

# Neva, Pavlof, and Hoktaheen Sockeye Salmon Stock Assessment, 2002 to 2005

## ABSTRACT

The escapement of sockeye salmon into Neva Lake was 5,003 fish in 2002, 11,393 in 2003, 9,513 in 2004, and 5,263 in 2005 based on weir counts and mark-recapture data. On average, the midpoint of the run was August 8 and 80% of the run passes between July 12 and September 9. The 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 and up to 24% of the fish were jacks. The subsistence and sport effort and harvest was relatively small.

The sockeye escapement into Pavlof Lake was 1,350 in 2002, 1,474 in 2003, and 715 in 2004 based on Peterson mark-recapture estimates with coefficient of variations less than 7%. Nearly all the fish entered the lake between June 21 and August 14 and spawned in the lower part of the main inlet stream from late-July to mid-August. Age-1.3 fish dominated the escapement and few jacks were observed. Thirty to 69% of the fish used the fishpass to migrate into the lake.

At Hoktaheen Lake, 3,438 (CV=3%) and 565 (CV=4%) sockeye salmon spawned in the upper lake's main inlet stream study area in 2003 and 2004 based on modified Jolly-Seber mark-recapture estimates. Most of these fish were in and off the mouth of the creek the first week of September. The only other concentration of spawners observed was in the upper half of the stream connecting the upper and lower lakes where 325 and 251 sockeye spawned from mid to late September in 2003 and 2004. Lake spawners might be present but none were observed in the tannin stained water. Age-1. and age-2. fish were sampled from the escapements.

Key words: Sockeye salmon, *Oncorhynchus nerka*, subsistence, Neva, Pavlof, Hoktaheen, escapement, weir, mark-recapture, age composition, zooplankton, limnology.

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