Wild Fish Conservancy
NORTHWEST
SCIENCE EDUCATION ADVOCACY

Wild Fish Conservancy Watertype Assessment Project Summary
West Sound Watersheds Phase I
http://www.wildfishconservancy.org/maps
May 2013

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

West Sound Watertype Assessment Project –Phase I
During the 2010-2011 water type field seasons, Wild Fish Conservancy crews performed water type assessments on 24 streams that flow directly into West Sound between Suquamish and Indianola, WA. (Figure 1).

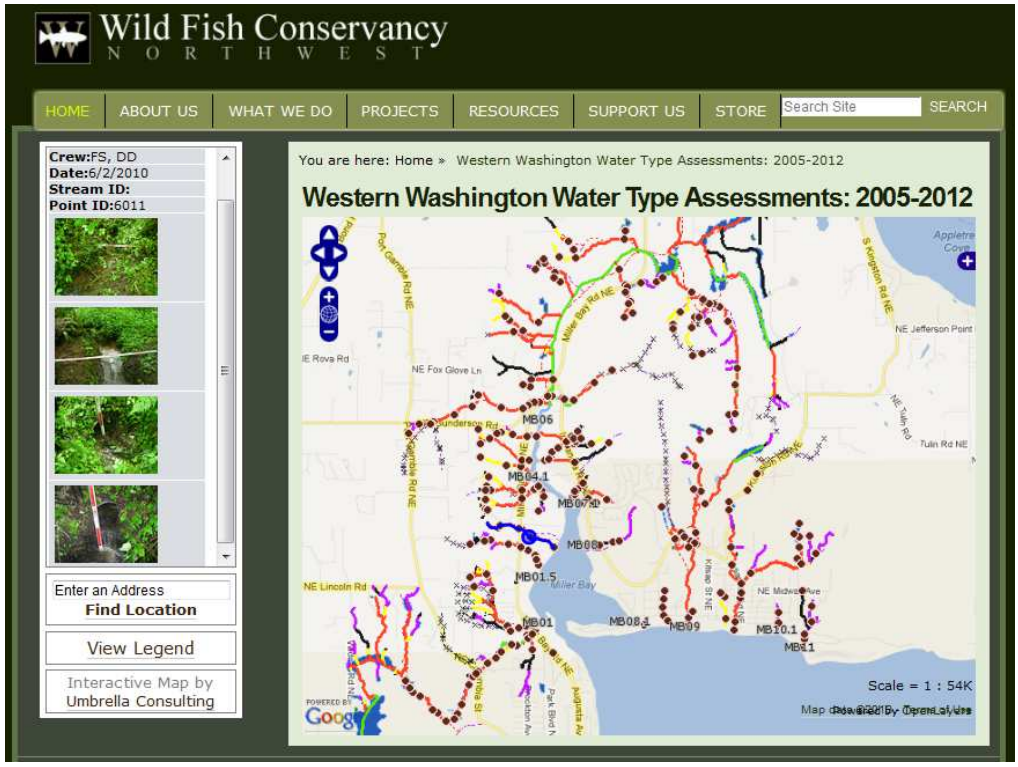


Figure 1. Home page the West Sound portion of Wild Fish Conservancy's South Puget Sound Water Type Assessment Project, available at www.wildfishconservancy.org/maps.

This water type assessment encompassed 61 miles of streams draining into and adjacent to Miller Bay in N. Kitsap County (Figure 2). 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 983 property owners. Of these, 288 (30 percent) granted permission for the WFC staff to perform the survey on their property.

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 1,050 photographs (with associated channel condition descriptions) on the interactive web-based GIS.

Fauna encountered during the surveys included cutthroat trout, possible rainbow trout, coho salmon, chum salmon, sculpin, brook lamprey, 3-spined stickleback, signal crayfish, red-legged frogs, western red-backed salamanders (Figure 3). Non-native species encountered included Pumpkinseed sunfish and bullfrogs. Habitat features and fauna were documented via GPS and photographs that are viewable in the interactive GIS.

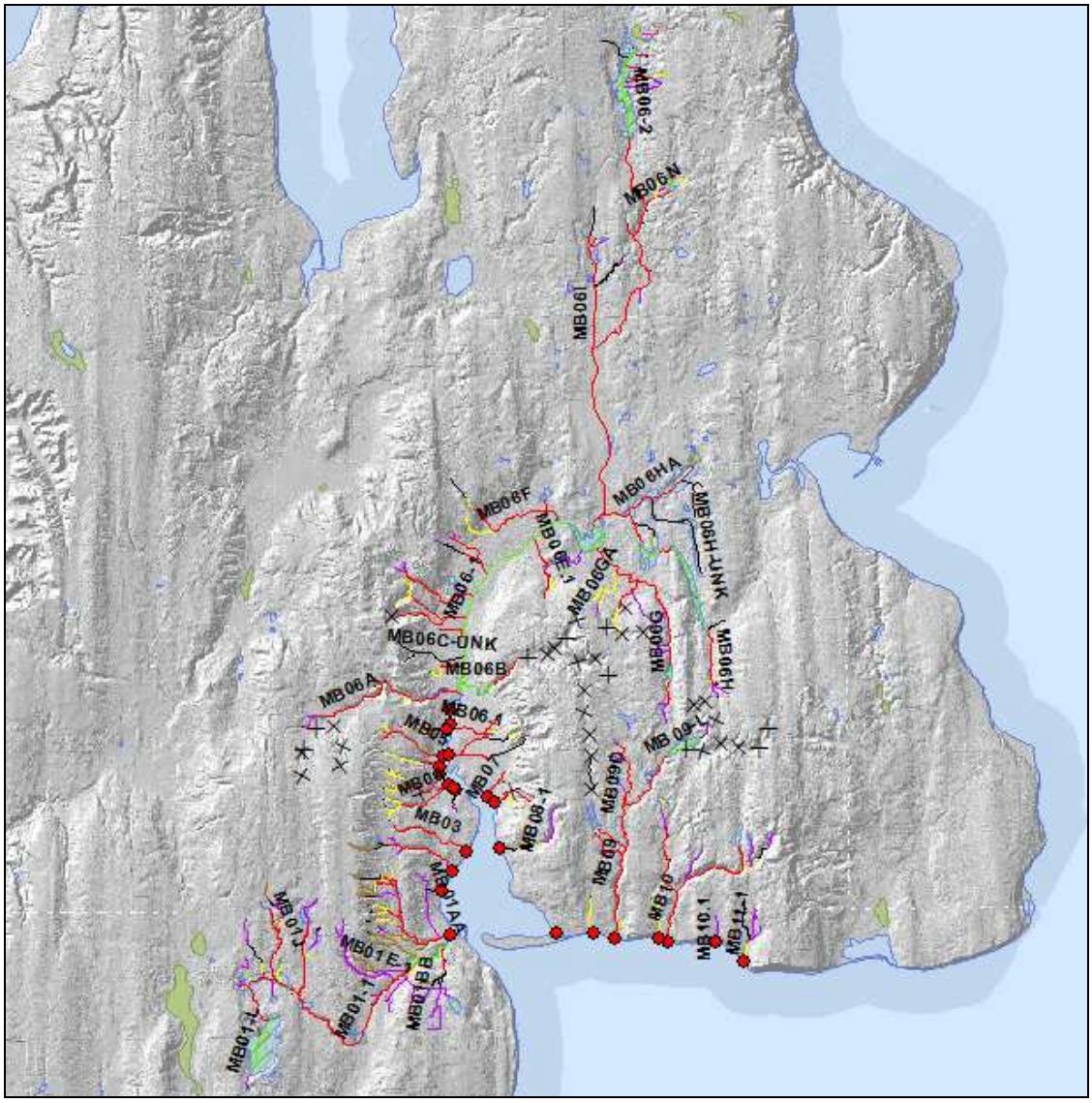


Figure 2. Geographic extent of WFC's West Sound Watersheds Assessment - Phase 1 in NE Kitsap County. The red dots represent the mouths of the surveyed basins.

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. For example, over the study area WDNR had identified 39 miles of streams. WFC found that 6.2 miles of those WDNR mapped channels did not exist, but that an additional 24.1 miles of stream channels did exist that were not on the official WDNR water type maps.

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 West Sound Watersheds Technical Advisory Group at a Lead Entity meeting during winter 2013; 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 3. Juvenile coho salmon captured in Cowling Creek downstream from several barrier culverts.

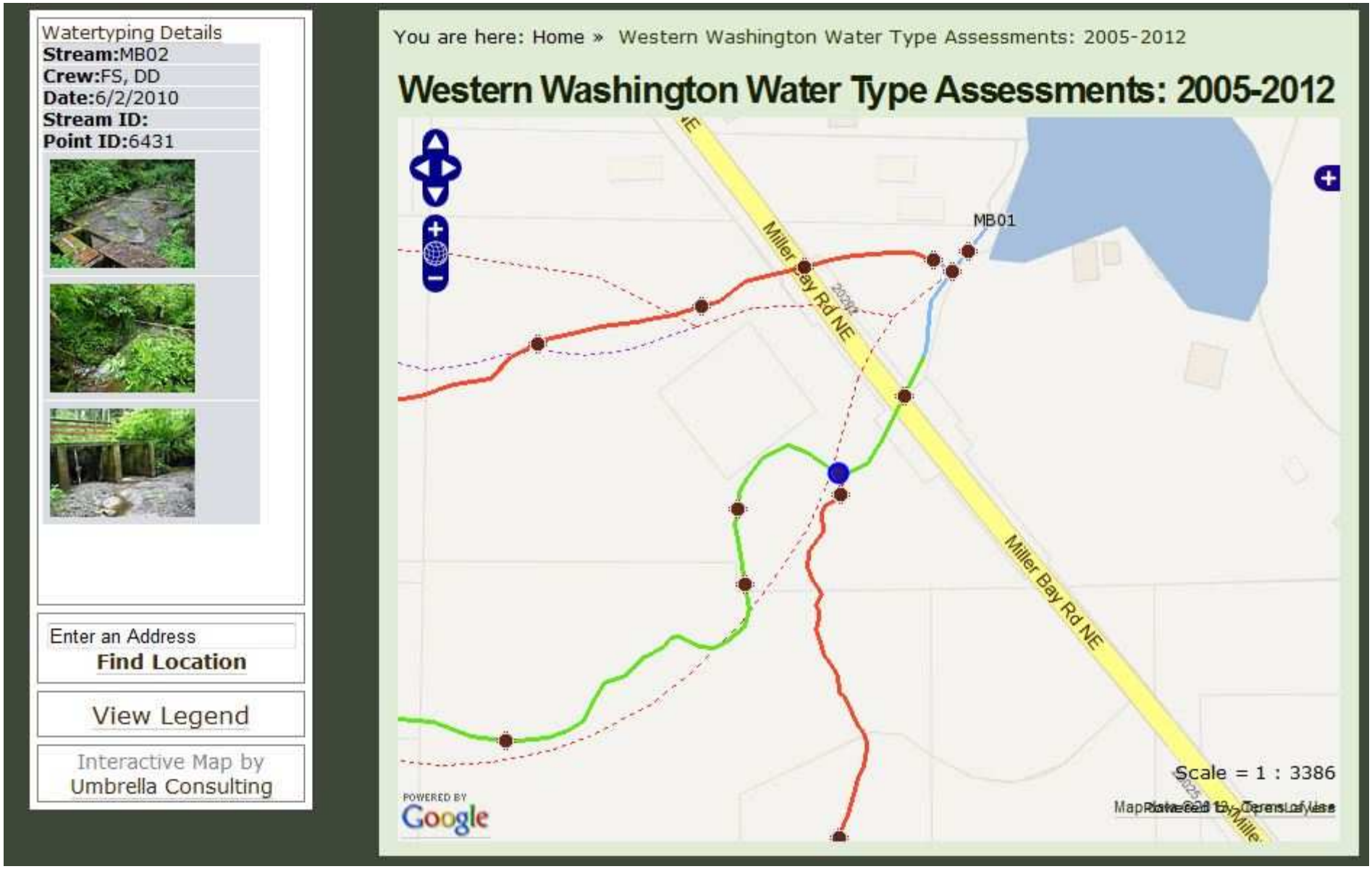
The West Sound Watertype Assessment is described on Wild Fish Conservancy's web site at: http://wildfishconservancy.org/projects/west-sound-watertype-assessment
In 2010, WFC presented assessment preliminary findings and implications at the Friends of Miller Bay annual meeting – that presentation is on WFC's web site at: http://wildfishconservancy.org/what-we-do/science/ecosystem-preservation/water-typing/west-sound-watersheds-water-type-assessment-presentation/view

WFC's Water Type Assessment project is ongoing; in 2013 Wild Fish Conservancy crews will be performing field surveys in additional Puget Sound drainages in Kitsap County (WRIA 15), the Chehalis Basin (WRIA 22-23), and other regions of the state.

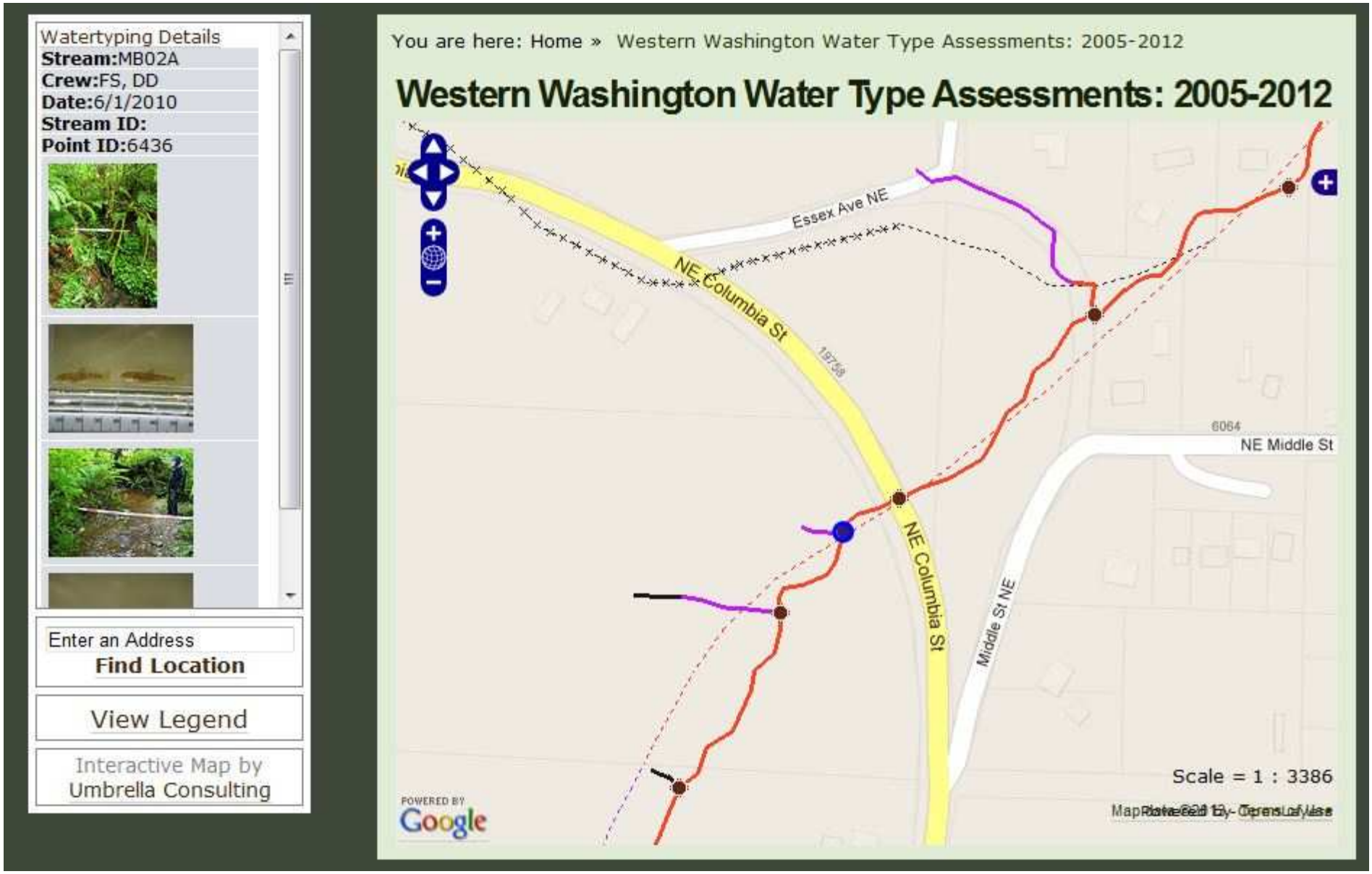
Funding for this project was provided by the Salmon Recovery Funding Board and Kitsap County. Wild Fish Conservancy would also like to acknowledge the support and assistance provided to this project by the West Sound Lead Entity process, including but not limited to the Suquamish Tribe, Kitsap County, and WDFW.

Appendix A. Restoration and Protection Opportunities observed during WFC's West Sound Watertype Assessment Project –Phase I

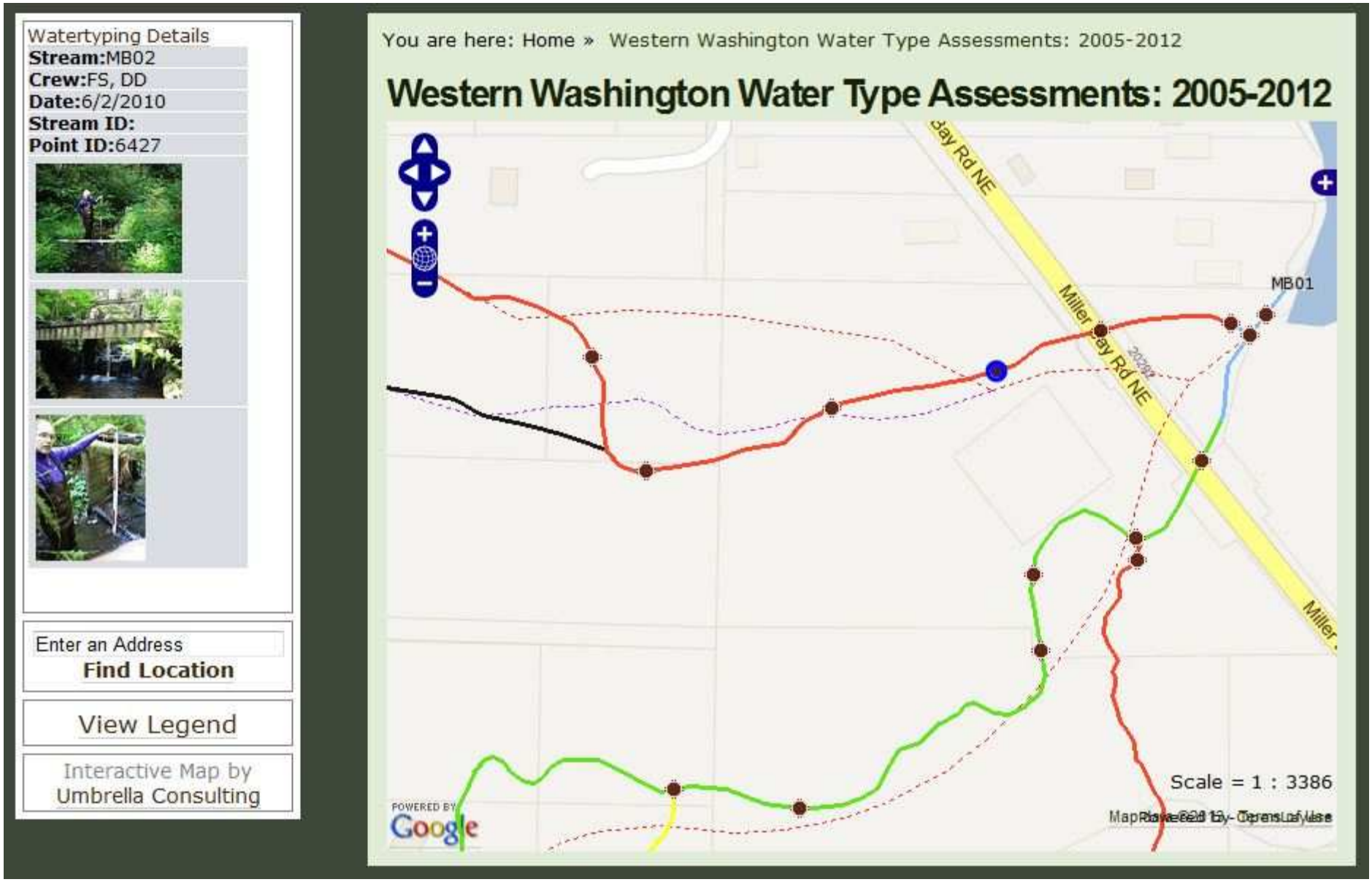
Project ID	Priority	Stream	GPS point	problem/opportunity	potential solution	comments
A	high	MB01	wpt 517	Dam and control structure for Chum Salmon rearing ponds	Improve fish passage past hatchery facility at Cowling Cr preserve	This point has a control structure and holding ponds used by the Suquamish tribe to rear Chum Salmon. Improving fish passage through this facility would open up prime habitat to one of the largest basins in Miller Bay and would benefit Chum, Coho, Steelhead and Cutthroat Trout.
B	high	MB01	wpt 563	Barrier culvert with ~3ft outfall on Columbia St NE	Restore fish passage through the culvert	This culvert is a significant barrier to fish passage. The upstream habitat is forest land and wetlands that would provide ideal anadromous rearing habitat to Chum,Coho, Steelhead and Cutthroat Trout.
C	high	MB01A	wpt 500	Trail crossing and weir that is a partial barrier to fish passage.	Remove the weir and repair the channel	This weir is at a trail crossing in the Cowling Cr Natural Preserve. It appears to be a diversion for a water supply and is no longer in use. This easy fix would improve anadromous fish pasage for Chum,Coho,Steelhead and Cutthroat Trout.
D	high	MB10	man 016	Old check dam and ruins of a water supply and partial barrier culvert crossing on NE Shore Drive	Remove ruins and check dam and repair the culvert to improve fish passage.	This crossing on MB10 (Indianola Cr) is a partial barrier. On site is a check dam and the ruins to a water supply (~30ft downstream of the outlet) that is no longer in use and is a barrier to fish passage. Restoring passage through this site would open up several thousand feet of andromous fish habitat to Chum, Coho, Steelhead and Cutthroat Trout.
E	high	MB06A	Wpt 063,064,065	Two barrier dams and an abandoned road crossing.	Improve and restore fish passage to upper valley	This site has two stock pond dams, a driveway, and abandoned road culvert. Wpt 063 and 064 are dams and wpt 065 is a back to back driveway and abandoned road. Great rearing and upstream habitat if the stream were reopened - a three in one project.
F	med	MB06D.1	man 023	Partial barrier culvert and deforested riparian corridor	replace and repair the culvert and riparian corridor	This crossing is a private access road at A & L Topsoil. The channel ~50ft downstream of the culvert disperses into a peat bog wetland. The channel is bordered with piles of bark and dirt. The wetland was mined for peat moss in the past and there is an open water pond >1 acre within the wetland and floodplain of Grovers Cr. Upstream the channel drains Pope lands in a natural forested ravine.
G	med	MB02	man 001	Two barrier culverts and a dam that are back to back, all are total barriers to fish passage	Repair barrier culverts and dam to improve fish passage and make improvements to the riparian corridor.	This property has three of six fish passage barriers up to and including Miller Bay Road. On site there is a diversion, a private drive culvert, and a check dam that makes a small reservoir that was used for irrigation. All three are total barriers to fish passage. The land owner said he still has water rights but did not use the dam reservoir at the time of the survey. There is more than 2000ft of fish habitat upstream of the barriers.
H	med	MB02	wpt 216	Culvert barrier	Repair barrier culvert to improve fish passage and make improvements to the riparian corridor.	This culvert crossing is on a private drive access road and is the fourth of six man-made barriers on MB02 up to Miller Bay Road.
I	med	MB02	wpt 222	Private drive culvert with a catch basin at the outlet that was used as a water supply.	Repair culvert and remove old water supply catch basin to improve fish passage.	This culvert is on a private drive, it is the fifth of six man-made barriers on MB02. This culvert has a 2ft drop into a catch basin that was used as a water supply for irrigation in the past but is no longer in use.
J	med	MB02	wpt 223	Culvert barrier	Repair barrier culvert to improve fish passage.	This culvert crossing on Miller Bay Road is the upper most of six man-made barriers on MB02 up to Miller Bay Road. Restoring MB02 would gain access to more than 2000ft of andromous fish habitat in the Miller Bay basin.
K	med	MB07	Wpt 118,119,120	Three barrier dams and a private drive road crossing.	Improve and restore fish passage to upper valley	These are three back to back landscape ponds and a private drive crossing. We did not gain access to determine the upper extent of the channel but upstream of Indianola Rd the channel splits and has a good spring influence, with channels that meet criteria for F stream type.



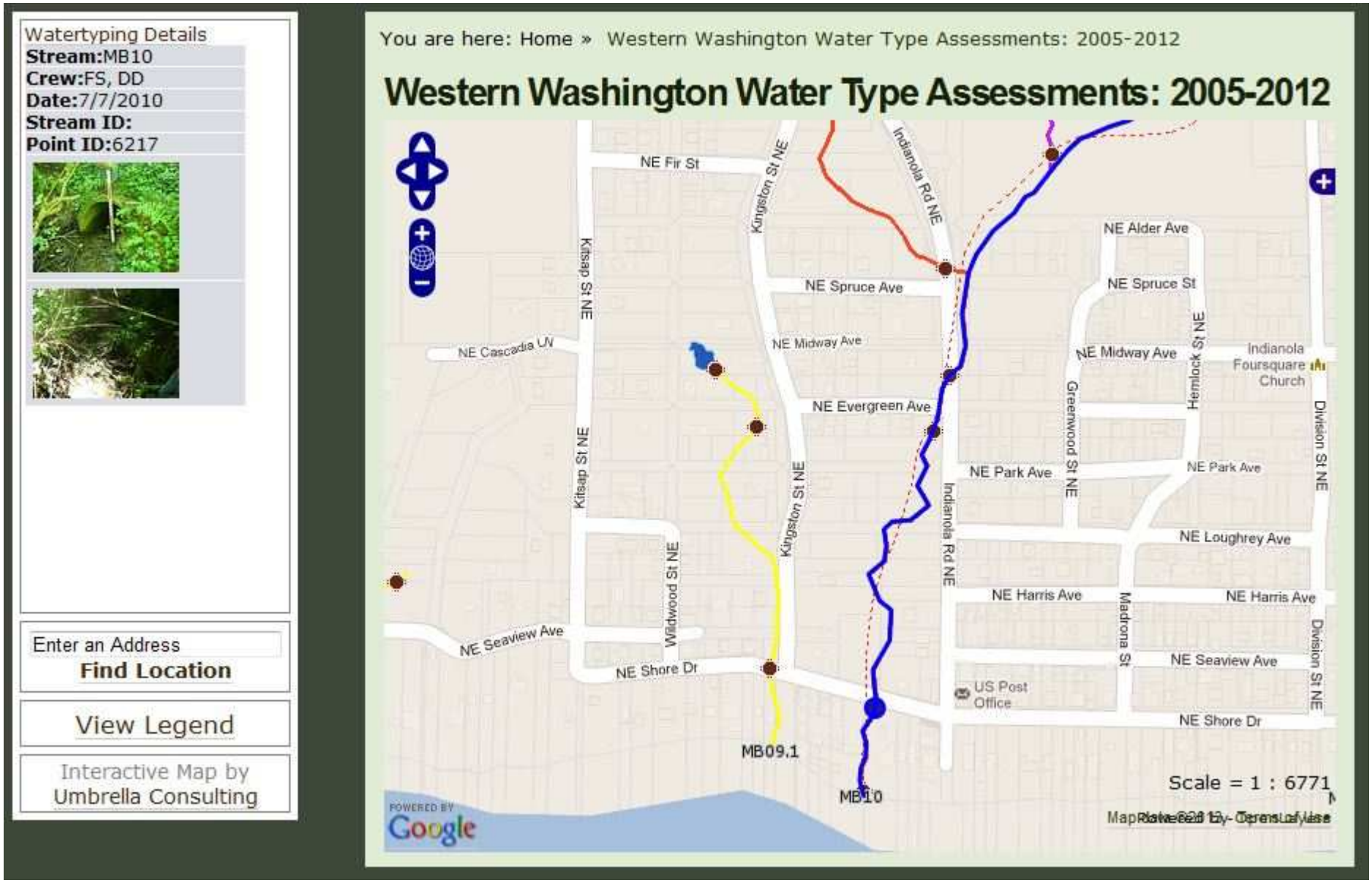
Map and photos for Project ID "A." The blue dot represents the project location. Additional details are available on the interactive map site at: www.wildfishconservancy.org



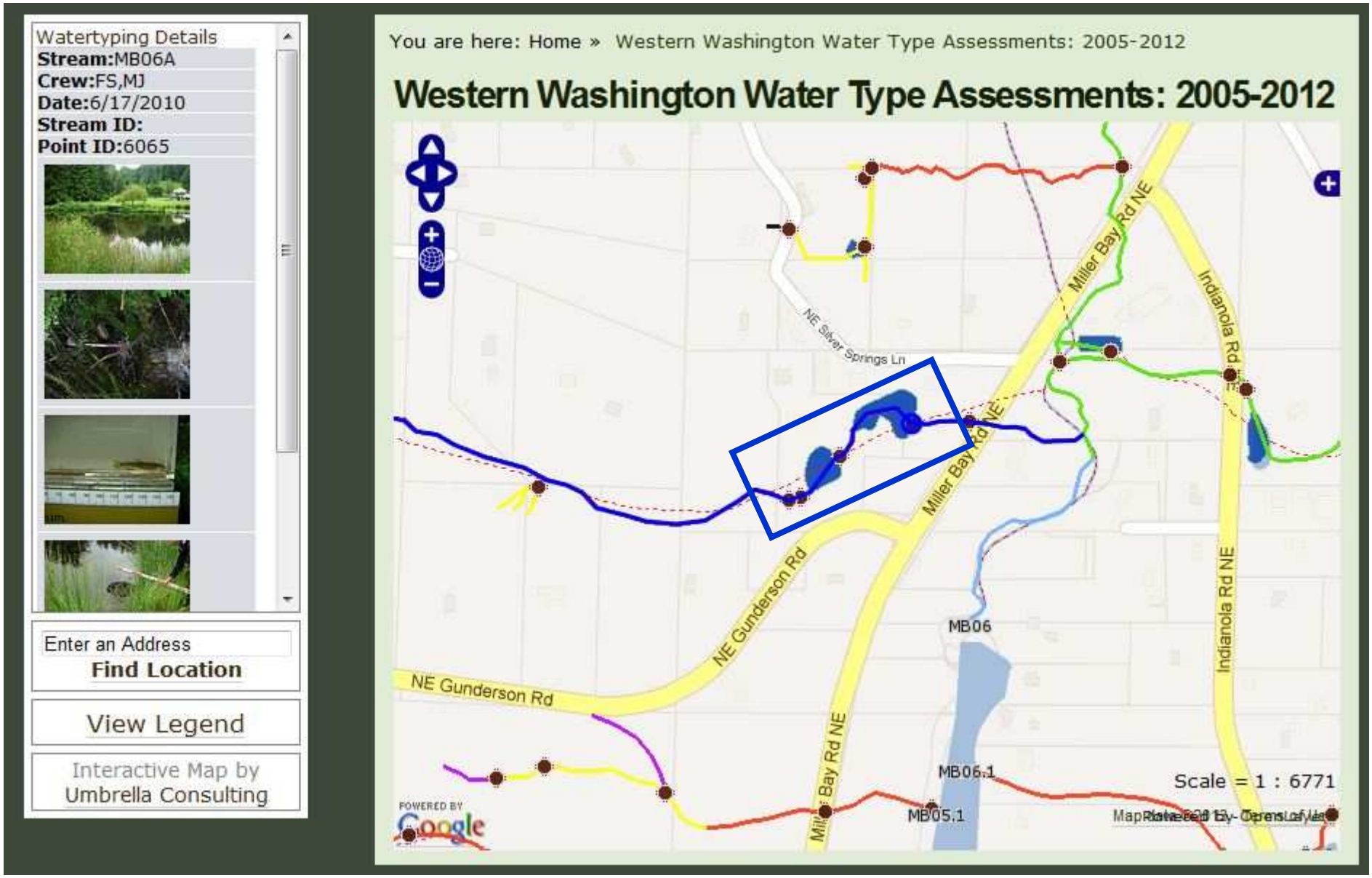
Map and photos for Project ID "B." The blue dot represents the project location. Additional details are available on the interactive map site at: www.wildfishconservancy.org



Map and photos for Project ID "C." The blue dot represents the project location. Additional details are available on the interactive map site at: www.wildfishconservancy.org



Map and photos for Project ID "D." The blue dot represents the project location. Additional details are available on the interactive map site at: www.wildfishconservancy.org



Map and photos for Project ID "E." The blue box represents the project location. Additional details are available on the interactive map site at: www.wildfishconservancy.org