

WENATCHEE WATERSHED INSTREAM FLOW STUDIES, WA

The Wenatchee Watershed, WRIA 45, is classified by the State of Washington as an over-appropriated basin where stream flows are critical to salmonid recovery. The WRIA 45 Planning Unit is examining instream flow needs and future water supply options in order to address future water requirements for the Wenatchee River basin. Chinook salmon, steelhead trout and bull trout are federally-listed species in the Wenatchee basin. The study addresses instream flow needs for these species as well as other instream flow concerns of key interest to the Planning Unit.

The purpose of this study is to characterize the relationship between stream flow and fish habitat on the Wenatchee River and several tributaries. Specifically the areas of interest are the mainstem Wenatchee River downstream from Tumwater Canyon to its mouth and Peshastin Creek from RM 5.0 downstream to its mouth.



EES Consulting conducted instream flow studies using USFWS Instream Flow Incremental Methodology (IFIM) with specific application of PHABSIM. EES Consulting was responsible for design and field execution of studies, analytical modeling, report preparation and ongoing technical analysis and negotiations.

Results

- EES Consulting collected depth and velocity data using Acoustic Doppler (ADCP) for both spawning and rearing Bull trout via spawner surveys and night snorkeling. This increased the state's database 225% for the number of Bull trout spawning redds and 333% for the number of juvenile Bull trout observations used for statewide Habitat Suitability Indices (HSI) in IFIM studies.
- Assisted WRIA 45 in making a unanimous recommendation for new instream flow levels for Wenatchee and Chiwawa rivers and Peshastin and Nason creeks.
- Habitat mapping based on an aerial video survey and ground truthing for a 27-mile reach of the Wenatchee River and 5 miles of Peshastin Creek.
- Used results of habitat mapping to select transects. Transects approved by members of WDFW and Ecology Instream Flow team.
- Setup and data collection at 35 transects on the Wenatchee River and 9 transects in Peshastin Creek for the purpose of model calibration and application for PHABSIM analysis.