

White Salmon River Juvenile Salmonid Monitoring, 2016

Preliminary Results

This study is in progress. Some preliminary results from 2016 fish sampling and tagging are summarized here. Funding has been acquired to continue this work in 2017.

Smolt Trapping

A rotary screw trap was operated continuously at river kilometer (rkm) 2.3 from March 24, 2016 – May 29, 2016. Five fish species of varying life-history stages were encountered. These included steelhead (fry, parr, smolts, and a kelt), coho salmon (fry and smolts), Chinook salmon (fry), lamprey (juvenile and one adult Brook lamprey), and sculpin. Preliminary results from the 2016 smolt trap monitoring confirm that both steelhead and coho salmon are producing smolts from points upstream of rkm 2.3. Juvenile salmonids 70-mm or greater in fork length (FL) were tagged with Passive Integrated Transponder (PIT) tags. These tags provide for mark-recapture efficiency estimates and will begin to inform us of life-history aspects of anadromous salmonids from the White Salmon River.

Only four Chinook salmon fry were captured in the screw trap during 2016. Preliminary results from Washington Department of Fish & Wildlife Chinook salmon spawning surveys indicates that the majority of spawning occurs downstream of rkm 2.3, though there is some upstream of this point. Spring Chinook salmon have been observed spawning in the White Salmon and most of them do so upstream of rkm 2.3. A very large flood event occurred in December of 2015, which may have reduced egg survival from 2015 Chinook salmon spawning.

Summary of salmonids captured at the rotary screw trap at rkm 2.3 during 24 March – 29 May 2016

- Steelhead (153 smolts, 23 parr, 9 fry, 1 kelt)
- Coho (79 smolts, 3 parr, 21 fry)
- Chinook (4 fry)

299 genetic samples were collected for future analysis

Summary of fish PIT tagged at the rotary screw trap at rkm 2.3 during 24 March – 29 May 2016

- 169 Steelhead PIT-tagged (20 parr, 149 smolt)
- 78 Coho PIT-tagged

- PIT tag detections at Bonneville or estuary of fish tagged at the smolt trap in 2016: 28 Steelhead, 18 coho

Electrofishing

Juvenile salmonids were sampled at eight locations throughout the White Salmon watershed during summer and fall of 2016. Over 1,200 juvenile salmonids were encountered. Steelhead/rainbow trout were found at all sample sites. Coho salmon were found in the mainstem White Salmon River at rkm 2.3, in Mill Creek, and in Buck Creek. Small numbers of cutthroat trout were found in Mill and Rattlesnake creeks. Over 300 juvenile salmonids were PIT tagged. Future recaptures or detections of these tagged fish will provide data to begin to describe life-history aspects of salmonids in the White Salmon, such as growth, migration timing, and viability to adulthood.

Mark-recapture abundance sampling was done at one site each in Buck and Rattlesnake creeks. These sites were sampled by U.S. Geological Survey prior to removal of Condit Dam and will provide information about changes to salmonid populations in these tributaries and with continued sampling will provide information about population trends.

Reporting

A final report is in progress for 2016 sampling and will be released upon completion of the U.S. Geological Survey peer-review process. A link will be available on this website.