

Klag Bay sockeye salmon stock assessment, 2002 Annual Report

Abstract: The return of adult sockeye salmon to Klag Lake in 2002 was estimated through a survey of subsistence and sport harvest in the terminal area at Klag Bay, weir counts, and verified with a mark-recapture study. Age, length, and sex composition of the escapement was estimated using standard measurements and scale sampling and analysis. Sockeye salmon fry populations in each lake were estimated using hydroacoustic and trawl sampling. Baseline information was collected on the physical characteristics and productivity of lake rearing habitat in each system using standard limnological sampling procedures. A healthy return of adult sockeye salmon was documented, with a total harvest estimate of about 3,159 fish, comprising 15.2% of the total return, and an escapement estimate of about 17,684 fish. The mark-recapture estimate validated the weir count and indicated that few sockeye salmon passed through the weir uncounted.

According to results of age and length analysis, about 2% of the adult sockeye salmon sampled at the weir were jacks. The dominant age class was age-1.3, representing 44% of the fish sampled. The next largest class was age-1.2, representing 28% of the fish sampled. Sockeye salmon fry density was only moderate, compared to that in similar Southeast Alaska sockeye salmon rearing lakes. Klag Lake has a large population of sticklebacks as noted in 2001; according to trawl sample results this year, they comprised about 30% the fish detected during the hydroacoustic survey, while sockeye fry comprised 67% of the trawl sample. Klag Lake has a shallow euphotic zone, averaging 4.5 m in 2001 and 5.8m in 2002, and a thermocline in 2002 between 5 – 15m. Good baseline information was obtained in 2001 and 2002, but since little previous data exists on the Klag Lake sockeye salmon population, and the wide range of returns it is too early to draw conclusions regarding optimum harvest and escapement sizes. More years of data will be needed to show trends in population and lake productivity over time.

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