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ABSTRACT

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 important 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 used 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 2007, a resistance board weir was successfully operated on the Tatlawiksuk River from 15 June through 15 September, at which time anticipated high water levels necessitated early removal of the weir. Daily passage estimates were calculated to span the remainder of the target operational period. Escapements of 2,061 Chinook, 83,246 chum, 27 sockeye *O. nerka*, and 8,685 coho salmon were determined for the target operational period in 2007. Formal escapement goals do not exist for the Tatlawiksuk River; however, Chinook salmon escapement was above average, chum salmon escapement exceeded all previous years, and coho salmon escapement was near average. Historically, so few sockeye salmon have been observed in the Tatlawiksuk River that the escapement of 27 fish in 2007 was actually above average. Age, sex, and length (ASL) samples were collected from 13.3% of the Chinook escapement, 1.1% of the chum escapement, and 4.8% of the coho salmon escapement. The Chinook salmon escapement consisted of 43.9% age-1.3 fish, 34.7% age-1.2 fish, 19.7% age-1.4 fish, and 27.2% females. The chum salmon escapement consisted of 80.2% age-0.3 fish, 15.8% age-0.4 fish, 3.3% age-0.2 fish, and 52.3% females. The coho salmon escapement consisted of 88.3% age-2.1 fish, 6.8% age-3.1 fish, and 4.9% age-1.1 fish. In addition to enumerating escapement and estimating ASL composition the weir served as a platform for several other projects including *Kuskokwim River Chinook Salmon Run Reconstruction* and *Kuskokwim River Sockeye Salmon Investigations*. The Tatlawiksuk River weir successfully contributed to each of these projects in 2007.

Key words: Chinook salmon, *Oncorhynchus tshawytscha*, chum salmon, *O. keta*, coho salmon, *O. kisutch*, longnose suckers, *Catostomus catostomus*, escapement, age-sex-length, ASL, Tatlawiksuk River, Kuskokwim River, resistance board weir, radiotelemetry, mark-recapture, stock specific run timing, upper Kuskokwim.