

Genetic Stock Composition of Juvenile Chinook Salmon Collected off the Mouth of the Yukon River: Are These Yukon River Fish?

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Numerous federal and state commercial fisheries disaster declarations have been issued for Yukon River Chinook over the last 20 years and low Alaska returns statewide have prompted calls for research to help ascertain potential causes for Chinook salmon declines. As part of annual BASIS research surveys conducted by the United States National Marine Fisheries Service, juvenile Chinook salmon were collected off the mouth of the Yukon River between 2002 and 2011. These samples were genotyped for the genetic markers represented in the Alaska Department of Fish and Game Chinook salmon genetic baseline and preliminary estimates of the stock composition of these samples are presented. Initial results suggest that these juvenile Chinook salmon predominantly originated from coastal western Alaska (includes the lower Yukon), middle Yukon, and the upper Yukon stocks. While the sample numbers in this study were relatively small, these results suggest that research cruises positioned offshore Alaska between 60° and 65°N latitude could be used to collect Yukon-origin juvenile Chinook salmon for other analyses potentially including future models to predict relative abundance of returns.