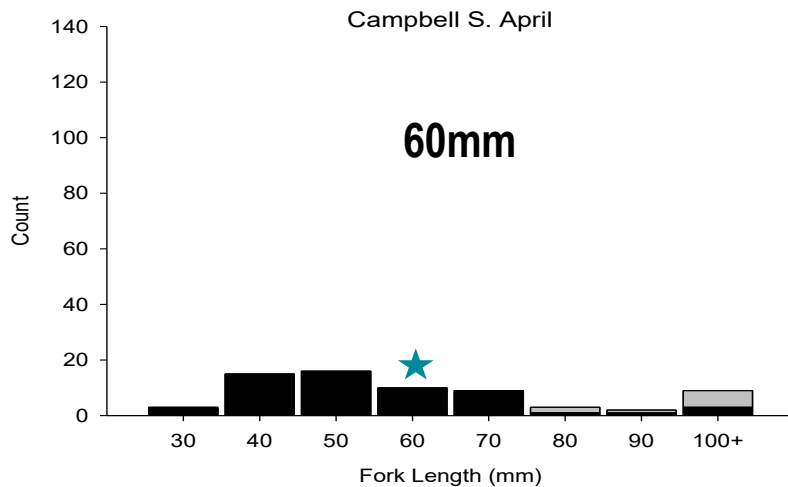
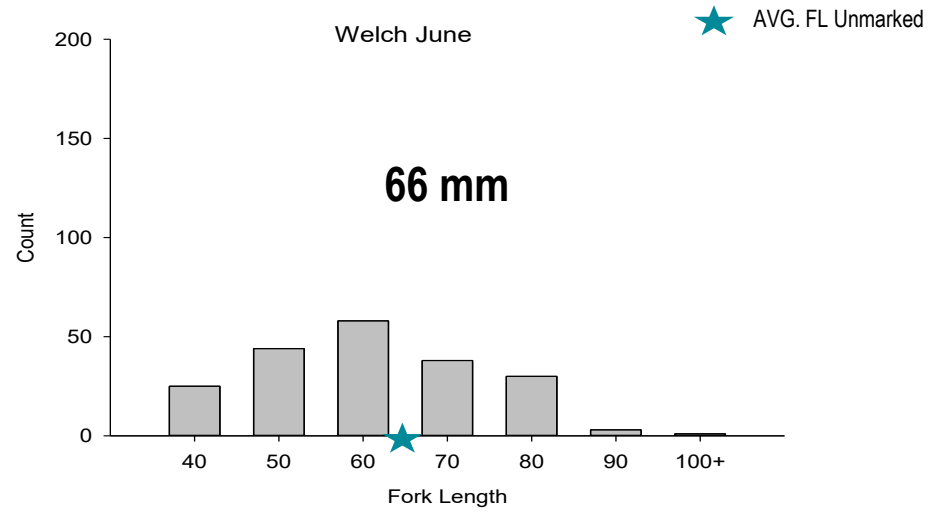
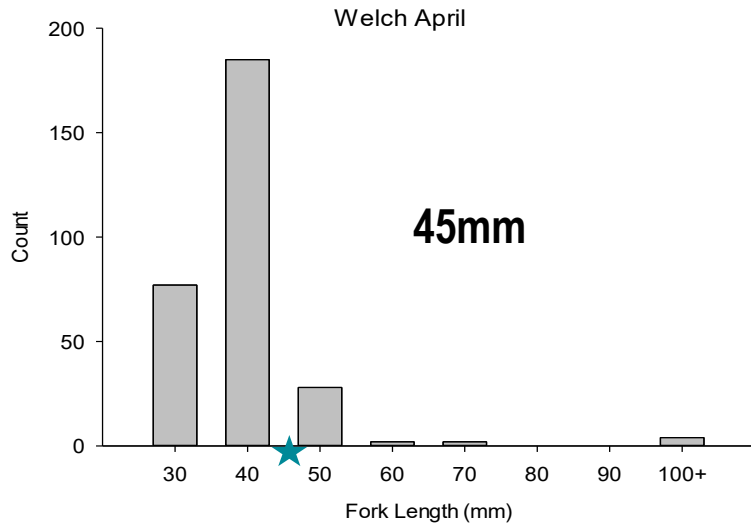
Genetic Composition of Chinook



Whites and Welch: West Cascade Falls Wild

Campbell Slough: Mixed Bag of Stocks and Origin (wild / hatchery)

Welch vs Campbell S. Chinook Size



Chinook Condition and River Flow

Whites and Welch Island – West Cascade Falls Stock

Yearly flow Classification:

High

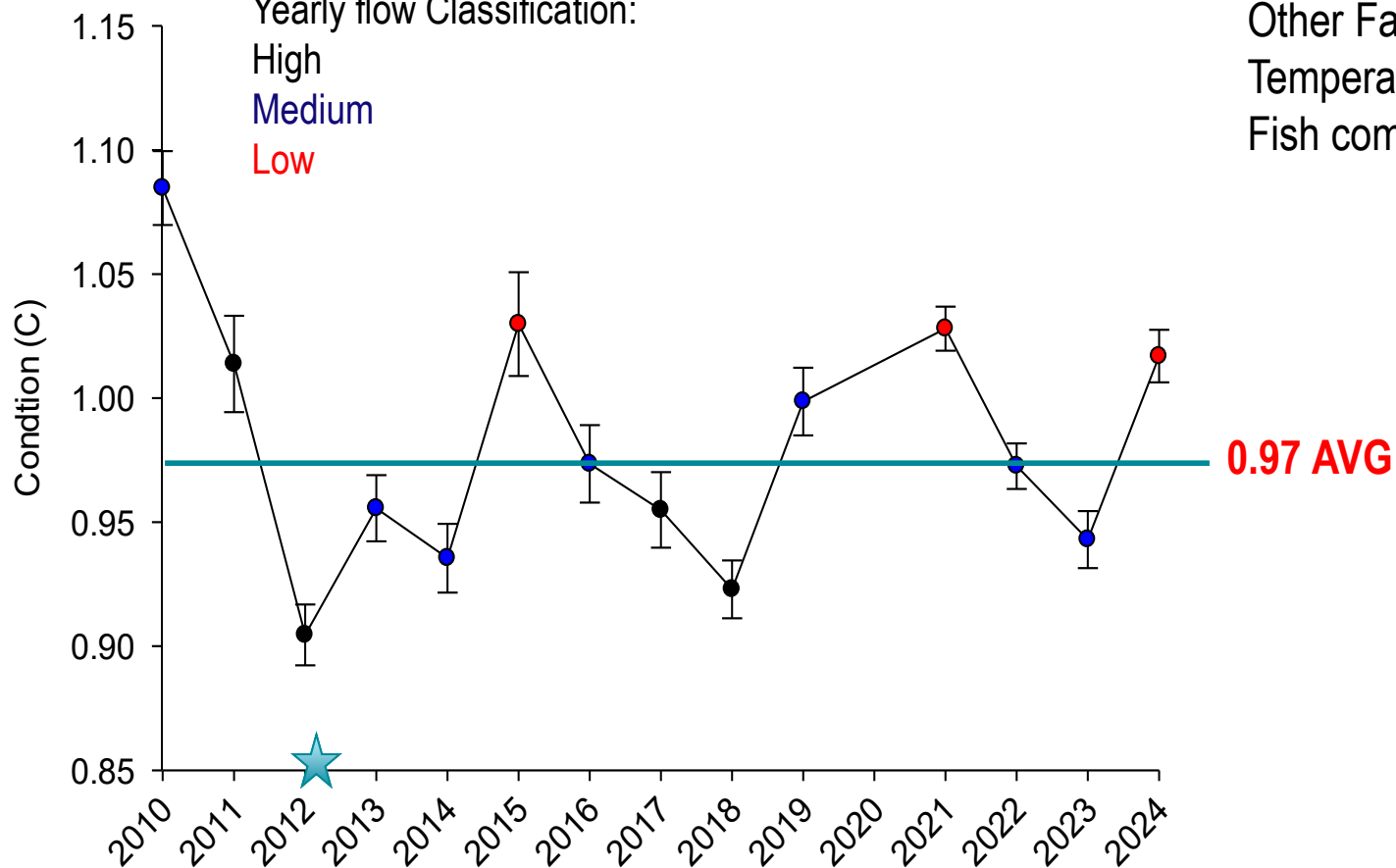
Medium

Low

Other Factors:

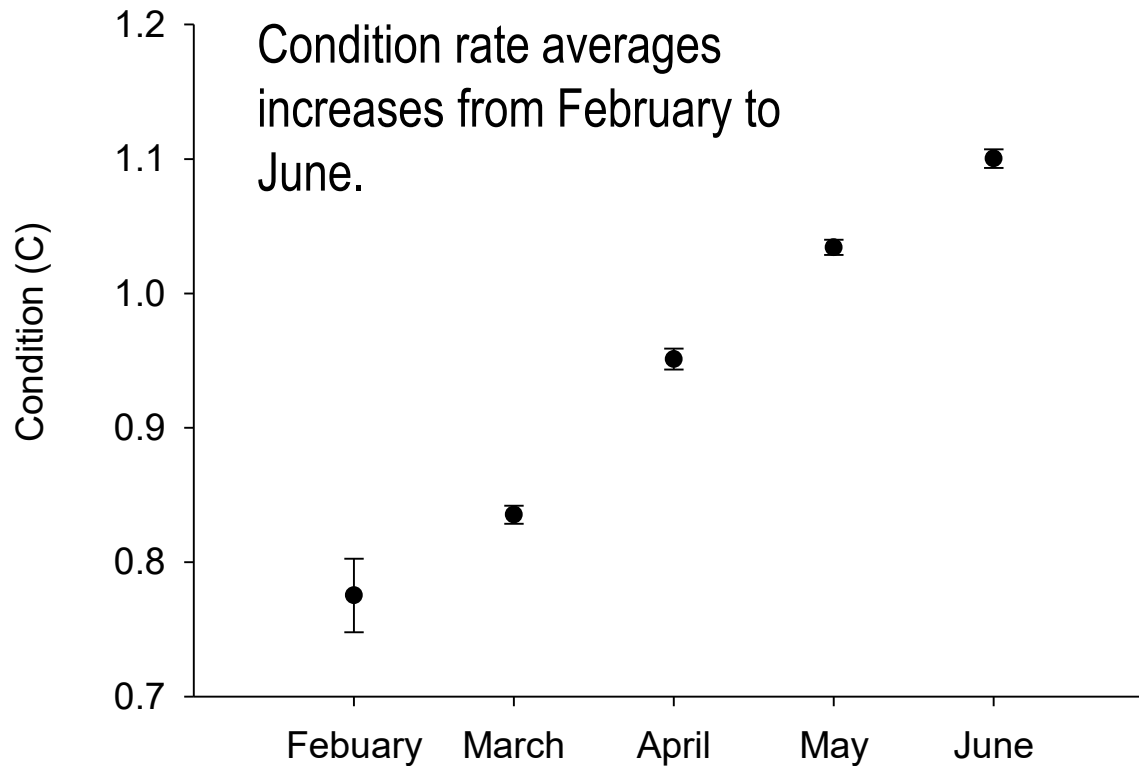
Temperature

Fish community and abundance



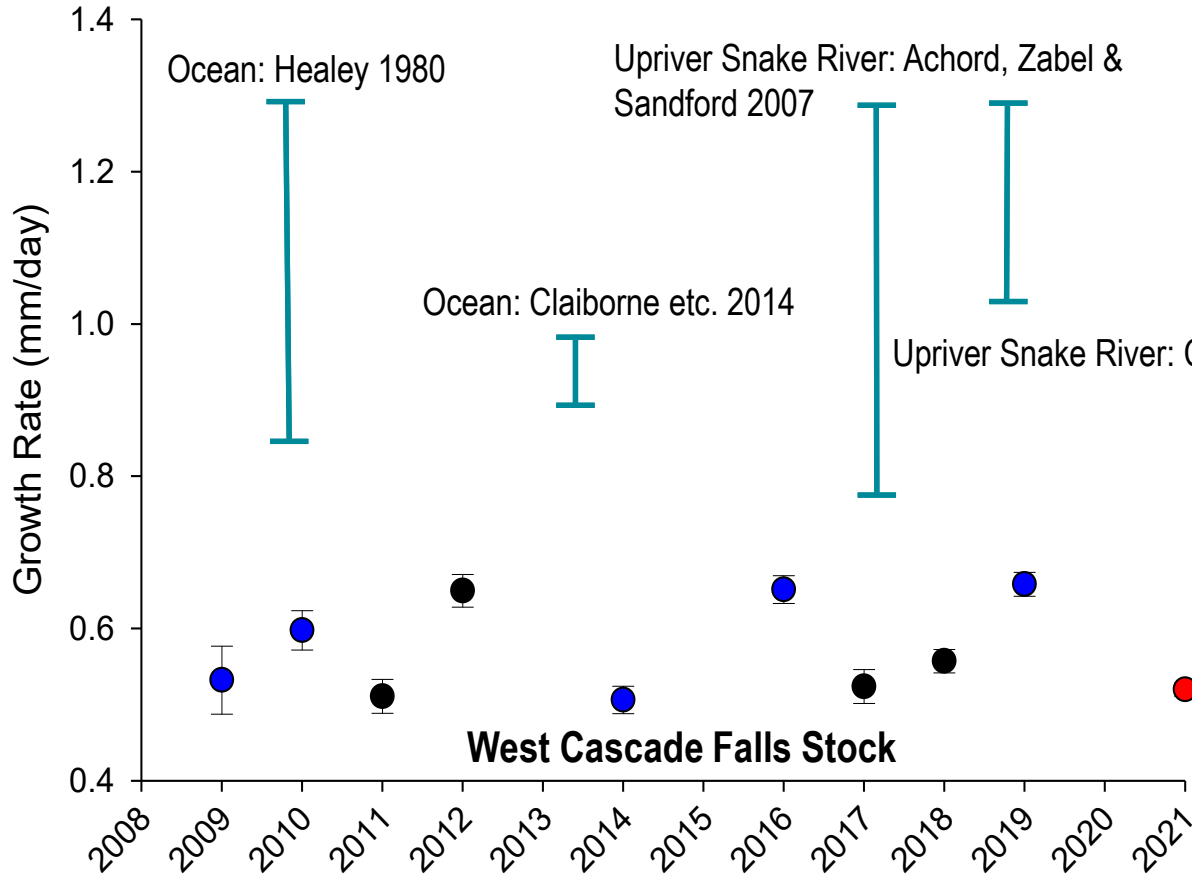
Chinook Condition

Whites and Welch Island – West Cascade Falls Stock



Chinook Growth Rates and River Flow

Whites and Welch Island



Yearly flow Classification:

High

Medium

Low

Campbell Slough

Snake River Falls

0.71 (mm/day) Average

Upper Columbia River Falls

0.70 (mm/day) Average

Summary

- Despite overall fair to good conditions, Growth remains slow.
- Chinook condition improves with time, however may be effected by early freshet.
- Growth potential for WCF Chinook?

Why do we care about these lower river stocks? From 2023 ODFW press release

“The LRW forecast of 8,700 adults is 46% of the recent 10-year average of 19,090 adults. The LRH forecast of 77,100 adults is 88% of the 2022 actual return, and below the recent 10-year average (82,400 adults) ”

To reach current goals:

Important to understand what level of performance is physiologically possible in order to evaluate the effectiveness of migration and restorations efforts targeting this early life stage.