

**Kanalku, Sitkoh, and Kook Lakes subsistence sockeye salmon project: 2003 annual report and 2001-2003 final report.**

Residents of Angoon expressed concerns about apparent declines in sockeye salmon subsistence harvest and escapement to Kanalku, Sitkoh and Kook lakes in recent years. We used mark-recapture methods in designated "study areas" and visual surveys on the spawning grounds to estimate sockeye escapement into each lake. We also estimated the sockeye fry population, zooplankton abundance and biomass standing crop and other limnological characteristics of these lakes. In Kanalku, we observed a very low escapement of about 250 sockeye salmon in 2001. A voluntary agreement with the Angoon subsistence fishers to not harvest sockeye salmon from this system allowed an estimated 1,600 fish to escape into the lake in 2002. Several parties harvested sockeye salmon in Kanalku Bay in 2003 and less than 300 sockeye salmon spawned in Kanalku Lake. These low escapements appear to be linked to high subsistence harvest rates in this easily accessible system near Angoon. In Sitkoh Lake, current escapement levels appear to be supporting stable returns to this system and escapement estimates from our "study area" in this lake were similar in 1997 and 1998. For Kook Lake, we obtained only an early-season survey count and partial mark-recapture estimate for the inlet stream, due to a shift in project priorities in 2003. Due to technical difficulties in sampling, and changing priorities in the contracting agency, study of the Kook Lake system was minimal in 2003; therefore the authors present the information collected in 2003 the third year of this study in Chapter 1 and synthesize three years of information in Chapter 2. Escapement levels, as far as we have been able to estimate them, have been very low in recent years in Kook Lake. This may be a result of debris jams that formed a partial barrier to migration before they were removed in 2001. Overall, zooplankton abundance and biomass estimates indicate that all three lakes are capable of supporting higher numbers of sockeye fry than the numbers we estimated in 2001 and 2002. We concluded that the production of sockeye salmon in these three lakes is currently limited by escapement.

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