



Timing and Origin of Chinook Salmon Stocks in the Copper River and Adjacent Ocean Fisheries using DNA Markers

Introduction

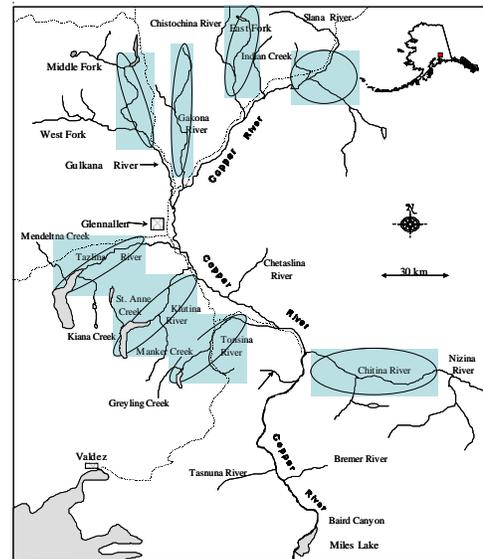
The Copper River drainage supports complex and protracted runs of chinook salmon that are harvested by a commercial fishery in the Copper River Delta and by subsistence, personal use, and sport fisheries within the river. Genetic information has proven to be extremely valuable for identifying stocks and describing genetic diversity and structure within large systems. The information can also be used to estimate the contribution of individual stocks in mixtures originating from ocean fisheries and from throughout the system at any life history stage. This project will develop a genetic database using DNA markers for chinook salmon from the major rivers and tributaries of the Copper River drainage.

Objectives

1. Develop a DNA database of genetic markers to delineate major geographic and temporal stocks within the Copper River.
2. Investigate run timing and entry patterns within the Copper River through the analysis of radio-tagged and fish wheel samples from Baird Canyon.
3. Characterize the timing of Copper River stocks in the ocean fisheries and estimate the contribution to this fishery by stocks of non-Copper River origin.
4. Standardize and contribute the Copper River data to a coast wide (lower 48) DNA database.

Sample Collection

Non-lethal tissue samples will be collected from up to ten sites in the Copper River drainage. These include: the Chitina, Tonsina, Klutina, Gulkana, Chistochina, Gakona, Tazlina, and other upper Copper River areas. The target sample size will be 100 to 200 adults per collection. Actual sample sizes will vary depending on the availability of chinook salmon during the sampling period.



Sampling Locations

Sampling Methods



Clip the axillary process from the pelvic fin using a dog toe nail clipper. The clipper will fit around the "spine" for a clean cut. **Only**

one axillary "spine" is needed per fish.



Dry the axillary process to remove excess water and slime. Then put it into a 250 ml bottle of DMSO salt solution. Make sure all "spine" tissues are covered in the salts and store upright in a cool place at all times.