

## **Lake Clark Sockeye Salmon Escapement and Population Monitoring**

**Abstract:** Sockeye salmon originating from the Kvichak River watershed have historically dominated valuable subsistence, sport, and commercial fisheries in Bristol Bay, Alaska. Obtaining reliable estimates of spawning escapement over time from important subsistence stocks is the number one priority identified by the Subsistence Fisheries Resource Monitoring Program for Bristol Bay. The Lake Clark sockeye salmon escapement, an important component of the Kvichak return, has been estimated intermittently since 1980 with annual estimates made since 2000. This report describes findings for the 2008 field season at the Newhalen River counting tower. Specific objectives were to 1) estimate sockeye salmon escapement to Lake Clark and 2) determine the age and size composition of the Lake Clark escapement. Estimates of sockeye salmon escapement were made at river kilometer 36 on the Newhalen River using the same tower site and protocols that were used in previous years. Sockeye salmon age and size were determined from otoliths collected from the Sixmile Lake subsistence fishery and from post-spawning fish at Lake Clark spawning areas. In 2008, the estimated Lake Clark escapement was 472,972 sockeye salmon, which comprised 17% of the total Kvichak River escapement. This escapement was 20% less than the mean escapement from 2004 – 2007, but 219% greater than the mean escapement from 2000 – 2003. Run timing was similar to previous years although total run duration was 9 days longer than the historic median. The age composition of the Lake Clark escapement, as determined from spawning area samples, was predominately age 1.3 (65%) followed by age 1.2 (34%), age 2.2 (1%), and age 2.3 (<1%) fish.

**Citation:** Young, D.B., and C.A. Woody. 2009. Lake Clark sockeye salmon escapement and population monitoring. U. S. Fish and Wildlife Service, Office of Subsistence Management, Fisheries Resource Monitoring Program, 2008 Annual Report (Study No. 08-405). National Park Service, Lake Clark National Park and Preserve, Port Alsworth, Alaska.