Inter-annual variation in the distribution of 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.

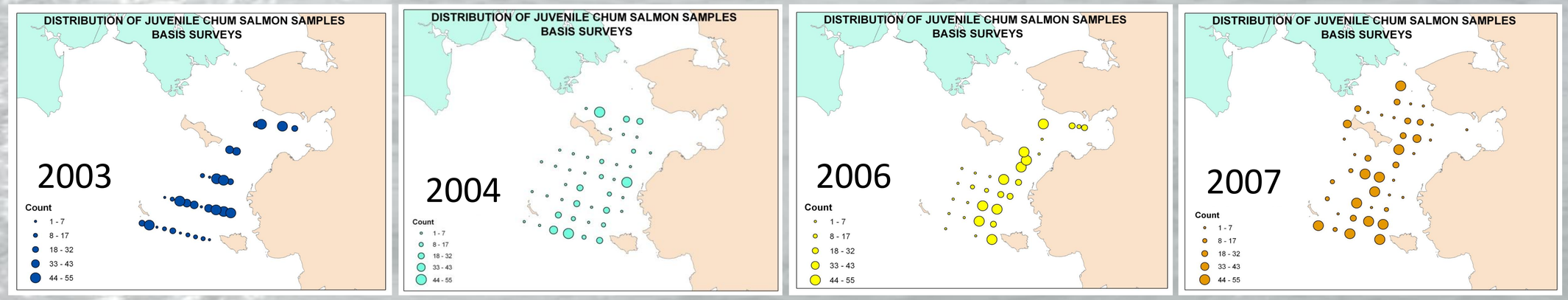
Concern about fall-run chum salmon abundance in some years has reduced fishing opportunities on the Yukon River.

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.

Objectives

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.
2. Develop a relative abundance index of Yukon River summer- and fall-run juvenile chum salmon on the eastern Bering Sea shelf.
3. Examine the potential to correlate juvenile relative abundance with adult returns for Yukon River summer- and fall-runs.



Samples

Juvenile chum salmon collected 2003–2007 on the eastern Bering Sea shelf, off the mouth of the Yukon River during U.S. BASIS cruises between 60-65°N.

Genetic analyses

- DNA extracted from >3000 samples.
- Genotyping of 13 microsatellite loci is ongoing.
- Identify stocks with the BAYES program and a 381-population genetic baseline (Fisheries and Oceans Canada).

C. Kondzela[1], C. Marvin[1], J. Murphy[1], E. Farley[1], B. Borba[2], K. Howard[3], W. Templin[3], and J. Guyon[1]

[1]NOAA Fisheries, Alaska Fisheries Science Center, Juneau, Alaska
[2]Alaska Dept. of Fish and Game, Fairbanks, Alaska
[3]Alaska Dept. Fish and Game, Anchorage, Alaska

Funded by: Alaska Sustainable Salmon Fund, Project 44619 and Arctic-Yukon-Kuskokwim Sustainable Salmon Initiative, Project 1002/SAF-336.