

Klickitat River Adult Salmon and Steelhead Monitoring Updates

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ABSTRACT: Ongoing monitoring in the Klickitat River is aimed at determining status and trends in spring Chinook salmon and steelhead populations. Redd counts, run reconstruction (harvest plus escapement), and mark-recapture methods are used to monitor adult abundance and distribution. Mark-recapture estimates of run size at Lyle Falls on the lower Klickitat (in which fish are tagged at the Lyle Falls adult fish trap and recaptured further upstream either at Klickitat Hatchery or by anglers) generally provide the most robust abundance estimates.

For spring Chinook, mark-recapture estimates from 2007-2018 give an average of about 3700 hatchery-origin fish (ranging from 1100-5900) and 500 natural-origin fish (ranging from 180-770). Estimates for 2018 are on the low end of this record: about 1140 hatchery fish (with a 95% confidence interval of 860-1500) and about 180 natural-origin fish (95% CI of 155-270). These include adults and jacks; jacks represented about 13% of the population at Lyle Falls in 2018, and jacks average 20% of the run across all years. Redd counts, after exhibiting a downward trend prior to 2010, have stabilized in recent years; however, high numbers of hatchery fish on natural spawning grounds are likely playing a large role in this trend. Evidence from spawner survey carcass counts and radio telemetry study results point to the significant presence of hatchery spawners in the wild. Overall the wild spring Chinook population is still exhibiting very low numbers relative to likely historic runs and is still quite depressed. Hatchery program reforms and upgrades are planned to improve the status of this population.

For steelhead, mark-recapture estimates for 2005-2018 yield an average total wild steelhead (summer and winter) run of about 1700 fish (ranging from about 1100 to 3270 fish); for hatchery steelhead the recent years' average is about 2750 fish (ranging from about 1250 to 5150 fish). The 2018 wild summer steelhead run was estimated to be about 970 fish (95% CI of 680 to 1450); the 2018 hatchery summer steelhead run estimate was about 2090 fish (95% CI of 1440 to 3190). These estimates include some out-of-subbasin fish that enter the Klickitat; according to recent radio telemetry studies a significant portion of these fish likely stay and spawn in the Klickitat subbasin.

Also, results from a video monitoring facility at Castile Falls on the upper Klickitat R. (RM 64) indicate low levels of returning adults to this area. Averages for 2012-2018 are 10-12 each of hatchery and wild steelhead, and about 5 spring Chinook. Recolonization of this upper river reach is also an ongoing management goal.