



Wild Fish Conservancy

N O R T H W E S T

S C I E N C E E D U C A T I O N A D V O C A C Y

Wild Fish Conservancy Watertype Assessment Project Summary WRIA 13 Phase IV (15-1176)

<http://www.moonlitgeo.com/wfc/>

June 2019

Water typing is the state-sanctioned process of mapping the distribution of fish and fish habitat. Regulatory water type maps are used to regulate land use decisions adjacent to streams, ponds, and wetlands. Because existing (modeled) regulatory maps often significantly misrepresent the presence, location, and extent of fish habitat, the effectiveness of state and local government fish habitat protection regulations is compromised. More information about the water typing process and its significance is available at:

<http://wildfishconservancy.org/resources/maps/what-is-water-typing>

WRIA 13 Assessment Project –Phase III

During the 2016-2018 water type field seasons, Wild Fish Conservancy crews performed water type assessments on prioritized portions of the Deschutes River watershed in Thurston County, WA (Figure 1). The survey encompassed 423 miles of streams.

WFC conducted water type surveys using the protocols and definitions provided in WAC 222-16-031 and Section 13 of the Forest Practices Board Manual. WFC collected data only on properties where permission to do so was granted. During this phase of the project WFC requested permission from property owners to access 289 parcels. Of these, access for the WFC staff to perform the survey on their property was granted for 36 parcels (12.5 percent). In addition to these private parcels, WFC crews assessed stream conditions and fish presence at right of ways at public road crossings.

WFC documented stream channel location and characteristics, fauna, riparian condition, and restoration opportunities via GPS and photographs. Wetted width, bankfull width, channel gradient, and other data were recorded at each GPS point and are visible, with photographs, by clicking on the points in the interactive map. We present 779 photographs (with associated channel condition descriptions) on the interactive web-based GIS at <http://www.moonlitgeo.com/wfc/?lat=46.87&lng=-122.64&zoom=12>.

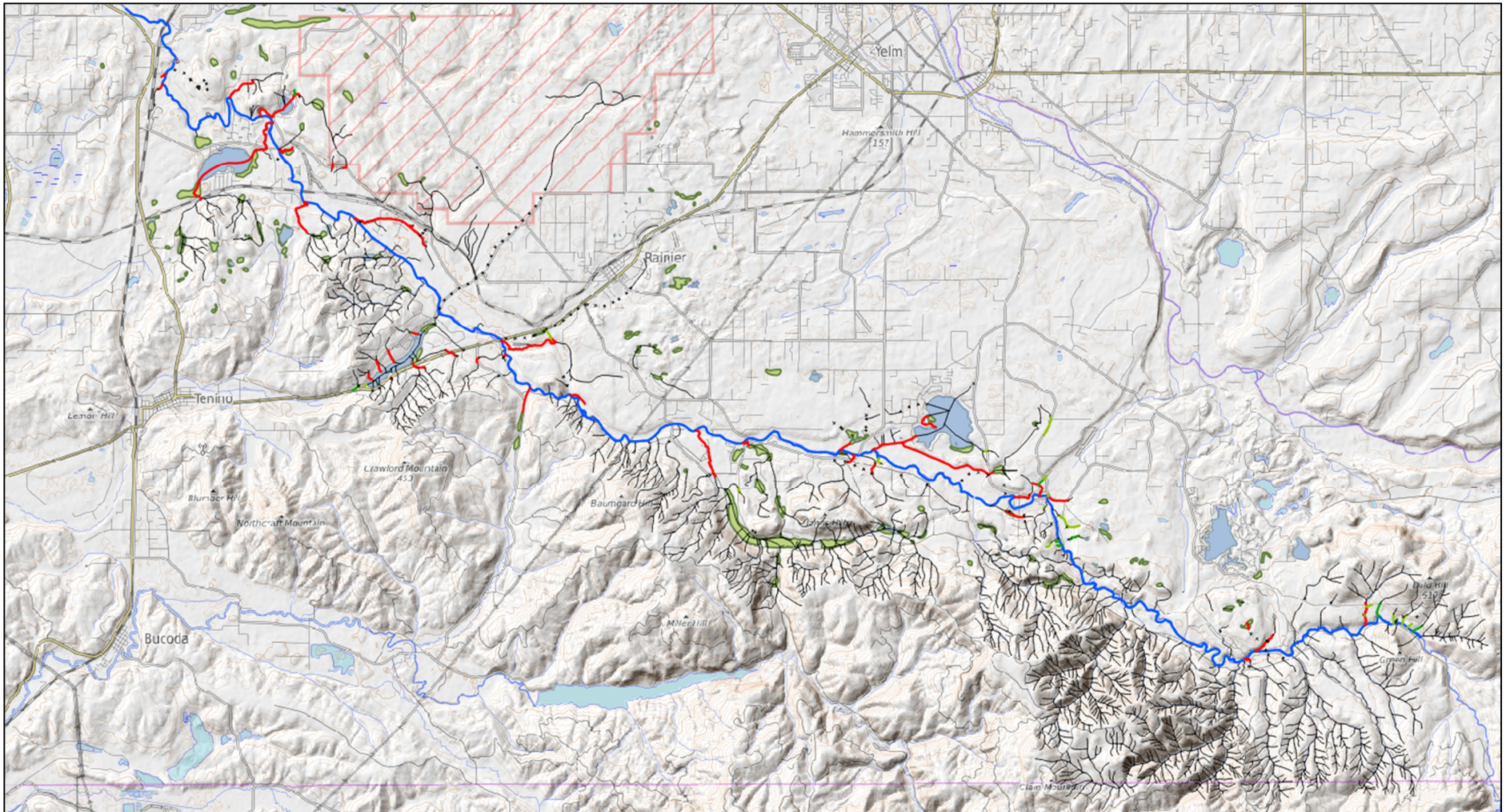


Figure 1. Geographic extent of WFC's WRIA 13 Water Type Assessment - Phase IV in Thurston County. Details are available on an interactive web map at: <http://www.moonlitgeo.com/wfc/?lat=46.87&lng=-122.64&zoom=12>

Fauna that WFC encountered during the surveys included cutthroat trout, possible rainbow trout, coho salmon, sculpin, 3-spined stickleback, and Olympic mudminnow.

As expected based on previous Wild Fish Conservancy water type assessments, significant discrepancies existed between the Washington Department of Natural Resources (WDNR) regulatory maps and what we found on the ground (Figure 2). For example, over the study area WDNR had identified 419 miles of streams. WFC found that 13 miles of those WDNR mapped channels did not exist, but that an additional 11.4 miles of stream channels did exist that were not on the official WDNR water type maps.

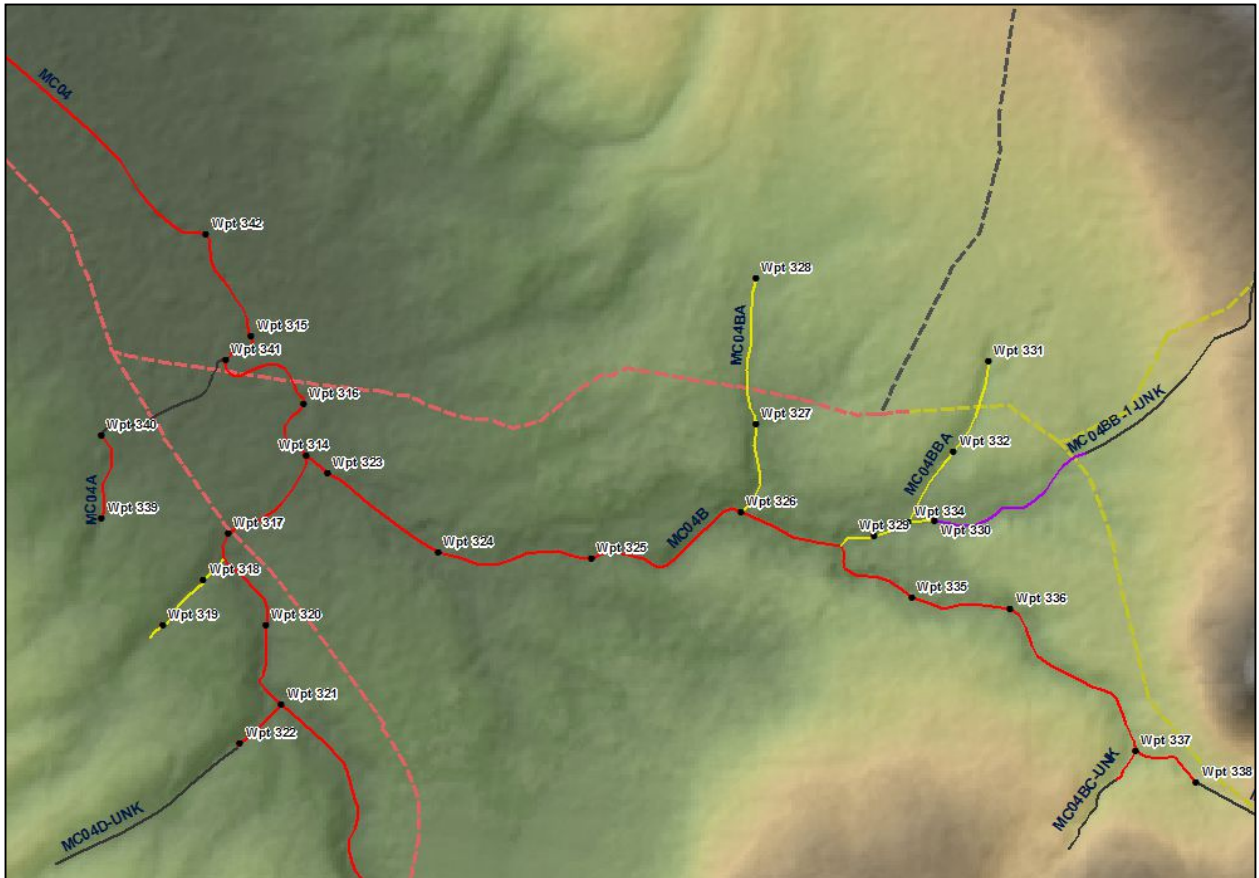


Figure 2. Example of discrepancy between DNR modeled stream channel location (dashed) and classification, and WFC field observations (solid).

Restoration Opportunities

During the course of the field surveys, Wild Fish Conservancy staff observed and documented habitat restoration and protection opportunities; these are presented in Appendix A. WFC is coordinating with potential project sponsors to develop restoration and protection projects based on these observations. Initial WFC prioritization of the projects was based on the area and quality of habitat affected, and the number and ESA-status of species likely to be impacted. Habitat project selection included consideration of benefit (high priority habitat features or processes, high priority geographic area, species affected, life history stage affected, reasonable cost per gain) and certainty (project is consistent with scientific methods, appropriate sequencing, addresses a high potential threat, and likelihood of willing landowners).



Figure 3. Young of year coho salmon captured in an unnamed mis-mapped tributary during the WRIA 13 Phase IV Water Type Assessment.



Figure 4. Young of year trout captured in Silver Creek during the WRIA 13 Phase IV Water Type Assessment.

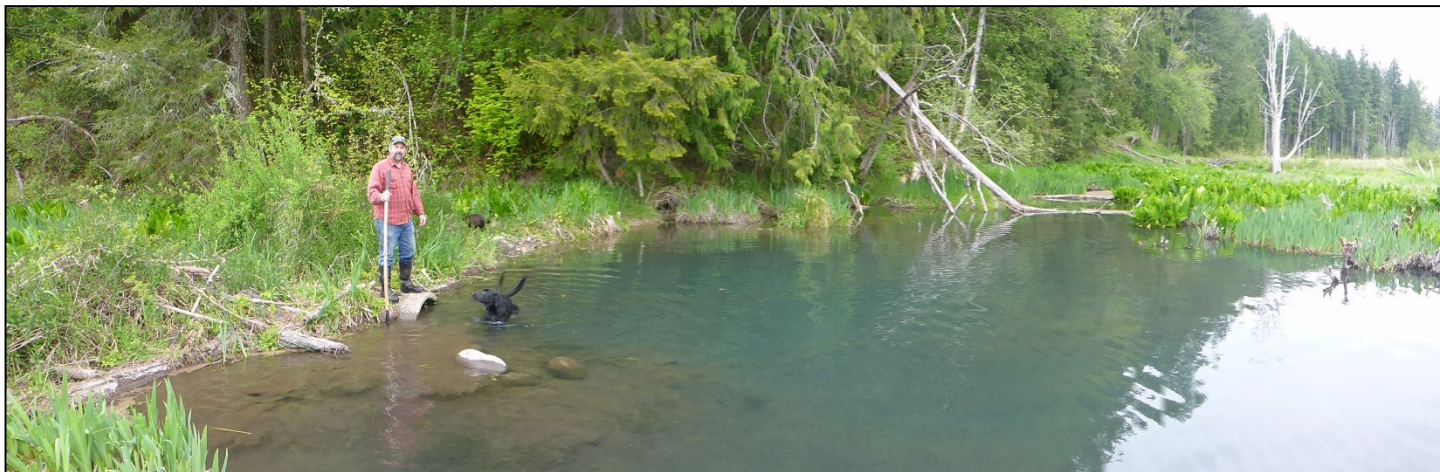


Figure 5. Fish access restoration project (identified as Project “D” in Appendix A) on Unnamed Deschutes tributary. Several barrier culverts impede fish access to a series of beaver ponds which would provide excellent rearing habitat.

Project-related outreach:

- Article in North Kitsap Herald:
<http://www.northkitsapherald.com/news/126844703.html>
- Article in Kitsap Sun: http://www.kitsapsun.com/news/local-news/protecting-salmon-habitat-first-requires-a-good-map_91618117
- Two oral presentations at the 2014 Salish Sea Conference:
<http://www.wvu.edu/salishseaconference/index.shtml>
- Project result-related meetings with Thurston County Planning Department.
- Multiple updates to the WRIA 13 Technical Advisory Group.

WFC’s Water Type Assessment project is ongoing; in 2020 Wild Fish Conservancy crews will be performing field surveys in additional Puget Sound drainages in Kitsap and Pierce Counties (WRIA 15).

Funding for this project was provided by the Salmon Recovery Funding Board, with in-kind matching funds provided by Thurston County.

Appendix A. WFC Restoration and Protection Opportunities prioritized during WRIA 13 Watertype Assessment Project –Phase IV

Project ID	Stream	Point ID	Lon,Lat	link	Problem/opportunity	Potential solution	Comments
A	DS066	PID 9911	-122.5557,46.8395	http://www.moonlitgeo.com/wfc/?lat=46.8395&lng=-122.5557&zoom=17	Barrier culvert, modified channel	Naturalize channel: add sinuosity, LWD, native riparia.	Floodplain an lower tributary channel is ditched and straightened around fields and pasture, and the upper reach is blocked by a barrier on Lawerence Lake Rd. Excellent opportunity to improve fish passage and naturalize the channel (restore sinuosity, add LWD, and add native plants).
B	DS062.1	PID 9902	-122.5972,46.8413	http://www.moonlitgeo.com/wfc/?lat=46.8413&lng=-122.5972&zoom=17	modified channel	Naturalize channel: add sinuosity, LWD, native riparia.	This channel has been altered and ditched to improve drainage to pasture land upstream of a culvert on Reichel Rd.
C	DS071	PID 9835	-122.5377,46.8347	http://www.moonlitgeo.com/wfc/?lat=46.8347&lng=-122.5377&zoom=17	Barrier culvert, modified channel	Replace barrier culvert naturalize channel: add sinuosity, LWD, native riparia.	The downstream end of this spring fed channel has been altered and ditched to improve drainage to pasture land upstream of a culvert on Lawerence Lake road. Forest land has been cleared for home site and development adjacent to the pasture and channel. Coho and cutthroat trout were netted below the culvert on Lawerence Lake road but none were observed above.
D	DS103	PID 9925	-122.4613,46.7957	http://www.moonlitgeo.com/wfc/?lat=46.7957&lng=-122.4613&zoom=17	Barrier culverts on abandoned field access roads and modified channel with grazing impacts	Remove culverts and restore and improve wetland, instream, and riparian habitat	This channel has a series of beaver ponds and wetlands adjacent to a cattle pasture. The channel has been altered and ditched to improve drainage to pasture land. Excellent opportunity to restore the channel and adjacent wetland habitat. The land owner is eager to restore the stream function and riparian corridor.
E	DS058	PID 9800	-122.6356,46.8451	http://www.moonlitgeo.com/wfc/?lat=46.8451&lng=-122.6356&zoom=17	Degraded stream and wetland actively grazed by cattle and horses	Install livestock fencing, plant native riparia, naturalize channel	A type F low gradient stream flows through a wetland in an active cow and horse pasture. The stream is choked with non-native grasses including reed canary grass with no native riparian trees and shrubs. This section of stream lacks protection from grazing and is crossed regularly by both cattle and horses. This location marks an excellent opportunity to protect and restore the channel (install livestock fencing, add LWD, and add native riparia).