

Stock assessment of Salmon Lake sockeye and coho salmon 2002

Abstract: A stock assessment of sockeye (*Oncorhynchus nerka*) and coho (*Oncorhynchus kisutch*) salmon at Salmon Lake was continued in 2002. A floating weir and field camp were established at the outlet of the lake to enumerate and sample returning sockeye and coho between June 1 and October 31, 2002. In addition to the floating weir, mark-recapture experiments were done to estimate total escapements into the lake. We estimate that 1,051 sockeye (SE = 20) entered Salmon Lake and 1139 coho (SE = 39) entered Salmon Lake in 2002. Underwater snorkel counts represented approximately 5.4% of the coho escapement. A total lake population of 14,169 sockeye salmon fry and 984 sticklebacks were estimated from hydroacoustic analysis and the estimated density of sockeye salmon fry in Salmon Lake is $0.0511 \text{ fry} \cdot \text{m}^{-2}$. This population of sockeye salmon fry is expected to produce approximately 10,600 smolt in spring 2003, based on 70% overwinter survival. In October 2002, 5,045 coho presmolt ≥ 85 mm were tagged with coded-wire tags and released in Salmon Lake. The mean weight of tagged coho salmon presmolt was 14.7 g (SE = 0.47). Mean length was 103.3 mm (SE = 0.060).

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