Recolonization by Steelhead and Salmon in the White Salmon Watershed – Results of Spawner Surveys following the Removal of Condit Dam

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ABSTRACT: Condit Dam on the lower White Salmon River was breached in 2011 and completely removed in 2012, restoring passage for migratory fish for the first time in about 100 years. Following dam removal, various agencies have conducted monitoring efforts to document recolonization by anadromous salmonids; spawner surveys (redd counts) have been utilized to monitor spatial distribution and abundance of steelhead and Chinook salmon. Yakama Nation Fisheries Program staff have conducted steelhead spawner surveys in White Salmon tributary streams, beginning in 2012-2013 and expanding to include all the major anadromous-accessible tributaries (Rattlesnake, Buck, Spring, and Mill creeks – all upstream of the former Condit Dam site) for 2014-2015. To date, live adult steelhead spawners and carcasses have been observed in very small numbers in Rattlesnake, Buck, and Mill creeks. Steelhead redds have been observed in all four of these streams in slightly higher numbers; total redd counts in 2015 indicate that steelhead spawner abundance in these tributaries was likely at least 50-60 fish. Spatial distribution of steelhead spawning activity observed to date includes: the lowermost 1.5 miles of Rattlesnake Creek (up to and possibly just above a partial barrier falls); the lowermost 2.6 miles of Buck Creek (below a partial barrier falls); and in the lowermost 0.3 miles of Mill Creek (below a partial barrier road culvert) and Spring Creek (below a complete barrier private dam). Steelhead redd surveys typically underestimate redd and fish abundance. Another uncertainty with steelhead redd survey data that remains is the source of the recolonizing spawners – possibilities include returning native White Salmon fish (formerly resident trout populations now exhibiting anadromous or fluvial migration) or stray steelhead from other river basins. Washington Department of Fish and Wildlife staff have conducted Chinook salmon spawner surveys – these surveys had been conducted below Condit Dam since the 1980s and expanded to river reaches above Condit Dam after dam removal. Estimated spawner abundance averages 2000-3000 upriver bright fall Chinook and 1100-1300 tule fall Chinook – very large runs of fall Chinook throughout the Columbia River basin in recent years make determining the effect of dam removal difficult for these stocks at this time. An estimated average 130 spring Chinook have returned in the years since dam 2013 – it was believed this stock was extirpated from the White Salmon while the dam was in place. Spawning distribution of all Chinook stocks includes areas upstream of the former dam site, as well as heavy use of newly transported spawning gravels below the dam site. While many questions remain about the pace and extent of recolonization (and additional monitoring is needed) it is clear that salmon and steelhead are now using the restored passage and spawning in habitat that is once again available in the White Salmon watershed.