

## ABSTRACT

The escapement of sockeye salmon into Neva Lake was 5,931 (CV=3%) fish in 2006, 5,993 (CV=5%) in 2007, and 2,823 (CV=7%) in 2008 based on weir counts and mark-recapture data. For comparison, the sockeye escapements were estimated to be 5,003, 11,393, 9,513, and 5,263 in 2002, 2003, 2004, and 2005. Averaged from 2002 to 2008, the midpoint of the run was August 5 and 80% of the run passes between July 5 and September 7. The main inlet stream spawners spawned mostly in August and September and the lake spawners spawned mostly in October and November. Age-1. fish dominated the escapements but higher proportions of age-2. fish in recent years suggest that parent year escapements were filling the lake's rearing capacity. The high (20%+), low (0%), high (20%+) cycle of jack abundance also suggests carrying capacity constraints following high escapement years. There has been a significant increase in subsistence fishing effort on Neva sockeye salmon in recent years.

Key words: Sockeye salmon, *Oncorhynchus nerka*, subsistence, Neva Lake escapement, weir, mark-recapture, age composition.

Citation: Van Alen, B. W. 2009. Neva sockeye stock assessment; 2006 to 2008. U.S. Fish and Wildlife Service, Office of Subsistence Management, Fishery Resource Monitoring Program, Final Report Study No. 06-601. Anchorage, Alaska.

