

## Abstract

### **Estimation of Chinook salmon distribution and run timing in the Togiak River watershed using radio telemetry, Togiak National Wildlife Refuge, Alaska, 2008.**

Radio telemetry was used to determine distribution and run timing of Chinook salmon *Oncorhynchus tshawytscha* in the Togiak River watershed. This information will be used to determine if mark-recapture techniques are a viable approach for estimating Chinook salmon abundance. The calculated estimates will be used to evaluate the effectiveness of aerial surveys for monitoring abundance. In 2008, 127 radio transmitters were implanted into Chinook salmon between 29 June and 5 August. Seventy-seven fish were successfully tracked to spawning areas, five fish were never located, 11 fish were harvested, 27 fish were not successfully tracked to a spawning location, and seven fish were assigned a fate of dead/regurgitated. Two Chinook salmon were recaptured during the study. Seventy-four percent ( $n = 57$ ) of the tracked fish selected spawning locations in main stem areas of the Togiak River and 26% ( $n = 20$ ) selected spawning locations in tributaries, primarily Gechiak Creek (13%,  $n = 10$ ). Four age classes were identified from scales collected in 2008. The majority of the run consisted of age 1.3 (54.2%), and 1.4 (39.3%) fish. Females comprised 69% of the total sampled for the season. Chinook salmon lengths ranged from 641 to 970 mm for females and from 591 to 1,020 mm for males. We recommend a second year of spawning distribution surveys to further develop the capture site and determine main stem spawning areas.

Anderson, C. A. 2009. Estimation of Chinook salmon distribution and run timing in the Togiak River watershed using radio telemetry, Togiak National Wildlife Refuge, Alaska, 2008. U.S. Fish and Wildlife Service, Anchorage Fish and Wildlife Field Office. Alaska Fisheries Data Series Number 2009-9. Anchorage, Alaska