

## 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 III**

*<http://www.wildfishconservancy.org/maps>*

**December 2014**

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 2012-2014 water type field seasons, Wild Fish Conservancy crews performed water type assessments on prioritized portions of the McLane Creek watershed in Thurston County, WA (Figure 1). Subbasins included Swift Creek (Figure 2) and East Fork McLane Creek (Figure 3), and ten independent tributaries to Mud Bay (Figure 4). The survey encompassed 30 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 238 parcels. Of these, access for the WFC staff to perform the survey on their property was granted for 65 parcels (27 percent).

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 more than 485 photographs (with associated channel condition descriptions) on the interactive web-based GIS at <http://wildfish.beardedmaps.com/?lat=47.09&lng=-122.8&zoom=11>.

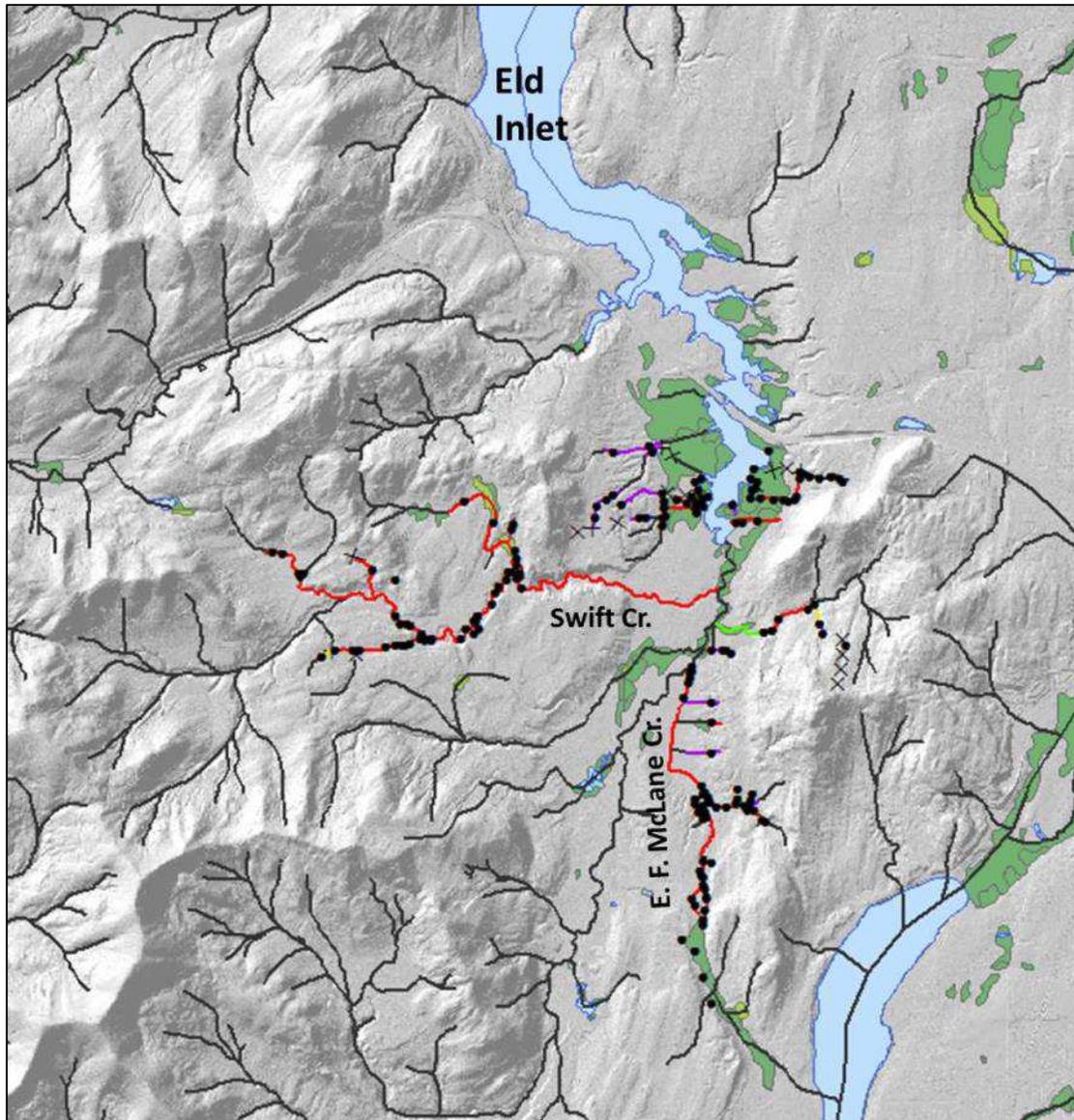


Figure 1. Geographic extent of WFC's WRIA 13 Water Type Assessment - Phase III in Thurston County.

Fauna that WFC encountered during the surveys included cutthroat trout, possible rainbow trout, coho salmon, chum salmon, sculpin, brook lamprey, 3-spined stickleback, Olympic mudminnow (in the headwater wetland of the E.F. McLane, shared with a Black Lake tributary), signal crayfish, and northwestern salamanders. WFC documented habitat features and fauna via GPS and photographs that are viewable in the interactive GIS located on the WFC website at: <http://wildfishconservancy.org/resources/maps>.

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 5). For example, over the study area WDNR had identified 24.8 miles of streams. WFC found that 1.1 miles of those WDNR mapped channels did not exist, but that an additional 3.4 miles of stream channels did exist that were not on the official WDNR water type maps.

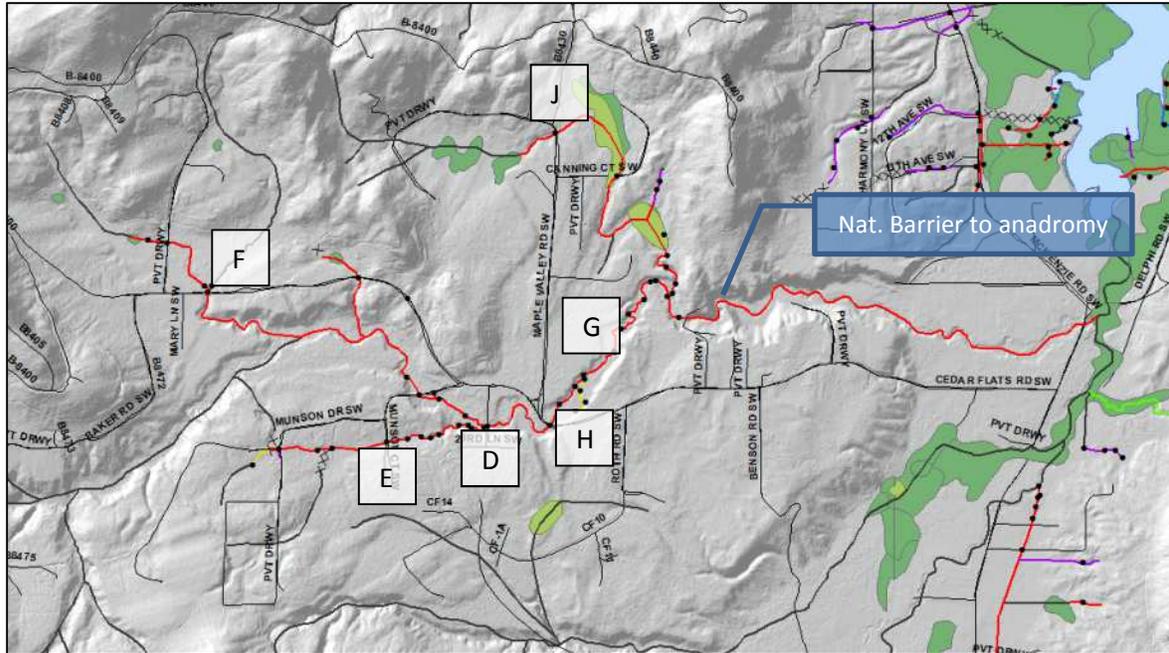


Figure 2. Swift Creek subbasin assessment area. Letters in boxes reference project opportunities identified in Appendix A.

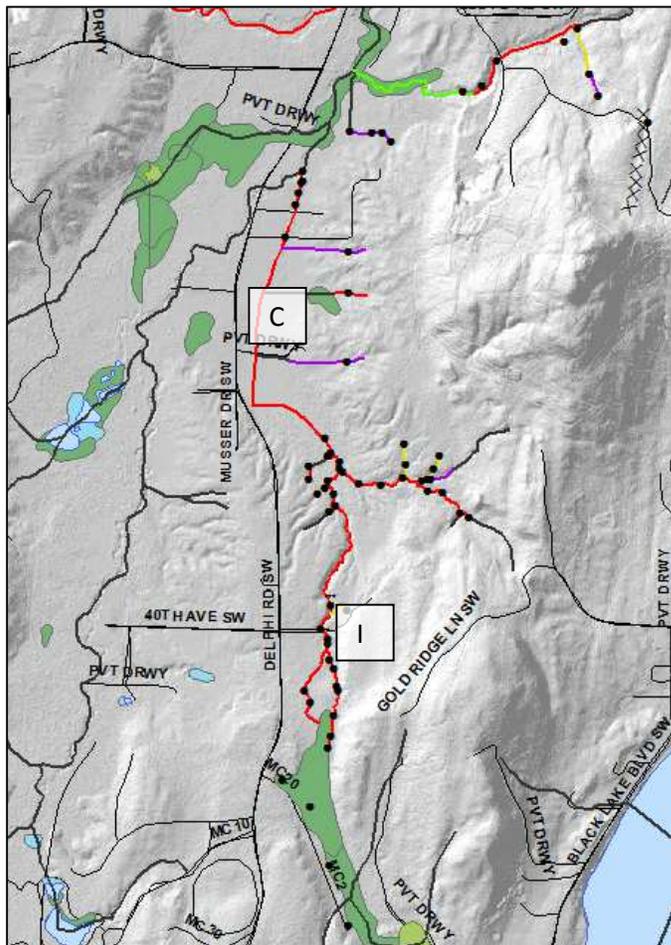


Figure 3. East Fork McLane subbasin assessment area. Letters in boxes reference project opportunities identified in Appendix A.

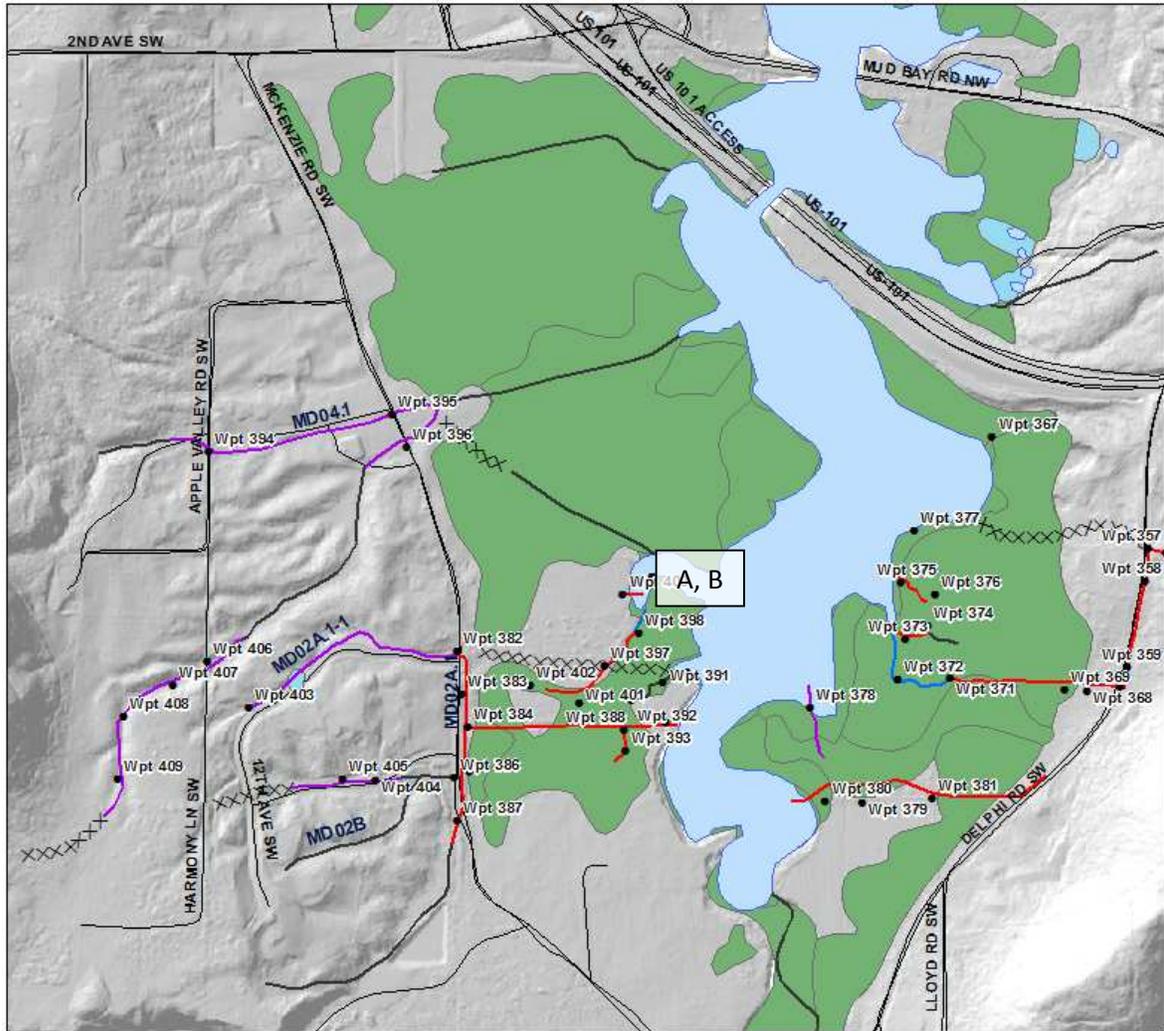


Figure 4. Survey extent – Mud Bay tributaries. Letters in boxes reference project opportunities identified in Appendix A.



Figure 5. Example of discrepancy between DNR modeled stream channel location (dashed) and classification, and WFC field observations (solid). This is an unnamed right-bank tributary to East Fork McLane.

### 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. This prioritized list of opportunities was presented to the WRIA 13 Technical Advisory Group at a Lead Entity meeting during fall 2014; 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. Discussion with the Lead Entity Technical Advisory Group led to the final prioritization (Appendix A) and 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 5. Juvenile coho salmon documented in East Fork McLane the during the WRIA 13 Phase III Water Type Assessment.



Figure 6. Coastal cutthroat trout documented in Swift Creek during the WRIA 13 Phase III Water Type Assessment.

The WRIA 13 Phase III Watertype Assessment is described on Wild Fish Conservancy's web site at: <http://wildfishconservancy.org/resources/maps/south-puget-sound-watertype-assessment-projec?searchterm=wria+13>

Additional 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](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 relevant Thurston County staff.

WFC's Water Type Assessment project is ongoing; in 2015 Wild Fish Conservancy crews will be performing field surveys in additional Puget Sound drainages in Kitsap and Pierce Counties (WRIA 15), the Snohomish Basin (WRIA 07), and other regions of the state.

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 observed during WRIA 13 Watertype Assessment Project –Phase III**

<b>Project ID</b>	<b>Stream</b>	<b>Point ID</b>	<b>Problem/opportunity</b>	<b>Potential solution</b>	<b>Comments</b>
A	Mud Bay	PID 8009	Barrier culvert (6' outfall), modified channel	Naturalize channel: add sinuosity, LWD, native riparia.	Floodplain / estuarine tributary is ditched, straightened, and blocked by a barrier culvert at its mouth. Excellent opportunity to restore the channel to its historical location to the north and naturalize it (restore sinuosity, add LWD, and add native riparia).
B	Mud Bay	PID 8019	Derelict tidal levee	Remove fill	Tidal mixing to this portion of the estuary is compromised by the presence of this derelict levee. Feeder channels include extensive freshwater wetlands and potential <i>mykiss</i> observation.
C	Mainstem E.F. McLane	Lower mainstem, upstream from PID 7971	Ditched, no riparia	Naturalize channel: add sinuosity, LWD, native riparia.	Limited access to this reach, but the opportunities are clear from the road and aerial photos. Chum and coho throughout, below and above this reach. Landowner willingness is questionable.
D	Mainstem Swift	PID 7002	Barrier culverts; side-by-side configuration	Replace undersized culverts with a bridge	Culverts under private road Walsh Ln. SW (AKA Swidt Cr. Ln SW). This barrier culvert compromises natural sediment and wood transport processes and blocks passage for native fish including cutthroat trout, lamprey, and sculpin. Located 1200 feet upstream from new Swift bridge on Cedar Flats Rd.
E	Swift Tributary	PID 7003	Barrier culvert	Replace undersized culvert with a bridge	Culvert under County road Munson Dr. SW. This barrier culvert compromises natural sediment and wood transport processes and blocks passage for native fish including cutthroat trout, lamprey, and sculpin. Located 1000 feet upstream from Walsh Ln. SW barrier. Extensive left bank armoring by inlet suggests significant erosion problems, with scour hole at base of road prism.
F	Mainstem Swift	PID 7048	Barrier culvert	Replace undersized culvert with a bridge or large box culvert	Culvert under county road Cedar Flats Rd. SW. This barrier culvert compromises natural sediment and wood transport processes and blocks passage for native fish including cutthroat trout, lamprey, and sculpin.
G	Mainstem Swift	PID 7040, 7041	Bank erosion, lack of riparia	Riparian planting, large wood placement	Excellent spawning reach, but riparia dominated by reed canarygrass and significant lack of instream LWD. Note substantial left bank failure.
H	Mainstem Swift	PID 7033	Bank erosion, lack of riparia	Riparian planting	With assistance, the landowner is willing to revegetate ~200 feet of right bank, on streamside of existing fence. Good opportunity to shade southern side of channel.
I	Mainstem E.F. McLane	PID 7929	Barrier Culvert	Replace undersized culvert with a bridge or large box culvert	Culvert under private road 40th Ave. SW. This barrier culvert compromises natural sediment and wood transport processes and blocks passage for native fish including coho, chum, cutthroat trout, mudminnow, lamprey, and sculpin. Seasonal access to extensive wetland habitat upstream, as well as seasonal spawning and rearing habitat within the lotic portion of the E.F. headwaters.
J	Swift Tributary	PID 7001	Barrier Culverts	Replace undersized culverts with a bridge or large box culvert	Undersized culvert at Maple Valley Rd. SW. ~7 feet downstream is a second undersized culvert (3 ft CST) under a private drive (WADNR?). Both culverts are likely full barriers. Upstream habitat is excellent, with spawning gravels and adjacent wetlands.