AYK SSI PROPOSAL 2010

Project Title: Lower Yukon River Subsistence Chinook Salmon Harvest: Age, Sex, Length, & Stock Composition Sampling Program

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Study Location: Yukon River

Abstract: Approximately 50,000 Yukon River Chinook salmon (Oncorhynchus tshawytscha) are harvested for subsistence use each year, which can account for a third or more of the total annual in-river run. About 30% of that harvest is from Districts 1 and 2 and most is taken early in the run when Canadian origin fish are in greatest abundance. Traditionally, much of this harvest also occurs with larger mesh gillnets that are selective for females and older aged fish. Low Chinook salmon run abundance in recent years has led to management action aimed at influencing the age, sex, and length (ASL) composition, and genetic stock composition of the subsistence harvest. A pilot project was begun in 2011 in cooperation between the Association of Village Council Presidents (AVCP) and the Alaska Department of Fish and Game (ADF&G) to develop a sampling program that would provide the information needed to estimate the ASL and genetic stock composition of the subsistence Chinook salmon harvest in Districts 1 and 2. The design centers on recruiting local residents who are trained and equipped to sample their own harvest following standard ADF&G protocols. Twenty individuals were recruited to participate from the communities of Alakanuk, Emmonak, and St. Mary's with the goal of sampling 200 fish from each community. Participant sampling was limited to their "subsistence-directed harvest." Chinook salmon caught as "commercial-incidental harvest" but retained for subsistence use were sampled by staff from AVCP and ADF&G. Ultimately, 16 participants were successful and sampled 329 fish, with Alakanuk and Emmonak well short of the sample goal. Collectively, 76% of the sampled fish were harvested with 7.5 inch mesh. Six inch mesh was the second most common gear type accounting for 15% of the sample. The timing of the pooled Alakanuk-Emmonak collection was very similar to the preliminary overall harvest timing for District Y1 as recorded on subsistence harvest calendars, plus the stock composition was dominated by the Canadian reporting group as expected. The

timing of the St. Mary's collection, however, differed significantly from the preliminary District Y2 calendar data, plus the stock composition had a high proportion from the Lower Yukon reporting group, which was contrary to the expected pattern. In retrospect, the collections from St. Mary's are suspected to have been influenced by the occurrence of fish bound for the Andreafsky River that enters the Yukon River within a few miles upstream of where most of the sampled fish were caught. Consequently, future sampling design should be modified to include more communities, particularly in District Y2, and possibly include some weighting scheme. In addition, more participants should be recruited to better insure that the sample is self-weighting relative to variable harvest methods among subsistence fishermen, such as mesh size preference. Preliminary ASL and genetic stock composition findings are reported for the purpose of assessing the effectiveness of the sampling design, however final results from this data analysis will be reported independently by ADF&G.

KEY WORDS

Age composition, ASL composition, Chinook salmon, community involvement, gillnet, length composition, Oncorhynchus tshawytscha, subsistence harvest, stock composition, Yukon River, selective harvest, sex composition.

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