

2004 Assessment of Chinook, Chum, and Coho Salmon Escapements in the Holitna River Drainage Using Radiotelemetry, 2001-2003

Abstract: From 2001 to 2003 a radiotelemetry study was performed in the Holitna River drainage to estimate the proportion of Chinook salmon *Oncorhynchus tshawytscha*, chum salmon *O. keta*, and coho salmon *O. kisutch* returning to the Holitna River drainage that passed through the Kogruklu River weir, and to estimate the abundance of Chinook, chum, and coho salmon escaping into the Holitna River drainage. Chinook, chum, and coho salmon were captured fishing with drift gillnets near the mouth of the Holitna River. A portion of the total catch was radio-tagged with esophageal transmitters. Subsequent movements of all radio-tagged salmon were monitored with three stationary tracking stations that logged radio-tagged fish that migrated up the Hoholitna River, the Holitna River upstream of the Hoholitna River, or the Kogruklu River past the weir. Radio-tagged salmon were also located during aerial surveys of the Holitna River drainage. Estimates of Chinook salmon abundance in each year were: 25,405 fish in 2001, 42,902 fish in 2002 and 42,013 fish in 2003. The proportion of Chinook salmon past the weir in each year were: 0.26 in 2001, 0.23 in 2002 and 0.27 in 2003. A useable estimate of chum salmon abundance was only produced in 2002. The 2002 estimate of chum salmon abundance was 542,172 fish. The proportion of chum salmon past the weir in 2002 was 0.09. Estimates of coho salmon abundance in each year were: 63,442 fish in 2001 and 157,277 fish in 2002; an estimate of coho salmon abundance was not produced in 2003. The proportion of coho salmon past the weir in each year was: 0.31 in 2001 and 0.08 in 2002. Radio-tagged Chinook, chum, and coho salmon were located in numerous areas throughout the Holitna River drainage. Chinook and coho salmon predominantly spawned in first and second order tributaries, and most chum salmon spawned in the mainstem Holitna River. Numbers of radio-tagged fish located upstream from Nogamut, a proposed replacement site for the Kogruklu River weir, indicated that larger proportions of the total runs for all three species would be enumerated if the weir were moved to this location.

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