

# Yukon River juvenile chum salmon in the eastern Bering Sea

## Introduction

The Yukon River has two distinct runs of chum salmon: an earlier and typically more abundant summer-run and a less abundant fall-run.

Concern about fall-run chum salmon abundance in some years has reduced fishing opportunities on the Yukon River.

Little is known about the survival of juvenile Yukon River chum salmon in their freshwater or saltwater environments.

Previous analyses with allozymes indicate that juvenile chum salmon caught on the eastern Bering Sea shelf, north of 60°N, are predominantly from the Yukon River.

## Objective 1

Determine stock contribution of juvenile chum salmon on the eastern Bering Sea shelf off the mouth of the Yukon River, and compare the stock distributions among years.

## Samples

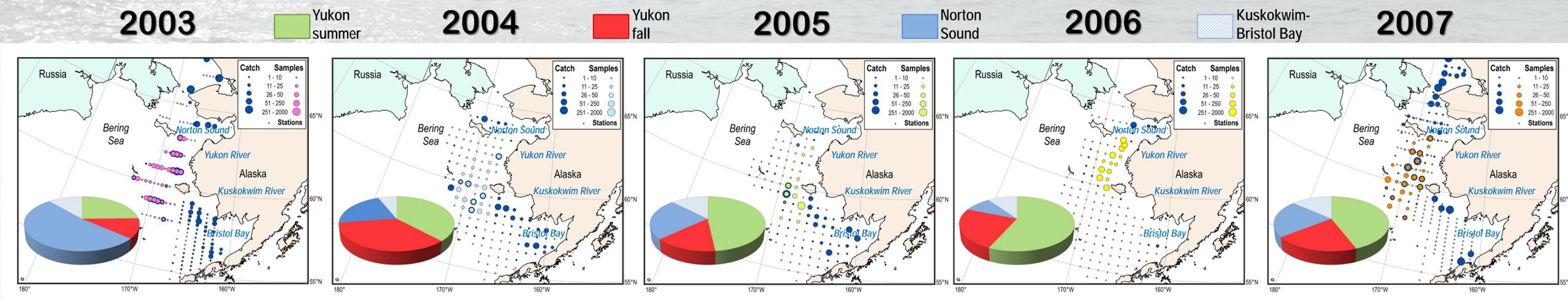
Juvenile chum salmon were collected on the eastern Bering Sea shelf off the mouth of the Yukon River, between 58-65°N, during the 2003-2007 U.S. BASIS cruises.



Sampling juvenile chum salmon at sea. EMA Program

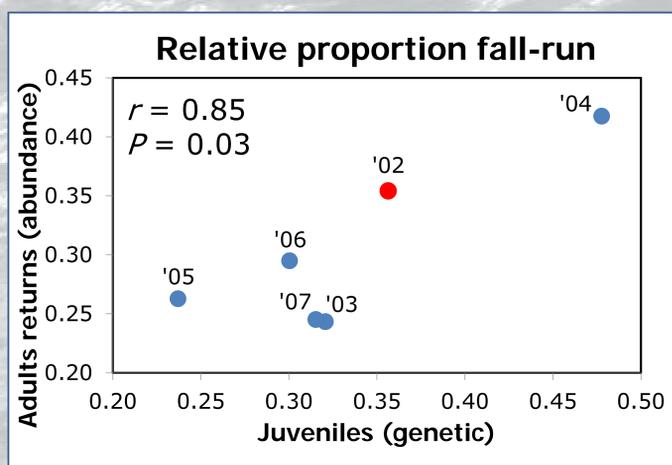
## Genetic analyses

- 5,000+ samples genotyped for 11 microsatellite loci.
- Stocks identified with the BAYES program and a 381-population genetic baseline (Fisheries and Oceans Canada).



## Objectives 2 & 3

- Develop a relative abundance index of summer and fall run Yukon River juvenile chum salmon.
- Examine the potential to correlate Yukon River juvenile abundance with adult returns.



## Conclusions

- Juvenile chum were mostly from coastal western Alaska and upper-middle Yukon populations.
- Juvenile chum from western Alaska migrate west and south across the eastern Bering Sea shelf.
- Stock contributions are similar year-to-year, even with latitudinal shifts in catch distribution.
- The proportion of fall-run juveniles is correlated with brood-year returns.
- Yukon River summer and fall-run chum salmon proportions are determined early in the first year of life.

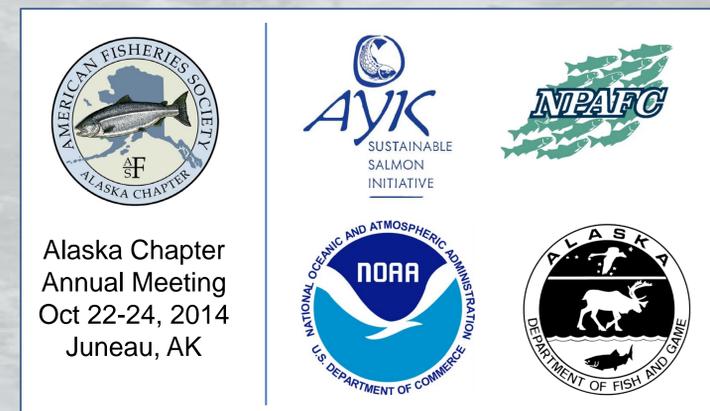
C. Kondzela<sup>1</sup>, C. Marvin<sup>1</sup>, J. Whittle, H. Nguyen, J. Murphy<sup>1</sup>, E. Farley<sup>1</sup>, K. Howard<sup>2</sup>, B. Borba<sup>3</sup>, W. Templin<sup>2</sup>, and J. Guyon<sup>1</sup>

<sup>1</sup>Auke Bay Laboratories, Alaska Fisheries Science Center, NMFS, NOAA, Juneau, Alaska

<sup>2</sup>Alaska Department of Fish and Game, Anchorage, Alaska

<sup>3</sup>Alaska Department of Fish and Game, Fairbanks, Alaska

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