Division of Subsistence
Alaska Dept. of Fish and Game

Principal Investigator
Caroline Brown
1300 College Road
Fairbanks, AK 99701
907-328-6116
caroline.brown@alaska.gov

Communities

Anvik

Huslia

Allakaket

Fort Yukon

St. Mary's

Project Timeframe
2014 - 2016

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

Local Traditional Knowledge of the Freshwater Aspects of Chinook Salmon Life Cycle in the Yukon River

This project collects and documents knowledge of Chinook salmon by subsistence fishers in 5 communities on the Yukon River.

Background

Since 2000, sharp declines in Chinook salmon abundance have caused severe hardship for fishery-dependent communities along the Yukon River and its tributaries. In March 2000, the State of Alaska Board of Fisheries designated Chinook salmon as a stock of yield concern because it failed to produce expected returns. The federal government declared an economic fish disaster in 2009. The Alaska Department of Fish & Game has not provided commercial opportunity on Chinook salmon since 2008, and the subsistence fishery experienced restrictions in 2008-2009 and 2011-2013. The lowest subsistence harvest on record was in 2012. Despite conservative management and subsistence restrictions, border passage obligations outlined in the Pacific Salmon Treaty have not been met 5 of the last 9 years.

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. This research will explore a currently under-examined body of knowledge represented in local traditional knowledge of freshwater systems.

The documentation of local and traditional ecological knowledge is important for social, cultural, and biological reasons and can lend important ecological insights to resource management, conservation education, and environmental assessment. When systematically documented and analyzed, local traditional knowledge can provide long-term observational data to fisheries managers and scientists and aid in understanding the environmental variability that influences fluctuations in populations of Pacific salmon.

Overview

This project will focus on the local knowledge that describes the freshwater system in order to more fully explore what is happening to Chinook salmon populations in the Yukon River. The study will document local traditional knowledge of the freshwater components of the salmon life cycle, including migration and spawning as well as the larval and juvenile life stages.

Communities were selected based on their proximity to known Chinook salmon spawning grounds that are or were monitored by ADF&G, United States Fish & Wildlife Service, or Tanana Chiefs Conference with weirs or sonars. Researchers will develop the interview protocol in consultation with tribal personnel, and conduct in-depth semi-structured interviews with knowledgeable fishers. Respondents will be paid for their time. All interviews will be audio-recorded if possible.

During the interviews, researchers will work with respondents to map specific areas associated with spawning grounds or rearing habitats. Additionally, researchers would like to visit different harvest or habitat areas, assist community members in setting or checking nets, help with processing fish, visit fishers at their homes, and perhaps take part in other activities that may arise during the research. This research is funded by Governor Parnell's Chinook Salmon Initiative.

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?

Objectives

In order to address these complex questions and assist managers in their understanding of in-river dynamics and trends related to Yukon River Chinook salmon this projects aims to:

1. Identify and map areas associated with spawning or rearing habitats
2. Conduct in-depth interviews
3. Compare interview data with area enumeration project (weirs, sonars, aerial surveys etc.) for possible correlations.

Project Timeline

2014

Year 1 consists of the approval process, consultation regarding the interview protocol, and the interviews themselves (March through November).

2015

Year 2 will consist of report-writing for researchers and review by participating communities. The draft report would be available by June 2015.