Abstract

Estimation of Chinook salmon distribution and run timing in the Togiak River watershed using radio telemetry, Togiak National Wildlife Refuge, Alaska, 2009.

Radio telemetry was used to determine distribution and run timing of Chinook salmon *Oncorhynchus tshawytscha* in the Togiak River watershed. This is the final year of a two year study to determine whether mark-recapture techniques are a viable approach for estimating Chinook salmon abundance. In 2009, 154 radio transmitters were implanted into Chinook salmon between 25 June and 28 July. A total of 118 fish (77%) were successfully tracked to spawning areas, 25 (16%) were not successfully tracked to a spawning location, one of which was never located, seven fish (4%) were harvested, and four (3%) were assigned a fate of dead/regurgitated. Ten tagged Chinook salmon were recaptured during the study. Eighty-eight percent (n = 104) of the tracked fish selected spawning locations in main stem areas of the Togiak River, and 12% (n = 14) selected spawning locations in tributaries, primarily Gechiak Creek (5%, n = 6). Six age classes were identified from scales collected in 2009, but the majority of the sample consisted of age 1.3 (26%), and 1.4 (49%) fish. Females comprised 59% of the total sexed for the season. Chinook salmon lengths ranged from 690 to 973 mm for females and from 465 to 993 mm for males. Based on results of this study, mark-recapture methods will be used to estimate Chinook salmon abundance in the Togiak River during 2010-2012.

Citation: Anderson, C. A. 2010. Estimation of Chinook salmon distribution and run timing in the Togiak River watershed using radio telemetry, Togiak National Wildlife Refuge, Alaska, 2009. U.S. Fish and Wildlife Service, Anchorage Fish and Wildlife Field Office. Alaska Fisheries Data Series Number 2010-8. Anchorage, Alaska.