

## **Klawock Lake Sockeye Salmon (*Oncorhynchus nerka*) Stock Assessment Project: 2003 Annual Report and 2001-2003 Final Report**

From 2001 to 2003, our primary study objectives were to estimate the escapement of sockeye salmon (*Oncorhynchus nerka*) into Klawock Lake, and the size of the sockeye harvest in the Klawock Inlet subsistence fishery. The Klawock sockeye run supports the largest subsistence fishery in Southeast Alaska, and in 2001-2003, subsistence fishers consistently harvested about 6,000 sockeye salmon annually. Because the subsistence fishery is open only in July, near the beginning of the sockeye run, a disproportionate number of sockeye salmon are harvested early in the run. For example, in 2003, about 25% of the total run was harvested Klawock Inlet in July, while only about 5% of the run had escaped into the lake by that time. This fishing schedule could result in disproportionate harvest of any sub-populations returning early in the season. Because of high water conditions that can occur in this drainage and compromise weir integrity, we used a mark-recapture estimate instead of the direct weir count in two (2001 and 2003) out of the three years of the study as our official escapement estimate. The sockeye escapement estimate was similar in 2001 (13,200 fish) and 2002 (12,600 fish) and the 2003 estimate was about a third higher (21,300 fish) than the two previous years. Sockeye spawners returning to Klawock Lake showed a higher proportion (33% in 2003) with two years of freshwater growth than in other Prince of Wales Island sockeye populations (typically less than 10%), evidence that limited food resources may slow sockeye fry growth in Klawock Lake. We recommend a systematic analysis of 20 years of limnological information we have already collected, with the ultimate goal of increasing the number of sockeye salmon returning to Klawock Lake.

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