

Abstract

A Mark–Recapture Study of Kuskokwim River Coho, Chum, Sockeye, and Chinook Salmon, 2001–2006

The Alaska Department of Fish and Game, Division of Commercial Fisheries conducted a mark–recapture study of coho (2001–2005), chum (2002–2005), sockeye (2002–2006), and Chinook (2005 and 2006) salmon returning to the Kuskokwim River, Alaska. All species were captured and tagged using fish wheels and drift gillnets operated in the lower mainstem Kuskokwim River near the village of Kalskag, river kilometer (rkm) 263. Tagged salmon were recaptured upstream using mainstem fish wheels operated near Birch Tree Crossing (rkm 294) and escapement monitoring weirs located on the Salmon (rkm 404), George (rkm 453), Tatlawiksuk (rkm 568), Kogrukluuk (rkm 710) and Takotna (rkm 835) rivers. Run timing past the Kalskag tagging site and migration speed were estimated for all upriver stocks monitored with weirs. Total abundance of coho, chum, and sockeye salmon that reached the Kalskag tagging site was estimated in select years using wheel–wheel and wheel–weir methods (Chinook salmon abundance was not included in this study.) Each salmon species displayed evidence for a stock-specific run timing chronology where fish that traveled further upstream migrated through the lower river earlier in the season. Farther traveling coho and Chinook salmon displayed faster migration speeds compared to individuals traveling to less distant tributaries. Similarly, coho and Chinook salmon that began their upriver migration later in the year traveled faster than earlier migrating individuals. Coho and sockeye salmon abundances were successfully estimated in all years; however, chum salmon abundance estimation was problematic and no reliable estimates were produced.

Citation: Schaberg, K. L., Z. W. Liller, and D. B. Molyneaux. 2010. A mark–recapture study of Kuskokwim River coho, chum, sockeye, and Chinook salmon, 2001–2006. Alaska Department of Fish and Game, Fishery Data Series No. 10-32, Anchorage.