

**Klag Lake Sockeye Salmon (*Oncorhynchus nerka*) Stock Assessment project: 2003 Annual Report and 2001–2003 Final Report.**

From 2001–2003, we estimated sockeye salmon (*Oncorhynchus nerka*) escapement into Klag Lake, sockeye harvest in subsistence and sport fisheries in Klag Bay, and certain measures of freshwater productivity. In this report, we present results from 2003, compare them with published results from 2001 and 2002, and examine patterns in findings for all three years. Estimated escapement into Klag Lake was 23,000 sockeye salmon in 2003, up from 17,000 in 2002 and 12,000 in 2001. In 2003, subsistence fishers harvested about 2,400 sockeye salmon and 100 fish were taken in the sport fishery. The 2003 sockeye subsistence and sport harvest was lower than the 2002 harvest (3,000 fish), but higher than the 2001 harvest (1,700 fish). Sockeye harvests in 2001–2003 were not large relative to sockeye escapements in those years (9–15% of the total sockeye return), indicating these harvest levels are reasonable. However, harvest timing may disproportionately harvest more fish in the early part of the run. In 2002 and 2003, over 2,000 fish were harvested before equivalent numbers entered the lake as escapement. Seasonal mean zooplankton biomass increased from 175 mg·m<sup>-2</sup> in 2001 to 222 mg·m<sup>-2</sup> in 2002 to 316 mg·m<sup>-2</sup> in 2003. The cladoceran (*Daphnia longiremis*), the preferred food of sockeye fry, represented only about 2% of the total seasonal mean zooplankton biomass over the three years. Individual *D. longiremis* were smaller on average in 2003, having an average length of 0.7 mm, compared with 0.8 mm in the previous two years. We recommend continuing in-season assessment of sockeye returns to Klag Lake to ensure the escapement is adequate and proportional to the natural timing of the run.

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