

Klawock Lake Sockeye (*Oncorhynchus nerka*) stock assessment Project, 2002

Abstract: The sockeye salmon (*Oncorhynchus nerka*) subsistence fishery in the Klawock estuary is one of the largest in Southeast Alaska, harvesting about 6,000 fish annually. Residents of Klawock and ADF&G were concerned about the apparent declines in sockeye salmon returning to the fishery and Klawock Lake. This is the second year of the research project, which evaluates sockeye salmon production at various life stages and assesses lake productivity. In 2002, the hydroacoustic and trawl surveys in July and October estimated a sockeye salmon fry population of 384,500 and 300,300 sockeye salmon fry respectively. The majority of the trawl samples were sockeye salmon fry, 88% in July and 82% in October. A subsample of 419 emigrating sockeye salmon smolt was composed of 91% age-1 and 9% age-2 fish. A total of 13,600 sockeye salmon were counted at the weir and the escapement was estimated to be 12,600 fish after subtracting the mortalities and brood stock taken above the weir. The mark-recapture study estimated 13,100 (SE = 460) sockeye adults entered the lake, confirming that fish did not pass the weir undetected in 2002. The subsistence harvest was estimated to be about 6,000 sockeye salmon (SE = 389). Seasonal mean zooplankton density was 175,000 plankters per m² and a seasonal mean weighted biomass of 420 mg per m². This year's results provide the foundation for a multiple-year study to assess the health of the sockeye salmon stock and to set a range of escapement goals capable of sustaining this population for many generations.

Citation: Cartwright M. A. and B.A. Lewis. 2004. Klawock Lake Sockeye (*Oncorhynchus nerka*) stock assessment Project, 2002. U. S. Fish and Wildlife, Office of Subsistence Management, Fisheries Resource Monitoring Program, Fisheries Resource Monitoring Program 2002 Annual Report (Study No. 00-043). Alaska Department of Fish and Game, Division of Commercial Fisheries. Regional Information Report No. 1J04-12, Douglas, Alaska.