Early Marine Ecology of Juvenile Chinook Salmon (*Oncorhynchus tshawytscha*) on the Yukon Delta, Alaska

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Objectives

- Quantify the spatial distribution and habitat use of juvenile Chinook salmon from outmigration through the summer in relation to biotic and abiotic variables.
- Quantify and contrast age, size, nutritional condition, and prey of fishes associated with Yukon Delta front/ pro-delta.
- Characterize the fish community in Yukon Delta habitats and investigate prey consumption by juvenile salmon and potential competitors and predators.

Observations - Survey Year 1

- In June, juvenile Chinook salmon appear to have higher abundance in association with temperature/salinity fronts.
- Transects off the North and Middle mouths of the Yukon River were most productive for salmon. No salmon were caught off the South Mouth.
- Juvenile salmon comprised < 1% of the total species catch.
- Rainbow smelt and saffron cod were the most abundant species caught (56% and 23%, respectively).

Future Work

- Surveys will continue in FY 2015
- Future surveys will include sonar bathymetry and finer-scale temperature, salinity, and turbidity measurements.

We would like to thank our partners Dr. Katie Howard (ADF&G) and Ragnar Alstrom (YDFDA), and the captain and crew of the F/V Anchor Point for their assistance with this research

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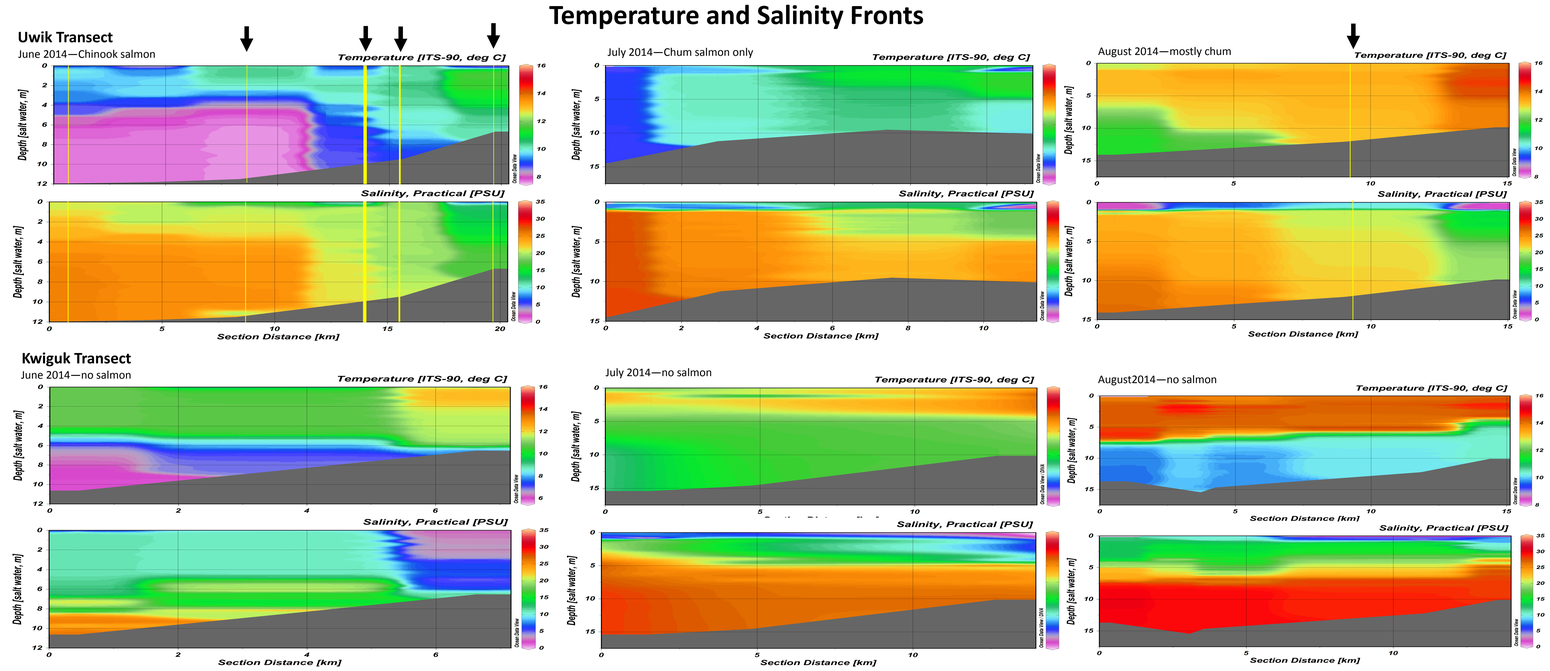
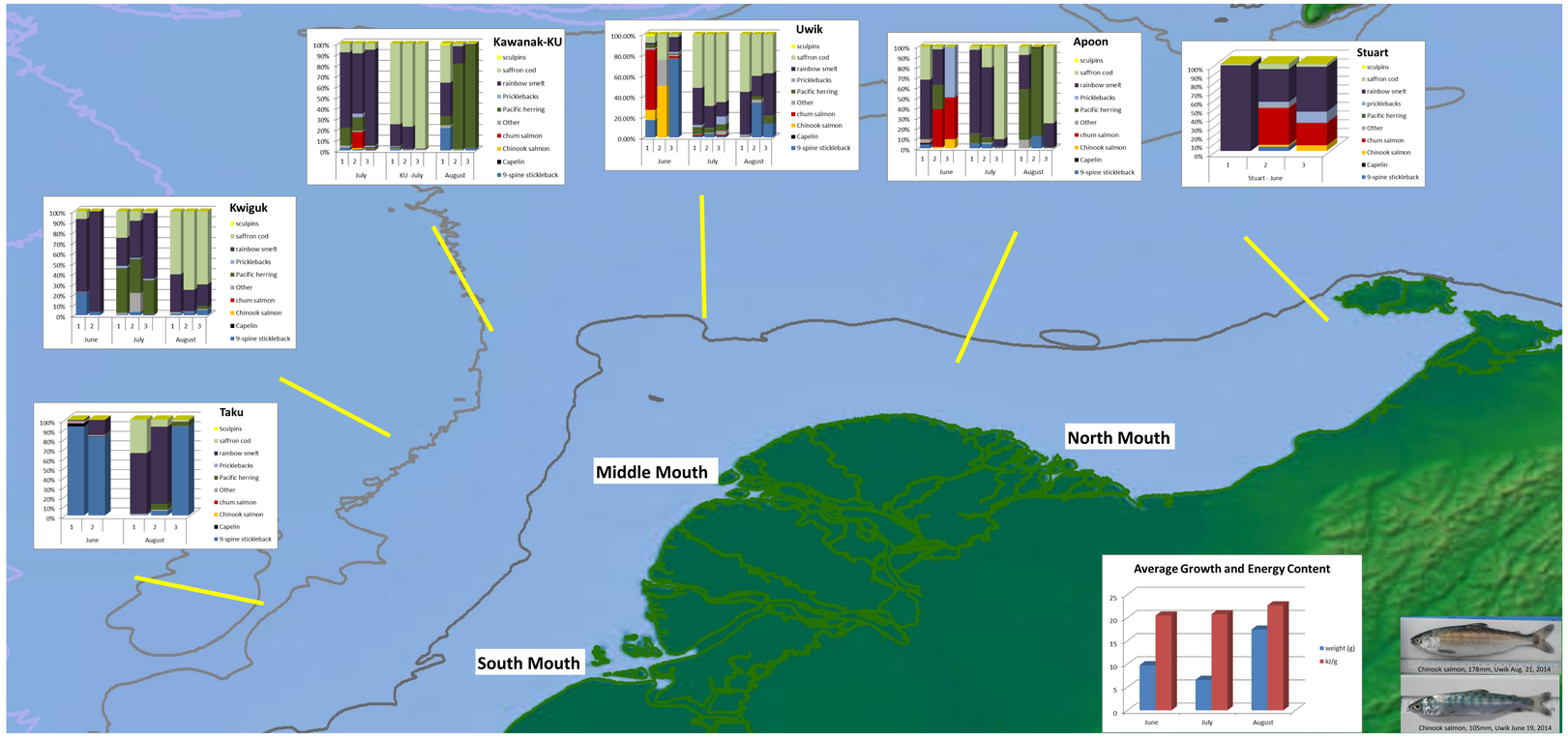
Temperature and Salinity Fronts



In June outflowing fresher warmer Yukon River water forms a distinct front. Yellow lines and arrows show the location of juvenile Chinook salmon catch. Thicker lines = more fish. Salinity was lower and temperature was higher on the southern transects. No salmon were caught south of Kawanak.



Yukon Delta Front/Pro-Delta sampling transects and percent catch composition in FY 2014