

## ABSTRACT

A two-year radiotelemetry study of Aniak River rainbow trout *Oncorhynchus mykiss* was initiated in 2008 to determine whether discrete geographic stocks exist within the drainage by examining their seasonal movements and distributions. From 6 to 12 August 2008, radio tags were surgically implanted into 125 rainbow trout  $\geq 410$  mm FL in four different river segments (Salmon River, Kipchuk River, Upper Aniak River and the mainstem Aniak River) spanning 134 river kilometers (rkm) of the Aniak River drainage. A total of 20 aerial tracking surveys were flown from 25 September 2008 through 25 June 2010. Results of the surveys indicated that: 1) none of the tagged rainbow trout overwintered near or downstream of Doestock Creek (the closest fish was 14.5 rkm upstream of Doestock Creek), which is the primary location of the winter subsistence fishery; 2) overwintering and spawning habitat were limited in the Salmon River; 3) overwintering and spawning areas were intermittent in the Kipchuk River and in the Upper Aniak River; 4) within the confines of our tagging study area, overwintering and spawning areas were widespread in the Aniak River mainstem; 5) few tagged rainbow trout made extensive spawning migrations from overwintering areas; 6) spawning appeared to take place from late May–early June; and, 7) a year after tagging, most rainbow trout returned to the same river segment in which they were initially tagged.

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