

## **Falls, Gut Bay, and Kutlaku Lakes Subsistence Sockeye Salmon Project 2003 Annual Report and 2001–2003 Final Report**

Since the early 1990s there has been a sharp increase in the reported subsistence harvest at Falls Lake. ADF&G managers and the Organized Village of Kake questioned whether sockeye escapements into Falls Lake were adequate. However, in 2003, we estimated about 5,700 sockeye spawners in Falls Lake, a large increase from 1,100 in 2002 and 2,700 in 2001. The total marine terminal area harvest of 2,700 sockeye salmon in 2003 was the largest on record. Our results indicate total sockeye returns to Falls Lake may have been higher in 2001–2003 than returns in the 1980s, but escapement has remained about the same because more fish were harvested. Sockeye fry populations and zooplankton biomass were very low in 2001–2003 in this oligotrophic lake.

A research study in Gut Bay Lake was discontinued in 2003, but boat surveys conducted in the lake in 2001–2002 showed small, dispersed spawning populations around the shore of the lake. Subsistence fishers consistently report harvests of about 400 sockeye salmon annually from Gut Bay. We estimated sockeye salmon fry populations of 50,000–70,000 in 2001 and 2002, and very low zooplankton populations in those years. We recommend installing a weir on this system to get an accurate estimate of sockeye escapement.

In Kutlaku Lake, we generated a very approximate estimate of total escapement of about 8,500 sockeye salmon. In 2002, we estimated approximately 10,000 sockeye salmon spawners using the same methods. Populations of 100,000 fry and 115,000 fry were estimated in 2001 and 2002. Zooplankton biomass was moderate in 2001–2003.

**Citation:** Conitz, J.M. and M.A. Cartwright. 2005. Falls, Gut Bay, and Kutlaku Lakes subsistence sockeye salmon project 2003 Annual Report and 2001–2003 Final Report. Alaska Department of Fish and Game, Fishery Data Series No. 05-13, Anchorage.