ABSTRACT

The purpose of this project was to use fishwheels and two-sample mark-recapture methods for long-term monitoring of Chinook salmon *Oncorhynchus tshawytscha* escapement on the Copper River. This report summarizes results from the 2009 field season, the ninth year since the project's inception. The main objective for 2009 was to estimate the inriver abundance of Chinook salmon returning to the Copper River such that the estimate was within 25% of the true escapement 95% of the time. For the first sample event, up to three live-capture fishwheels were operated at Baird Canyon for a total of 3,490 h from 13 May to 2 August. During this period, 2,484 adult Chinook salmon were marked. For the second sample event, up to two fishwheels were operated at Canyon Creek near the lower end of Wood Canyon for 3,569 h from 19 May to 15 August. A total of 2,465 Chinook salmon were examined for marks, of which 171 fish were marked. Using a temporally stratified Darroch estimator, the estimated abundance of Chinook salmon measuring 500 mm FL or greater that migrated upstream of Baird Canyon from 13 May to 2 August was 32,401 (SE = 2,365). The median travel time of Chinook salmon marked at Baird Canyon and recaptured at Canyon Creek (91 km upstream) was 10.1 d. Funding for this study by the Fisheries Resource Monitoring Program (FRMP) has been approved through 2013. This highly successful and long-term monitoring program has made NVE an integral part of Copper River salmon research.

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