

## Falls Lake and Kutlaku Lake subsistence sockeye salmon projects

Abstract: In 2005, we estimated a spawning population of about 3,000 sockeye salmon (*Oncorhynchus nerka*) in Falls Lake, using two independent mark-recapture methods. This population size was similar to that in 2004, and in mid-range of escapements observed in previous years. The sockeye harvest of about 1,100 fish was lower than in the four preceding years, possibly as a result of an extended midseason closure designed to protect the early season escapement. However, reduced harvest could also reflect a short or long term shift in use and effort patterns among Kake fishers rather than lack of fish or opportunity. A majority of sockeye salmon returning to Falls Lake in 2005 had two freshwater years, in contrast to the four previous years in which most returning fish had only one freshwater year. This shift could indicate a fry population near carrying capacity in Falls Lake in 2001 and possibly 2000. In Kutlaku Lake, we estimated a total spawning population of about 12,000 sockeye salmon, from mark-recapture estimates of 4,500 fish in the main inlet stream and 3,100 fish in a secondary inlet stream, which together represented about 64% of all spawners. A more consistent sampling schedule and addition of sampling in the secondary inlet stream gave us greater confidence in our estimate, which was similar in magnitude to our sockeye spawning population estimates for 2002 and 2003. Most sockeye salmon returning to Kutlaku Lake had only one year of freshwater growth, consistent with age estimates in the Kutlaku Lake

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