

Run Timing, Abundance, and Distribution of Adult Coho Salmon in the Kasilof River Watershed, Alaska, 2007 – 2009

Run timing, abundance, and distribution information was collected on coho salmon *Oncorhynchus kisutch* in the upper Kasilof River watershed from 2007 through 2009 using fish weirs equipped with underwater video systems and radio telemetry. Combined total annual passage of coho salmon ranged from 623 to 1,556 at the Nikolai and Shantatalik creek weirs between 2007 and 2009. Peak weekly passage at each weir generally occurred during the second and third week of September. Distribution of coho salmon spawning above river kilometer 24 was determined by gastrically implanting a total of 349 radio transmitters into fish captured in the Kasilof River using drift gillnets during 2007 ($N=109$) and 2008 ($N=240$). Thirty-nine (2007) to sixty (2008) percent of the radio-tagged coho salmon selected spawning locations within the Kenai National Wildlife Refuge, upstream of the boundary at Silver Salmon Rapids (rkm 24). Of these fish, 51% spawned in the upper mainstem Kasilof River (2007 $N=29$ and 2008 $N=94$) and 26% (2007 $N=14$ and 2008 $N=50$) selected spawning locations in tributaries of Tustumena Lake. Tustumena Lake tributary streams included Shantatalik, Nikolai, Indian, Fox, West, Glacier and Clear creeks. Other radio-tagged coho salmon spawned outside the Kenai National Wildlife Refuge, in Crooked Creek, Coal Creek and the mainstem Kasilof River downstream of the refuge boundary. All remaining radio-tagged coho salmon did not spawn, and their fates were classified as “Dead/Regurgitated”, “Harvested”, “Back Out”, or “Unknown”.

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