

## AFSC/ABL: Salmonid migrations at Auke Creek, Alaska

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The Auke Lake system has endemic populations of pink, chum, sockeye and coho salmon, and supports populations of Dolly Varden char and cutthroat and steelhead trout. The National Marine Fisheries Service (NMFS), and its' predecessor agency, U.S. Bureau of Commercial Fisheries, began salmon research at Auke Creek, near Juneau, Alaska, in 1961. There are emigrant and immigrant counts of several species over nearly five decades (Appendices 1 and 2). Pink salmon fry populations at Auke Creek were estimated annually, 1972-79, and counted at the weir since 1980. Fyke nets were used capture sockeye salmon smolts leaving Auke Lake, and estimates are available for some years between 1961 and 1979. Total sockeye smolt counts are available since 1980. Chum salmon fry were counted annually since 1985. Coho salmon smolt estimates were made in 1976, 1977, and 1979, and the total coho smolt emigration was counted since 1980. Dolly Varden char and cutthroat trout were counted in 1970 and since 1980. Steelhead emigrants were counted since 1990. Weir counts of sockeye salmon adults at Auke Creek began in 1963; pink and chum salmon were counted 1967-68, and all salmon were counted since 1971. Chinook salmon entered Auke Creek since 1987 as a result of releases of juveniles from other hatcheries. Immigrant Dolly Varden and cutthroat and steelhead trout were counted from 1997-2006.

Auke Creek is the site of many research projects on wild and hatchery salmonids. The present weir at Auke Creek was constructed in 1980, and provided the capability to capture all emigrant and immigrant salmonids. Annual operations and maintenance costs associated with Auke Creek Research Station are provided by NMFS through the salmon research program of Auke Bay Laboratory. Projects at Auke Creek between 1971 and 1983 operated under several cooperative agreements. An interagency cooperative agreement relating to Auke Creek weir was established in 1983 between the NMFS, University of Alaska-Fairbanks (UAF), and Alaska Department of Fish and Game (ADFG). The agreement provided the authority to jointly fund a full-time person to assist with the operation of the fish counting weir at Auke Creek. The primary objective is to operate the weir on a daily basis and maintain the long-term data collections on migrant salmonids. Auke Creek weir usually operates from early March through late October. A report of fish counts from daily weir operations and other information related to salmonid research involving the facilities at the weir is prepared each year. The annual fish count data are available in the Auke Creek data file at the NMFS Auke Bay Laboratory. Data collected on specific projects outside the scope of the cooperative agreements are usually not included in the annual report. Those data may be available from project investigators or their respective agencies.