

## **Run timing and abundance of adult salmon in the Tuluksak River, Yukon Delta National Wildlife Refuge, Alaska, 2003**

**Abstract:** A resistance board weir was used to collect abundance, run timing, and biological data from salmon returning to the Tuluksak River, a tributary to the lower Kuskokwim River, between June 16 and September 14, 2003. Data collected were used in-season to manage the commercial and subsistence fisheries in the Kuskokwim area.

A total of 11,625 chum *Oncorhynchus keta*, 1,064 Chinook *O. tshawytscha*, 282 sockeye *O. nerka*, 637 pink *O. gorbuscha* and 39,627 coho salmon *O. kisutch* were counted through the weir during 2003. Peak weekly passage occurred July 27 to August 2 for chum, June 29 to July 5 for Chinook, July 6 to 12 for sockeye, July 13 to 19 for pink, and August 24 to 30 for coho salmon.

A flooding event in 2003 prevented accurate counts from August 16 to 18. Escapement estimates during the flood, based upon historical proportional passage from the same time period, accounted for less than 1% of the return for each species. Estimated total escapement was 11,724 chum, 1,064 Chinook, 288 sockeye, 662 pink, and 41,071 coho salmon. Run timing was late for chum salmon, early for Chinook, and average for sockeye, pink and coho salmon.

Age, sex, and length data were collected from 1,234 chum salmon, 253 Chinook salmon, 52 sockeye salmon, and 217 coho salmon. Four age classes were identified for chum salmon, five for Chinook, three for sockeye, and three for coho salmon. It was estimated that female chum salmon made up 33% of the chum run, female Chinook salmon made up 27% of the Chinook run, and female coho salmon made up 52% of the coho run. In sampled fish, male chum salmon were larger than females for ages 0.3 and 0.4 fish and there was a significant difference in age composition between sexes. Female Chinook salmon were larger than males for age class 1.3 and 1.4 fish, and there was a significant difference in the age composition between sexes. Coho salmon age compositions did not differ between sexes while mean lengths for 2.1 and 3.1 coho salmon did not differ between sexes.

In addition to salmon, nine Dolly Varden *Salvelinus malma*, 79 whitefish *Coregonus* and *Prosopium* spp., two northern pike *Esox lucius*, and 120 Arctic grayling *Thymallus arcticus* were counted through the weir.

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