

Indexing the inseason abundance of salmon in the lower reaches of the Copper River Delta, 2005 Annual Report, Annual Report No. FIS 04-506

The purpose of this three-year project (2004-2007) is to generate a daily inseason index of early run salmon abundance in the lower Copper River, and to estimate the travel time of salmon from the commercial fishing area (Copper River District) to the test fishery at Flag Point Channel and the Miles Lake sonar site. This will provide Alaska Department of Fish and Game (ADF&G) fisheries managers with more timely escapement information than is currently available from the Miles Lake sonar site alone. The project builds on the results of a study conducted in the previous three years (2001-2004), which compared the utility of acoustics and drift gillnets as test fishing tools, developed a cost-effective method for acoustic sampling, and provided insights into fish migratory behavior in the study area.

In 2005, acoustic sampling at Flag Point Channel started on 5 May, one week before the Miles Lake sonar site was fully operational and 11 days before the first commercial fishing period. Acoustic sampling continued until 29 May 2005. Apart from minor disruptions, sampling was essentially continuous. Visual echo trace counts were generated from the echogram during the first 15 minutes of each hour. As in previous years, salmon echo traces were easily distinguished from eulachon. Daily counts, calculated by summing and expanding 15-minute counts, totaled 9,022 salmon for the period sampled, with a peak of 992 fish on 21 May. Counts up to 0700 hours of the current day were reported to ADF&G daily by 0900 hours.

As in previous years other than 2003, acoustic counts of salmon for Flag Point Channel provided a presence/absence index of salmon abundance. The counts also tracked the general trends in salmon abundance observed at the Miles Lake sonar site. The catch efficiency at Flag Point Channel started at 100 fish and declined to 50 fish per 1,000 fish counted at Miles Lake. Similar to previous years, estimated travel time ranged from 1 – 3 days between the sampling site at Flag Point Channel and Miles Lake (approximately 30 km distance) and 1 – 2 days between the Copper River ocean fishing district and Flag Point Channel (approximately 20 km distance).

Citation: Degan, D. J., K. van den Broek, and A. M. Mueller. 2005. Indexing the inseason abundance of salmon in the lower reaches of the Copper River Delta, 2005 Annual Report. USFWS Office of Subsistence Management, Fisheries Resource Monitoring Program, Annual Report No. 04-506, Anchorage, Alaska.