

Tatlawiksuk River Salmon Studies, 2006

The Tatlawiksuk River is a tributary of the Kuskokwim River, and produces Chinook salmon *Oncorhynchus tshawytscha*, chum salmon *O. keta*, and coho salmon *O. kisutch* that contribute to intensive subsistence and commercial salmon fisheries downstream of its confluence. The Tatlawiksuk River weir is one of several projects operated in the Kuskokwim Area that form an integrated geographic array of escapement monitoring projects. Collectively, and in accordance with the State of Alaska's Policy for the Management of Sustainable Salmon Fisheries (5 AAC 39.222), this array of projects is a tool to ensure appropriate geographic and temporal distribution of spawners, and provide a means to assess trends in escapement that should be monitored and considered in harvest management decisions. Towards this end, Tatlawiksuk River weir has been operated annually since 1998 to determine daily and total salmon escapements for the target operational period of 15 June through 20 September; to estimate age, sex, and length compositions of Chinook, chum, and coho salmon escapement; to monitor environmental variables that influence salmon productivity; and to serve as part of an integrated platform in support of other Kuskokwim Area fisheries projects.

In 2006, a resistance board weir was successfully operated on the Tatlawiksuk River from 15 June through 18 August, at which time high water levels prevented weir operation for the remainder of the target operational period. Daily passage estimates were calculated to span the remainder of the target operational period. Escapements for the target operational period included 1,700 Chinook and 32,301 chum salmon. A total of 2,362 coho salmon passed upstream of the weir before operations ceased on 19 August, and an estimated 7,091 coho salmon passed after this date based on the best available estimation methods. Formal escapement goals do not exist for the Tatlawiksuk River; however, chum salmon escapement was well above average and Chinook salmon escapement was near average in 2006. Estimated coho salmon escapement was near average in 2006. Age, sex, and length (ASL) samples were collected from 10.5% of the Chinook escapement and 2.9% of the chum escapement. Age, sex, and length data were obtained from 155 coho salmon before the weir became inoperative during the high water event on 19 August. The Chinook salmon escapement consisted of 44.1% age-1.3 fish, 30.4% age-1.4 fish, 21.0% age-1.2 fish, and 41.4% females. The chum salmon escapement consisted of 55.6% age-0.3 fish, 42.3% age-0.4 fish, 1.8% age-0.2 fish, and 42.1% females. The sample obtained for coho salmon consisted of 80.0% age-2.1 fish, 14.8% age-1.1 fish, 5.2% age-3.1 fish, and 38.7% females. In addition to enumerating escapement, estimating ASL composition, and investigating juvenile salmon distribution, the weir served as a platform for several other projects including *Inriver Abundance of Chinook Salmon in the Kuskokwim River* (FIS 05-302), *Kuskokwim River Sockeye Salmon Investigations*, and *Kuskokwim River Salmon Mark-Recapture Project* (FIS 04-308). The Tatlawiksuk River weir successfully contributed to each of these projects in 2006.

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