



DIVISION OF SUBSISTENCE
ALASKA DEPT. OF FISH AND GAME

PRINCIPAL INVESTIGATOR

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COMMUNITIES

PATTERNS AND TRENDS

BETHEL

NAPAKIAK

BOTH PROJECTS

ANIAK

SLEETMUTE

STONY RIVER

NICOLAI

PROJECT TIMEFRAME

2014 - 2016



ADF&G complies with OEO requirements as posted at <http://www.adfg.alaska.gov/index.cfm?adfg=home.oeostatement>

2014 Chinook Initiative Projects along the Kuskokwim River

Two Division of Subsistence research projects will be conducted in communities along the Kuskokwim River in 2014. One will examine local traditional knowledge of Chinook salmon; a second will collect information on patterns and trends in household harvests of Chinook salmon.

Background

The subsistence salmon fishery in the Kuskokwim River drainage is among the largest in the state of Alaska. Division of Subsistence studies indicate that fish contribute up to 85% of the total pounds of wild foods harvested in Kuskokwim River communities, and salmon contribute as much as 53% of the total annual harvest of fish and wildlife for subsistence.

Since 2010, sharp declines in Chinook salmon abundance have caused severe hardship for fishery-dependent communities along the Kuskokwim River and its tributaries. The Alaska Department of Fish & Game has not provided commercial opportunity on Chinook salmon since 1987, and the subsistence fishery experienced restrictions in 2010-2012. In 2012, a poor king salmon run and 35 days of management restrictions resulted in historically low harvests of Chinook salmon, and the U.S. Department of Commerce declared a resource disaster for the Kuskokwim River Chinook salmon fishery.

The difficulty in ensuring sustainable salmon management during this period has resulted in part from a lack of knowledge about the underlying causes of the declines. One research project will explore a currently under-examined body of knowledge represented in local traditional knowledge of freshwater systems.

Moreover, increases in household numbers and the human population in some Kuskokwim River communities suggest that per capita harvests of all salmon species have likely decreased. The Patterns and Trends study attempts to identify the variables influencing harvest patterns at the household and community levels through a detailed analysis of household level harvest reports over time.



Local and Traditional Knowledge Study

The Alaska Department of Fish and Game Division of Subsistence will interview subsistence fishers in four Kuskokwim River villages to collect local and traditional knowledge about king (Chinook) salmon. The goal of this study is to identify factors that may impact king salmon populations. Respondents will discuss what they have observed in both the fish populations and in the surrounding environment, especially conditions that could affect king salmon during the beginnings and ends of their lives while they are in upriver areas. Division of Subsistence will map areas where small salmon fry and smolt have been seen, as well as areas where mature king salmon spawn. This information together with other studies on salmon in the Kuskokwim will be used to gain a better understanding of king salmon returns and to make sure that the streams that respondents describe are listed in the State of Alaska Anadromous Waters Catalog (an index of streams where salmon and other fish spawn).

Research Questions

What knowledge do subsistence fishers have about the biological and environmental factors important to Chinook salmon migration, spawning, and larvae/juvenile survival in the Yukon River?

What changes have subsistence fishers observed regarding these factors, and how do local community residents explain these changes?

Research Questions

How have subsistence fish harvests changed in the six study communities from 1998 to 2012?

What factors might account for these changes?

What factors might account for the differences observed among the six study communities?

Patterns and Trends in Subsistence Fisheries

Division of Subsistence will also conduct surveys and interviews on patterns and trends in subsistence fishing in the same four Kuskokwim River villages. This project seeks to understand whether and how subsistence fishing is changing at a household level. Researchers have analyzed post-season household surveys (fall fishing surveys) and have developed harvest histories for individual households from 1998 to 2012. This information together with data collected during the surveys and interviews will allow Division of Subsistence to explore what causes individual households' salmon harvests to remain constant or to change from year to year. This will improve managers' understanding of Kuskokwim River subsistence fisheries, allowing them to provide more sustained harvests while ensuring that enough king salmon reach the spawning grounds.

Project Timeline

2014

Community approvals, consultation regarding the interview protocol, and interviews with community members

2015

Analysis and report-writing by researchers and review by participating communities. Draft report available by June 2015.

These research projects are funded by the Chinook Salmon Research Initiative.

