Sewall Wetland Consulting, Inc.
PO Box 880
Fall City, WA 98024
Phone: 253-859-0515

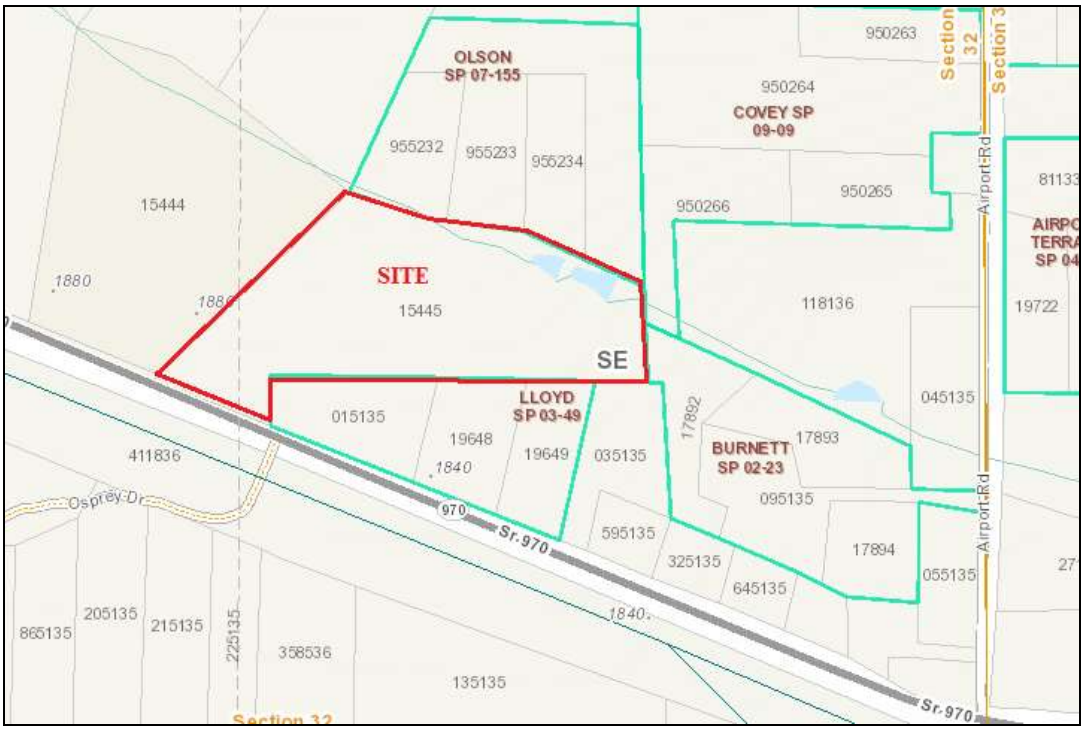
October 12, 2020

Spencer Parr
WLC Holdings
651 Strander Blvd, Suite 215
Tukwila, Washington 98188

RE: Critical Area Report – Parcel #15445
Kittitas County, Washington
SWC Job #20-150

Dear Spencer,

This report describes our observations of any jurisdictional wetlands, streams and/or buffers on Parcel #15445, in unincorporated Kittitas County, Washington (the "site"). The irregular shaped parcel is 18.81 acres in size and located within the SW ¼ of Section 32, Township 20 North, Range 16 East of the W.M.



Above: Vicinity Map of site

Above: Aerial photograph from Kittitas Mapsifter website with wetland layer activated

METHODOLOGY

Ed Sewall of Sewall Wetland Consulting, Inc. inspected the site on August 25 & 27 of 2020. The site was reviewed using methodology described in the ***Regional Supplement to the Corps of Engineers Wetland Delineation Manual: Arid West Region (Version 2.0)*** (USACOE September 2008) as required by the US Army Corps of Engineers starting in June of 2009. This is the methodology currently recognized by Kittitas County for wetland determinations and delineations. The site was also reviewed using methodology described in Soil colors were identified using the 1990 Edited and Revised Edition of the ***Munsell Soil Color Charts*** (Kollmorgen Instruments Corp. 1990.

OBSERVATIONS

Existing Site Documentation.

Prior to visiting the site, a review of several natural resource inventory maps was conducted. Resources reviewed included the National Wetland Inventory Map and the NRCS Soil Survey online mapping and Data.

National Wetlands Inventory (NWI)

The NWI map depicts emergent wetland on the north and south sides of the site. The wetland is depicted as a portion of a larger wetland that extends off-site to the east and west of the site.

Above: NWI map of the area of the site

Kittitas tax sifter website with wetland layers activated.

The Kittitas County Taxsifter website with wetland layers activated depicts the same wetlands as shown on the NWI map for the site. The entire site is also depicted as in the 100 year floodplain (pink shading). In addition the creek passing along the north side of the site is mapped as a Type 2 water.

Above: Kittitas tax sifter website mapping of the site with wetland and floodway layers activated.

Soil Survey

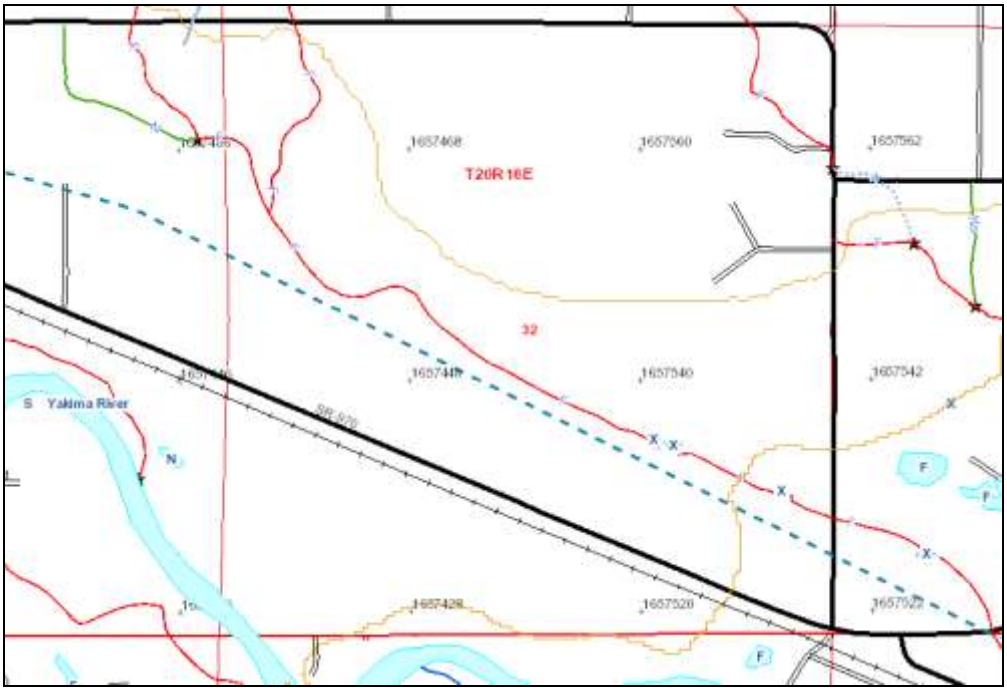
According to the NRCS Soil Mapper website, the site is mapped as containing Patnish-Mippon-Myzel complex soils. This soils type is considered moderately well-drained and is formed in alluvium with some volcanic ash.

Above: NRCS soil map of the site.

This soil series is not considered "hydric" soils according to the publication Hydric Soils of the United States (USDA NTCHS Pub No.1491, 1991).

WDNR Fpars Water Type Mapping

The WDNR Fpars Water Type mapping website depicts a Type F water running just to the north of the site.



Above: WADNR Fpars Stream mapping of the area of the site.

Field observations

The site consists of a relatively flat parcel with a gravel access road passing through the west and north side of the site. The site is generally an immature pine plantation covered with scattered ponderosa pine which was planted throughout the site. Most of these pines are small appearing to be approximately 15 years old. The understory of the pine plantation is maintained in mowed grass consisting of tall fescue, quackgrass and bluegrass with a mix of weedy species. A small irrigation pond excavated from upland area sometime around 2003 is located on the western side of the site.

Soils on the site generally consist of a sandy loam which have B-horizon soil colors of 10YR 3/3-3/4 with no hydric indicators or evidence of wetland hydrology.

Wetlands

The site contains a portion of a large wetland associated with the Type 2/F water along the north side of the site. A small finger of this larger wetland also extends along the south side of the site from the east. The

creek on the north is a Type F water and mapped under the old water type designations as a Type 2 by the County, is located within the center of the wetland to the north. The edge of the wetland abutting the site was flagged with pink flagging labeled A1-A31. The wetland was gps located for preliminary mapping with gps points 203-217 (A1-A15) and 239-255 (A16-A31). The gravel access road that passes through the site breaks the wetland flagging between flags A6 & A7. A 72" culvert passes under the road near the north property line which allows the stream to flow to the east through the site within the wetland.

The portion of wetland on-site consist of emergent wetland dominated by reed canary grass and cattail, scrub -shrub areas dominated by sitka and coyote willow, rose and hardhack, and a narrow band of forested area comprised of black cottonwood and quaking aspen.

Soil pits excavated within these wetland areas revealed a cobbly loam with colors of 10YR 2/1 with common, medium distinct redoximorphic concentrations. Soils within these areas were saturated to within 8" of the surface.

Using the 2014 WADOE Wetland Rating system for Eastern Washington, and rating Wetland A as a riverine type wetland, the wetlands scored a total of 21 points with 8 for habitat. This indicates a Category II wetland. According to Kittitas County Municipal Code (KCMC) 17A.04.020, Category II wetlands have a buffer of 25'-100'. Given the high habitat score a buffer of 100' buffer would be appropriate. It should be noted that much of the existing buffer is maintained and mowed gras under a pine plantation and of relatively low habitat function despite the wetlands high habitat score. This could be averaged if needed, or possibly reduced below 100' with enhancement plantings.

17A.04.020 Buffer width requirements.

Wetland buffer requirements apply to all nonexempt activities on regulated wetlands. All wetland buffers shall be measured from the wetland boundary.

Category	Size of Wetland	Required Buffer
I	any size	50 - 200 feet
II	over 2,000 sq. ft.	25 - 100 feet
III	over 10,000 sq. ft.	20 - 80 feet
IV*	43,560 sq. ft. (1 acre)	Building setbacks will be determined by the zoning lot line setbacks, but shall not exceed 25 feet.

*Includes only nonirrigation induced or enhanced Category IV wetlands. Irrigation water does influence ground water table elevations in Kittitas County.

Type 2 Water

The Type F water, referred to as a Type 2 water by the County using the old water typing system, is a known fish bearing water. According to KCMC 17A.070.010, Type 2 waters within Kittitas County have a buffer of 40'-100'. The buffer of this stream is within the wetland buffer area on the site.

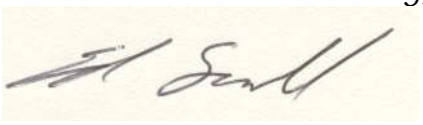
17A.07.010 Riparian habitat.

1. Riparian Habitat Critical Areas shall constitute Type 1, 2 and 3, including portions of Type 4 and 5 waters at the intersecting points with a Type 1, 2, or 3 waters. Type 4 waters will be designated a critical area for a distance of forty to five hundred feet. Type 5 waters shall be designated a critical area where it is located within the buffers for Types 1, 2 or 3 waters, as determined by the planning manager.
2. Performance Standards Buffers.

Type 1 waters	40-200 feet from OHWM.
Type 2 waters	40-100 feet from OHWM.
Type 3 waters	20- 50 feet from OHWM.
Type 4 waters	10- 20 feet from the intersection with a Type 1, 2 or 3 water for a distance of 40 to 500 feet. From the point at which the buffer ends (40 - 500 feet upstream from the confluence), there shall be a 15-foot structural setback from the ordinary high water mark.
Type 5 waters	None required (buffering will be provided by the Type 1, 2 or 3 waters' buffers). Note: Building setbacks from a Type 5 water will be 15 feet, unless a buffer greater than or equal to the 15-foot setback is in place.

If you have any questions in regards to this report or need additional information, please feel free to contact me at (253) 859-0515 or at esewall@sewallwc.com .

Sincerely,
Sewall Wetland Consulting, Inc.



Ed Sewall
Senior Wetlands Ecologist PWS #212

Attached: Data sheets
Rating Form

REFERENCES

Cowardin, L., V. Carter, F. Golet, and E. LaRoe. 1979. Classification of Wetlands and Deepwater Habitats of the United States. U.S. Fish and Wildlife Service, FWS/OBS-79-31, Washington, D. C.

Environmental Laboratory. 1987. Corps of Engineers Wetlands Delineation Manual, Technical Report Y-87-1. U. S. Army Corps of Engineers Waterways Experiment Station, Vicksburg, Mississippi.

Kittitas County Municipal Code

Muller-Dombois, D. and H. Ellenberg. 1974. Aims and Methods of Vegetation Ecology. John Wiley & Sons, Inc. New York, New York.

Munsell Color. 1988. Munsell Soil Color Charts. Kollmorgen Instruments Corp., Baltimore, Maryland.

National Technical Committee for Hydric Soils. 1991. Hydric Soils of the United States. USDA Misc. Publ. No. 1491.

Reed, P., Jr. 1988. National List of Plant Species that Occur in Wetlands: Northwest (Region 9). 1988. U. S. Fish and Wildlife Service, Inland Freshwater Ecology Section, St. Petersburg, Florida.

Reed, P.B. Jr. 1993. 1993 Supplement to the list of plant species that occur in wetlands: Northwest (Region 9). USFWS supplement to Biol. Rpt. 88(26.9) May 1988.

USDA NRCS & National Technical Committee for Hydric Soils, September 1995. Field Indicators of Hydric Soils in the United States - Version 2.1

Above: location of data points.

WETLAND DETERMINATION DATA FORM – Arid West Region

Project/Site: WLC City/County: Kittitas Sampling Date: 8-27-20

Applicant/Owner: State: WA Sampling Point: DP#1

Investigator(s): Ed Sewell Section, Township, Range:

Landform (hillslope, terrace, etc.): Local relief (concave, convex, none): Slope (%):

Subregion (LRR): Lat: Long: Datum:

Soil Map Unit Name: NWI classification:

Are climatic / hydrologic conditions on the site typical for this time of year? Yes ✓ No (If no, explain in Remarks.)

Are Vegetation ____, Soil ____, or Hydrology ____ significantly disturbed? Are "Normal Circumstances" present? Yes ✓ No

Are Vegetation ____, Soil ____, or Hydrology ____ naturally problematic? (If needed, explain any answers in Remarks.)

SUMMARY OF FINDINGS – Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present? Yes ✓ No

Hydric Soil Present? Yes No ✓

Wetland Hydrology Present? Yes No

Is the Sampled Area within a Wetland? Yes No ✓

Remarks:

VEGETATION

Tree Stratum (Use scientific names.)	Absolute % Cover	Dominant Species?	Indicator Status
1.			
2.			
3.			
4.			
Total Cover:			
Sapling/Shrub Stratum			
1.			
2.			
3.			
4.			
5.			
Total Cover:			
Herb Stratum			
1. Poa spp	40		FAC
2. Bromus tectorum	60		FAC
3.			
4.			
5.			
6.			
7.			
8.			
Total Cover:			
Woody Vine Stratum			
1.			
2.			
Total Cover:			

% Bare Ground in Herb Stratum ____ % Cover of Biotic Crust ____

Dominance Test worksheet:

Number of Dominant Species That Are OBL, FACW, or FAC: 2 (A)

Total Number of Dominant Species Across All Strata: 2 (B)

Percent of Dominant Species That Are OBL, FACW, or FAC: 100 (A/B)

Prevalence Index worksheet:

Total % Cover of:	Multiply by:
OBL species	x 1 =
FACW species	x 2 =
FAC species	x 3 =
FACU species	x 4 =
UPL species	x 5 =
Column Totals: (A)	(B)

Prevalence Index = B/A =

Hydrophytic Vegetation Indicators:

✓ Dominance Test is >50%

Prevalence Index is ≤3.0[1]

Morphological Adaptations[1] (Provide supporting data in Remarks or on a separate sheet)

Problematic Hydrophytic Vegetation[1] (Explain)

[1]Indicators of hydric soil and wetland hydrology must be present.

Hydrophytic Vegetation Present? Yes ✓ No

Remarks:

SOIL

Sampling Point: DP#1

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

Depth (inches)	Matrix Color (moist)	%	Redox Features Color (moist)	%	Type[1]	Loc[2]	Texture	Remarks
6	10YR 3/4						cobbly	Sandy Loam
16	10YR 3/4						Sandy	Loam

[1]Type: C=Concentration, D=Depletion, RM=Reduced Matrix. [2]Location: PL=Pore Lining, RC=Root Channel, M=Matrix.

Hydric Soil Indicators: (Applicable to all LRRs, unless otherwise noted.)

- ___ Histosol (A1)
- ___ Histic Epipedon (A2)
- ___ Black Histic (A3)
- ___ Hydrogen Sulfide (A4)
- ___ Stratified Layers (A5) (LRR C)
- ___ 1 cm Muck (A9) (LRR D)
- ___ Depleted Below Dark Surface (A11)
- ___ Thick Dark Surface (A12)
- ___ Sandy Mucky Mineral (S1)
- ___ Sandy Gleyed Matrix (S4)
- ___ Sandy Redox (S5)
- ___ Stripped Matrix (S6)
- ___ Loamy Mucky Mineral (F1)
- ___ Loamy Gleyed Matrix (F2)
- ___ Depleted Matrix (F3)
- ___ Redox Dark Surface (F6)
- ___ Depleted Dark Surface (F7)
- ___ Redox Depressions (F8)
- ___ Vernal Pools (F9)

Indicators for Problematic Hydric Soils[3]:

- ___ 1 cm Muck (A9) (LRR C)
- ___ 2 cm Muck (A10) (LRR B)
- ___ Reduced Vertic (F18)
- ___ Red Parent Material (TF2)
- ___ Other (Explain in Remarks)

[3]Indicators of hydrophytic vegetation and wetland hydrology must be present.

Restrictive Layer (if present):

Type:

Depth (inches):

Hydric Soil Present? Yes ✓ No

Remarks:

No indicators

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (any one indicator is sufficient)

- ___ Surface Water (A1)
- ___ High Water Table (A2)
- ___ Saturation (A3)
- ___ Water Marks (B1) (Nonriverine)
- ___ Sediment Deposits (B2) (Nonriverine)
- ___ Drift Deposits (B3) (Nonriverine)
- ___ Surface Soil Cracks (B6)
- ___ Inundation Visible on Aerial Imagery (B7)
- ___ Water-Stained Leaves (B9)
- ___ Salt Crust (B11)
- ___ Biotic Crust (B12)
- ___ Aquatic Invertebrates (B13)
- ___ Hydrogen Sulfide Odor (C1)
- ___ Oxidized Rhizospheres along Living Roots (C3)
- ___ Presence of Reduced Iron (C4)
- ___ Recent Iron Reduction in Plowed Soils (C6)
- ___ Other (Explain in Remarks)

Secondary Indicators (2 or more required)

- ___ Water Marks (B1) (Riverine)
- ___ Sediment Deposits (B2) (Riverine)
- ___ Drift Deposits (B3) (Riverine)
- ___ Drainage Patterns (B10)
- ___ Dry-Season Water Table (C2)
- ___ Thin Muck Surface (C7)
- ___ Crayfish Burrows (C8)
- ___ Saturation Visible on Aerial Imagery (C9)
- ___ Shallow Aquitard (D3)
- ___ FAC-Neutral Test (D5)

Field Observations:

Surface Water Present? Yes No ✓ Depth (inches):

Water Table Present? Yes No ✓ Depth (inches):

Saturation Present? (includes capillary fringe) Yes No Depth (inches):

Wetland Hydrology Present? Yes No ✓

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks:

No indicators

WETLAND DETERMINATION DATA FORM – Arid West Region

Project/Site: WLC City/County: Kittitas Sampling Date: 8-27-26

Applicant/Owner: ED South State: WA Sampling Point: DP#2

Investigator(s): ED South Section, Township, Range: _____

Landform (hillslope, terrace, etc.): _____ Local relief (concave, convex, none): _____ Slope (%): _____

Subregion (LRR): _____ Lat: _____ Long: _____ Datum: _____

Soil Map Unit Name: _____ NWI classification: _____

Are climatic / hydrologic conditions on the site typical for this time of year? Yes ✓ No _____ (If no, explain in Remarks.)

Are Vegetation _____, Soil _____, or Hydrology _____ significantly disturbed? Are "Normal Circumstances" present? Yes ✓ No _____

Are Vegetation _____, Soil _____, or Hydrology _____ naturally problematic? (If needed, explain any answers in Remarks.)

SUMMARY OF FINDINGS – Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present? Yes _____ No ✓

Hydric Soil Present? Yes _____ No ✓

Wetland Hydrology Present? Yes _____ No ✓

Is the Sampled Area within a Wetland? Yes _____ No ✓

Remarks:

VEGETATION

Tree Stratum (Use scientific names.)	Absolute % Cover	Dominant Species?	Indicator Status
1.			
2.			
3.			
4.			
Total Cover:			
Sapling/Shrub Stratum			
1.			
2.			
3.			
4.			
5.			
Total Cover:			
Herb Stratum			
1. Poa spp	80		FAC
2.			
3.			
4.			
5.			
6.			
7.			
8.			
Total Cover:			
Woody Vine Stratum			
1.			
2.			
Total Cover:			

% Bare Ground in Herb Stratum _____ % Cover of Biotic Crust _____

Dominance Test worksheet:

Number of Dominant Species That Are OBL, FACW, or FAC: 1 (A)

Total Number of Dominant Species Across All Strata: 1 (B)

Percent of Dominant Species That Are OBL, FACW, or FAC: 100 (A/B)

Prevalence Index worksheet:

Total % Cover of:	Multiply by:	
OBL species	x 1 =	
FACW species	x 2 =	
FAC species	x 3 =	
FACU species	x 4 =	
UPL species	x 5 =	
Column Totals:	(A)	(B)

Prevalence Index = B/A = _____

Hydrophytic Vegetation Indicators:

✓ Dominance Test is >50%

___ Prevalence Index is ≤3.0[1]

___ Morphological Adaptations[1] (Provide supporting data in Remarks or on a separate sheet)

___ Problematic Hydrophytic Vegetation[1] (Explain)

[1]Indicators of hydric soil and wetland hydrology must be present.

Hydrophytic Vegetation Present? Yes ✓ No _____

Remarks:

SOIL

Sampling Point: _____

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

Depth (inches)	Matrix Color (moist)	%	Redox Features Color (moist)	%	Type[1]	Loc[2]	Texture	Remarks
4	10YR 3/4						Silty	Ln
16	10YR 3/3						Silty	Gr

[1]Type: C=Concentration, D=Depletion, RM=Reduced Matrix. [2]Location: PL=Pore Lining, RC=Root Channel, M=Matrix.

Hydric Soil Indicators: (Applicable to all LRRs, unless otherwise noted.)

___ Histosol (A1)
___ Histic Epipedon (A2)
___ Black Histic (A3)
___ Hydrogen Sulfide (A4)
___ Stratified Layers (A5) (LRR C)
___ 1 cm Muck (A9) (LRR D)
___ Depleted Below Dark Surface (A11)
___ Thick Dark Surface (A12)
___ Sandy Mucky Mineral (S1)
___ Sandy Gleyed Matrix (S4)
___ Sandy Redox (S5)
___ Stripped Matrix (S6)
___ Loamy Mucky Mineral (F1)
___ Loamy Gleyed Matrix (F2)
___ Depleted Matrix (F3)
___ Redox Dark Surface (F6)
___ Depleted Dark Surface (F7)
___ Redox Depressions (F8)
___ Vernal Pools (F9)

Indicators for Problematic Hydric Soils[3]:

___ 1 cm Muck (A9) (LRR C)
___ 2 cm Muck (A10) (LRR B)
___ Reduced Vertic (F18)
___ Red Parent Material (TF2)
___ Other (Explain in Remarks)

[3]Indicators of hydrophytic vegetation and wetland hydrology must be present.

Restrictive Layer (if present):

Type: _____

Depth (inches): _____

Hydric Soil Present? Yes _____ No ✓

Remarks:

No indicators

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (any one indicator is sufficient)

___ Surface Water (A1)
___ High Water Table (A2)
___ Saturation (A3)
___ Water Marks (B1) (Nonriverine)
___ Sediment Deposits (B2) (Nonriverine)
___ Drift Deposits (B3) (Nonriverine)
___ Surface Soil Cracks (B6)
___ Inundation Visible on Aerial Imagery (B7)
___ Water-Stained Leaves (B9)
___ Salt Crust (B11)
___ Biotic Crust (B12)
___ Aquatic Invertebrates (B13)
___ Hydrogen Sulfide Odor (C1)
___ Oxidized Rhizospheres along Living Roots (C3)
___ Presence of Reduced Iron (C4)
___ Recent Iron Reduction in Plowed Soils (C6)
___ Other (Explain in Remarks)

Secondary Indicators (2 or more required)

___ Water Marks (B1) (Riverine)
___ Sediment Deposits (B2) (Riverine)
___ Drift Deposits (B3) (Riverine)
___ Drainage Patterns (B10)
___ Dry-Season Water Table (C2)
___ Thin Muck Surface (C7)
___ Crayfish Burrows (C8)
___ Saturation Visible on Aerial Imagery (C9)
___ Shallow Aquitard (D3)
___ FAC-Neutral Test (D5)

Field Observations:

Surface Water Present? Yes _____ No ✓ Depth (inches): _____

Water Table Present? Yes _____ No ✓ Depth (inches): _____

Saturation Present? (includes capillary fringe) Yes _____ No ✓ Depth (inches): _____

Wetland Hydrology Present? Yes _____ No ✓

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks:

No indicators

WETLAND DETERMINATION DATA FORM – Arid West Region

Project/Site: WLC City/County: Kittitas Sampling Date: 8-27-20

Applicant/Owner: State: WA Sampling Point: DP #3

Investigator(s): Zd Sewell Section, Township, Range:

Landform (hillslope, terrace, etc.): Local relief (concave, convex, none): Slope (%):

Subregion (LRR): Lat: Long: Datum:

Soil Map Unit Name: NWI classification:

Are climatic / hydrologic conditions on the site typical for this time of year? Yes ✓ No ____ (If no, explain in Remarks.)

Are Vegetation ____, Soil ____, or Hydrology ____ significantly disturbed? Are "Normal Circumstances" present? Yes ✓ No ____

Are Vegetation ____, Soil ____, or Hydrology ____ naturally problematic? (If needed, explain any answers in Remarks.)

SUMMARY OF FINDINGS – Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present?	Yes ____ No ✓	Is the Sampled Area within a Wetland? Yes ____ No ✓
Hydric Soil Present?	Yes ____ No ✓	
Wetland Hydrology Present?	Yes ____ No ✓	

Remarks:

VEGETATION

Tree Stratum (Use scientific names.)	Absolute % Cover	Dominant Species?	Indicator Status
1.			
2.			
3.			
4.			
Total Cover:			
Sapling/Shrub Stratum			
1. Pinus ponderosa	20		UPL
2.			
3.			
4.			
5.			
Total Cover:			
Herb Stratum			
1. Festuca arundinacea	60		FAC
2.			
3.			
4.			
5.			
6.			
7.			
8.			
Total Cover:			
Woody Vine Stratum			
1.			
2.			
Total Cover:			

% Bare Ground in Herb Stratum ____ % Cover of Biotic Crust ____

Dominance Test worksheet:

Number of Dominant Species That Are OBL, FACW, or FAC: ____ (A)

Total Number of Dominant Species Across All Strata: ____ (B)

Percent of Dominant Species That Are OBL, FACW, or FAC: ____ (A/B)

Prevalence Index worksheet:

Total % Cover of:	Multiply by:
OBL species ____	x 1 = ____
FACW species ____	x 2 = ____
FAC species 40	x 3 = 120
FACU species ____	x 4 = ____
UPL species 20	x 5 = 100
Column Totals: 80 (A)	220 (B)

Prevalence Index = B/A = 2.75

Hydrophytic Vegetation Indicators:

___ Dominance Test is >50%

___ Prevalence Index is ≤3.0[1]

___ Morphological Adaptations[1] (Provide supporting data in Remarks or on a separate sheet)

___ Problematic Hydrophytic Vegetation[1] (Explain)

[1]Indicators of hydric soil and wetland hydrology must be present.

Hydrophytic Vegetation Present? Yes ____ No ✓

Remarks:

SOIL

Sampling Point: ____

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

Depth (inches)	Matrix Color (moist)	%	Redox Features Color (moist)	%	Type[1]	Loc[2]	Texture	Remarks
1/6	10YR 3/3						Silty loam	

[1]Type: C=Concentration, D=Depletion, RM=Reduced Matrix. [2]Location: PL=Pore Lining, RC=Root Channel, M=Matrix.

Hydric Soil Indicators: (Applicable to all LRRs, unless otherwise noted.)

___ Histosol (A1)
___ Histic Epipedon (A2)
___ Black Histic (A3)
___ Hydrogen Sulfide (A4)
___ Stratified Layers (A5) (LRR C)
___ 1 cm Muck (A9) (LRR D)
___ Depleted Below Dark Surface (A11)
___ Thick Dark Surface (A12)
___ Sandy Mucky Mineral (S1)
___ Sandy Gleyed Matrix (S4)
___ Sandy Redox (S5)
___ Stripped Matrix (S6)
___ Loamy Mucky Mineral (F1)
___ Loamy Gleyed Matrix (F2)
___ Depleted Matrix (F3)
___ Redox Dark Surface (F6)
___ Depleted Dark Surface (F7)
___ Redox Depressions (F8)
___ Vernal Pools (F9)

Indicators for Problematic Hydric Soils[3]:

___ 1 cm Muck (A9) (LRR C)
___ 2 cm Muck (A10) (LRR B)
___ Reduced Vertic (F18)
___ Red Parent Material (TF2)
___ Other (Explain in Remarks)

[3]Indicators of hydrophytic vegetation and wetland hydrology must be present.

Restrictive Layer (if present):

Type: ____

Depth (inches): ____

Hydric Soil Present? Yes ____ No ✓

Remarks:

No indicators

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (any one indicator is sufficient)

___ Surface Water (A1)
___ High Water Table (A2)
___ Saturation (A3)
___ Water Marks (B1) (Nonriverine)
___ Sediment Deposits (B2) (Nonriverine)
___ Drift Deposits (B3) (Nonriverine)
___ Surface Soil Cracks (B6)
___ Inundation Visible on Aerial Imagery (B7)
___ Water-Stained Leaves (B9)
___ Salt Crust (B11)
___ Biotic Crust (B12)
___ Aquatic Invertebrates (B13)
___ Hydrogen Sulfide Odor (C1)
___ Oxidized Rhizospheres along Living Roots (C3)
___ Presence of Reduced Iron (C4)
___ Recent Iron Reduction in Plowed Soils (C6)
___ Other (Explain in Remarks)

Secondary Indicators (2 or more required)

___ Water Marks (B1) (Riverine)
___ Sediment Deposits (B2) (Riverine)
___ Drift Deposits (B3) (Riverine)
___ Drainage Patterns (B10)
___ Dry-Season Water Table (C2)
___ Thin Muck Surface (C7)
___ Crayfish Burrows (C8)
___ Saturation Visible on Aerial Imagery (C9)
___ Shallow Aquitard (D3)
___ FAC-Neutral Test (D5)

Field Observations:

Surface Water Present? Yes ____ No ✓ Depth (inches): ____

Water Table Present? Yes ____ No ✓ Depth (inches): ____

Saturation Present? (includes capillary fringe) Yes ____ No ✓ Depth (inches): ____

Wetland Hydrology Present? Yes ____ No ✓

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks:

No indicators

WETLAND DETERMINATION DATA FORM – Arid West Region

Project/Site: WLC City/County: Whitman Sampling Date: 8-27-20

Applicant/Owner: State: WA Sampling Point: DP#4

Investigator(s): Ed Sewell Section, Township, Range:

Landform (hillslope, terrace, etc.): Local relief (concave, convex, none): Slope (%):

Subregion (LRR): Lat: Long: Datum:

Soil Map Unit Name: NWI classification:

Are climatic / hydrologic conditions on the site typical for this time of year? Yes ✓ No (If no, explain in Remarks.)

Are Vegetation ____, Soil ____, or Hydrology ____ significantly disturbed? Are "Normal Circumstances" present? Yes ✓ No

Are Vegetation ____, Soil ____, or Hydrology ____ naturally problematic? (If needed, explain any answers in Remarks.)

SUMMARY OF FINDINGS – Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present?	Yes ____ No ✓	Is the Sampled Area within a Wetland? Yes ____ No ✓
Hydric Soil Present?	Yes ____ No ✓	
Wetland Hydrology Present?	Yes ____ No ✓	

Remarks:

VEGETATION

Tree Stratum (Use scientific names.)	Absolute % Cover	Dominant Species?	Indicator Status
1.			
2.			
3.			
4.			
Total Cover:			
Sapling/Shrub Stratum			
1. Crataegus spp	20		FAC
2.			
3.			
4.			
5.			
Total Cover:			
Herb Stratum			
1. Festuca arundinacea	80		FAC
2. Juncus bolanderi	10		FACW
3.			
4.			
5.			
6.			
7.			
8.			
Total Cover:			
Woody Vine Stratum			
1.			
2.			
Total Cover:			

% Bare Ground in Herb Stratum ____ % Cover of Biotic Crust ____

Dominance Test worksheet:

Number of Dominant Species That Are OBL, FACW, or FAC: ____ (A)

Total Number of Dominant Species Across All Strata: ____ (B)

Percent of Dominant Species That Are OBL, FACW, or FAC: ____ (A/B)

Prevalence Index worksheet:

Total % Cover of:	Multiply by:	
OBL species	x 1 =	
FACW species	x 2 =	
FAC species 80	x 3 =	240
FACU species 20	x 4 =	80
UPL species	x 5 =	
Column Totals: 100	(A)	320 (B)

Prevalence Index = B/A = 3.2

Hydrophytic Vegetation Indicators:

___ Dominance Test is >50%

___ Prevalence Index is ≤3.0[1]

___ Morphological Adaptations[1] (Provide supporting data in Remarks or on a separate sheet)

___ Problematic Hydrophytic Vegetation[1] (Explain)

[1]Indicators of hydric soil and wetland hydrology must be present.

Hydrophytic Vegetation Present? Yes ____ No ✓

Remarks:

US Army Corps of Engineers — Arid West – Version 11-1-2006

SOIL

Sampling Point: ____

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

Depth (inches)	Matrix Color (moist)	%	Redox Features Color (moist)	%	Type[1]	Loc[2]	Texture	Remarks
16	10YR 2/2.5						gsL	

[1]Type: C=Concentration, D=Depletion, RM=Reduced Matrix. [2]Location: PL=Pore Lining, RC=Root Channel, M=Matrix.

Hydric Soil Indicators: (Applicable to all LRRs, unless otherwise noted.)

___ Histosol (A1)
___ Histic Epipedon (A2)
___ Black Histic (A3)
___ Hydrogen Sulfide (A4)
___ Stratified Layers (A5) (LRR C)
___ 1 cm Muck (A9) (LRR D)
___ Depleted Below Dark Surface (A11)
___ Thick Dark Surface (A12)
___ Sandy Mucky Mineral (S1)
___ Sandy Gleyed Matrix (S4)
___ Sandy Redox (S5)
___ Stripped Matrix (S6)
___ Loamy Mucky Mineral (F1)
___ Loamy Gleyed Matrix (F2)
___ Depleted Matrix (F3)
___ Redox Dark Surface (F6)
___ Depleted Dark Surface (F7)
___ Redox Depressions (F8)
___ Vernal Pools (F9)

Indicators for Problematic Hydric Soils[3]:

___ 1 cm Muck (A9) (LRR C)
___ 2 cm Muck (A10) (LRR B)
___ Reduced Vertic (F18)
___ Red Parent Material (TF2)
___ Other (Explain in Remarks)

[3]Indicators of hydrophytic vegetation and wetland hydrology must be present.

Restrictive Layer (if present):

Type: ____

Depth (inches): ____

Hydric Soil Present? Yes ____ No ✓

Remarks:

No indicators

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (any one indicator is sufficient)

___ Surface Water (A1)
___ High Water Table (A2)
___ Saturation (A3)
___ Water Marks (B1) (Nonriverine)
___ Sediment Deposits (B2) (Nonriverine)
___ Drift Deposits (B3) (Nonriverine)
___ Surface Soil Cracks (B6)
___ Inundation Visible on Aerial Imagery (B7)
___ Water-Stained Leaves (B9)
___ Salt Crust (B11)
___ Biotic Crust (B12)
___ Aquatic Invertebrates (B13)
___ Hydrogen Sulfide Odor (C1)
___ Oxidized Rhizospheres along Living Roots (C3)
___ Presence of Reduced Iron (C4)
___ Recent Iron Reduction in Plowed Soils (C6)
___ Other (Explain in Remarks)

Secondary Indicators (2 or more required)

___ Water Marks (B1) (Riverine)
___ Sediment Deposits (B2) (Riverine)
___ Drift Deposits (B3) (Riverine)
___ Drainage Patterns (B10)
___ Dry-Season Water Table (C2)
___ Thin Muck Surface (C7)
___ Crayfish Burrows (C8)
___ Saturation Visible on Aerial Imagery (C9)
___ Shallow Aquitard (D3)
___ FAC-Neutral Test (D5)

Field Observations:

Surface Water Present? Yes ____ No ✓ Depth (inches): ____

Water Table Present? Yes ____ No ✓ Depth (inches): ____

Saturation Present? (includes capillary fringe) Yes ____ No ✓ Depth (inches): ____

Wetland Hydrology Present? Yes ____ No ✓

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks:

No indicators

US Army Corps of Engineers — Arid West – Version 11-1-2006

wetland A

WETLAND DETERMINATION DATA FORM – Arid West Region

Project/Site: WLC City/County: Kittitas Sampling Date: 8-27-20

Applicant/Owner: State: WA Sampling Point: DP#5

Investigator(s): Ed Schmidt Section, Township, Range:

Landform (hillslope, terrace, etc.): Local relief (concave, convex, none): Slope (%):

Subregion (LRR): Lat: Long: Datum:

Soil Map Unit Name: NWI classification:

Are climatic / hydrologic conditions on the site typical for this time of year? Yes ___ No ___ (If no, explain in Remarks.)

Are Vegetation ___, Soil ___, or Hydrology ___ significantly disturbed? Are "Normal Circumstances" present? Yes ___ No ___

Are Vegetation ___, Soil ___, or Hydrology ___ naturally problematic? (If needed, explain any answers in Remarks.)

SUMMARY OF FINDINGS – Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present?	Yes ___ No ___	Is the Sampled Area within a Wetland? Yes ___ No ___
Hydric Soil Present?	Yes ___ No ___	
Wetland Hydrology Present?	Yes ___ No ___	

Remarks:

VEGETATION

Tree Stratum (Use scientific names.)	Absolute % Cover	Dominant Species?	Indicator Status
1.			
2.			
3.			
4.			
Total Cover:			
Sapling/Shrub Stratum			
1.			
2.			
3.			
4.			
5.			
Total Cover:			
Herb Stratum			
1. Phalaris arundinacea	80	Yes	FACW
2. Typha latifolia	20	No	OBL
3.			
4.			
5.			
6.			
7.			
8.			
Total Cover:			
Woody Vine Stratum			
1.			
2.			
Total Cover:			

% Bare Ground in Herb Stratum ___ % Cover of Biotic Crust ___

Dominance Test worksheet:

Number of Dominant Species That Are OBL, FACW, or FAC: 2 (A)

Total Number of Dominant Species Across All Strata: 2 (B)

Percent of Dominant Species That Are OBL, FACW, or FAC: 100 (A/B)

Prevalence Index worksheet:

Total % Cover of:	Multiply by:
OBL species ___	x 1 = ___
FACW species ___	x 2 = ___
FAC species ___	x 3 = ___
FACU species ___	x 4 = ___
UPL species ___	x 5 = ___
Column Totals: ___ (A)	___ (B)

Prevalence Index = B/A = ___

Hydrophytic Vegetation Indicators:

___ Dominance Test is >50%

___ Prevalence Index is ≤3.0[1]

___ Morphological Adaptations[1] (Provide supporting data in Remarks or on a separate sheet)

___ Problematic Hydrophytic Vegetation[1] (Explain)

[1]Indicators of hydric soil and wetland hydrology must be present.

Hydrophytic Vegetation Present? Yes ___ No ___

Remarks:

SOIL

Sampling Point: ___

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

Depth (inches)	Matrix Color (moist)	%	Redox Features Color (moist)	%	Type[1]	Loc[2]	Texture	Remarks
16	10YR 2/1		cmd				gc	

[1]Type: C=Concentration, D=Depletion, RM=Reduced Matrix. [2]Location: PL=Pore Lining, RC=Root Channel, M=Matrix.

Hydric Soil Indicators: (Applicable to all LRRs, unless otherwise noted.)

___ Histosol (A1)
___ Histic Epipedon (A2)
___ Black Histic (A3)
___ Hydrogen Sulfide (A4)
___ Stratified Layers (A5) (LRR C)
___ 1 cm Muck (A9) (LRR D)
___ Depleted Below Dark Surface (A11)
___ Thick Dark Surface (A12)
___ Sandy Mucky Mineral (S1)
___ Sandy Gleyed Matrix (S4)
___ Sandy Redox (S5)
___ Stripped Matrix (S6)
___ Loamy Mucky Mineral (F1)
___ Loamy Gleyed Matrix (F2)
___ Depleted Matrix (F3)
✓ Redox Dark Surface (F6)
___ Depleted Dark Surface (F7)
___ Redox Depressions (F8)
___ Vernal Pools (F9)

Indicators for Problematic Hydric Soils[3]:

___ 1 cm Muck (A9) (LRR C)
___ 2 cm Muck (A10) (LRR B)
___ Reduced Vertic (F18)
___ Red Parent Material (TF2)
___ Other (Explain in Remarks)

[3]Indicators of hydrophytic vegetation and wetland hydrology must be present.

Restrictive Layer (if present):

Type: ___

Depth (inches): ___

Hydric Soil Present? Yes ___ No ___

Remarks:

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (any one indicator is sufficient)

___ Surface Water (A1)
___ High Water Table (A2)
✓ Saturation (A3)
___ Water Marks (B1) (Nonriverine)
___ Sediment Deposits (B2) (Nonriverine)
___ Drift Deposits (B3) (Nonriverine)
___ Surface Soil Cracks (B6)
___ Inundation Visible on Aerial Imagery (B7)
___ Water-Stained Leaves (B9)
___ Salt Crust (B11)
___ Biotic Crust (B12)
___ Aquatic Invertebrates (B13)
___ Hydrogen Sulfide Odor (C1)
___ Oxidized Rhizospheres along Living Roots (C3)
___ Presence of Reduced Iron (C4)
___ Recent Iron Reduction in Plowed Soils (C6)
___ Other (Explain in Remarks)

Secondary Indicators (2 or more required)

___ Water Marks (B1) (Riverine)
___ Sediment Deposits (B2) (Riverine)
___ Drift Deposits (B3) (Riverine)
___ Drainage Patterns (B10)
___ Dry-Season Water Table (C2)
___ Thin Muck Surface (C7)
___ Crayfish Burrows (C8)
___ Saturation Visible on Aerial Imagery (C9)
___ Shallow Aquitard (D3)
___ FAC-Neutral Test (D5)

Field Observations:

Surface Water Present? Yes ___ No ✓ Depth (inches): ___

Water Table Present? Yes ___ No ___ Depth (inches): ___

Saturation Present? (includes capillary fringe) Yes ✓ No ___ Depth (inches): -8

Wetland Hydrology Present? Yes ___ No ___

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks:

WETLAND DETERMINATION DATA FORM – Arid West Region

Project/Site: WLC City/County: Kittitas Sampling Date: 8-27-20

Applicant/Owner: State: WA Sampling Point: DP #6

Investigator(s): SD Section, Township, Range:

Landform (hillslope, terrace, etc.): Local relief (concave, convex, none): Slope (%):

Subregion (LRR): Lat: Long: Datum:

Soil Map Unit Name: NWI classification:

Are climatic / hydrologic conditions on the site typical for this time of year? Yes ✓ No (If no, explain in Remarks.)

Are Vegetation ____, Soil ____, or Hydrology ____ significantly disturbed? Are "Normal Circumstances" present? Yes ✓ No

Are Vegetation ____, Soil ____, or Hydrology ____ naturally problematic? (If needed, explain any answers in Remarks.)

SUMMARY OF FINDINGS – Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present? Yes ____ No ✓

Hydric Soil Present? Yes ____ No ✓

Wetland Hydrology Present? Yes ____ No ✓

Is the Sampled Area within a Wetland? Yes ____ No ✓

Remarks:

VEGETATION

Tree Stratum (Use scientific names.)	Absolute % Cover	Dominant Species?	Indicator Status
1.			
2.			
3.			
4.			
Total Cover:			
Sapling/Shrub Stratum			
1. Symphoricarpos albus	5%	✓	FACU
2.			
3.			
4.			
5.			
Total Cover:			
Herb Stratum			
1. Pedicularis	5%	✓	FAC
2.			
3.			
4.			
5.			
6.			
7.			
8.			
Total Cover:			
Woody Vine Stratum			
1.			
2.			
Total Cover:			

% Bare Ground in Herb Stratum ____ % Cover of Biotic Crust ____

Dominance Test worksheet:

Number of Dominant Species That Are OBL, FACW, or FAC: ____ (A)

Total Number of Dominant Species Across All Strata: ____ (B)

Percent of Dominant Species That Are OBL, FACW, or FAC: ____ (A/B)

Prevalence Index worksheet:

Total % Cover of:	Multiply by:
OBL species ____	x 1 = ____
FACW species ____	x 2 = ____
FAC species 50	x 3 = 150
FACU species 50	x 4 = 200
UPL species ____	x 5 = ____
Column Totals: 100 (A)	350 (B)

Prevalence Index = B/A = 3.5

Hydrophytic Vegetation Indicators:

___ Dominance Test is >50%

___ Prevalence Index is ≤3.0[1]

___ Morphological Adaptations[1] (Provide supporting data in Remarks or on a separate sheet)

___ Problematic Hydrophytic Vegetation[1] (Explain)

[1]Indicators of hydric soil and wetland hydrology must be present.

Hydrophytic Vegetation Present? Yes ____ No ✓

Remarks:

SOIL

Sampling Point: ____

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

Depth (inches)	Matrix Color (moist)	%	Redox Features Color (moist)	%	Type[1]	Loc[2]	Texture	Remarks
16	10YR3/4						sL	

[1]Type: C=Concentration, D=Depletion, RM=Reduced Matrix. [2]Location: PL=Pore Lining, RC=Root Channel, M=Matrix.

Hydric Soil Indicators: (Applicable to all LRRs, unless otherwise noted.)

___ Histosol (A1)
___ Histic Epipedon (A2)
___ Black Histic (A3)
___ Hydrogen Sulfide (A4)
___ Stratified Layers (A5) (LRR C)
___ 1 cm Muck (A9) (LRR D)
___ Depleted Below Dark Surface (A11)
___ Thick Dark Surface (A12)
___ Sandy Mucky Mineral (S1)
___ Sandy Gleyed Matrix (S4)
___ Sandy Redox (S5)
___ Stripped Matrix (S6)
___ Loamy Mucky Mineral (F1)
___ Loamy Gleyed Matrix (F2)
___ Depleted Matrix (F3)
___ Redox Dark Surface (F6)
___ Depleted Dark Surface (F7)
___ Redox Depressions (F8)
___ Vernal Pools (F9)

Indicators for Problematic Hydric Soils[3]:

___ 1 cm Muck (A9) (LRR C)
___ 2 cm Muck (A10) (LRR B)
___ Reduced Vertic (F18)
___ Red Parent Material (TF2)
___ Other (Explain in Remarks)

[3]Indicators of hydrophytic vegetation and wetland hydrology must be present.

Restrictive Layer (if present):

Type: ____

Depth (inches): ____

Hydric Soil Present? Yes ____ No ✓

Remarks:

No indicators

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (any one indicator is sufficient)

___ Surface Water (A1)
___ High Water Table (A2)
___ Saturation (A3)
___ Water Marks (B1) (Nonriverine)
___ Sediment Deposits (B2) (Nonriverine)
___ Drift Deposits (B3) (Nonriverine)
___ Surface Soil Cracks (B6)
___ Inundation Visible on Aerial Imagery (B7)
___ Water-Stained Leaves (B9)
___ Salt Crust (B11)
___ Biotic Crust (B12)
___ Aquatic Invertebrates (B13)
___ Hydrogen Sulfide Odor (C1)
___ Oxidized Rhizospheres along Living Roots (C3)
___ Presence of Reduced Iron (C4)
___ Recent Iron Reduction in Plowed Soils (C6)
___ Other (Explain in Remarks)

Secondary Indicators (2 or more required)

___ Water Marks (B1) (Riverine)
___ Sediment Deposits (B2) (Riverine)
___ Drift Deposits (B3) (Riverine)
___ Drainage Patterns (B10)
___ Dry-Season Water Table (C2)
___ Thin Muck Surface (C7)
___ Crayfish Burrows (C8)
___ Saturation Visible on Aerial Imagery (C9)
___ Shallow Aquitard (D3)
___ FAC-Neutral Test (D5)

Field Observations:

Surface Water Present? Yes ____ No ✓ Depth (inches): ____

Water Table Present? Yes ____ No ✓ Depth (inches): ____

Saturation Present? (includes capillary fringe) Yes ____ No ✓ Depth (inches): ____

Wetland Hydrology Present? Yes ____ No ✓

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks:

No indicators

Wetland name or number_____

RATING SUMMARY – Eastern Washington

Name of wetland (or ID #): Wetland A Date of site visit: 8-27-20

Rated by ES Trained by Ecology? Yes ✓ No___ Date of training_____

HGM Class Used for Rating Riverine Unit has multiple HGM classes?___Y ✓ N

NOTE: Form is not complete without the figures requested (*figures can be combined*).

Source of base aerial photo/map _____

OVERALL WETLAND CATEGORY ____

1. Category of wetland based on FUNCTIONS

_____**Category I** - Total score = 22 – 27

✓ **Category II** - Total score = 19 - 21

_____**Category III** - Total score = 16 - 18

_____**Category IV** – Total score = 9 - 15

FUNCTION	Improving Water Quality	Hydrologic	Habitat
	Circle the appropriate ratings		
Site Potential	H (M) L	(H) M L	(H) M L
Landscape Potential	H (M) L	(H) M L	(H) M L
Value	H M (L)	H (M) L	H (M) L
Score Based on Ratings	5	8	8

Score for each function based on three ratings *(order of ratings is not important)*

9 = H,H,H
8 = H,H,M
7 = H,H,L
7 = H,M,M
6 = H,M,L
6 = M,M,M
5 = H,L,L
5 = M,M,L
4 = M,L,L
3 = L,L,L

2. Category based on SPECIAL CHARACTERISTICS of wetland

CHARACTERISTIC	CATEGORY *Circle the appropriate category*
Vernal Pools	II III
Alakali	I
Wetland with high conservation value	I
Bog	I
Old Growth or Mature Forest – slow growing	I
Aspen Forest	I
Old Growth or Mature Forest – fast growing	II
Floodplain forest	(II)
None of the above	

Wetland name or number A

Maps and figures required to answer questions correctly (Eastern Washington)

Depressional Wetlands

Map of:	To answer questions:	Figure #
Cowardin plant classes and classes of emergents	D 1.3, H 1.1, H 1.4	
Hydroperiods	D 1.4, H 1.2, H1.3	
Location of outlet *(can be added to map of hydroperiods)*	D 1.1, D1.4	
Boundary of 150 ft buffer *(can be added to another figure)*	D 2.2, D 5.2	
Polygon of area 1km from wetland edge - Including polygons for accessible habitat and undisturbed habitat	H 2.1, H2.2	
Screen capture of map of 303d listed waters in basin (from Ecology web site)	D 3.1, D 3.2	
Screen capture of list of TMDL's for WRIA in which unit is found (from web)	D 3.3	
Area of open water *(can be added to map of hydroperiods)*	H1.3.1	

Riverine Wetlands

Map of:	To answer questions:	Figure #
Cowardin plant classes and classes of emergents	H 1.1, H 1.4	
Hydroperiods	H 1.2, H1.3	
Ponded depressions	R 1.1	
Boundary of 150 ft buffer *(can be added to another figure)*	R 2.4	
Plant cover of trees, shrubs, and herbaceous plants	R 1.2, R 4.2	
Width of unit vs. width of stream *(can be added to another figure)*	R 4.1	
Polygon of area 1km from wetland edge -Including polygons for accessible habitat and undisturbed habitat	H 2.1, H2.2	
Screen capture of map of 303d listed waters in basin (from Ecology web site)	R 3.1	
Screen capture of list of TMDL's for WRIA in which unit is found (from web)	R 3.2, R 3.3	

Lake-fringe Wetlands

Map of:	To answer questions:	Figure #
Cowardin plant classes and classes of emergents	L 1.1, L 4.1, H 1.1, H 1.4	
Plant cover of trees, shrubs, and herbaceous plants	L 1.2	
Boundary of 150 ft buffer *(can be added to another figure)*	L 2.2	
Polygon of area 1km from wetland edge (Including polygons for accessible habitat and undisturbed habitat)	H 2.1, H2.2	
Screen capture of map of 303d listed waters in basin (from Ecology web site)	L 3.1	
Screen capture of list of TMDL's for WRIA in which unit is found (from web)	L 3.3	

Slope Wetlands

Map of:	To answer questions:	Figure #
Cowardin plant classes and classes of emergents	H 1.1, H 1.4	
Hydroperiods	H 1.2	
Plant cover of **dense** trees, shrubs, and herbaceous plants	S 1.3	
Plant cover of **dense, rigid** trees, shrubs, and herbaceous plants *(can be added to figure above)*	S 4.1	
Boundary of 150 ft buffer (can be added to another figure)	S 2.1, S 5.1	
Polygon of area 1km from wetland edge (Including polygons for accessible habitat and undisturbed habitat)	H 2.1, H2.2	
Screen capture of map of 303d listed waters in basin (from Ecology web site)	S 3.1, S 3.2	
Screen capture of list of TMDL's for WRIA in which unit is found (from web)	S 3.3	

Wetland name or number A

HGM Classification of Wetland Units in Eastern Washington

For questions 1-4 the criteria described must apply to the entire unit being rated for it to be classified correctly.

If the hydrologic criteria listed in each question do not apply to the entire unit being rated, you probably have a unit with multiple HGM classes. In this case, identify which hydrologic criteria in questions 1-4 apply, and go to Question 5.

1. Does the entire wetland unit **meet both** of the following criteria?

___The vegetated part of the wetland is on the water side of the Ordinary High Water Mark of a body of permanent open water (without any plants on the surface) that is at least 20 acres (8 ha) in size

___At least 30% of the open water area is deeper than 10 ft (3 m)

NO – go to 2 **YES –** The wetland class is **Lake-fringe (Lacustrine Fringe)**

2. Does the entire wetland unit **meet all** of the following criteria?

___The wetland is on a slope (*slope can be very gradual*),

___The water flows through the wetland in one direction (unidirectional) and usually comes from seeps. It may flow subsurface, as sheetflow, or in a swale without distinct banks.

___Does the water leaves the wetland **without being impounded**?

NOTE: Surface water does not pond in these type of wetlands except occasionally in very small and shallow depressions or behind hummocks (depressions are usually <3ft diameter and less than 1 foot deep).

NO - go to 3 YES – The wetland class is **Slope**

3. Does the entire wetland unit **meet all** of the following criteria?

___The unit is in a valley, or stream channel, where it gets inundated by overbank flooding from that stream or river

___The overbank flooding occurs at least once every ten years.

NOTE: The riverine unit can contain depressions that are filled with water when the river is not flooding.

NO - go to 4 YES – The wetland class is **Riverine**

4. Is the entire wetland unit in a topographic depression in which water ponds, or is saturated to the surface, at some time during the year. *This means that any outlet, if present, is higher than the interior of the wetland.*

NO – go to 5 YES – The wetland class is **Depressional**

5. Your wetland unit seems to be difficult to classify and probably contains several different HGM classes. For example, seeps at the base of a slope may grade into a riverine floodplain, or a small stream within a depressional wetland has a zone of flooding along its sides. IDENTIFY WHICH OF THE HYDROLOGIC REGIMES DESCRIBED IN QUESTIONS 1-7 APPLY TO DIFFERENT AREAS IN THE UNIT (make a rough sketch to help you decide). Use the following table to identify the appropriate class to use for the rating system if you have several HGM

classes present within your wetland. NOTE: Use this table only if the class that is recommended in the second column represents 10% or more of the total area of the wetland unit being rated. If the area of the HGM class listed in column 2 is less than 10% of the unit; classify the wetland using the class that represents more than 90% of the total area.

HGM Classes within the wetland unit being rated	HGM Class to Use in Rating
Slope + Riverine	Riverine
Slope + Depressional	Depressional
Slope + Lake-fringe	Lake-fringe
Depressional + Riverine (the riverine portion is within the boundary of depression)	Depressional
Depressional + Lake-fringe	Depressional
Riverine + Lake-fringe	Riverine

If you are unable still to determine which of the above criteria apply to your wetland, or if you have more than 2 HGM classes within a wetland boundary, classify the wetland as ***Depressional*** *for the rating.*

Wetland name or number A

RIVERINE WETLANDS **Water Quality Functions** - Indicators that site functions to improve water quality	Points (only 1 score per box)
R 1.0 Does the wetland unit have the potential to improve water quality?	
R 1.1 Area of surface depressions within the riverine wetland that can trap sediments during a flooding event Depressions cover >1/3 area of wetland — points = 6 Depressions cover > 1/10 area of wetland — points = 3 Depressions present but cover < 1/10 area of wetland — points = 1 No depressions present — points = 0	6
R 1.2 Structure of plants in the unit (areas with >90% cover at person height; **not** Cowardin classes): Forest or shrub > 2/3 the area of the wetland — points = 10 Forest or shrub 1/3 – 2/3 area of the wetland — points = 5 Ungrazed, herbaceous plants > 2/3 area of wetland — points = 5 Ungrazed herbaceous plants 1/3 – 2/3 area of wetland — points = 2 Forest, shrub, and ungrazed herbaceous < 1/3 area of wetland — points = 0	5
Total for R1 — Add the points in the boxes above	11

Rating of Site Potential **If score is:** **12 – 16 = H** **6 - 11 = M** **0 - 5 = L**
Record the rating on the first page

R 2.0 Does the landscape have the potential to support the water quality function at the site?		
R 2.1 Is the unit within an incorporated city or within its UGA?	Yes = 2 No = 0	0
R. 2.2 Does the contributing basin include a UGA or incorporated area?	Yes = 1 No = 0	1
R 2.3 Does at least 10% of the contributing basin contain tilled fields, pastures, or forests that have been clearcut within the last 5 years?	Yes = 1 No = 0	0
R 2.4 Is > 10% of the buffer within 150 ft of wetland unit in land uses that generate pollutants	Yes = 1 No = 0	0
R 2.5 Are there other sources of pollutants coming into the wetland that are not listed in questions R 2.1 – R 2.4? Source_____	Yes = 1 No = 0	0
Total for R 2 — Add the points in the boxes above		1

Rating of Landscape Potential **If score is:** **3 – 6 = H** **1 or 2 = M** **0 = L**
Record the rating on the first page

R 3.0 Is the water quality improvement provided by the site valuable to society?		
R 3.1 Is the unit along a stream or river that is on the 303 d list or on a tributary that drains to one?	Yes = 1 No = 0	C
R 3.2 Does the river on stream have TMDL limits for nutrients, toxics, or pathogens?	Yes = 1 No = 0	0
R 3. Has the site been identified in a watershed or local plan as important for maintaining water quality? (*answer YES if there is a TMDL for the drainage in which unit is found*)	Yes = 2 No = 0	C
Total for R 3 — Add the points in the boxes above		1

Rating of Value: **If score is:** **2 – 4 = H** **1 = M** **0 = L**
Record the rating on the first page

Wetland name or number A

RIVERINE WETLANDS **Hydrologic Functions** - Indicators that site functions to reduce flooding and stream erosion		Points (only 1 score per box)
R 4.0 Does the wetland unit have the potential to reduce flooding and erosion?		
R 4.1 Characteristics of the overbank storage the unit provides: *Estimate the average width of the wetland unit perpendicular to the direction of the flow and the width of the stream or river channel (distance between banks). Calculate the ratio: (average width of unit)/(average width of stream between banks).* If the ratio is more than 2 If the ratio is between 1 – 2 If the ratio is ½ - <1 If the ratio is ¼ - < ½ If the ratio is < ¼	points = 10 points = 8 points = 4 points = 2 points = 1	10
R 4.2 Characteristics of plants that slow down water velocities during floods: *Treat large woody debris as "forest or shrub". Choose the points appropriate for the best description.* (polygons need to have >90% cover at person height NOT Cowardin classes): Forest or shrub for more than 2/3 the area of the wetland. Forest or shrub for >1/3 area OR herbaceous plants > 2/3 area Forest or shrub for > 1/10 area OR herbaceous plants > 1/3 area Plants do not meet above criteria	points = 6 points = 4 points = 2 points = 0	4
Total for R 5	Add the points in the boxes above	14

Rating of Site Potential **If score is:** **12 – 16 = H** **6 - 11 = M** **0 - 5 = L**
Record the rating on the first page

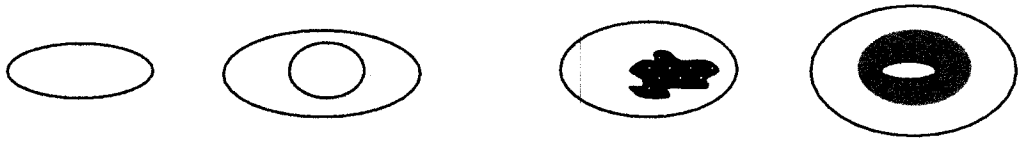
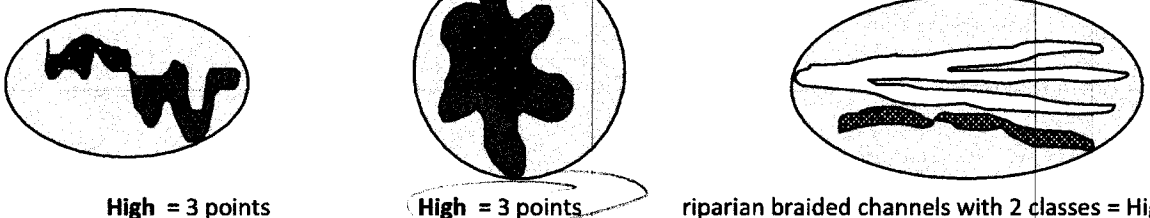
R 5.0 Does the landscape have the potential to support the hydrologic functions at the site?		
R5.1 Is the stream/river adjacent to the unit downcut?	Yes = 0 No = 1	1
R 5.2 Does the upgradient watershed include a UGA or incorporated area?	Yes = 1 No = 0	1
R 5.3 Is The upgradient stream or river controlled by dams?	Yes = 0 No = 1	1
Total for R 5	Add the points in the boxes above	3

Rating of Landscape Potential **If score is:** **3 = H** **1 or 2 = M** **0 = L**
Record the rating on the first page

R 6.0 Are the hydrologic functions provided by the site valuable to society?		
R 6.1 Distance to the nearest areas downstream that have flooding problems? *Choose the description that best fits the site.* The sub-basin immediately down-gradient of site has surface flooding problems that results in damage to human or natural resources Surface flooding problems are in a basin further down-gradient No flooding problems anywhere downstream	points = 2 points = 1 points = 0	1
R 6.2 Has the site has been identified as important for flood storage or flood conveyance in a regional flood control plan?	Yes = 2 No = 0	0
Total for R 6	Add the points in the boxes above	1

Rating of Value **If score is** **2 – 4 = H** **1 = M** **0 = L**
Record the rating on the first page

Wetland name or number A

These questions apply to wetlands of all HGM classes. **HABITAT FUNCTIONS** - Indicators that site functions to provide important habitat	(only 1 score per box)
H 1. Does the wetland unit have the potential to provide habitat for many species?	
H 1.1 Categories of vegetation structure *Check the Cowardin vegetation classes present and categories of emergent plants. Size threshold for each category is >= ¼ acre or >= 10% of the unit if unit is < 2.5 acres* ____Emergent plants 0-12 in. (0 – 30 cm) high are the highest layer and have > 30% cover ____Emergent plants >12 – 40 in.(>30 – 100cm) high are the highest layer with >30% cover ____Emergent plants > 40 in.(> 100cm) high are the highest layer with >30% cover ____Scrub/shrub (areas where shrubs have >30% cover) 4-6 checks points = 3 ____Forested (areas where trees have >30% cover) 3 checks points = 2 2 checks points = 1 1 check points = 0	3
H 1.2. Is one of the vegetation types "aquatic bed?" YES = 1 point NO = 0 points	0
H 1.3. Surface Water H 1.3.1 Does the unit have areas of "open" water (without herbaceous or shrub plants) over at least ¼ acre **OR** 10% of its area during the March to early June **OR** in August to the end of September? *Note: answer YES for Lake-fringe wetlands* YES = 3 points & **go to H 1.4** NO = go to H 1.3.2 H 1.3.2 Does the unit have an intermittent or permanent, and unvegetate,d stream within its boundaries, or along one side, over at least ¼ acre or 10% of its area, (*answer yes only if H 1.3.1 is NO*)? YES = 3 points NO = 0 points	3
H 1.4. Richness of Plant Species Count the number of plant species in the wetland that cover at least 10 ft^2. (*different patches of the same species can be combined to meet the size threshold)* *You do not have to name the species.* *Do not include Eurasean Milfoil, reed canarygrass, purple loosestrife, Russian Olive, Phragmites, Canadian Thistle, Yellow-flag Iris, and Salt Cedar (Tamarisk)* # of species ____ Scoring: > 9 species = 2 points 4-9 species = 1 point < 4 species = 0 points	2
H 1.5. Interspersion of habitats Decide from the diagrams below whether interspersion between types of plant structures (described in H 1.1), and unvegetated areas (open water or mudflats) is high, medium, low, or none. *Use map of Cowardin plant classes prepared for questions H1.1 and map of open water from H1.3*  **None** = 0 points **Low** = 1 point **Moderate** = 2 points  **High** = 3 points **High** = 3 points riparian braided channels with 2 classes = High NOTE: If you have four or more classes or three plants classes and open water the rating is always "high".	Figure__ 3

Wetland name or number A

H 1.6. Special Habitat Features: *Check the habitat features that are present in the wetland unit. The number of checks is the score.* ✓ Loose rocks larger than 4" **or** large, downed, woody debris (>4in. diameter) within the area of surface ponding or in stream. ✓ Cattails or bulrushes are present within the unit. ✓ Standing snags (diameter at the bottom > 4 inches) in the wetland unit or within 30 m (100ft) of the edge. ___ Emergent or shrub vegetation in areas that are permanently inundated/ponded. ✓ Stable steep banks of fine material that might be used by beaver or muskrat for denning (>45 degree slope) OR signs of recent beaver activity ___ Invasive species cover less than 20% in each stratum of vegetation *(canopy, sub-canopy, shrubs, herbaceous, moss/ground cover)* *Maximum score possible = 6*	4
H 1. TOTAL Score - Add the check marks in the box above	15

Rating of Site Potential **If score is:** **12 – 16 = H** **6 - 11 = M** **0 - 5 = L**
Record the rating on the first page

H 2.0 . Does the landscape have the potential to support habitat at the site?	
H 2.1 Accessible habitat (only area of habitat abutting wetland unit). *Calculate:* % undisturbed habitat 10 + [(% moderate and low intensity land uses)/2] 36 = 28 % If total accessible habitat is: > 1/3 (33.3%) of 1km circle (~100 hectares) points = 3 20 - 33% of 1km circle **points = 2** 10- 19% of 1km circle points = 1 <10% of 1km circle points = 0	2
H2.2 Undisturbed habitat in 1km circle around unit. If: Undisturbed habitat > 50% of circle points = 3 Undisturbed habitat 10 - 50% and in 1-3 patches **points = 2** Undisturbed habitat 10 - 50% and > 3 patches points = 1 Undisturbed habitat < 10% of circle points = 0	2
H2.3 Land use intensity in 1 km circle. If: > 50% of circle is high intensity land use points = (- 2) Does not meet criterion above **points = 0**	0
H 2.4 ☐ The wetland unit is in an area where annual rainfall is less than 12 inches, and its water regime is not influenced by irrigation practices, dams, or water control structures. *(Generally, this means outside boundaries of reclamation areas, irrigation district, or reservoirs)* points = 3	0
Total for H 2 Add the points in the boxes above	4

Rating of Landscape Potential **If score is:** **4- 6 = H** **1-3 = M** **< 1 = L**
Record the rating on the first page

H 3.0 Is the Habitat provided by the site valuable to society?	
H3.1Does the site provides habitat for species valued in laws, regulations or policies? *(choose the highest score)* Site meets ANY of the following criteria: points = 2 ___It provides habitat for Threatened or Endangered species (any plant or animal on state or federal lists) ___It is a "priority area" for an individual WDFW species ___It is a Wetland With a High Conservation Value as determined by the Department of Natural Resources ___It has 3 or more priority habitats within 100m (see Appendix B) ___It has been categorized as an important habitat site in a local or regional comprehensive plan, in a Shoreline Master Plan, or in a watershed plan Site has 1 or 2 priority habitats within 100m (see Appendix B) **points = 1** Site does not meet any of the criteria above points = 0	1

Rating of Value **If score is:** **2 = H** **1 = M** **0 = L**
Record the rating on the first page

Wetland name or number 1

CATEGORIZATION BASED ON SPECIAL CHARACTERISTICS

Please determine if the wetland unit meets the attributes described below and circle the appropriate Category. NOTE: A wetland may meet the criteria for more than one set of special characteristics. Record all those that apply. NOTE: All units should also be characterized based on their functions.

Wetland Type *Check off any criteria that apply to the wetland. Circle the Category when the appropriate criteria are met.*	Category
SC 1.0 Vernal pools Is the wetland unit **less than 4000 ft²**, and does it meet at least **two** of the following criteria? — Its only source of water is rainfall or snowmelt from a small contributing basin and has no groundwater input — Wetland plants are typically present only in the spring; the summer vegetation is typically upland annuals. *NOTE: If you find perennial, "obligate", wetland plants the wetland is probably NOT a vernal pool* — The soil in the wetland are shallow (<1ft deep (30 cm)) and is underlain by an impermeable layer such as basalt or clay. — Surface water is present for less than 120 days during the "wet" season. YES = Go to SC 1.1 NO - *not a vernal pool* SC 1.1 Is the vernal pool relatively undisturbed in February and March? YES = Go to SC 1.2 NO – *not a vernal pool with special characteristics*	
SC 1.2 Is the vernal pool in an area where there are at least 3 separate aquatic resources within 0.5 miles (other wetlands, rivers, lakes etc.)? YES = Category II NO = Category III	**Cat. II** **Cat. III**
SC 2.0 Alkali wetlands Does the wetland unit meets **one** of the following two criteria? — The wetland has a conductivity > 3.0 mS/cm. — The wetland has a conductivity between 2.0 - 3.0 mS, and more than 50% of the plant cover in the wetland can be classified as "alkali" species (see Table 4 for list of plants found in alkali systems). — If the wetland is dry at the time of your field visit, the central part of the area is covered with a layer of salt. **OR** does the wetland unit meets two of the following three sub-criteria? — Salt encrustations around more than 80% of the edge of the wetland — More than ¾ of the plant cover consists of species listed on Table 4 — A pH above 9.0. All alkali wetlands have a high pH, but please note that some freshwater wetlands may also have a high pH. Thus, pH alone is not a good indicator of alkali wetlands. **YES = Category I** NO – *not an alkali wetland*	**Cat. I**

Wetland name or number_____

SC 3.0 Wetlands with High Conservation Value (WHCV) SC 2.1 Has the Department of Natural Resources updated their web site to include the list of Wetlands with High Conservation Value? YES - Go to SC 2.2 NO – Go to SC 2.3 SC 2.2 Is the wetland unit you are rating listed on the DNR database as having a High Conservation Value? YES = Category I NO = not a WHCV SC 2.3 Is the wetland unit being rated in a Section/Township/Range that contains a Natural Heritage wetland? http://www1.dnr.wa.gov/nhp/refdesk/datasearch/wnhpwetlands.pdf YES____ – contact WNHP/DNR and go to SC 2.4 NO = not a WHCV SC 2.4 Has DNR identified the wetland within the S/T/R as a wetland with High Conservation value and is listed on their web site? YES = Category I NO ____not an WHCV	**Cat. I**
SC 4.0 Bogs and Calcareous Fens Does the wetland unit (or any part of the wetland unit) meet both the criteria for soils and vegetation in bogs or calcareous fens. *Use the key below to identify if the wetland is a bog or calcareous fen. If you answer yes you will still need to rate the wetland based on its functions.* SC 4.1. Does an area within the wetland unit have organic soil horizons (i.e. layers of organic soil), either peats or mucks, that compose 16 inches or more of the first 32 inches of the soil profile? (See Appendix C for a field key to identify organic soils)? Yes - go to SC 4.3 No - go to SC 4.2 SC 4.2. Does an area within the unit have organic soils, either peats or mucks that are less than 16 inches deep over bedrock or an impermeable hardpan such as clay or volcanic ash, or that are floating on top of a lake or pond?? Yes - go to SC 4.3 No - *Is not a bog for rating* SC 4.3. Does an area within the unit have more than 70% cover of mosses at ground level AND at least 30% of the total plant cover consists of species in Table 5? Yes – Category I bog No - go to SC 4.4 *NOTE: If you are uncertain about the extent of mosses in the understory you may substitute that criterion by measuring the pH of the water that seeps into a hole dug at least 16" deep. If the pH is less than 5.0 and the plant species in Table 5 are present, the wetland is a bog.* SC 4.4 Is an area with peats or mucks forested (> 30% cover) with subalpine fir, western red cedar, western hemlock, lodgepole pine, quaking aspen, Englemann's spruce, or western white pine, AND any of the species (or combination of species) listed in Table 5 provide more than 30% of the cover under the canopy **Yes – Category I bog** NO – go to question SC 4.5 **5.** Do the species listed in Table 6 comprise at least 20% of the total plant cover within an area of peats and mucks? Yes – Is a Calcareous Fen for purpose of rating No - go to Question 6 6. Do the species listed in Table 6 comprise at least 10% of the total plant cover an area of peats and mucks, AND one of the two following conditions is met: • Marl deposits (calcium carbonate (CaCO3) precipitate) occur on the soil surface or plant stems • The pH of free water ≥ 6.8 AND electrical conductivity ≥ 200 uS/cm at multiple locations within the wetland **Yes – Is a Category I calcareous fen** No - Is not a calcareous fen	**Cat. I** **Cat. I**

Wetland name or number_____

SC 5.0 Forested Wetlands Does the wetland unit have an area of forest rooted within its boundary that meets **at least one** of the following three criteria? (*Continue only if you have identified a forested class is present in question H 1.1*) • The wetland is within the "100 year" floodplain of a river or stream • aspen (*Populus tremuloides*) represents at least 20% of the total cover of woody species — There is at least ¼ acre of trees (even in wetlands smaller than 2.5 acres) that are "mature" or "old-growth" according to the definitions for these priority habitats developed by WDFW *(see definitions in question H3.1)* YES = go to SC 5.1 NO –*not a forested wetland with special characteristics*	
SC 5.1 Does the wetland unit have a forest canopy where more than 50% of the tree species (by cover) are slow growing native trees (*see Table 7*) YES = Category I NO = go to SC 5.2	**Cat. I**
SC 5.2 Does the unit have areas where aspen (*Populus tremuloides*) represents at least 20% of the total cover of woody species. YES = Category I NO = go to SC 5.3	**Cat. I**
SC 5.3 Does the wetland unit have areas with a forest canopy where more than 50% of the tree species (by cover) are fast growing species. (*see Table 7*) YES = Category II NO = go to SC 5.5	**Cat. II**
SC 5.4 Is the forested component of the wetland within the "100 year floodplain" of a river or stream? YES = Category II	**Cat. II**
Category of wetland based on Special Characteristics *Choose the "highest" rating if wetland falls into several categories.* If you answered NO for all types enter "Not Applicable" on p.1	II

Wetland name or number_____

Appendix B: WDFW Priority Habitats in Eastern Washington

Priority habitats listed by WDFW (see complete descriptions of WDFW priority habitats, and the counties in which they can be found, in: Washington Department of Fish and Wildlife. 2008. Priority Habitat and Species List. Olympia, Washington. 177 pp. http://wdfw.wa.gov/publications/00165/wdfw00165.pdf)

Count how many of the following priority habitats are within 330 ft (100m) of the wetland unit? *NOTE: This question is independent of the land use between the wetland unit and the priority habitat.*

___**Aspen Stands:** Pure or mixed stands of aspen greater than 0.4 ha (1 acre).

___**Biodiversity Areas and Corridors**: Areas of habitat that are relatively important to various species of native fish and wildlife (*full descriptions in WDFW PHS report p. 152*).

___**Old-growth/Mature forests:** Old-growth east of Cascade crest: Stands are highly variable in tree species composition and structural characteristics due to the influence of fire, climate, and soils. In general, stands will be >150 years of age, with 25 trees/ha (10 trees/acre) that are > 53 cm (21 in) dbh, and 2.5-7.5 snags/ha (1 – 3 snags/acre) that are > 30-35 cm (12-14 in) diameter. Downed logs may vary from abundant to absent. Canopies may be single or multi-layered. Evidence of human-caused alterations to the stand will be absent or so slight as to not affect the ecosystem's essential structures and functions. Mature forests: Stands with average diameters exceeding 53 cm (21 in) dbh; crown cover may be less than 100%; decay, decadence, numbers of snags, and quantity of large downed material is generally less than that found in old-growth; 80 - 200 years old west and 80 - 160 years old east of the Cascade crest.

___**Oregon white Oak:** Woodlands Stands of pure oak or oak/conifer associations where canopy coverage of the oak component is important (*full descriptions in WDFW PHS report p. 158 – see web link above*).

___**Riparian**: The area adjacent to aquatic systems with flowing water that contains elements of both aquatic and terrestrial ecosystems which mutually influence each other.

___**Instream:** The combination of physical, biological, and chemical processes and conditions that interact to provide functional life history requirements for instream fish and wildlife resources.

___**Caves:** A naturally occurring cavity, recess, void, or system of interconnected passages under the earth in soils, rock, ice, or other geological formations and is large enough to contain a human.

___**Cliffs:** Greater than 7.6 m (25 ft) high and occurring below 5000 ft.

___**Talus:** Homogenous areas of rock rubble ranging in average size 0.15 - 2.0 m (0.5 - 6.5 ft), composed of basalt, andesite, and/or sedimentary rock, including riprap slides and mine tailings. May be associated with cliffs.

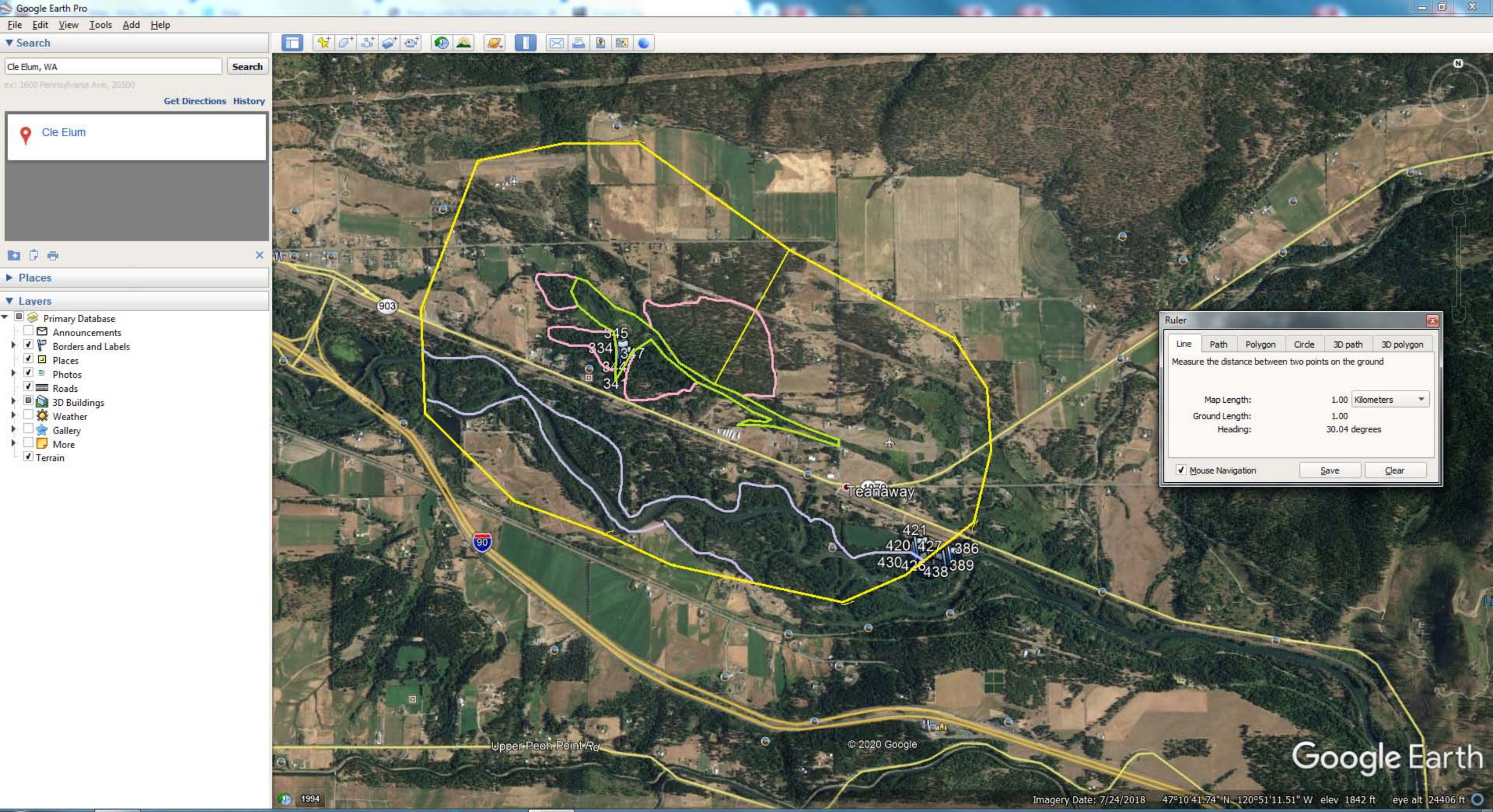
___**Snags and Logs:** Trees are considered snags if they are dead or dying and exhibit sufficient decay characteristics to enable cavity excavation/use by wildlife. Priority snags have a diameter at breast height of > 51 cm (20 in) in western Washington and are > 2 m (6.5 ft) in height. Priority logs are > 30 cm (12 in) in diameter at the largest end, and > 6 m (20 ft) long.

___**Shrub-steppe:** A nonforested vegetation type consisting of one or more layers of perennial bunchgrasses and a conspicuous but discontinuous layer of shrubs (see Eastside Steppe for sites with little or no shrub cover).

___**Eastside Steppe:** Nonforested vegetation type dominated by broadleaf herbaceous flora (i.e., forbs), perennial bunchgrasses, or a combination of both. Bluebunch Wheatgrass (Pseudoroegneria spicata) is often the prevailing cover component along with Idaho Fescue (Festuca idahoensis), Sandberg Bluegrass (Poa secunda), Rough Fescue (F. campestris), or needlegrass (Achnatherum spp.).

___ **Juniper Savannah:** All juniper woodlands.

Note: All vegetated wetlands are by definition a priority habitat but are not included in this list because they are addressed elsewhere.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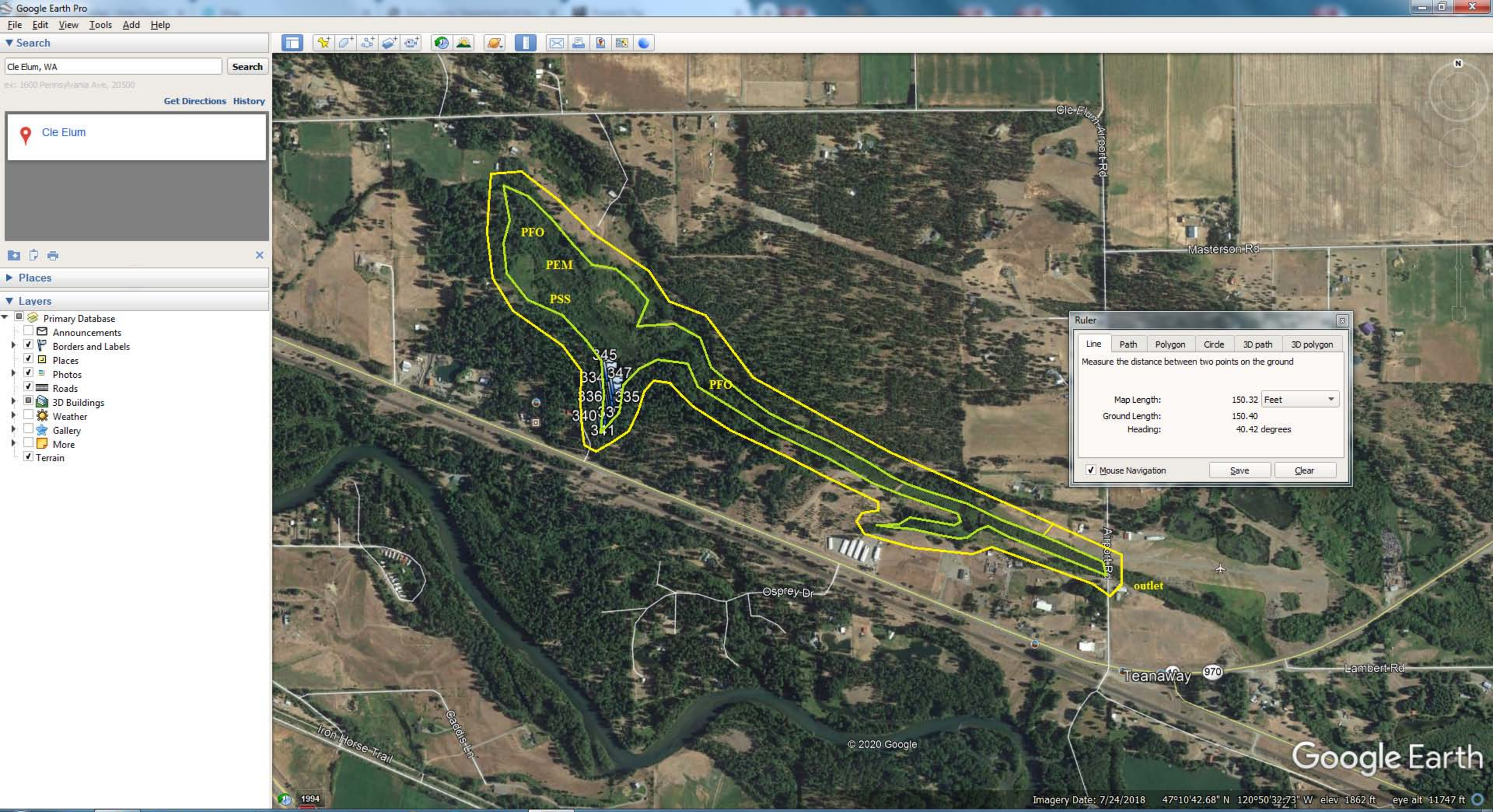
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outlet
Ruler
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Polygon
Circle
3D path
3D polygon
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Map Length: 150.32 Feet
Ground Length: 150.40
Heading: 40.42 degrees
Mouse Navigation
Save
Clear
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Airport Rd
Osprey Dr
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Lambert Rd
Iron Horse Trail
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Google Earth
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King County iMap - King County | Assessment of state waters 303d | Water Quality Atlas Map Page

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DEPARTMENT OF ECOLOGY State of Washington

Washington State Water Quality Atlas

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Legend | Filter Data | Zoom To | Tools

Add or remove map data

Assessed Waters/Sediment

Water

- Category 5 - 303d
- Category 4C
- Category 4B
- Category 4A
- Category 2
- Category 1

Sediment

- Category 5 - 303d
- Category 4C
- Category 4B
- Category 4A
- Category 2
- Category 1

WQ Standards

Load Allocation (LA Points)

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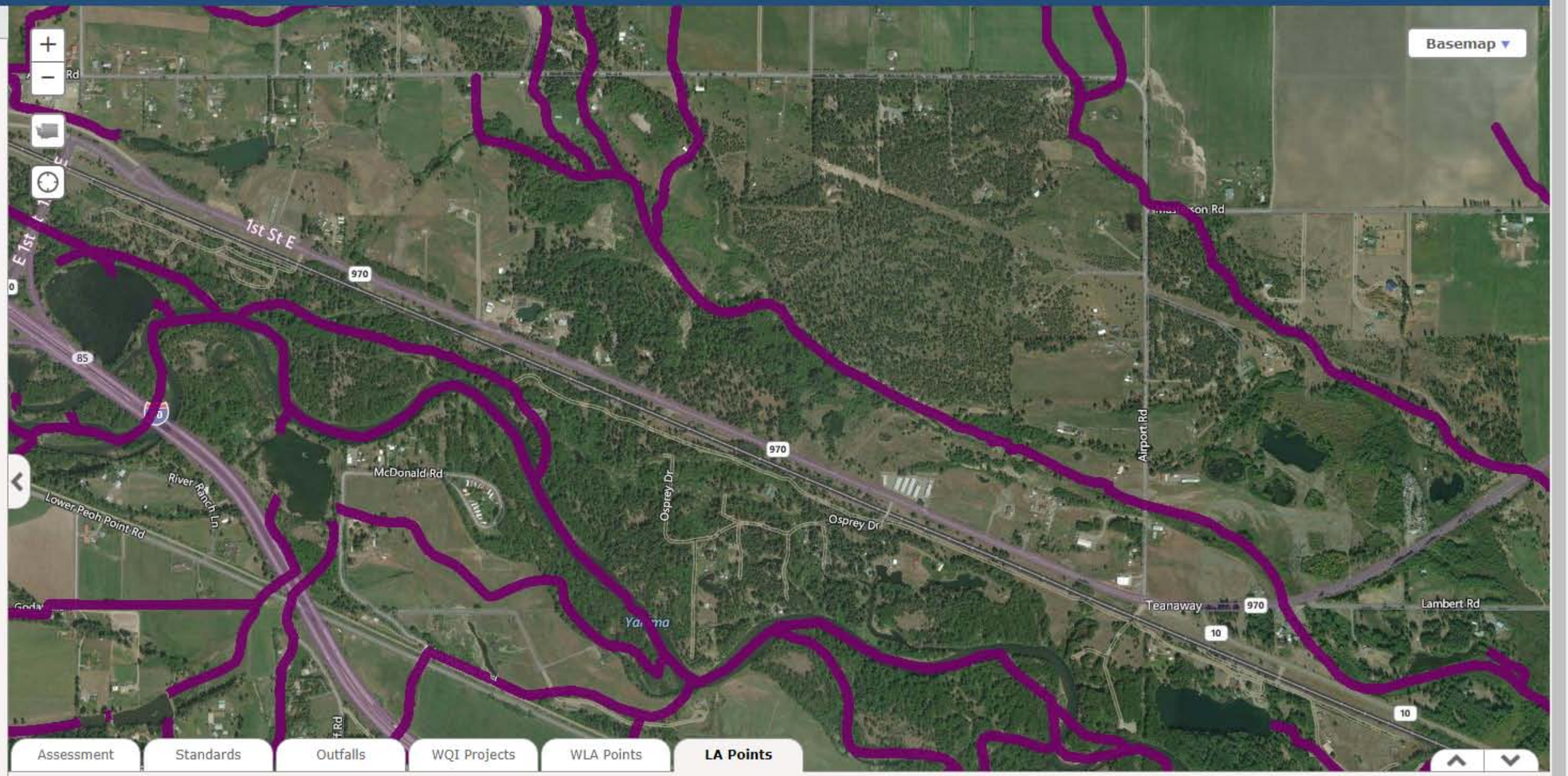

Assessment | Standards | Outfalls | WQI Projects | WLA Points | **LA Points**

Zoom to selection

Find	Name	Target Parameter	Target Surrogate	LA Value	LA Statistic	Critical Period	WQ Goal Value	WQ Goal Statistic	Comments

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Previous Next

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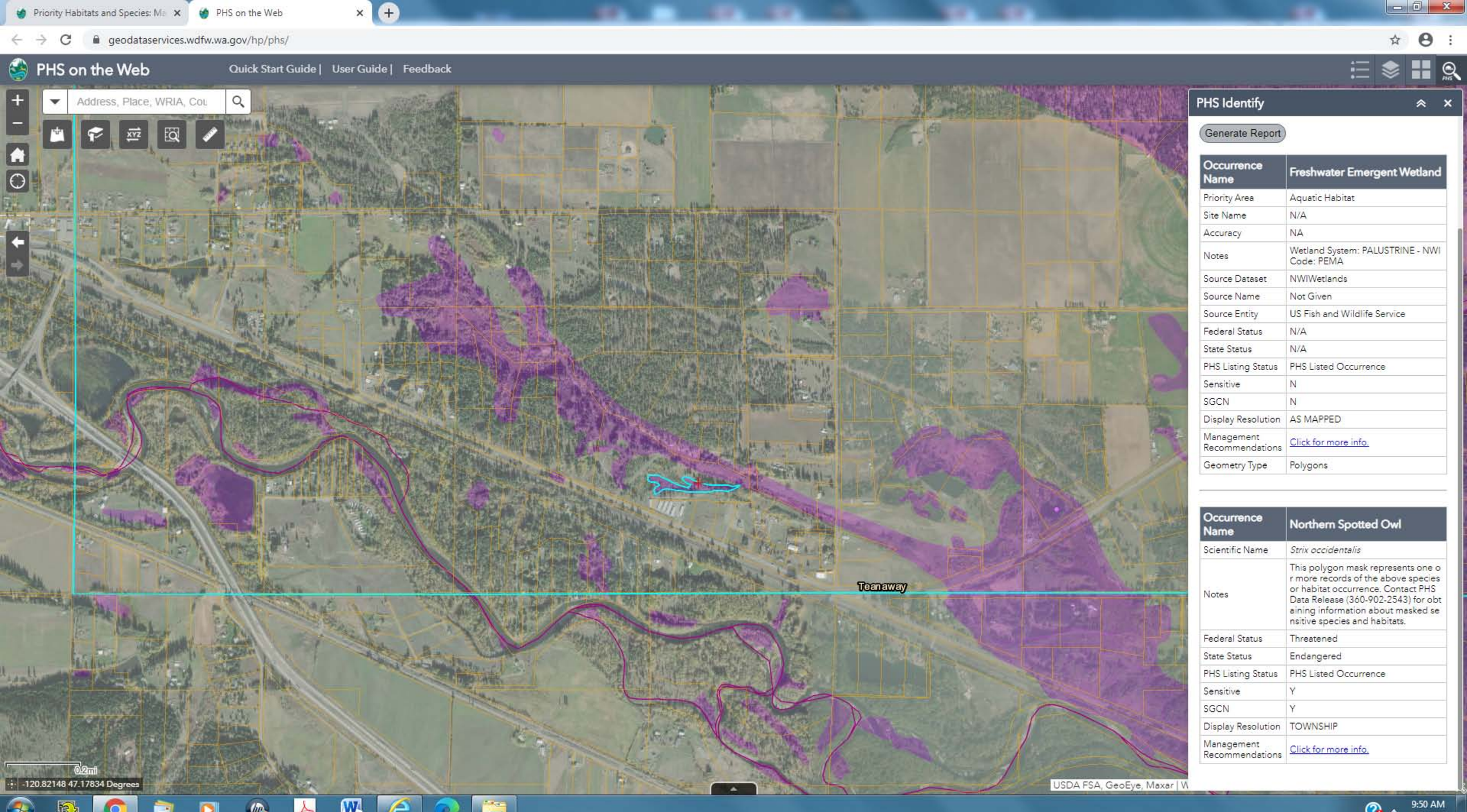
Priority Habitats and Species: Ma
PHS on the Web
geodataservices.wdfw.wa.gov/hp/phs/
PHS on the Web
Quick Start Guide | User Guide | Feedback
Address, Place, WRIA, Cou
PHS Identify
Generate Report
Occurrence Name
Freshwater Emergent Wetland
Priority Area
Aquatic Habitat
Site Name
N/A
Accuracy
NA
Notes
Wetland System: PALUSTRINE - NWI Code: PEMA
Source Dataset
NWIWetlands
Source Name
Not Given
Source Entity
US Fish and Wildlife Service
Federal Status
N/A
State Status
N/A
PHS Listing Status
PHS Listed Occurrence
Sensitive
N
SGCN
N
Display Resolution
AS MAPPED
Management Recommendations
Click for more info.
Geometry Type
Polygons
Occurrence Name
Northern Spotted Owl
Scientific Name
Strix occidentalis
Notes
This polygon mask represents one o r more records of the above species or habitat occurrence. Contact PHS Data Release (360-902-2543) for obt aining information about masked se nsitive species and habitats.
Federal Status
Threatened
State Status
Endangered
PHS Listing Status
PHS Listed Occurrence
Sensitive
Y
SGCN
Y
Display Resolution
TOWNSHIP
Management Recommendations
Click for more info.
Teanaway
0.2mi
-120.82148 47.17834 Degrees
USDA FSA, GeoEye, Maxar | W
9:50 AM
9/10/2020