

“Spawn Timing and Location of Radio-tagged Hatchery and Wild Steelhead and Spring Chinook Salmon in the Klickitat River”

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**ABSTRACT:**

Between the fall of 2009 and summer of 2014 the Yakama Nation Fisheries program, in conjunction with the U.S. Geological Survey, conducted a radio tracking study with the following objectives 1) identify spatial and temporal habitat use by wild-spawning Steelhead and Spring Chinook Salmon, of both wild and hatchery origin 2) quantify “fallback”, “dip-in”, wild spawning, harvest, and pre-spawn mortality rates 3) identify tributary stream habitat use 4) identify potential obstacles to upstream migration. A total of 488 Steelhead, and 226 Spring Chinook, were implanted with a radio transmitter, as well as a PIT tag. Subsequent behavior and movement was tracked via detections at PIT tag arrays, fixed-site radio receivers, and via mobile radio tracking (river-adjacent roads, raft, aircraft). Varying amounts of habitat use “overlap” was identified between wild and hatchery origin Steelhead, wild and hatchery origin Chinook salmon. We found significant separation, in time and space, between wild-spawning hatchery and wild Steelhead. We found no significant separation, in time or space, between wild-spawning hatchery and wild Spring Chinook Salmon.