

Spawning and Seasonal Distribution of Adult Steelhead in Southcentral Alaska's Kasilof River Watershed from 2007 to 2009

Radio telemetry was used to monitor the movements of 159 adult steelhead *Oncorhynchus mykiss* in the Kasilof River watershed from October 2007 to June 2009. Steelhead were radio-tagged between river kilometer 10 and 24 and tracked throughout the watershed using fixed receiver stations, boats, and fixed-wing aircraft. Sixty-two percent ($N=99$) spawned in either tributaries or the mainstem Kasilof River. Spawning tributaries included Coal, Crooked, Nikolai, Indian, and Shantatalik creeks. The remaining 60 fish were classified as "Dead/Expelled" ($N=19$), "Back-out" ($N=29$), "Non-spawner" ($N=5$), or "Unknown" ($N=7$). The seasonal distribution and movements of radio-tagged steelhead were described by dividing the watershed into five regions: the estuary, river, outlet, lake, and tributaries. Distribution varied as fish moved among regions throughout the study period. The majority (60% to 63%) of the fish remained in the river throughout the fall before dispersing to their overwintering areas. Overwintering areas included the river, outlet, lake and estuary regions. Regions used as migration corridors increased in importance by April as fish began to move to their respective spawning locations. Movements of radio-tagged steelhead continued to increase throughout the spring as spawning commenced and kelts began to migrate back to saltwater. Movement among regions was highest during May and June but was observed during all months.

Citation: Gates, K.S. and J.K. Boersma. 2010. Spawning and Seasonal Distribution of Adult Steelhead in Southcentral Alaska's Kasilof River Watershed from 2007 to 2009. U.S. Fish and Wildlife Service, Alaska Fisheries Data Series Report Number 2010-06, Soldotna, Alaska.