

Spawning and Seasonal Distribution of Adult Steelhead in the Kasilof River Watershed, Alaska, 2007 and 2008

Radio telemetry was used to monitor the movements of 79 adult steelhead *Oncorhynchus mykiss* in the Kasilof River watershed from October 2007 to June 2008. 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-eight percent ($N=54$) of the radio-tagged steelhead spawned in tributaries or the mainstem Kasilof River. Tributaries selected by radio-tagged steelhead included Coal, Crooked, Nikolai, and Indian creeks. The remaining 25 radio-tagged steelhead were classified as “Dead/Expelled” ($N=14$), “Back-out” ($N=6$), or “Non-spawner” ($N=5$). 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%) of the radio-tagged steelhead remained in the river throughout the fall before dispersing to their overwintering areas. Seventy percent of all active radio-tagged steelhead utilized the lake and outlet regions during the winter months. 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 steelhead kelts began to migrate back to saltwater. Movement among regions was highest during May and June but was observed during all months.

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