

# 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

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# WATERTYPING



## WA Department of Natural Resources Water Types

<b>WAC 222-16-031</b>	<b>Type</b>	<b>Buffer Size</b>
Type S	Shorelines	Large
Type F	Fish Bearing	Medium
Type N (p,s)	Non Fish-Bearing	Small or none
Type U	Unclassified	TBD



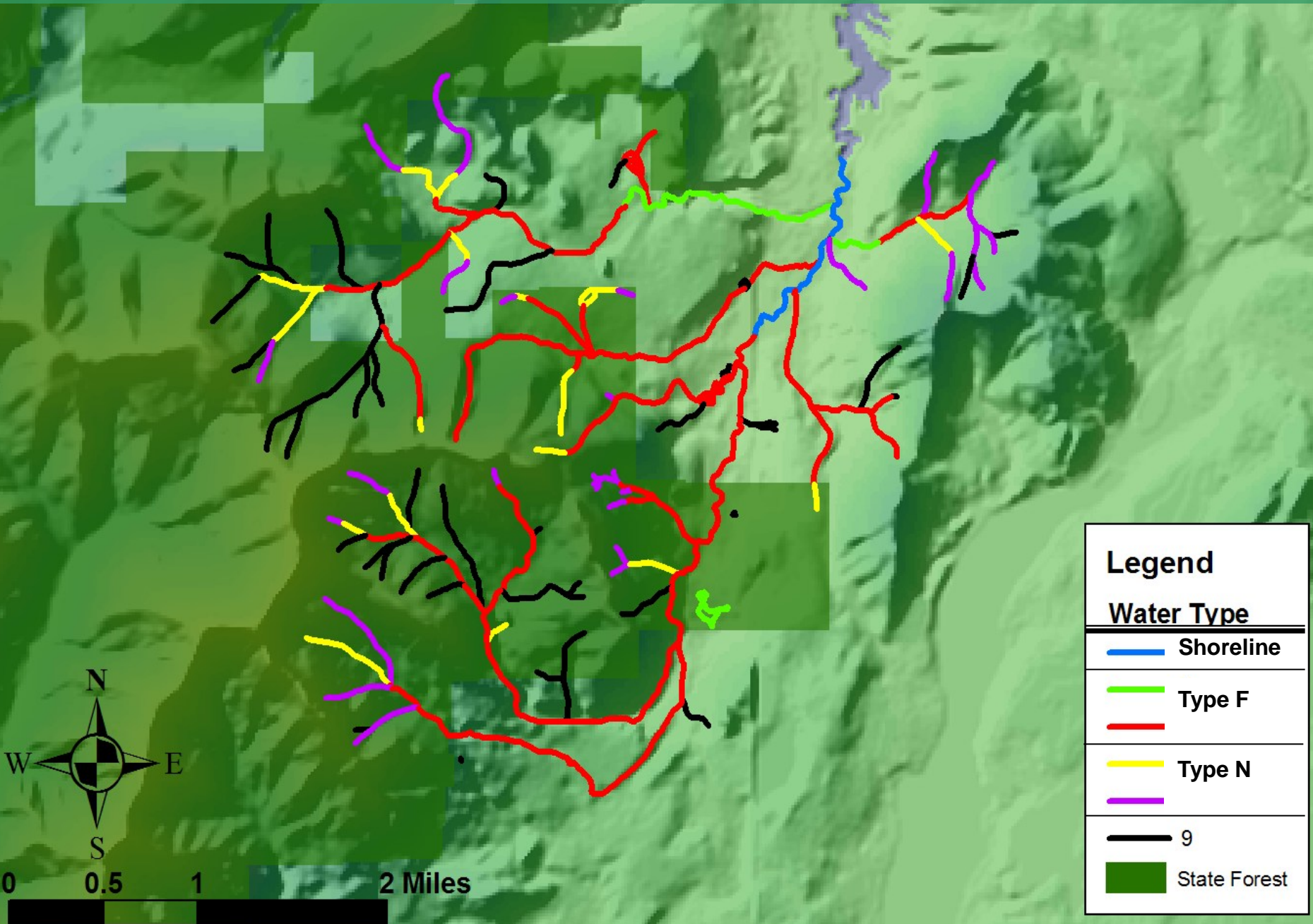
# Snoqualmie Watershed

March 9, 2007





# WDNR Watertype Map Example - McLane Creek





# WATERTYPING

**Originally developed by WDNR to protect streams on state forest lands.**

**Subsequently adopted by most local governments in Washington to protect critical areas from adjacent land-use.**



# WA DNR maps that guide stream protection ordinances are **INACCURATE**

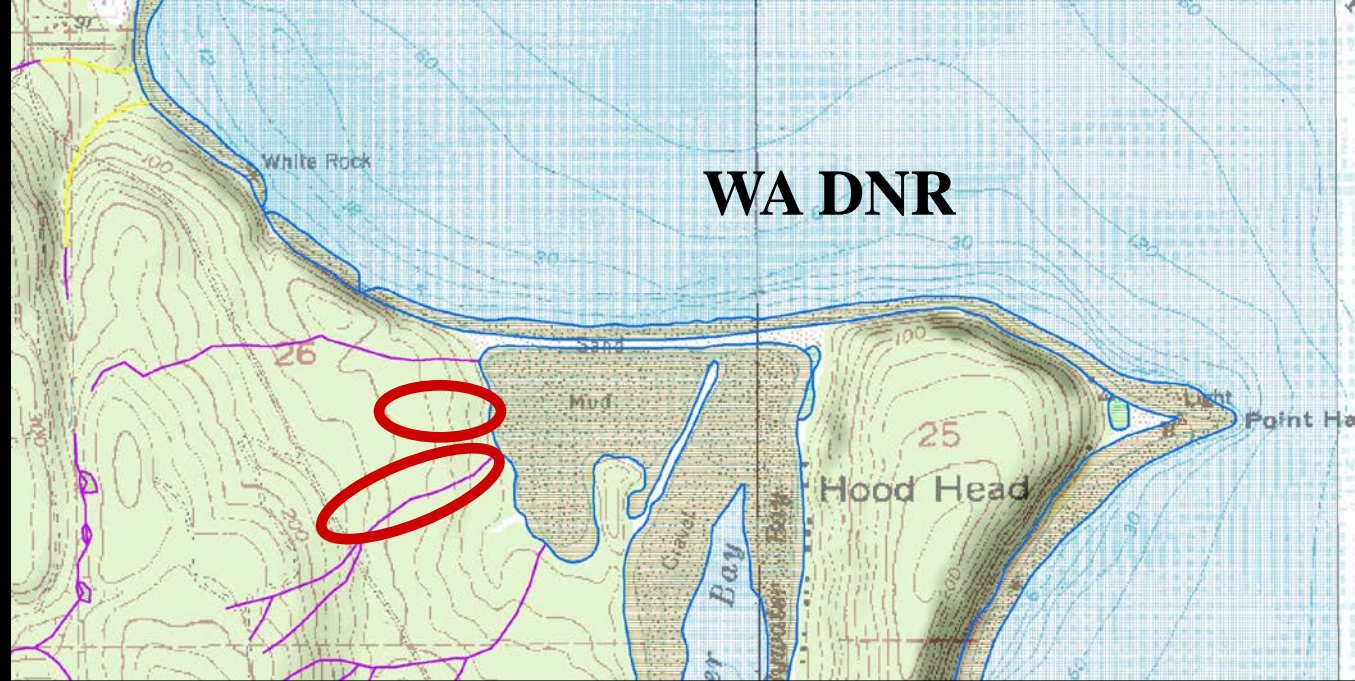
- The maps frequently underestimate the distribution (upstream extent) of fish and fish habitats.
- Many streams are incorrectly mapped or are not on the maps at all.




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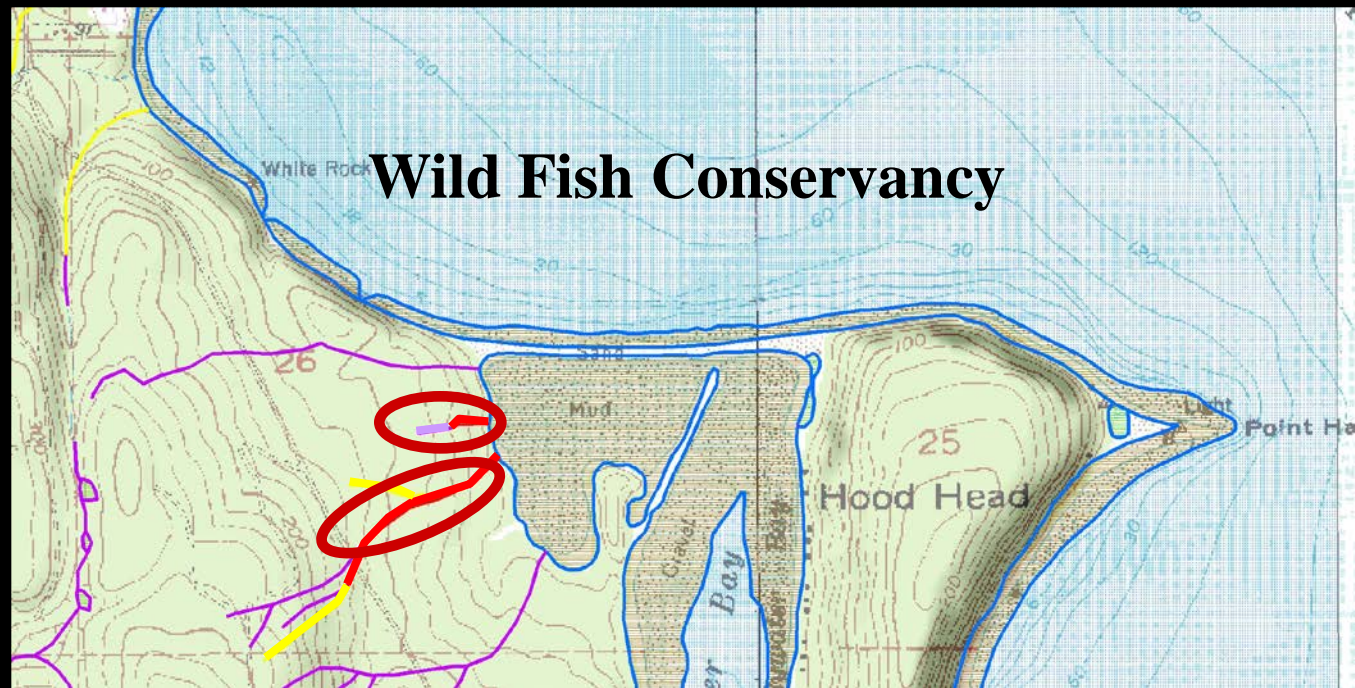
Misidentified fish habitats are not receiving the protection they warrant  
**under existing laws**



# WATER TYPING MAP EXAMPLE



-  Type F
-  Type Np
-  Type Ns







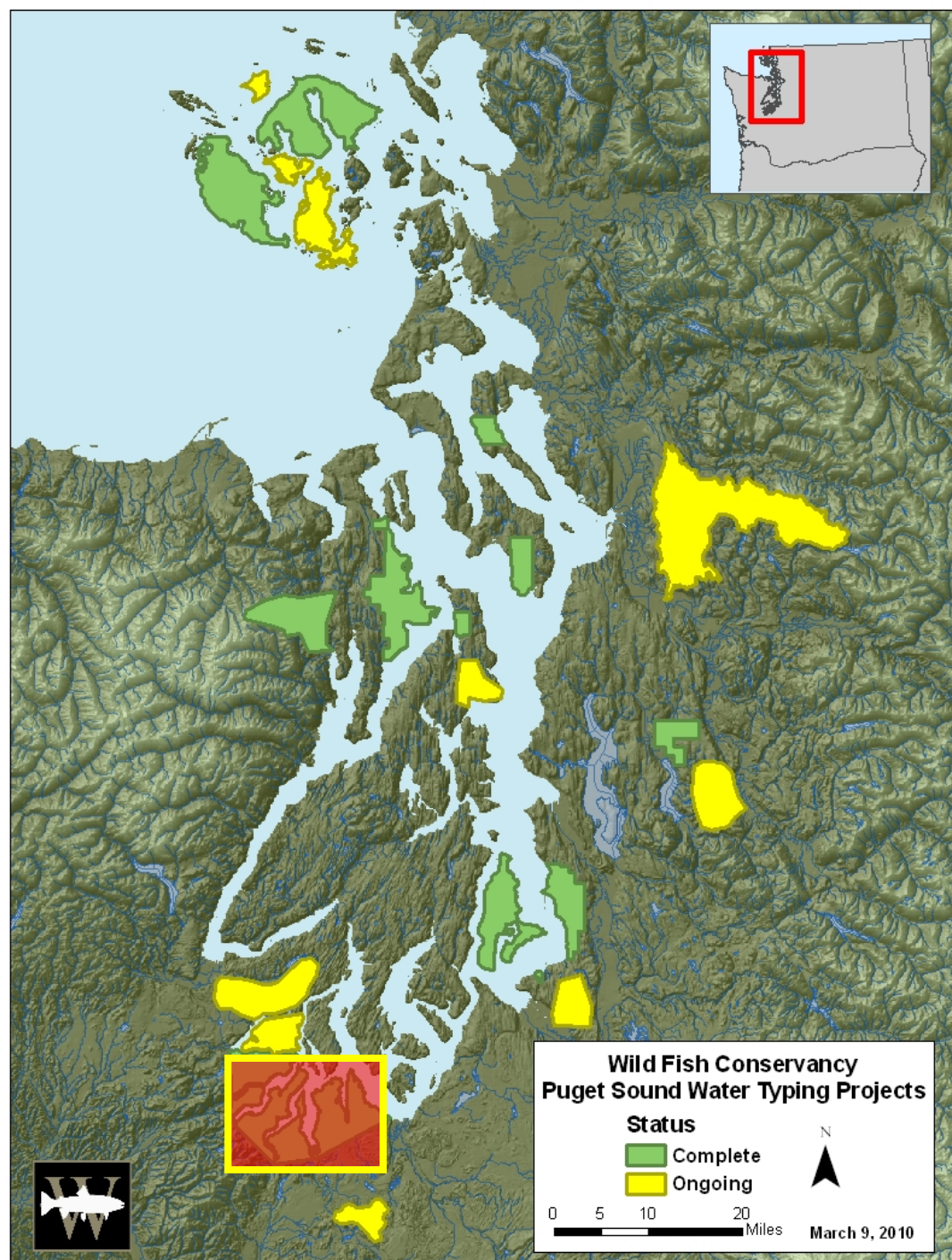
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# Systematic Water Type Assessments

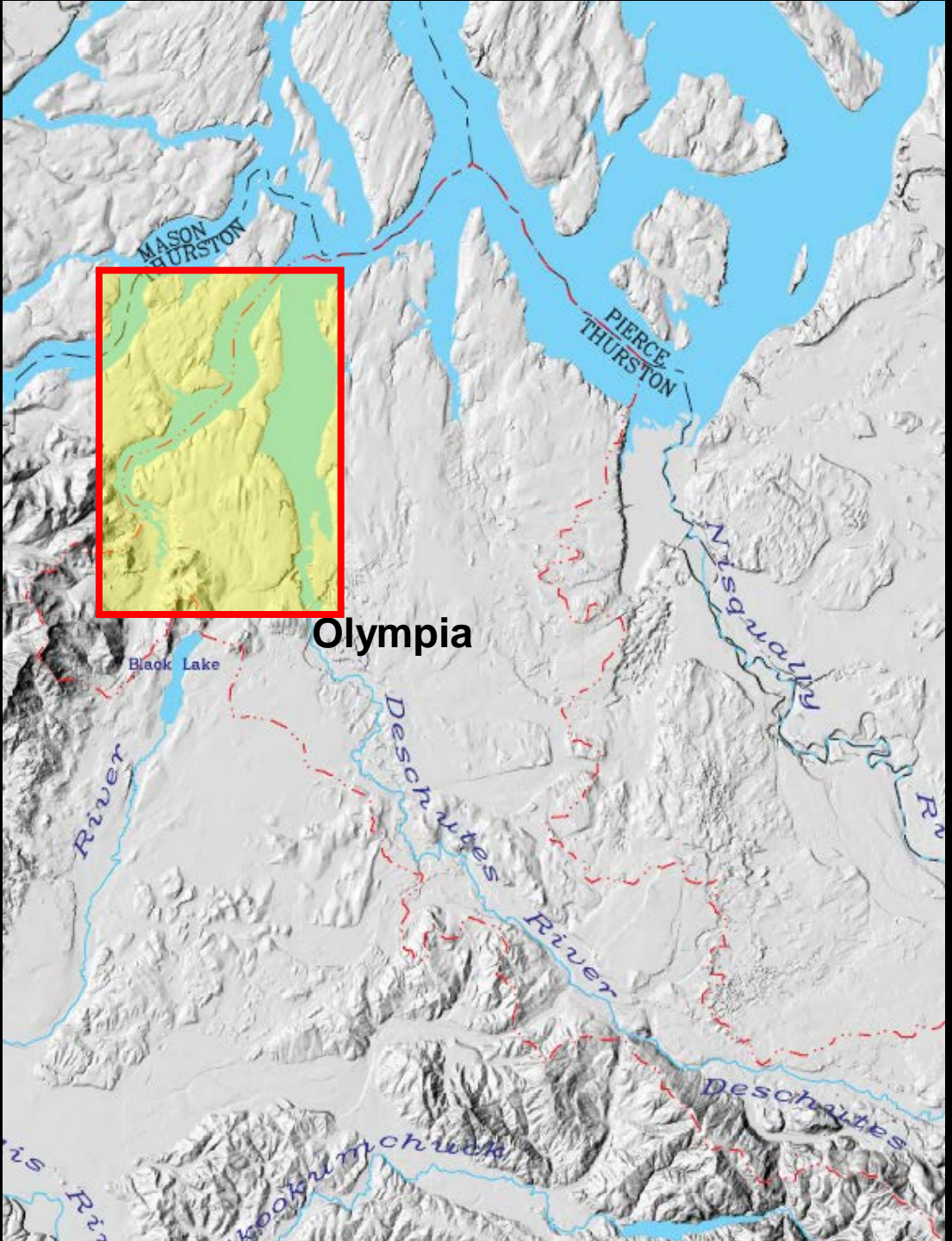
## WRIAs

02, 07, 09, 13, 14,  
15, 17, 22-23, 28.





# Cooper Point

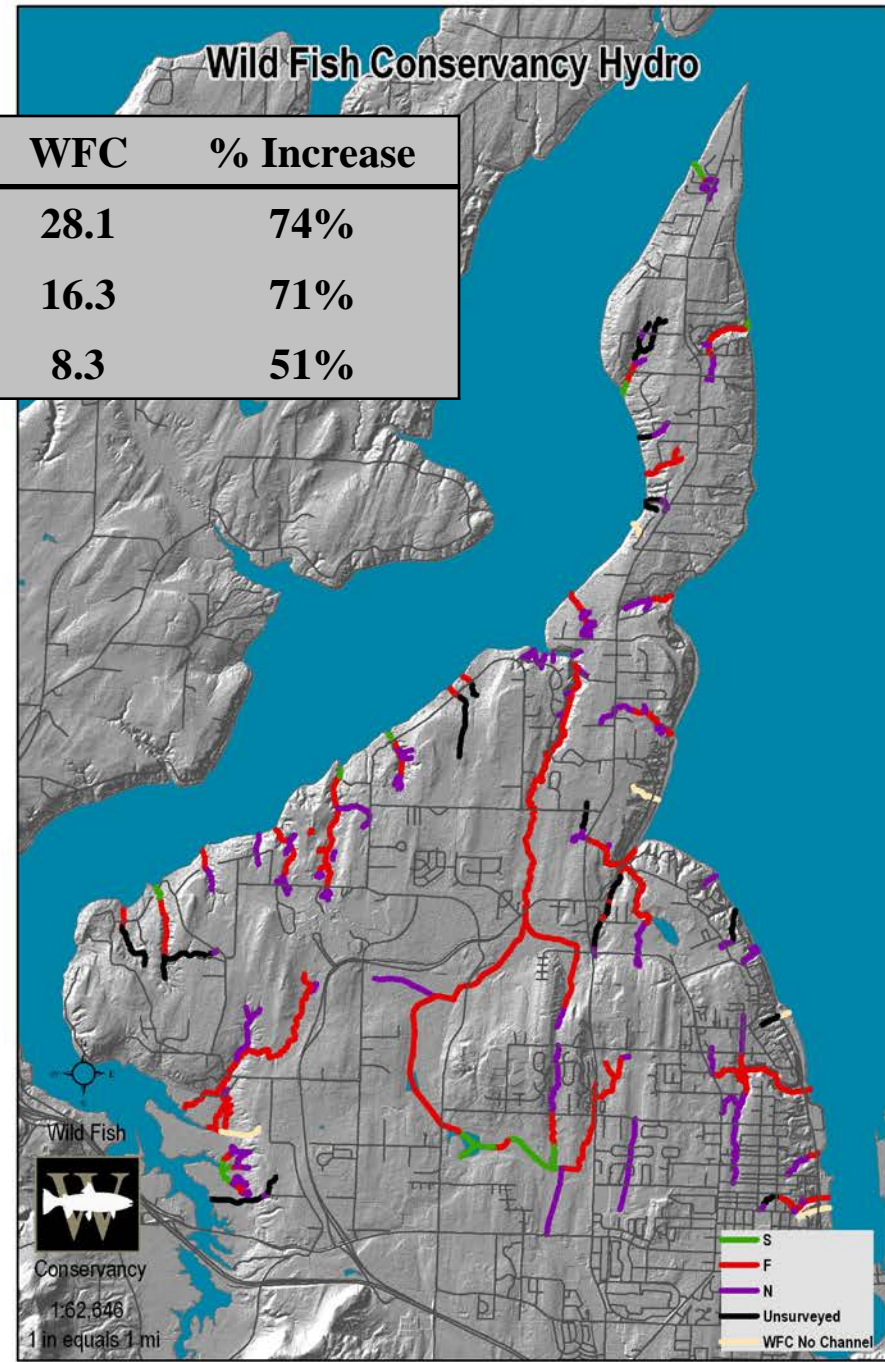
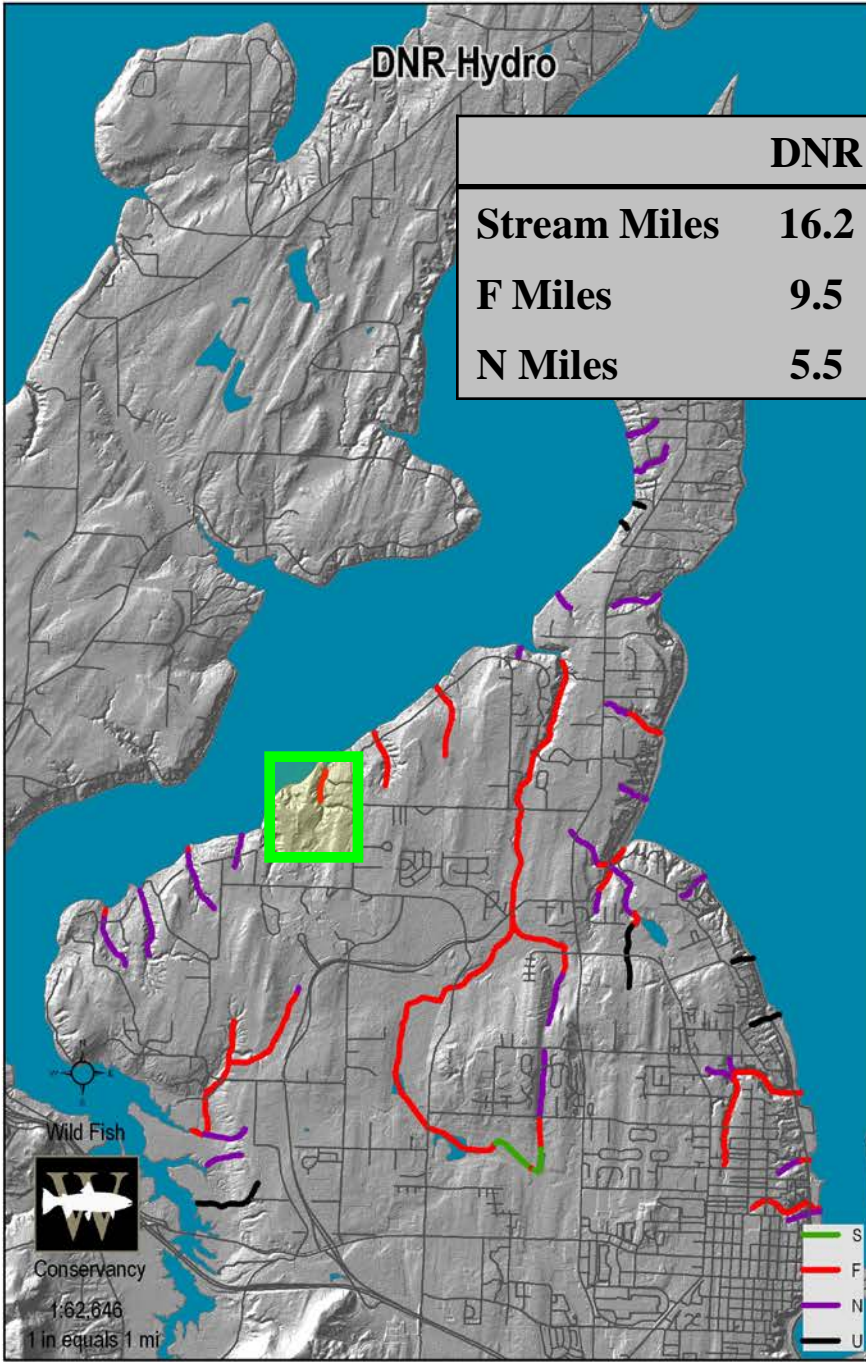




### DNR Hydro

### Wild Fish Conservancy Hydro

	DNR	WFC	% Increase
<b>Stream Miles</b>	<b>16.2</b>	<b>28.1</b>	<b>74%</b>
<b>F Miles</b>	<b>9.5</b>	<b>16.3</b>	<b>71%</b>
<b>N Miles</b>	<b>5.5</b>	<b>8.3</b>	<b>51%</b>

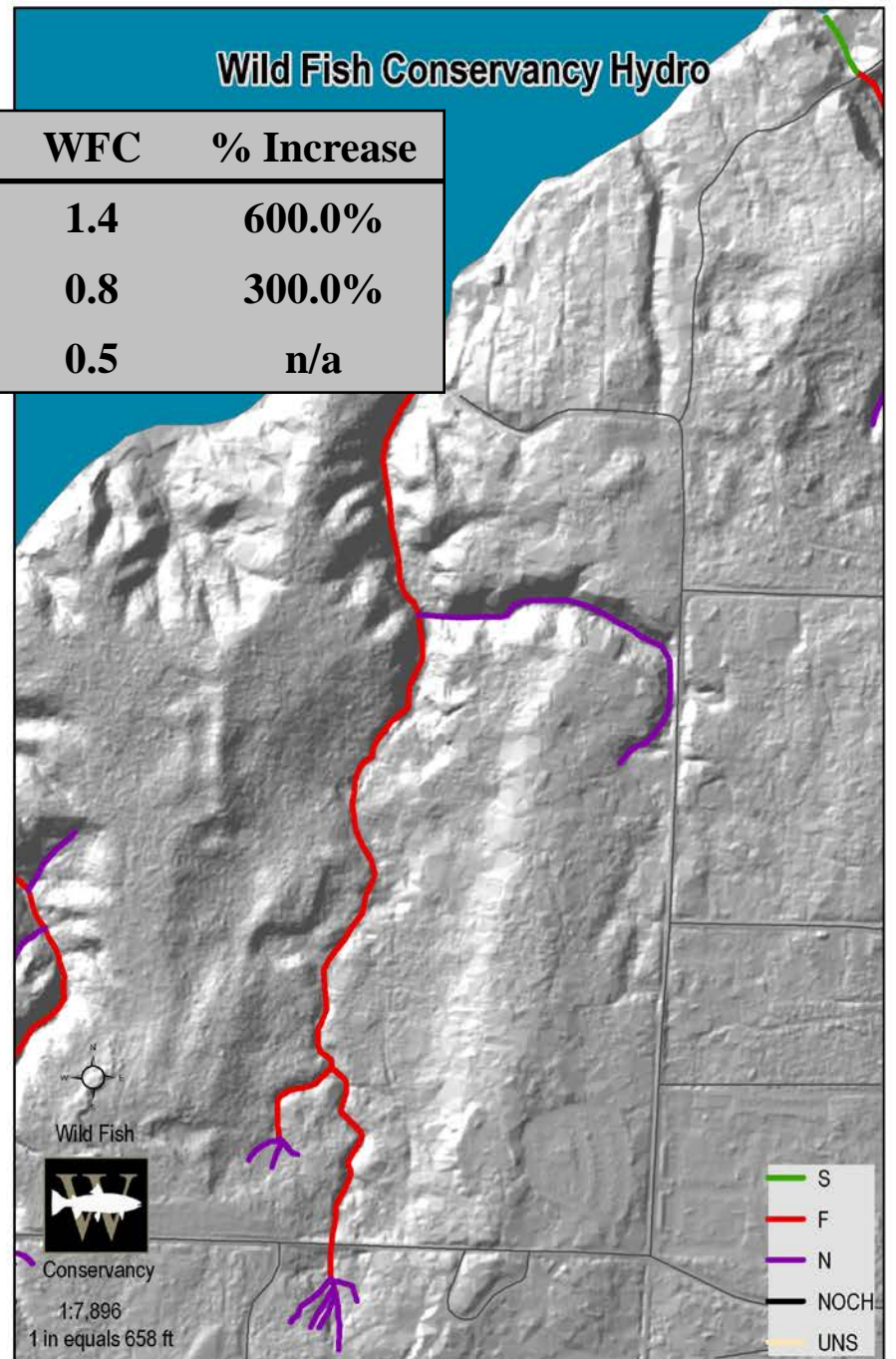
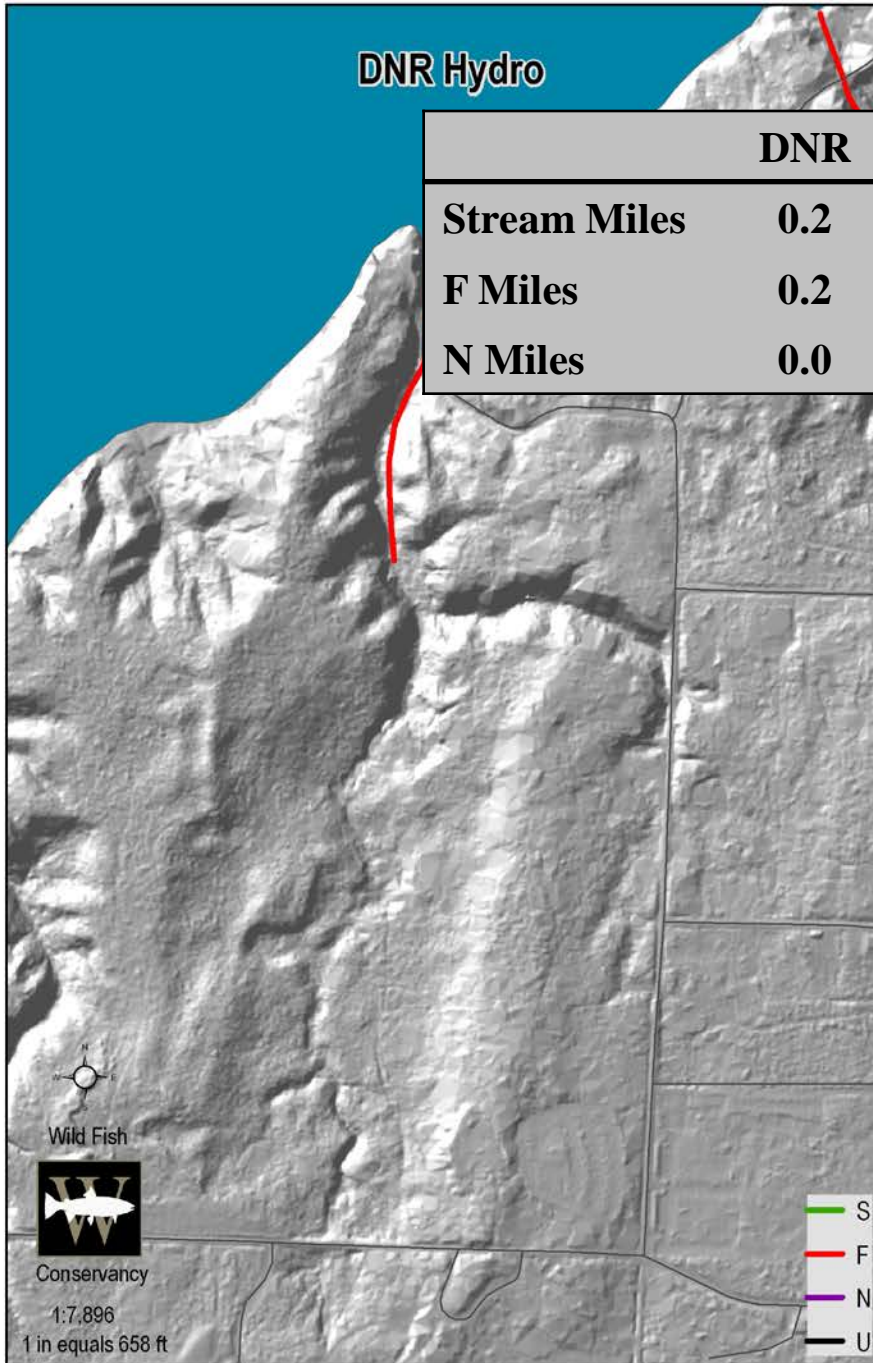




### DNR Hydro

### Wild Fish Conservancy Hydro

	DNR	WFC	% Increase
<b>Stream Miles</b>	<b>0.2</b>	<b>1.4</b>	<b>600.0%</b>
<b>F Miles</b>	<b>0.2</b>	<b>0.8</b>	<b>300.0%</b>
<b>N Miles</b>	<b>0.0</b>	<b>0.5</b>	<b>n/a</b>



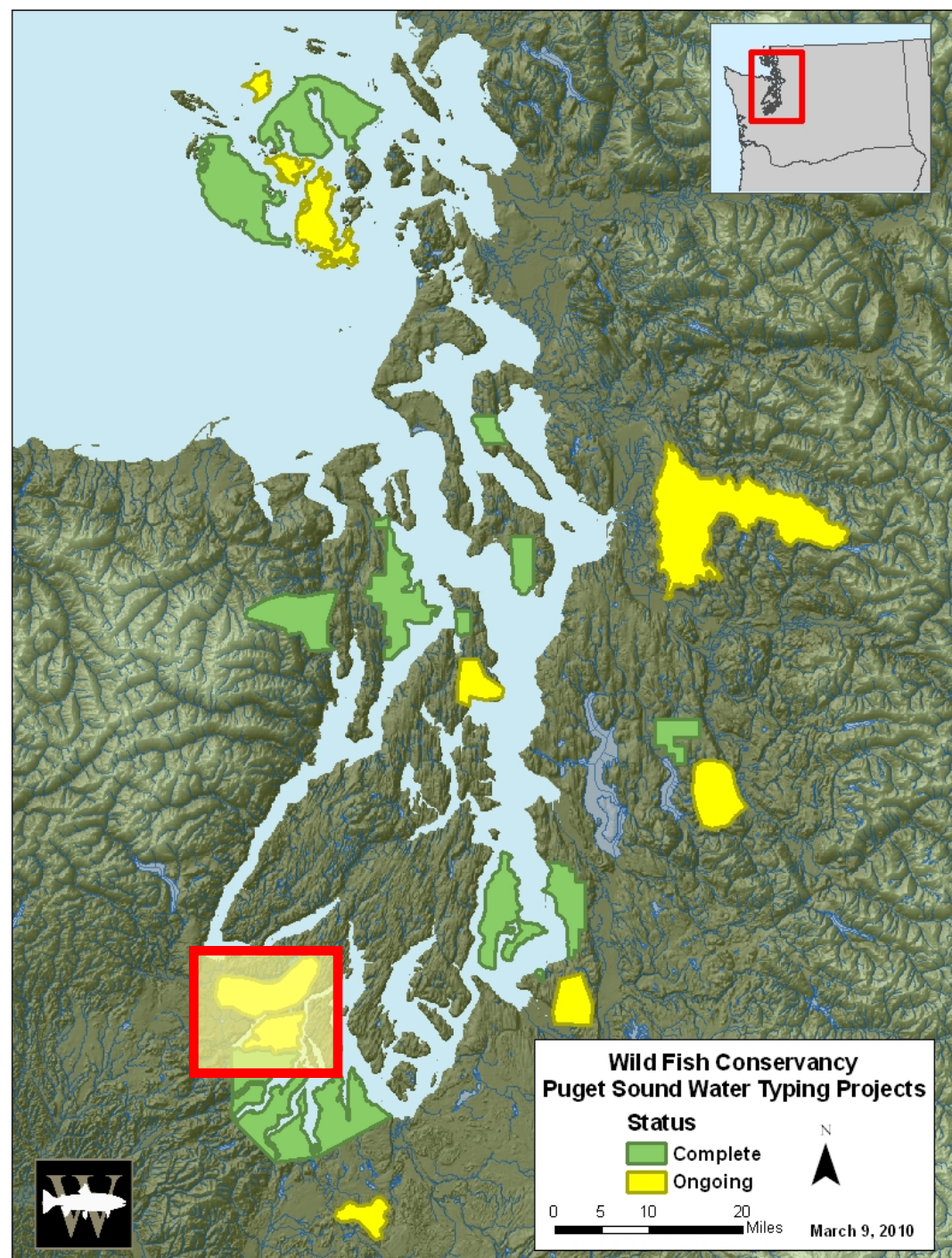




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# Systematic Water Type Assessments





# Mason Watertype Assessment Summary

## 2007- Ongoing:

- 30,000 acres
- 56 watersheds
- 112 miles of stream

MASON	Stream Length
WA DNR	106.8 miles
WFC	112.7 miles
Δ	5.9 miles



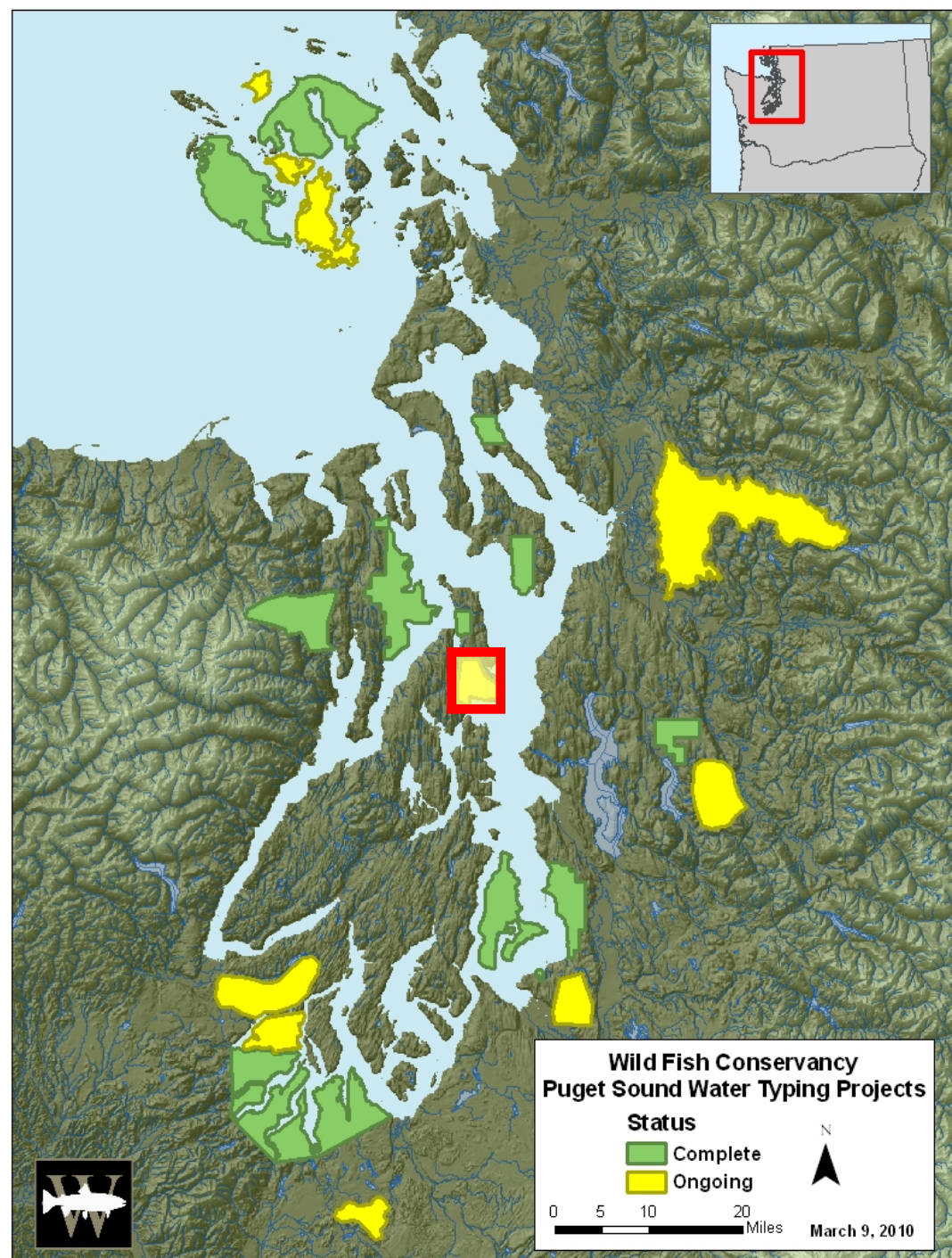




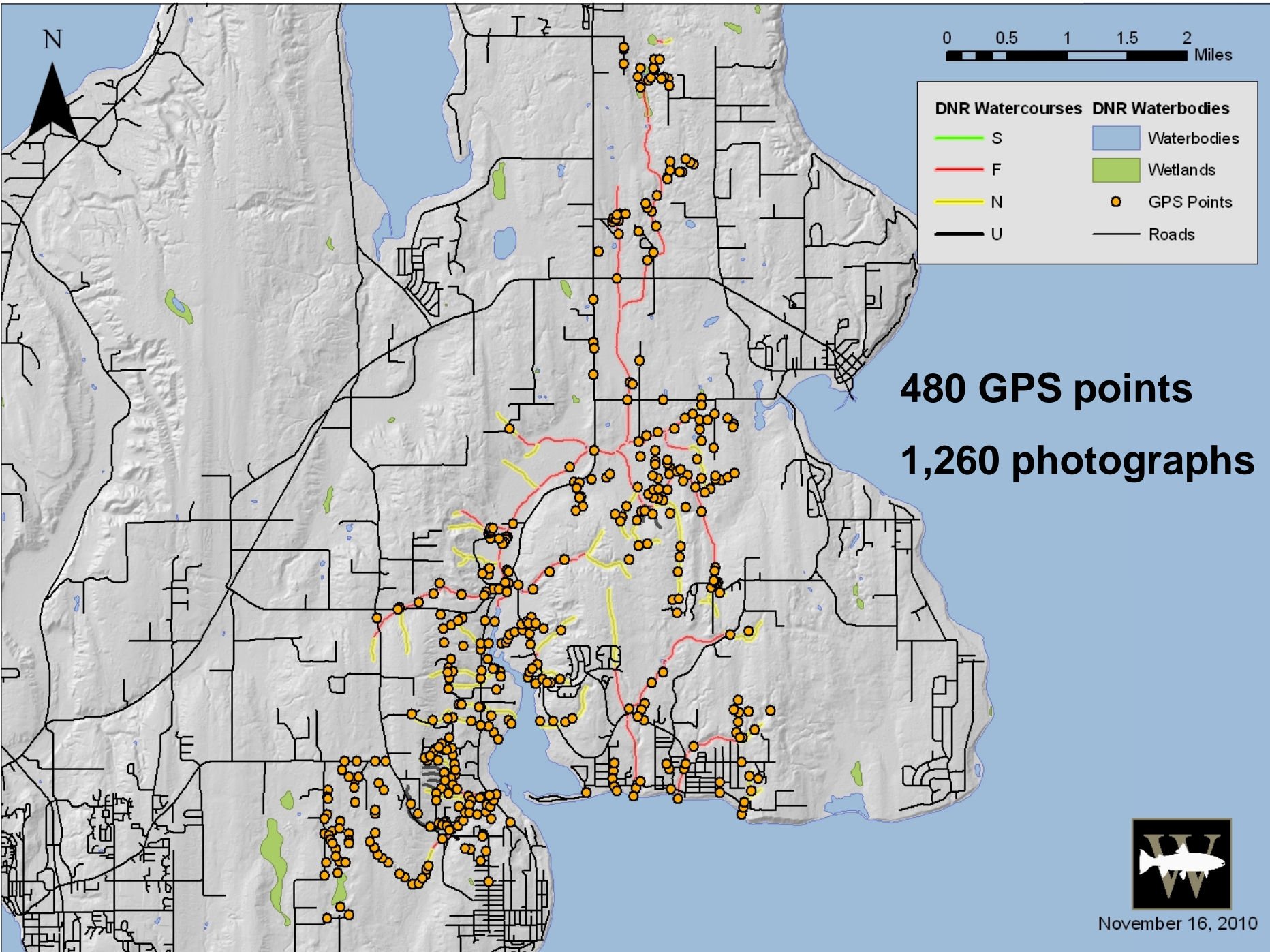
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

# Systematic Water Type Assessments







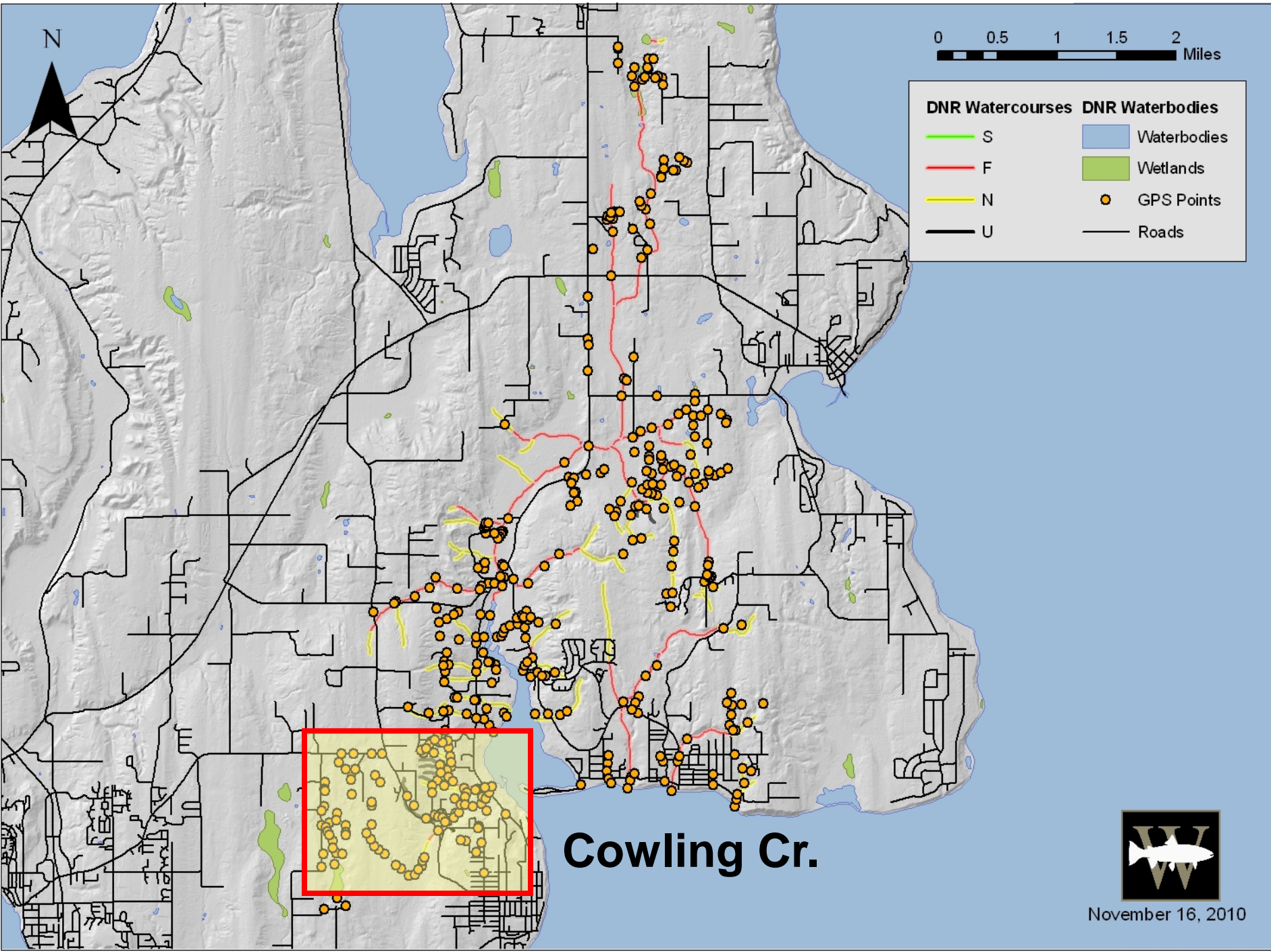
0 0.5 1 1.5 2 Miles

- | DNR Watercourses  |   | DNR Waterbodies   |             |
|---|---|---|-------------|
|  | S |  | Waterbodies |
|  | F |  | Wetlands    |
|  | N |  | GPS Points  |
|  | U |  | Roads       |

**480 GPS points**  
**1,260 photographs**



November 16, 2010



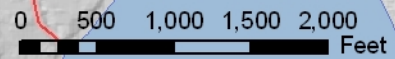
**Cowling Cr.**



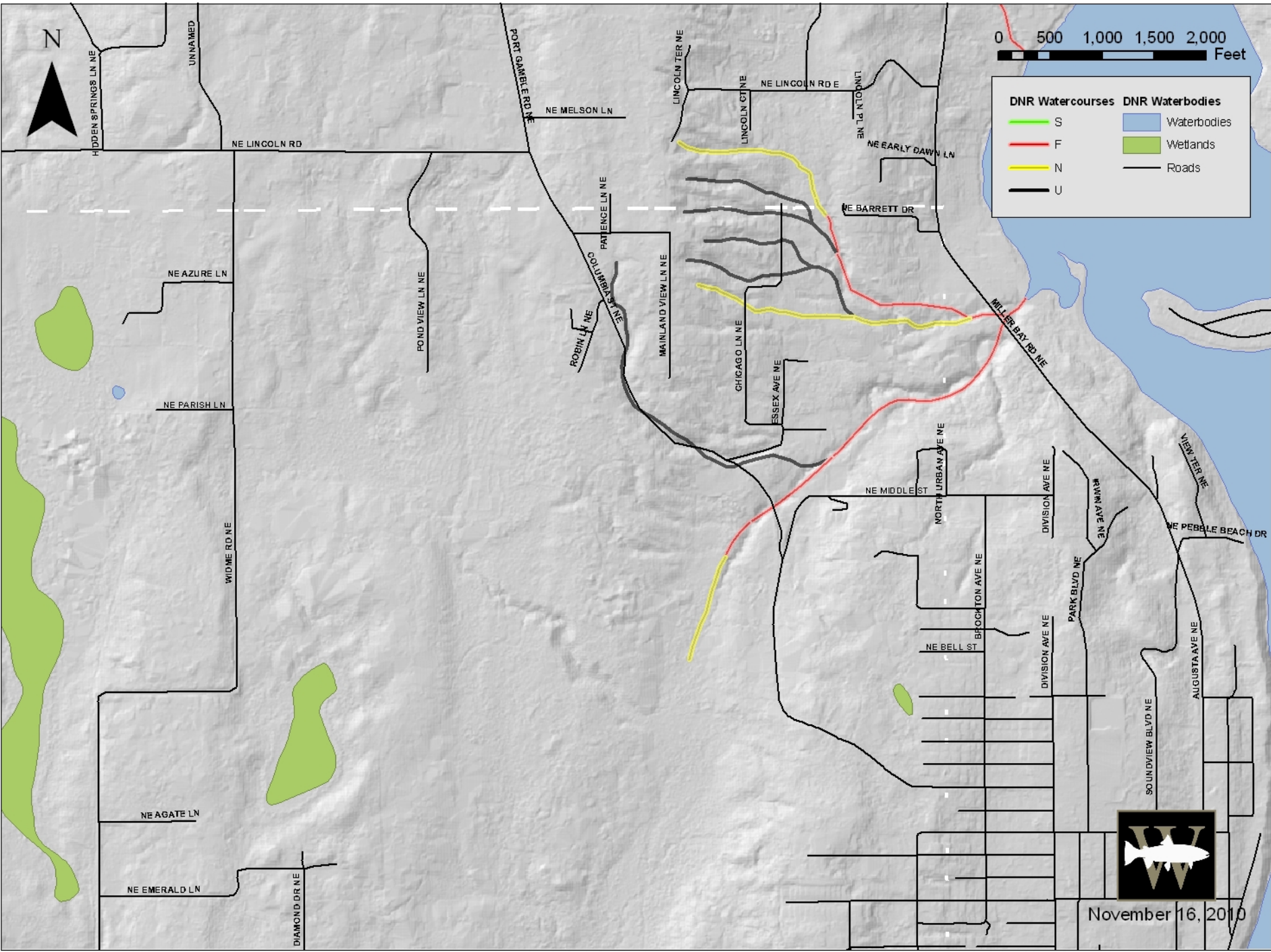
November 16, 2010



N

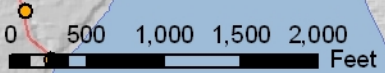


DNR Watercourses		DNR Waterbodies	
	S		Waterbodies
	F		Wetlands
	N		Roads
	U		

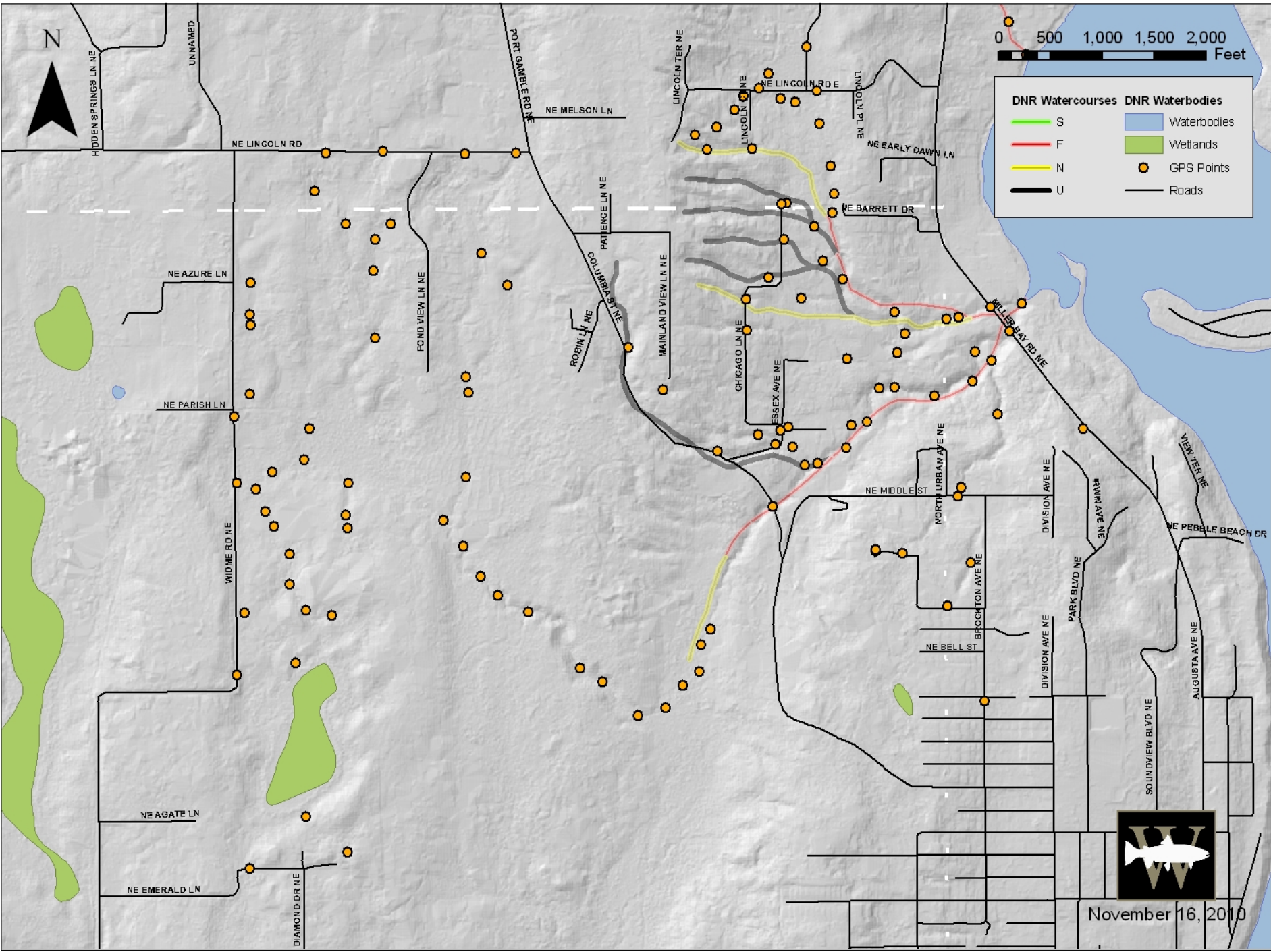


November 16, 2010

N

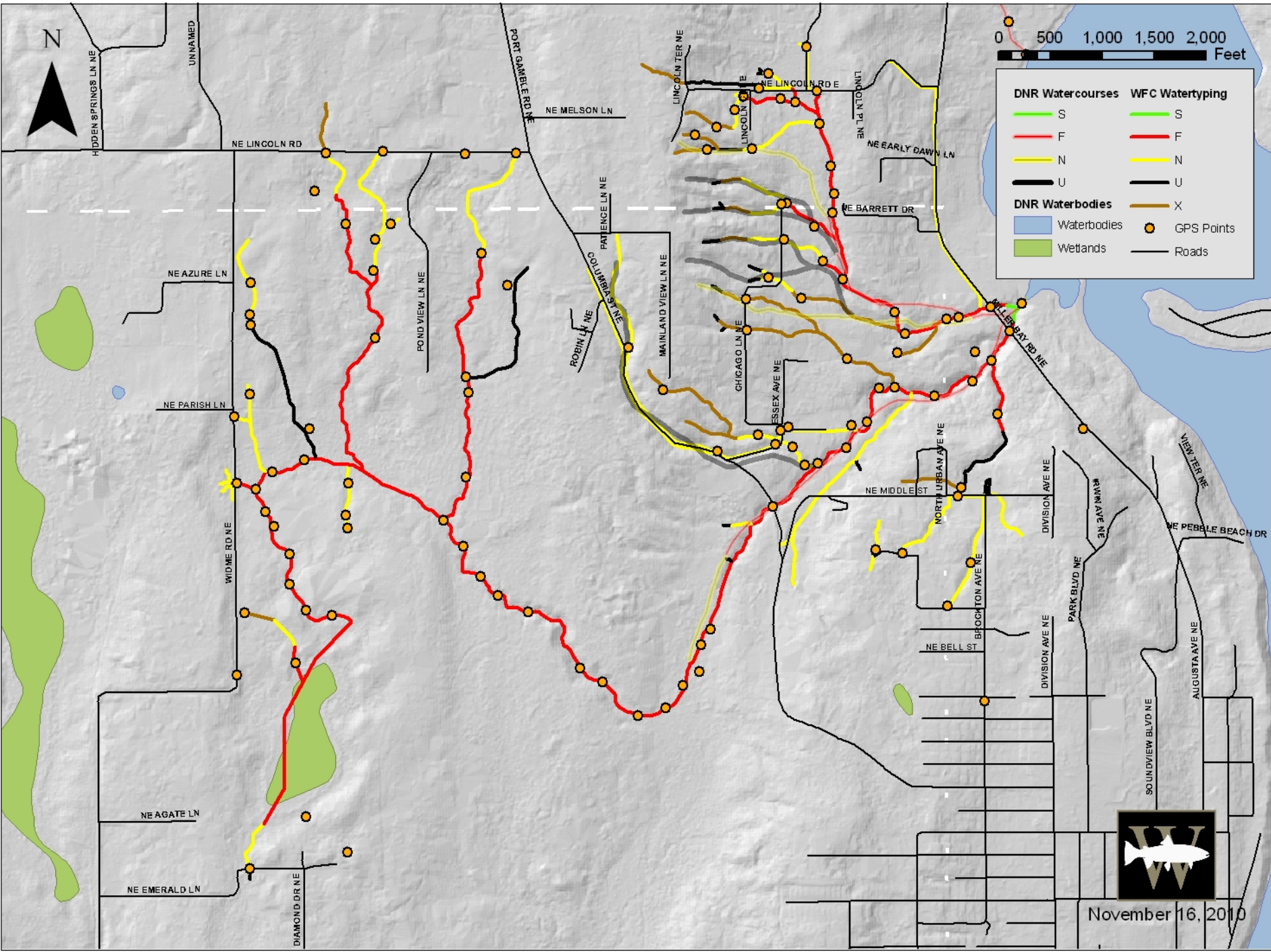


DNR Watercourses		DNR Waterbodies	
	S		Waterbodies
	F		Wetlands
	N		GPS Points
	U		Roads



November 16, 2010





0 500 1,000 1,500 2,000 Feet

- | DNR Watercourses |            | WFC Watertyping |             |
|------------------|------------|-----------------|-------------|
|                  | S          |                 | S           |
|                  | F          |                 | F           |
|                  | N          |                 | N           |
|                  | U          |                 | U           |
| DNR Waterbodies  |            |                 | Waterbodies |
|                  | Wetlands   |                 | X           |
|                  | GPS Points |                 | Roads       |



November 16, 2010



# Cowling Creek, Kitsap County

miles

Type	DNR	WFC	
S	0	0.12	
F	1.42	5.46	
N	1.06	5.4	
U	1.84	1.24	Δ
Total	4.32	12.22	7.9

**The DNR Water Type maps missed 66% of this watershed.**

[www.wildfishconservancy.org](http://www.wildfishconservancy.org)





Water Type	Description
Type "S" = Shoreline (formerly type 1)	Streams and waterbodies that are designated "shorelines of the state" as defined in chapter 90.58.030 RCW.
Type "F" = Fish (formerly type 2 or 3)	Streams and waterbodies that are known to be used by fish, or meet the physical criteria to be potentially used by fish. Fish streams may or may not have flowing water all year; they may be perennial or seasonal.
Type "Np" = Non-Fish Perennial (formerly type 4)	Streams that have flow year round, but do not meet the physical criteria of a Type F stream. This also includes streams that have been proven not to contain fish using

**“These maps are provided as a starting point to help landowners identify and type streams on their property. However, it is the landowner’s responsibility to correctly identify and type all waters.”**

### FPARS Mapping Tool

The FPARS [mapping website](#) provides a variety of maps to assist you with water typing and submitting your forest practices application. The following maps can be accessed using the Select a Map drop down menu in the upper left corner of the map page:

[www.dnr.wa.gov/BusinessPermits/Topics/ForestPracticesApplications](http://www.dnr.wa.gov/BusinessPermits/Topics/ForestPracticesApplications)



# Snoqualmie Watershed

March 9, 2007





# When Riparian Corridors Are Adequately Protected...

Not

**Altered hydrographs** - stormflows increase in magnitude and frequency, and summer baseflows reduce.

**Increased erosion** - aggravated by loss of riparian vegetation and an altered hydrograph, channels downcut and mobilize large amounts of fine sediments.

**Increased water temperatures** – loss of riparian habitat increases summer water temps.

**Reduced water quality** – loss of ‘filter effect’ of riparian corridor, overland flow, sediment delivery via road network.

[ **ESA and CWA Implications** ]





**Regulations are in place to protect fish and fish habitat. For them to be effective water type compliance must be improved.**





**Until that happens, mistyping may be the single biggest factor contributing to loss of riparian habitat protection under the current rules.**





# DNR COMPLIANCE MONITORING RESULTS (2008-2009)

Type F physicals or fish being present in Type Np waters 24% of the time.

**Table 13 – Count, by group , of Np features reviewed in Supplemental Water Information Forms**

Np Sampled	Total inconsistent observed	No change	Np to no Water	Np to Ns	No Consensus	Np to Indeterminate	Np to F
89	30	5	1	1	1	1	21

Table 13 shows that when Np data is inconsistent with observed conditions, the change is most often associated with Type F physical characteristics or fish being present.



# DNR Compliance Monitoring Results (2008-2009)

Type Np channel characteristics found in Type F waters 2% of the time.

**Table 14- Count, by group, of F or S features reviewed in Supplemental Water Information Forms**

F or S Sampled	Total inconsistent observed	F to Ns	F to Np	No Change
121	23	2	3	18

\* This excludes wetlands observations because the SWIF was not designed to evaluate wetland features.



# Landowner Compliance for Riparian Harvest Activities on Type F waters (2008-2009)

	Status of Compliance	Western Washington			
		No Inner Zone	No Entry RMZ	DFC Option 1	DFC Option 2
All Landowners	Compliant	29	8	5	20
	Out of Compliance	19	6	5	5
	Percent Compliant	60%	57%	50%	80%
	Confidence Interval	(46, 74)	(29, 82)	(19, 81)	(60, 93)



# DNR WATER TYPING WEBSITE (2011)\*

- When submitting an (FPA), “landowners are **required** to correctly identify and type **all waters**...within the proposed activity area and within 200 ft. of the proposed activity.”
- When updating water type information on DNR Water Type Maps, “landowners or others may **voluntarily** submit a water type modification form with an updated water type map...Landowners and other interested parties are **encouraged** to submit these forms , as it is the only way that water type and location updates make it into the FPARS maps.”

\*[www.dnr.wa.gov/BusinessPermitsTopics/ForestPracticeApplications/](http://www.dnr.wa.gov/BusinessPermitsTopics/ForestPracticeApplications/)

# CONSERVATION CAUCUS RECOMMENDED FIXES

- Make Water Type Modification Forms mandatory not “voluntary” for all typed waters (for stream typing “upgrades” and “downgrades”). DNR’s CM data indicate that all typed waters within FPAs are NOT being correctly validated in the field in accordance with WAC 222-16-031.
- Increase DNR enforcement of water typing rules under WAC 222-16-031. Some DNR compliance monitoring funds were diverted to Ecology to help with water typing (Ecology memo 2008 in packet), but successes are not born out by DNR Compliance Monitoring results.



# CONSERVATION CAUCUS RECOMMENDED FIXES (CONT.)

- Update DNR website and restore and revise the water typing [“scenarios”](#) that were posted as guidance when the Fish Habitat Model derived Basemaps were first rolled out (see Conservation Caucus memo to Lenny Young 2008 in packet).
- Require landowners to [certify](#) they are not relying on DNR Resource and Water Type Basemaps for water type classifications (e.g. F, Np, Ns, U) to ensure that all waters have been correctly typed in accordance with WAC 222-16-031 prior to submitting an FPA.

# CONSERVATION CAUCUS RECOMMENDED FIXES (CONT.)

- Where available, require the use of **LiDAR** (Light Distance and Ranging) as a water typing screening tool. LiDAR is much more accurate for identifying, locating and depicting channel conditions than the DNR modeled Basemaps.
- **Reprioritize Policy's task list** by moving water typing back to the top. Clearly defining the extent of fish habitat, not simply fish presence, is part of the FP HCP. **Develop board manual guidance** accordingly.



# ACKNOWLEDGMENTS

DNR, WDFW, Ecology and Tribal Nations for their participation in the field collection of water typing data for the 2008-2009 Compliance Monitoring Report.

Those landowners that *are* spending the time and effort to ensure that water typing is being done correctly on their lands.