

Sewall Wetland Consulting, Inc.

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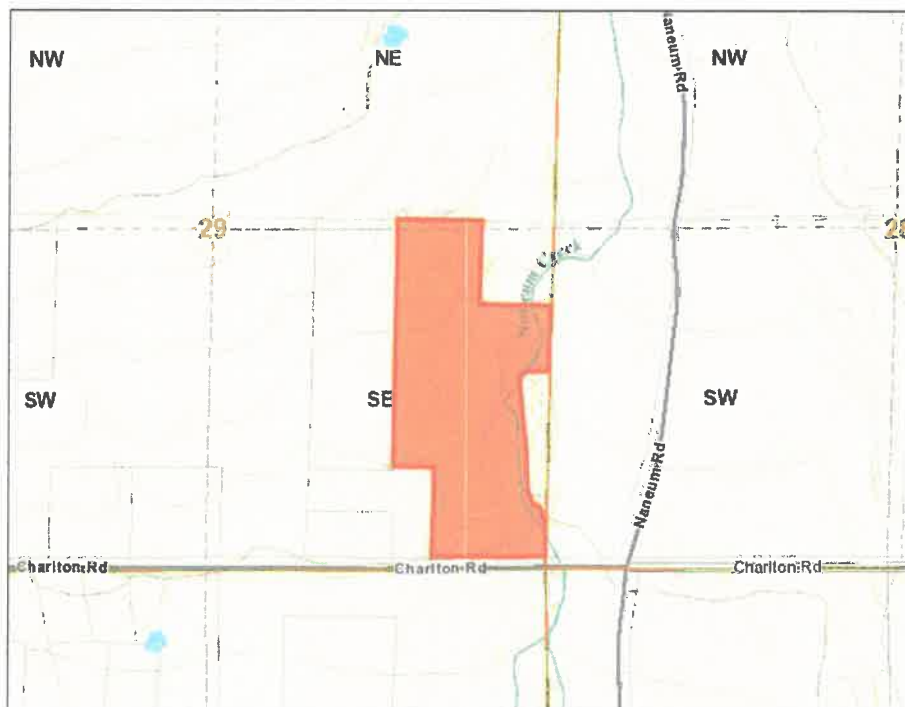
January 11, 2021

Leann Adams
Sweetwater Ranch
1371 Charlton Rd
Ellensburg, WA98926

RE: Critical Area Report – Parcel #558434
Kittitas County, Washington
SWC Job #19-191

Dear Leann,

This report describes our observations of any jurisdictional wetlands, streams and/or buffers on or within 200' of Parcel #558434, located at 13171 Charlton Road, in unincorporated Kittitas County, Washington (the "site"). The 58.83 acre site is within the SE ¼ of Section 29, Township 19 North, Range 19 East of the W.M.



Above: Vicinity Map of site



Above: Aerial photograph from Kittitas Mapsifter website.

METHODOLOGY

Ed Sewall of Sewall Wetland Consulting, Inc. inspected the site and within 200' of the site on November 20 and 22, 2019. The study area was limited to the area west of Naneum Creek and its un-named tributary, as a portion of the site is located east of Naneum Creek.

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 the 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).

Wetlands in the shoreline zone of Kittitas County are rated using the 2014 Washington State Department of Ecology Washington State *Wetland Rating System for Eastern Washington, 2014 Update* dated June 2014 Publication No. 14-06-018.

The ordinary high water mark (OHWM) of streams was located based upon the criteria described in the *Washington Department of Ecology draft publication Determining The Ordinary High Water Mark on Streams In Washington State* (WADOE Publication 08-06-001, March 2008).

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, WDNR Fpars Stream Typing Map, Kittitas County flood mapping, WDFW Priority Habitats and Species Maps, and the NRCS Soil Survey online mapping and Data.

National Wetlands Inventory (NWI)

The NWI map depicts a large forested and scrub shrub wetland along Naneum Creek on the eastern side of the site. There is also a pond type feature erroneously mapped where a large ponderosa pine is located in the southern pasture. All irrigation ditches on the site are erroneously shown as stream type features.

The USFWS data indicates this wetland was based on aerial photograph interpretation of a color infrared photograph from 2017 with no field

verification. Although some wetland is located within the forested areas along Naneum Creek, it is a much smaller area than incorrectly mapped in this inventory map which included all forested areas as wetland.



Above: NWI map of the area of the site

Soil Survey

According to the NRCS Soil Mapper website, the site is mapped as containing Weirman and Weirman-Kayak complex (moderately well drained) as well as Millhouse cobbly ashy loam which is a well-drained soil. Both of these soils are generally formed in alluvium and are not considered "hydric" soils according to the publication Hydric Soils of the United States (USDA NTCHS Pub No.1491, 1991).



Above: NRCS soil map of the site.

WADNR FPARS website

According to the WADNR FPARS website with stream types layers activated, Naneum Creek is depicted as a Type S water, and the small un-named tributary entering the Naneum from the northwest is depicted as a Type F water. In contrast to the inaccurate NWI map, this map correctly does not identify irrigation ditches on and near the site as streams.



Above: WDNR Fpars Stream Mapping of the area of the site.

Kittitas County Mapsifter – Flood Layer

The Kittitas County Mapsifter website depicts the 100 year floodplain as a narrow band along both Naneum Creek, and its un-named tributary.

WDFW Priority Habitats and Species Maps

The WDFW Priority Habitats and Species mapping for the site depicts the site located within a Township that contains breeding area for the Golden Eagle, as well as a “management buffer” for the Northern Spotted Owl, as

well as an area of regular concentrations of mule deer as well as shrub steppe (*entire township has pink shading*).



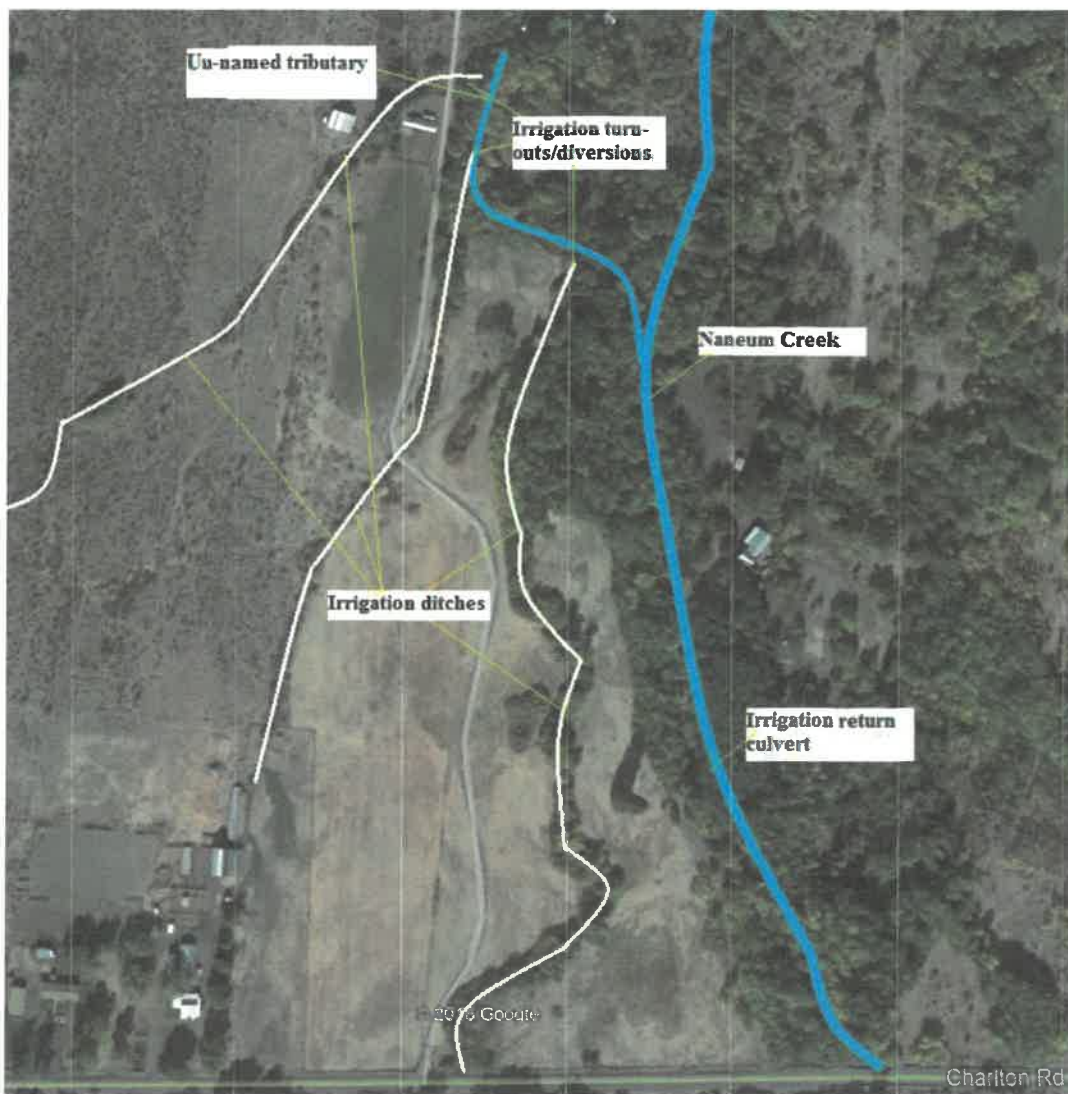
Above: Kittitas County Mapsifter Floodplain mapping.



Above : WDFW Priority Habitat Mapping of the site.

Field observations

The site consists of an agricultural property containing a gravel access road/driveway that provides access from Charlton Road, several agricultural buildings on the northwest side of the site, paddock areas and mowed hayfields. Several irrigation ditches diverted off the un-named tributary pass through the pasture areas of the site. These are noted in the image below.



Above: Map of the approximate location of the main irrigation features on the site.

Two creeks are located on the site, one, an –un-named tributary, enters the northern side of the site and passes south and east before entering Naneum Creek. There are two irrigation turnouts from this creek to the east of the horse barn which direct irrigation water through pipes and a ditch to off-site properties to the southwest, and to the southern portion of the site where irrigation waters are used to water the pastures. There is also a turnout approximately 200' west of the junction of Naneum Creek and the tributary. This area contains a rock dam across the tributary with a plastic liner where water is diverted to a dug ditch running along the edge of the tree-line to the south.

Naneum Creek is located along the eastern side of the site and is a well-defined channel oriented in a roughly north-south orientation. As previously mentioned, the un-named tributary enters Naneum Creek near the northern end of the site. Naneum Creek then drains south in a channel with approximately 6' tall banks to the south where it passes under a driveway access bridge before it reaches Charlton Road.

Although the area surrounding both of these creeks is depicted as wetland on the NWI maps, only a small portion of this area is wetland as described later in this report. Most of this area is upland elevated 4'-7' above the creek elevations and vegetated with a mix of scattered cottonwoods, ponderosa pine, Oregon grape, snowberry, and some dogwood.

Soils in this forested upland area consists of a dry, cobbly loam with soil colors of 10YR3/3-3/4 with no hydric soil indicators or evidence of wetland hydrology.

The pastures on the site are a mix of pasture grasses and weedy species including orchard grass, cheatgrass, knapweed, tumble mustard, English plantain, and timothy.

Soils in the pasture upland area consists of a dry, sandy, cobbly loam with soil colors of 10YR3/3 with no hydric soil indicators or evidence of wetland hydrology.

Wetlands

There are two small wetland areas located south of the un-named tributary and west of Naneum Creek within the forested area. These

wetlands are located within low areas that are probably inundated during flood events, particularly Wetland A which has a direct connection to Naneum Creek. Below is a description of these wetlands;

Wetland A

Wetland A is a narrow forested and scrub-shrub wetland that connects to Naneum Creeks western bank between OHWM flags W36 & W37 (*see attached survey map*). This wetland appears to backflood from Naneum Creek when water levels are high. The southern irrigation ditch that comes off the un-named tributary is located just west of portions of this wetland and it appears some seepage from this ditch, elevated about 6' above the wetland, also provides some hydrology to this area.

This wetland was flagged with pink flagging labeled A1-A33. Vegetation noted within this wetland includes black cottonwood, scattered red-osier dogwood, pacific willow, and unidentified sedge.

Soil pits excavated within this wetland area revealed a cobbly loam with a color of 10YR 2/2 with common, medium, distinct redoximorphic concentrations. Soils saturated at the surface during our non-growing season observation of the wetland.

Using the 2014 Washington State Department of Ecology Washington State *Wetland Rating System for Eastern Washington, 2014 Update* dated June 2014 Publication No. 14-06-018, and rating this wetland as a "riverine" wetland, this wetland scored a total of 21 points with 8 for habitat. This indicates a Category II wetland. Based upon Kittitas County Code Chapter 17B.05.020G.1, Category II wetlands for a low-moderate intensity land use have a 150' buffer measured from the wetland edge.

Wetland B

Wetland B is a small scrub shrub wetland located northeast of Wetland A but separated by a small area of upland. This wetland also appears to flood when the creeks on site are in flooding conditions and therefore was also reviewed as a riverine wetland. Wetland B is vegetated with a mix of red-osier dogwood, sedge and hedge nettle. This wetland was flagged with pink flags labeled B1-B13.

Soil pits excavated within this wetland area revealed a cobbly loam with a color of 10YR 2/2 with common, medium, distinct redoximorphic concentrations. Soils saturated at the surface during our non-growing season observation of the wetland.

Using the 2014 Washington State Department of Ecology Washington State *Wetland Rating System for Eastern Washington, 2014 Update* dated June 2014 Publication No. 14-06-018, and rating this wetland as a “riverine” wetland, this wetland scored a total of 21 points with 7 for habitat. This indicates a Category II wetland. Based upon Kittitas County Code Chapter 17B.05.020G.1, Category II wetlands for a low-moderate intensity land use have a 150’ buffer measured from the wetland edge.

Un-named Tributary

The western ordinary high water mark (OHWM) of the un-named tributary was delineated with blue flags W1-W26. The creek joins Naneum Creek at flag W26.

This creek is approximately 8’-10’ in width with a cobble and gravel substrate, has a somewhat modified channel which appears to have been channelized with numerous irrigation turnouts and one dam previously described, which blocks any fish migration in the channel.

WADNR has mapped this stream as a Type F water (see page 6 of this report. According to KCC 17B.05.020K-1, Type F waters have a 100’ buffer measured from the OHWM.

Naneum Creek

The western OHWM of Naneum Creek was flagged with blue flags W36-W46, which was the last flag placed by the wooden driveway bridge on the south end of the site. Naneum Creek is considered a Shoreline of the State or a Type 1/S water. Per KCC 17B.05.050.B.1, Shoreline streams have a 100’ buffer in areas designated “Rural Conservancy” as is the site.

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.

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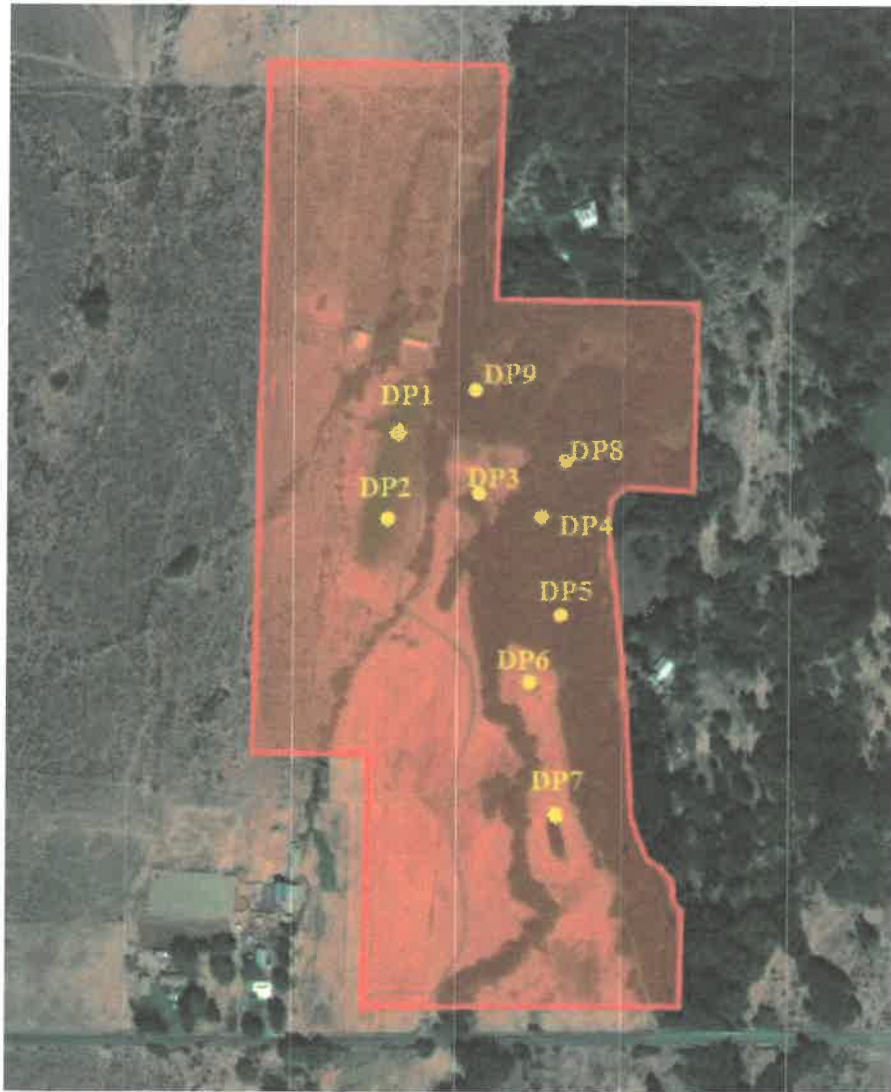
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National Technical Committee for Hydric Soils. 1991. Hydric Soils of the United States. USDA Misc. Publ. No. 1491.

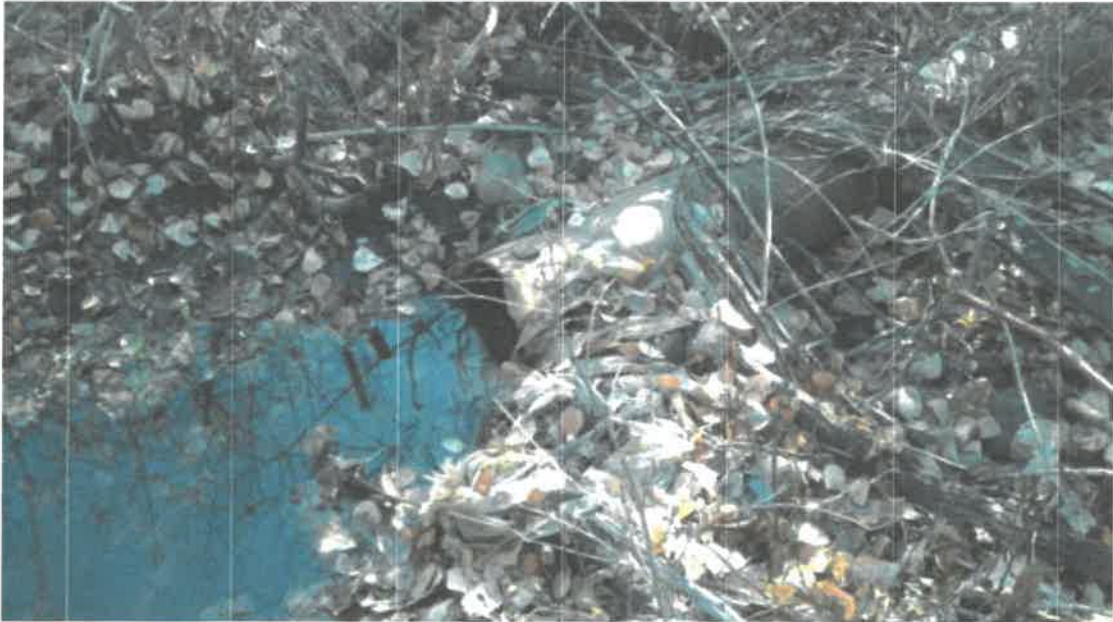
Reed, P., Jr. 1988. National List of Plant Species that Occur in Wetlands: Northwest (Region 9). 1988. U. S. Fish and Wildlife Service, Inland Freshwater Ecology Section, St. Petersburg, Florida.

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: Locations of data points.



Above and below: Irrigation diversions on un-named tributary





Above: Wetland A

Below: Pasture area looking north just east of wooded area containing wetland A & B





*Above: Looking north towards horse barn.
Below: Looking south across horse pasture south of barn.*





*Above: looking north across horse pasture.
Below: Un-named tributary*





Above: Un-named tributary.

Below: Irrigation diversion dam on Un-named tributary





Above: Naneum Creek

Below: Looking north at Naneum Creek where Un-named tributary (on left) joins the main stem of the creek.





CRAIG PROPERTIES
SEC. 23, T. 19 N., R. 19 E., W.M.

TPN 205736

TPN 558434

TPN 558434

CHARLOTTE ROAD



Pasture on west
by horse barn

WETLAND DETERMINATION DATA FORM – Arid West Region

Project/Site: Sweetwater Tract City/County: WY/Teton Sampling Date: 11-22-19
 Applicant/Owner: _____ State: _____ Sampling Point: DP#1
 Investigator(s): Ed Scowell 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 <input checked="" type="checkbox"/>	Is the Sampled Area within a Wetland?	Yes _____ No <input checked="" type="checkbox"/>
Hydric Soil Present?	Yes _____ No <input checked="" type="checkbox"/>		
Wetland Hydrology Present?	Yes _____ No <input checked="" type="checkbox"/>		
Remarks:			

VEGETATION

Tree Stratum (Use scientific names.)	Absolute % Cover	Dominant Species?	Indicator Status	Dominance Test worksheet:	
1. _____	_____	_____	_____	Number of Dominant Species That Are OBL, FACW, or FAC:	<u>0</u> (A)
2. _____	_____	_____	_____	Total Number of Dominant Species Across All Strata:	<u>2</u> (B)
3. _____	_____	_____	_____	Percent of Dominant Species That Are OBL, FACW, or FAC:	<u>0</u> (A/B)
4. _____	_____	_____	_____	Prevalence Index worksheet:	
Total Cover: _____				Total % Cover of:	Multiply by:
Sapling/Shrub Stratum				OBL species _____	x 1 = _____
1. _____	_____	_____	_____	FACW species _____	x 2 = _____
2. _____	_____	_____	_____	FAC species _____	x 3 = _____
3. _____	_____	_____	_____	FACU species _____	x 4 = _____
4. _____	_____	_____	_____	UPL species _____	x 5 = _____
5. _____	_____	_____	_____	Column Totals:	(A) _____ (B) _____
Total Cover: _____				Prevalence Index = B/A = _____	
Herb Stratum				Hydrophytic Vegetation Indicators:	
1. <u>Centaurea spp</u>	<u>30</u>	<u>NI</u>	<u>NI</u>	___ Dominance Test is >50%	
2. <u>Plantago lanceolata</u>	<u>5</u>	<u>FAC</u>	<u>FAC</u>	___ Prevalence Index is ≤3.0 ¹	
3. _____	_____	_____	_____	___ Morphological Adaptations ¹ (Provide supporting data in Remarks or on a separate sheet)	
4. _____	_____	_____	_____	___ Problematic Hydrophytic Vegetation ¹ (Explain)	
5. _____	_____	_____	_____	___ Indicators of hydric soil and wetland hydrology must be present.	
6. _____	_____	_____	_____	Hydrophytic Vegetation Present? Yes _____ No <input checked="" type="checkbox"/>	
7. _____	_____	_____	_____		
8. _____	_____	_____	_____		
Total Cover: _____					
Woody Vine Stratum					
1. _____	_____	_____	_____		
2. _____	_____	_____	_____		
Total Cover: _____					
% Bare Ground in Herb Stratum _____ % Cover of Biotic Crust _____					
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		Redox Features		Type ¹	Loc ²	Texture	Remarks
	Color (moist)	%	Color (moist)	%				
16	10YR3/3						Sandy loam	

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

Hydric Soil Indicators: (Applicable to all LRRs, unless otherwise noted.)		Indicators for Problematic Hydric Soils ³ :
<input type="checkbox"/> Histosol (A1)	<input type="checkbox"/> Sandy Redox (S5)	<input type="checkbox"/> 1 cm Muck (A9) (LRR C)
<input type="checkbox"/> Histic Epipedon (A2)	<input type="checkbox"/> Stripped Matrix (S6)	<input type="checkbox"/> 2 cm Muck (A10) (LRR B)
<input type="checkbox"/> Black Histic (A3)	<input type="checkbox"/> Loamy Mucky Mineral (F1)	<input type="checkbox"/> Reduced Vertic (F18)
<input type="checkbox"/> Hydrogen Sulfide (A4)	<input type="checkbox"/> Loamy Gleyed Matrix (F2)	<input type="checkbox"/> Red Parent Material (TF2)
<input type="checkbox"/> Stratified Layers (A5) (LRR C)	<input type="checkbox"/> Depleted Matrix (F3)	<input type="checkbox"/> Other (Explain in Remarks)
<input type="checkbox"/> 1 cm Muck (A9) (LRR D)	<input type="checkbox"/> Redox Dark Surface (F6)	
<input type="checkbox"/> Depleted Below Dark Surface (A11)	<input type="checkbox"/> Depleted Dark Surface (F7)	
<input type="checkbox"/> Thick Dark Surface (A12)	<input type="checkbox"/> Redox Depressions (F8)	
<input type="checkbox"/> Sandy Mucky Mineral (S1)	<input type="checkbox"/> Vernal Pools (F9)	
<input type="checkbox"/> Sandy Gleyed Matrix (S4)		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:		Secondary Indicators (2 or more required)
Primary Indicators (any one indicator is sufficient)		
<input type="checkbox"/> Surface Water (A1)	<input type="checkbox"/> Salt Crust (B11)	<input type="checkbox"/> Water Marks (B1) (Riverine)
<input type="checkbox"/> High Water Table (A2)	<input type="checkbox"/> Biotic Crust (B12)	<input type="checkbox"/> Sediment Deposits (B2) (Riverine)
<input type="checkbox"/> Saturation (A3)	<input type="checkbox"/> Aquatic Invertebrates (B13)	<input type="checkbox"/> Drift Deposits (B3) (Riverine)
<input type="checkbox"/> Water Marks (B1) (Nonriverine)	<input type="checkbox"/> Hydrogen Sulfide Odor (C1)	<input type="checkbox"/> Drainage Patterns (B10)
<input type="checkbox"/> Sediment Deposits (B2) (Nonriverine)	<input type="checkbox"/> Oxidized Rhizospheres along Living Roots (C3)	<input type="checkbox"/> Dry-Season Water Table (C2)
<input type="checkbox"/> Drift Deposits (B3) (Nonriverine)	<input type="checkbox"/> Presence of Reduced Iron (C4)	<input type="checkbox"/> Thin Muck Surface (C7)
<input type="checkbox"/> Surface Soil Cracks (B6)	<input type="checkbox"/> Recent Iron Reduction in Flowed Soils (C6)	<input type="checkbox"/> Crayfish Burrows (C8)
<input type="checkbox"/> Inundation Visible on Aerial Imagery (B7)	<input type="checkbox"/> Other (Explain in Remarks)	<input type="checkbox"/> Saturation Visible on Aerial Imagery (C9)
<input type="checkbox"/> Water-Stained Leaves (B9)		<input type="checkbox"/> Shallow Aquitard (D3)
		<input type="checkbox"/> FAC-Neutral Test (D5)

Field Observations:
 Surface Water Present? Yes _____ No Depth (inches): _____
 Water Table Present? Yes _____ No Depth (inches): _____
 Saturation Present? 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: Sweetwater Ranch City/County: Kittitas Sampling Date: 11-22-19
 Applicant/Owner: _____ State: WA Sampling Point: DP#2
 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 <input checked="" type="checkbox"/> Hydric Soil Present? Yes _____ No <input checked="" type="checkbox"/> Wetland Hydrology Present? Yes _____ No <input checked="" type="checkbox"/>	Is the Sampled Area within a Wetland? Yes _____ No <input checked="" type="checkbox"/>
Remarks:	

VEGETATION

Tree Stratum (Use scientific names.)	Absolute % Cover	Dominant Species?	Indicator Status	Dominance Test worksheet:
1. _____	_____	_____	_____	Number of Dominant Species That Are OBL, FACW, or FAC: <u>0</u> (A)
2. _____	_____	_____	_____	Total Number of Dominant Species Across All Strata: <u>1</u> (B)
3. _____	_____	_____	_____	Percent of Dominant Species That Are OBL, FACW, or FAC: <u>0</u> (A/B)
4. _____	_____	_____	_____	
Total Cover: _____				
Sapling/Shrub Stratum				Prevalence Index worksheet:
1. _____	_____	_____	_____	Total % Cover of: _____ Multiply by:
2. _____	_____	_____	_____	OBL species _____ x 1 = _____
3. _____	_____	_____	_____	FACW species _____ x 2 = _____
4. _____	_____	_____	_____	FAC species _____ x 3 = _____
5. _____	_____	_____	_____	FACU species _____ x 4 = _____
6. _____	_____	_____	_____	UPL species _____ x 5 = _____
Total Cover: _____				Column Totals: _____ (A) _____ (B)
Herb Stratum				Prevalence Index = B/A = _____
1. <u>Dactylis glomerata</u>	<u>60</u>		<u>FACU</u>	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)
2. <u>Cynodon 30P</u>	<u>10</u>		<u>NS</u>	
3. <u>Plantago lanceolata</u>	<u>10</u>		<u>FAC</u>	
4. _____	_____	_____	_____	
5. _____	_____	_____	_____	
6. _____	_____	_____	_____	
7. _____	_____	_____	_____	
8. _____	_____	_____	_____	
Total Cover: _____				
Woody Vine Stratum				¹ Indicators of hydric soil and wetland hydrology must be present.
1. _____	_____	_____	_____	Hydrophytic Vegetation Present? Yes _____ No <input checked="" type="checkbox"/>
2. _____	_____	_____	_____	
Total Cover: _____				
% Bare Ground in Herb Stratum _____		% Cover of Biotic Crust _____		
Remarks:				

SOIL

Sampling Point: DPT#2

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

Depth (inches)	Matrix		Redox Features		Type ¹	Loc ²	Texture	Remarks
	Color (moist)	%	Color (moist)	%				
16	10YR3/3						Cobbly lean	

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

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

<input type="checkbox"/> Histosol (A1)	<input type="checkbox"/> Sandy Redox (S5)	<input type="checkbox"/> Indicators for Problematic Hydric Soils ³ :
<input type="checkbox"/> Histic Epipedon (A2)	<input type="checkbox"/> Stripped Matrix (S6)	<input type="checkbox"/> 1 cm Muck (A9) (LRR C)
<input type="checkbox"/> Black Histic (A3)	<input type="checkbox"/> Loamy Mucky Mineral (F1)	<input type="checkbox"/> 2 cm Muck (A10) (LRR B)
<input type="checkbox"/> Hydrogen Sulfide (A4)	<input type="checkbox"/> Loamy Gleyed Matrix (F2)	<input type="checkbox"/> Reduced Vertic (F18)
<input type="checkbox"/> Stratified Layers (A5) (LRR C)	<input type="checkbox"/> Depleted Matrix (F3)	<input type="checkbox"/> Red Parent Material (TF2)
<input type="checkbox"/> 1 cm Muck (A9) (LRR D)	<input type="checkbox"/> Redox Dark Surface (F6)	<input type="checkbox"/> Other (Explain in Remarks)
<input type="checkbox"/> Depleted Below Dark Surface (A11)	<input type="checkbox"/> Depleted Dark Surface (F7)	
<input type="checkbox"/> Thick Dark Surface (A12)	<input type="checkbox"/> Redox Depressions (F8)	
<input type="checkbox"/> Sandy Mucky Mineral (S1)	<input type="checkbox"/> Vernal Pools (F9)	
<input type="checkbox"/> Sandy Gleyed Matrix (S4)		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:

<u>Primary Indicators (any one indicator is sufficient)</u>		<u>Secondary Indicators (2 or more required)</u>
<input type="checkbox"/> Surface Water (A1)	<input type="checkbox"/> Salt Crust (B11)	<input type="checkbox"/> Water Marks (B1) (Riverine)
<input type="checkbox"/> High Water Table (A2)	<input type="checkbox"/> Biotic Crust (B12)	<input type="checkbox"/> Sediment Deposits (B2) (Riverine)
<input type="checkbox"/> Saturation (A3)	<input type="checkbox"/> Aquatic invertebrates (B13)	<input type="checkbox"/> Drift Deposits (B3) (Riverine)
<input type="checkbox"/> Water Marks (B1) (Nonriverine)	<input type="checkbox"/> Hydrogen Sulfide Odor (C1)	<input type="checkbox"/> Drainage Patterns (B10)
<input type="checkbox"/> Sediment Deposits (B2) (Nonriverine)	<input type="checkbox"/> Oxidized Rhizospheres along Living Roots (C3)	<input type="checkbox"/> Dry-Season Water Table (C2)
<input type="checkbox"/> Drift Deposits (B3) (Nonriverine)	<input type="checkbox"/> Presence of Reduced Iron (C4)	<input type="checkbox"/> Thin Muck Surface (C7)
<input type="checkbox"/> Surface Soil Cracks (B6)	<input type="checkbox"/> Recent Iron Reduction in Flowed Soils (C6)	<input type="checkbox"/> Crayfish Burrows (C8)
<input type="checkbox"/> Inundation Visible on Aerial Imagery (B7)	<input type="checkbox"/> Other (Explain in Remarks)	<input type="checkbox"/> Saturation Visible on Aerial Imagery (C9)
<input type="checkbox"/> Water-Stained Leaves (B9)		<input type="checkbox"/> Shallow Aquitard (D3)
		<input type="checkbox"/> FAC-Neutral Test (D5)

Field Observations:

Surface Water Present? Yes _____ No <input checked="" type="checkbox"/>	Depth (inches): _____	Wetland Hydrology Present? Yes _____ No <input checked="" type="checkbox"/>
Water Table Present? Yes _____ No <input checked="" type="checkbox"/>	Depth (inches): _____	
Saturation Present? Yes _____ No <input checked="" type="checkbox"/>	Depth (inches): _____	

(includes capillary fringe)

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

Remarks:

SOIL

Sampling Point: DP#3

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

Depth (Inches)	Matrix		Redox Features		Type ¹	Loc ²	Texture	Remarks
	Color (moist)	%	Color (moist)	%				
16	10YR	3/3					Sandy loam	

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

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

<input type="checkbox"/> Histosol (A1)	<input type="checkbox"/> Sandy Redox (S5)	<input type="checkbox"/> 1 cm Muck (A9) (LRR C)
<input type="checkbox"/> Histic Epipedon (A2)	<input type="checkbox"/> Stripped Matrix (S6)	<input type="checkbox"/> 2 cm Muck (A10) (LRR B)
<input type="checkbox"/> Black Histic (A3)	<input type="checkbox"/> Loamy Mucky Mineral (F1)	<input type="checkbox"/> Reduced Vertic (F18)
<input type="checkbox"/> Hydrogen Sulfide (A4)	<input type="checkbox"/> Loamy Gleyed Matrix (F2)	<input type="checkbox"/> Red Parent Material (TF2)
<input type="checkbox"/> Stratified Layers (A5) (LRR C)	<input type="checkbox"/> Depleted Matrix (F3)	<input type="checkbox"/> Other (Explain in Remarks)
<input type="checkbox"/> 1 cm Muck (A9) (LRR D)	<input type="checkbox"/> Redox Dark Surface (F6)	
<input type="checkbox"/> Depleted Below Dark Surface (A11)	<input type="checkbox"/> Depleted Dark Surface (F7)	
<input type="checkbox"/> Thick Dark Surface (A12)	<input type="checkbox"/> Redox Depressions (F8)	
<input type="checkbox"/> Sandy Mucky Mineral (S1)	<input type="checkbox"/> Vernal Pools (F9)	
<input type="checkbox"/> Sandy Gleyed Matrix (S4)		

³Indicators 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)		Secondary Indicators (2 or more required)
<input type="checkbox"/> Surface Water (A1)	<input type="checkbox"/> Salt Crust (B11)	<input type="checkbox"/> Water Marks (B1) (Riverine)
<input type="checkbox"/> High Water Table (A2)	<input type="checkbox"/> Biotic Crust (B12)	<input type="checkbox"/> Sediment Deposits (B2) (Riverine)
<input type="checkbox"/> Saturation (A3)	<input type="checkbox"/> Aquatic Invertebrates (B13)	<input type="checkbox"/> Drift Deposits (B3) (Riverine)
<input type="checkbox"/> Water Marks (B1) (Nonriverine)	<input type="checkbox"/> Hydrogen Sulfide Odor (C1)	<input type="checkbox"/> Drainage Patterns (B10)
<input type="checkbox"/> Sediment Deposits (B2) (Nonriverine)	<input type="checkbox"/> Oxidized Rhizospheres along Living Roots (C3)	<input type="checkbox"/> Dry-Season Water Table (C2)
<input type="checkbox"/> Drift Deposits (B3) (Nonriverine)	<input type="checkbox"/> Presence of Reduced Iron (C4)	<input type="checkbox"/> Thin Muck Surface (C7)
<input type="checkbox"/> Surface Soil Cracks (B6)	<input type="checkbox"/> Recent Iron Reduction in Flowed Soils (C6)	<input type="checkbox"/> Crayfish Burrows (C8)
<input type="checkbox"/> Inundation Visible on Aerial Imagery (B7)	<input type="checkbox"/> Other (Explain in Remarks)	<input type="checkbox"/> Saturation Visible on Aerial Imagery (C9)
<input type="checkbox"/> Water-Stained Leaves (B9)		<input type="checkbox"/> Shallow Aquitard (D3)
		<input type="checkbox"/> FAC-Neutral Test (D5)

Field Observations:

Surface Water Present? Yes _____ No <input checked="" type="checkbox"/>	Depth (inches): _____	Wetland Hydrology Present? Yes _____ No <input checked="" type="checkbox"/>
Water Table Present? Yes _____ No <input checked="" type="checkbox"/>	Depth (inches): _____	
Saturation Present? Yes _____ No <input checked="" type="checkbox"/>	Depth (inches): _____	

(includes capillary fringe)

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

Remarks: no indicators

WETLAND DETERMINATION DATA FORM – Arid West Region

Wet A

Project/Site: Sweetwater Ranch City/County: Kittitas Sampling Date: 11-22-19
 Applicant/Owner: _____ State: WA Sampling Point: DP#4
 Investigator(s): Ed Sewall Section, Township, Range: _____
 Landform (hillslope, terrace, etc.): _____ Local relief (concave, convex, none): _____ Slope (%): _____
 Subregion (LRR): _____ Lat: _____ Long: _____ Datum: _____
 Soil Map Unit Name: _____ NW 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 <input checked="" type="checkbox"/> No _____ Hydric Soil Present? Yes <input checked="" type="checkbox"/> No _____ Wetland Hydrology Present? Yes <input checked="" type="checkbox"/> No _____	Is the Sampled Area within a Wetland? Yes <input checked="" type="checkbox"/> No _____
Remarks:	

VEGETATION

Tree Stratum (Use scientific names.)	Absolute % Cover	Dominant Species?	Indicator Status	Dominance Test worksheet:
1. _____				Number of Dominant Species That Are OBL, FACW, or FAC: <u>2</u> (A)
2. _____				Total Number of Dominant Species Across All Strata: <u>2</u> (B)
3. _____				Percent of Dominant Species That Are OBL, FACW, or FAC: <u>100</u> (A/B)
4. _____				
Total Cover: _____				
Sapling/Shrub Stratum	Absolute % Cover	Dominant Species?	Indicator Status	Prevalence Index worksheet:
1. <u>Salix subsericea</u>	<u>30</u>		<u>FACW</u>	Total % Cover of: _____ Multiply by: _____
2. _____				OBL species _____ x 1 = _____
3. _____				FACW species _____ x 2 = _____
4. _____				FAC species _____ x 3 = _____
5. _____				FACU species _____ x 4 = _____
6. _____				UPL species _____ x 5 = _____
7. _____				Column Totals: _____ (A) _____ (B)
8. _____				Prevalence Index = B/A = _____
Total Cover: _____				
Herb Stratum	Absolute % Cover	Dominant Species?	Indicator Status	Hydrophytic Vegetation Indicators:
1. <u>Carex sp</u>	<u>70</u>		<u>FACW</u>	<input type="checkbox"/> Dominance Test is >50%
2. _____				<input type="checkbox"/> Prevalence index is >3.0 ¹
3. _____				<input type="checkbox"/> Morphological Adaptations ¹ (Provide supporting data in Remarks or on a separate sheet)
4. _____				<input type="checkbox"/> Problematic Hydrophytic Vegetation ¹ (Explain)
5. _____				
6. _____				
7. _____				
8. _____				
Total Cover: _____				
Woody Vine Stratum	Absolute % Cover	Dominant Species?	Indicator Status	Hydrophytic Vegetation Present?
1. _____				Yes <input checked="" type="checkbox"/> No _____
2. _____				
Total Cover: _____				
% Bare Ground in Herb Stratum _____ % Cover of Biotic Crust _____				
Remarks:				

SOIL

Sampling Point: DP#4

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

Depth (inches)	Matrix		Redox Features		Type ¹	Loc ²	Texture	Remarks
	Color (moist)	%	Color (moist)	%				
4	10YR 2/2							
16	10YR 3/2		Common medium distinct				Sandy loam	

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

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

<input type="checkbox"/> Histosol (A1)	<input type="checkbox"/> Sandy Redox (S5)	<input type="checkbox"/> 1 cm Muck (A9) (LRR C)
<input type="checkbox"/> Histic Epipedon (A2)	<input type="checkbox"/> Stripped Matrix (S6)	<input type="checkbox"/> 2 cm Muck (A10) (LRR B)
<input type="checkbox"/> Black Histic (A3)	<input type="checkbox"/> Loamy Mucky Mineral (F1)	<input type="checkbox"/> Reduced Vertic (F15)
<input type="checkbox"/> Hydrogen Sulfide (A4)	<input type="checkbox"/> Loamy Gleyed Matrix (F2)	<input type="checkbox"/> Red Parent Material (TF2)
<input type="checkbox"/> Stratified Layers (A5) (LRR C)	<input type="checkbox"/> Depleted Matrix (F3)	<input type="checkbox"/> Other (Explain in Remarks)
<input type="checkbox"/> 1 cm Muck (A6) (LRR D)	<input type="checkbox"/> Redox Dark Surface (F6)	
<input type="checkbox"/> Depleted Below Dark Surface (A11)	<input type="checkbox"/> Depleted Dark Surface (F7)	
<input type="checkbox"/> Thick Dark Surface (A12)	<input type="checkbox"/> Redox Depressions (F8)	
<input type="checkbox"/> Sandy Mucky Mineral (B1)	<input type="checkbox"/> Vernal Pools (F9)	
<input type="checkbox"/> Sandy Gleyed Matrix (S4)		

³Indicators 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)	Secondary Indicators (2 or more required)
<input type="checkbox"/> Surface Water (A1)	<input checked="" type="checkbox"/> Water Marks (B1) (Riverine)
<input type="checkbox"/> High Water Table (A2)	<input checked="" type="checkbox"/> Sediment Deposits (B2) (Riverine)
<input checked="" type="checkbox"/> Saturation (A3)	<input type="checkbox"/> Drift Deposits (B3) (Riverine)
<input type="checkbox"/> Water Marks (B1) (Nonriverine)	<input type="checkbox"/> Drainage Patterns (B10)
<input type="checkbox"/> Sediment Deposits (B2) (Nonriverine)	<input type="checkbox"/> Dry-Season Water Table (C2)
<input type="checkbox"/> Drift Deposits (B3) (Nonriverine)	<input type="checkbox"/> Thin Muck Surface (C7)
<input type="checkbox"/> Surface Soil Cracks (B6)	<input type="checkbox"/> Crayfish Burrows (C6)
<input type="checkbox"/> Inundation Visible on Aerial Imagery (B7)	<input type="checkbox"/> Saturation Visible on Aerial Imagery (C9)
<input type="checkbox"/> Water-Stained Leaves (B9)	<input type="checkbox"/> Shallow Aquitard (D3)
	<input type="checkbox"/> FAC-Neutral Test (D5)

Field Observations:

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

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

Saturation Present? Yes No Depth (inches): 3"

Wetland Hydrology Present? Yes No

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

Remarks:

wet A

WETLAND DETERMINATION DATA FORM - Arid West Region

Project/Site: Sweetwater Park City/County: Kittitas Sampling Date: 11-22-19
Applicant/Owner: Ed Small State: WA Sampling Point: DP#5
Investigator(s): Ed Small 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

Table with columns for Tree Stratum, Spacing/Shrub Stratum, Herb Stratum, Woody Vine Stratum, Absolute % Cover, Dominant Species?, Indicator Status, and various worksheets (Dominance Test, Prevalence Index, Hydrophytic Vegetation Indicators).

SOIL

Sampling Point: DAP5

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

Depth (inches)	Matrix		Redox Features		Type ¹	Loc ²	Texture	Remarks
	Color (moist)	%	Color (moist)	%				
16	10YR 2/2		common		medial dubut		Cobbly	

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

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

<input type="checkbox"/> Histosol (A1)	<input type="checkbox"/> Sandy Redox (S6)	<input type="checkbox"/> 1 cm Muck (A9) (LRR C)
<input type="checkbox"/> Histic Epipedon (A2)	<input type="checkbox"/> Stripped Matrix (S6)	<input type="checkbox"/> 2 cm Muck (A10) (LRR B)
<input type="checkbox"/> Black Histic (A3)	<input type="checkbox"/> Loamy Mucky Mineral (F1)	<input type="checkbox"/> Reduced Vertic (F18)
<input type="checkbox"/> Hydrogen Sulfide (A4)	<input type="checkbox"/> Loamy Gleyed Matrix (F2)	<input type="checkbox"/> Red Parent Material (TF2)
<input type="checkbox"/> Stratified Layers (A5) (LRR C)	<input type="checkbox"/> Depleted Matrix (F3)	<input type="checkbox"/> Other (Explain in Remarks)
<input type="checkbox"/> 1 cm Muck (A9) (LRR D)	<input checked="" type="checkbox"/> Redox Dark Surface (F8)	
<input type="checkbox"/> Depleted Below Dark Surface (A11)	<input type="checkbox"/> Depleted Dark Surface (F7)	
<input type="checkbox"/> Thick Dark Surface (A12)	<input type="checkbox"/> Redox Depressions (F8)	
<input type="checkbox"/> Sandy Mucky Mineral (S1)	<input type="checkbox"/> Vernal Pools (F9)	
<input type="checkbox"/> Sandy Gleyed Matrix (S4)		

³Indicators 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:

<u>Primary Indicators (any one indicator is sufficient)</u>		<u>Secondary Indicators (2 or more required)</u>
<input type="checkbox"/> Surface Water (A1)	<input type="checkbox"/> Salt Crust (B11)	<input checked="" type="checkbox"/> Water Marks (B1) (Riverine)
<input type="checkbox"/> High Water Table (A2)	<input type="checkbox"/> Biotic Crust (B12)	<input checked="" type="checkbox"/> Sediment Deposits (B2) (Riverine)
<input checked="" type="checkbox"/> Saturation (A3)	<input type="checkbox"/> Aquatic Invertebrates (B13)	<input type="checkbox"/> Drift Deposits (B3) (Riverine)
<input type="checkbox"/> Water Marks (B1) (Nonriverine)	<input type="checkbox"/> Hydrogen Sulfide Odor (C1)	<input type="checkbox"/> Drainage Patterns (B10)
<input type="checkbox"/> Sediment Deposits (B2) (Nonriverine)	<input type="checkbox"/> Oxidized Rhizospheres along Living Roots (C3)	<input type="checkbox"/> Dry-Season Water Table (C2)
<input type="checkbox"/> Drift Deposits (B3) (Nonriverine)	<input type="checkbox"/> Presence of Reduced Iron (C4)	<input type="checkbox"/> Thin Muck Surface (C7)
<input type="checkbox"/> Surface Soil Cracks (B6)	<input type="checkbox"/> Recent Iron Reduction in Flowed Soils (C8)	<input type="checkbox"/> Crayfish Burrows (C8)
<input type="checkbox"/> Inundation Visible on Aerial Imagery (B7)	<input type="checkbox"/> Other (Explain in Remarks)	<input type="checkbox"/> Saturation Visible on Aerial Imagery (C9)
<input type="checkbox"/> Water-Stained Leaves (B9)		<input type="checkbox"/> Shallow Aquitard (D3)
		<input type="checkbox"/> FAC-Neutral Test (D5)

Field Observations:

Surface Water Present? Yes <input type="checkbox"/> No <input checked="" type="checkbox"/>	Depth (inches): _____	Wetland Hydrology Present? Yes <input checked="" type="checkbox"/> No <input type="checkbox"/>
Water Table Present? Yes <input type="checkbox"/> No <input checked="" type="checkbox"/>	Depth (inches): _____	
Saturation Present? Yes <input checked="" type="checkbox"/> No <input type="checkbox"/>	Depth (inches): _____	

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

Remarks:

WETLAND DETERMINATION DATA FORM – Arid West Region

Project/Site: Sweetwater Canal City/County: Ks Ardis Sampling Date: 11-22-14
 Applicant/Owner: _____ State: WA Sampling Point: DP# 6
 Investigator(s): Ed Scumli 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 <input checked="" type="checkbox"/> No _____ Hydric Soil Present? Yes _____ No <input checked="" type="checkbox"/> Wetland Hydrology Present? Yes _____ No <input checked="" type="checkbox"/>	Is the Sampled Area within a Wetland? Yes _____ No <input checked="" type="checkbox"/>
Remarks:	

VEGETATION

Tree Stratum (Use scientific names.)	Absolute % Cover	Dominant Species?	Indicator Status	Dominance Test worksheet:
1. _____	_____	_____	_____	Number of Dominant Species That Are OBL, FACW, or FAC: <u>1</u> (A)
2. _____	_____	_____	_____	Total Number of Dominant Species Across All Strata: <u>1</u> (B)
3. _____	_____	_____	_____	Percent of Dominant Species That Are OBL, FACW, or FAC: <u>100</u> (AB)
4. _____	_____	_____	_____	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 = _____
Total Cover: _____				
Saccol/Shrub Stratum				
1. _____	_____	_____	_____	
2. _____	_____	_____	_____	
3. _____	_____	_____	_____	
4. _____	_____	_____	_____	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 <input checked="" type="checkbox"/> No _____
5. _____	_____	_____	_____	
6. _____	_____	_____	_____	
7. _____	_____	_____	_____	
8. _____	_____	_____	_____	
Total Cover: _____				
Herb Stratum				
1. <u>Agropyron repens</u>	<u>85</u>	<u>FAC</u>	_____	
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 _____		
Remarks:				

SOIL

Sampling Point: DP#6

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

Depth (Inches)	Matrix		Redox Features		Type ¹	Loc ²	Texture	Remarks
	Color (moist)	%	Color (moist)	%				
14	10YR 3/3						Sandy loam	

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

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

<input type="checkbox"/> Histosol (A1)	<input type="checkbox"/> Sandy Redox (S5)	<input type="checkbox"/> 1 cm Muck (A9) (LRR C)
<input type="checkbox"/> Histic Epipedon (A2)	<input type="checkbox"/> Stripped Matrix (S6)	<input type="checkbox"/> 2 cm Muck (A10) (LRR B)
<input type="checkbox"/> Black Histic (A3)	<input type="checkbox"/> Loamy Mucky Mineral (F1)	<input type="checkbox"/> Reduced Vertic (F18)
<input type="checkbox"/> Hydrogen Sulfide (A4)	<input type="checkbox"/> Loamy Gleyed Matrix (F2)	<input type="checkbox"/> Red Parent Material (TF2)
<input type="checkbox"/> Stratified Layers (A5) (LRR C)	<input type="checkbox"/> Depleted Matrix (F3)	<input type="checkbox"/> Other (Explain in Remarks)
<input type="checkbox"/> 1 cm Muck (A8) (LRR D)	<input type="checkbox"/> Redox Dark Surface (F8)	
<input type="checkbox"/> Depleted Below Dark Surface (A11)	<input type="checkbox"/> Depleted Dark Surface (F7)	
<input type="checkbox"/> Thick Dark Surface (A12)	<input type="checkbox"/> Redox Depressions (F8)	
<input type="checkbox"/> Sandy Mucky Mineral (S1)	<input type="checkbox"/> Vernal Pools (F9)	
<input type="checkbox"/> Sandy Gleyed Matrix (S4)		

³Indicators 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:

<u>Primary Indicators (any one indicator is sufficient)</u>		<u>Secondary Indicators (2 or more required)</u>
<input type="checkbox"/> Surface Water (A1)	<input type="checkbox"/> Salt Crust (B11)	<input type="checkbox"/> Water Marks (B1) (Riverine)
<input type="checkbox"/> High Water Table (A2)	<input type="checkbox"/> Biotic Crust (B12)	<input type="checkbox"/> Sediment Deposits (B2) (Riverine)
<input type="checkbox"/> Saturation (A3)	<input type="checkbox"/> Aquatic Invertebrates (B13)	<input type="checkbox"/> Drift Deposits (B3) (Riverine)
<input type="checkbox"/> Water Marks (B1) (Nonriverine)	<input type="checkbox"/> Hydrogen Sulfide Odor (C1)	<input type="checkbox"/> Drainage Patterns (B10)
<input type="checkbox"/> Sediment Deposits (B2) (Nonriverine)	<input type="checkbox"/> Oxidized Rhizospheres along Living Roots (C3)	<input type="checkbox"/> Dry-Season Water Table (C2)
<input type="checkbox"/> Drift Deposits (B3) (Nonriverine)	<input type="checkbox"/> Presence of Reduced Iron (C4)	<input type="checkbox"/> Thin Muck Surface (C7)
<input type="checkbox"/> Surface Soil Cracks (B6)	<input type="checkbox"/> Recent Iron Reduction in Plowed Soils (C6)	<input type="checkbox"/> Crayfish Burrows (C8)
<input type="checkbox"/> Inundation Visible on Aerial Imagery (B7)	<input type="checkbox"/> Other (Explain in Remarks)	<input type="checkbox"/> Saturation Visible on Aerial Imagery (C9)
<input type="checkbox"/> Water-Stained Leaves (B9)		<input type="checkbox"/> Shallow Aquitard (D3)
		<input type="checkbox"/> FAC-Neutral Test (D5)

Field Observations:

Surface Water Present? Yes _____ No <input checked="" type="checkbox"/>	Depth (inches): _____	Wetland Hydrology Present? Yes _____ No <input checked="" type="checkbox"/>
Water Table Present? Yes _____ No <input checked="" type="checkbox"/>	Depth (inches): _____	
Saturation Present? (includes capillary fringe) Yes _____ No <input checked="" type="checkbox"/>	Depth (inches): _____	

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: Sweetwater Run City/County: Mitchell Sampling Date: 11-22-19
 Applicant/Owner: _____ State: WA Sampling Point: DP#7
 Investigator(s): Ed Seidl 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 <input checked="" type="checkbox"/> No <input type="checkbox"/> Hydric Soil Present? Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> Wetland Hydrology Present? Yes <input type="checkbox"/> No <input checked="" type="checkbox"/>	Is the Sampled Area within a Wetland? Yes _____ No <input checked="" type="checkbox"/>
Remarks:	

VEGETATION

Tree Stratum (Use scientific names.)	Absolute % Cover	Dominant Species?	Indicator Status	Dominance Test worksheet:
1. _____	_____	_____	_____	Number of Dominant Species That Are OBL, FACW, or FAC: <u>1</u> (A)
2. _____	_____	_____	_____	Total Number of Dominant Species Across All Strata: <u>1</u> (B)
3. _____	_____	_____	_____	Percent of Dominant Species That Are OBL, FACW, or FAC: <u>100</u> (A/B)
4. _____	_____	_____	_____	
Total Cover: _____				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 = _____
Sapling/Shrub Stratum				
1. _____	_____	_____	_____	
2. _____	_____	_____	_____	
3. _____	_____	_____	_____	
4. _____	_____	_____	_____	
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)
Total Cover: _____				
Herb Stratum				¹ Indicators of hydric soil and wetland hydrology must be present. Hydrophytic Vegetation Present? Yes <input checked="" type="checkbox"/> No _____
1. <u>Phleum pratense</u>	<u>55</u>	<u>FAC</u>	<u>FAC</u>	
2. <u>Carex spp</u>	<u>10</u>	<u>FAC</u>	<u>FAC</u>	
3. _____	_____	_____	_____	
4. _____	_____	_____	_____	
5. _____	_____	_____	_____	
6. _____	_____	_____	_____	
7. _____	_____	_____	_____	
8. _____	_____	_____	_____	
Total Cover: _____				
Woody/Vine Stratum				
1. _____	_____	_____	_____	
2. _____	_____	_____	_____	
Total Cover: _____				
% Bare Ground in Herb Stratum _____		% Cover of Biotic Crust _____		
Remarks:				

SOIL

Sampling Point: DP#7

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

Depth (inches)	Matrix		Redox Features		Type ¹	Loc ²	Texture	Remarks
	Color (moist)	%	Color (moist)	%				
16	10YR 2/2						coarse	low

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

Hydric Soil Indicators: (Applicable to all LRRs, unless otherwise noted.)		Indicators for Problematic Hydric Soils ³ :	
<input type="checkbox"/> Histosol (A1)	<input type="checkbox"/> Sandy Redox (S5)	<input type="checkbox"/> 1 cm Muck (A9) (LRR C)	
<input type="checkbox"/> Histic Epipedon (A2)	<input type="checkbox"/> Stripped Matrix (S6)	<input type="checkbox"/> 2 cm Muck (A10) (LRR B)	
<input type="checkbox"/> Black Histic (A3)	<input type="checkbox"/> Loamy Mucky Mineral (F1)	<input type="checkbox"/> Reduced Vertic (F18)	
<input type="checkbox"/> Hydrogen Sulfide (A4)	<input type="checkbox"/> Loamy Gleyed Matrix (F2)	<input type="checkbox"/> Red Parent Material (TF2)	
<input type="checkbox"/> Stratified Layers (A6) (LRR C)	<input type="checkbox"/> Depleted Matrix (F3)	<input type="checkbox"/> Other (Explain in Remarks)	
<input type="checkbox"/> 1 cm Muck (A9) (LRR D)	<input type="checkbox"/> Redox Dark Surface (F6)		
<input type="checkbox"/> Depleted Below Dark Surface (A11)	<input type="checkbox"/> Depleted Dark Surface (F7)		
<input type="checkbox"/> Thick Dark Surface (A12)	<input type="checkbox"/> Redox Depressions (F8)		
<input type="checkbox"/> Sandy Mucky Mineral (S1)	<input type="checkbox"/> Vernal Pools (F9)		
<input type="checkbox"/> Sandy Gleyed Matrix (S4)			

³Indicators 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:		Secondary Indicators (2 or more required)	
Primary Indicators (any one indicator is sufficient)			
<input type="checkbox"/> Surface Water (A1)	<input type="checkbox"/> Salt Crust (B11)	<input type="checkbox"/> Water Marks (B1) (Riverine)	
<input type="checkbox"/> High Water Table (A2)	<input type="checkbox"/> Biotic Crust (B12)	<input type="checkbox"/> Sediment Deposits (B2) (Riverine)	
<input type="checkbox"/> Saturation (A3)	<input type="checkbox"/> Aquatic Invertebrates (B13)	<input type="checkbox"/> Drift Deposits (B3) (Riverine)	
<input type="checkbox"/> Water Marks (B1) (Nonriverine)	<input type="checkbox"/> Hydrogen Sulfide Odor (C1)	<input type="checkbox"/> Drainage Patterns (B10)	
<input type="checkbox"/> Sediment Deposits (B2) (Nonriverine)	<input type="checkbox"/> Oxidized Rhizospheres along Living Roots (C3)	<input type="checkbox"/> Dry-Season Water Table (C2)	
<input type="checkbox"/> Drift Deposits (B3) (Nonriverine)	<input type="checkbox"/> Presence of Reduced Iron (C4)	<input type="checkbox"/> Thin Muck Surface (C7)	
<input type="checkbox"/> Surface Soil Cracks (B6)	<input type="checkbox"/> Recent Iron Reduction in Flowed Soils (C6)	<input type="checkbox"/> Crayfish Burrows (C8)	
<input type="checkbox"/> Inundation Visible on Aerial Imagery (B7)	<input type="checkbox"/> Other (Explain in Remarks)	<input type="checkbox"/> Saturation Visible on Aerial Imagery (C9)	
<input type="checkbox"/> Water-Stained Leaves (B9)		<input type="checkbox"/> Shallow Aquitard (D3)	
		<input type="checkbox"/> FAC-Neutral Test (D5)	

Field Observations:

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

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

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

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

wet B

Project/Site: Sweetwater Ranch City/County: Jefferson Sampling Date: 11-22-19
 Applicant/Owner: _____ State: WA Sampling Point: DP#8
 Investigator(s): Ed Scull Section, Township, Range: _____
 Landform (hillslope, terrace, etc.): _____ Local relief (concave, convex, none): _____ Slope (%): _____
 Subregion (LRR): _____ Lat: _____ Long: _____ Datum: _____
 Soil Map Unit Name: _____ NWM 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 <input checked="" type="checkbox"/> No _____ Hydric Soil Present? Yes <input checked="" type="checkbox"/> No _____ Wetland Hydrology Present? Yes <input checked="" type="checkbox"/> No _____	Is the Sampled Area within a Wetland? Yes <input checked="" type="checkbox"/> No _____
Remarks: _____	

VEGETATION

Tree Stratum (Use scientific names.)	Absolute % Cover	Dominant Species?	Indicator Status	Dominance Test worksheet:
1. _____	_____	_____	_____	Number of Dominant Species That Are OBL, FACW, or FAC: <u>2</u> (A)
2. _____	_____	_____	_____	Total Number of Dominant Species Across All Strata: <u>2</u> (B)
3. _____	_____	_____	_____	Percent of Dominant Species That Are OBL, FACW, or FAC: <u>100</u> (A/B)
4. _____	_____	_____	_____	
Total Cover: _____				
Sapling/Shrub Stratum				Prevalence Index worksheet:
1. <u>Cornus stolonifera</u>	<u>30</u>	<u>FACW</u>		Total % Cover of: _____ Multiply by: _____
2. _____	_____	_____	_____	OBL species _____ x 1 = _____
3. _____	_____	_____	_____	FACW species _____ x 2 = _____
4. _____	_____	_____	_____	FAC species _____ x 3 = _____
5. _____	_____	_____	_____	FACU species _____ x 4 = _____
Total Cover: _____				UPL species _____ x 5 = _____
				Column Totals: _____ (A) _____ (B)
				Prevalence Index = B/A = _____
Herb Stratum				Hydrophytic Vegetation Indicators:
1. <u>Stachys coolegna</u>	<u>20</u>	<u>FACW</u>		___ Dominance Test is >50%
2. _____	_____	_____	_____	___ Prevalence Index is ≤ 3.0 ¹
3. _____	_____	_____	_____	___ Morphological Adaptations ¹ (Provide supporting data in Remarks or on a separate sheet)
4. _____	_____	_____	_____	___ Problematic Hydrophytic Vegetation ¹ (Explain)
5. _____	_____	_____	_____	
6. _____	_____	_____	_____	
7. _____	_____	_____	_____	
8. _____	_____	_____	_____	
Total Cover: _____				¹ Indicators of hydric soil and wetland hydrology must be present.
Woody Vine Stratum				Hydrophytic Vegetation Present?
1. _____	_____	_____	_____	Yes <input checked="" type="checkbox"/> No _____
2. _____	_____	_____	_____	
Total Cover: _____				
% Bare Ground in Herb Stratum _____		% Cover of Biotic Crust _____		
Remarks: _____				

SOIL

Sampling Point: DAB 8

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

Depth (inches)	Matrix		Redox Features		Type	Loc ²	Texture	Remarks
	Color (moist)	%	Color (moist)	%				
16	10YR 2/2		Common nodules	det			coarse lo	

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

Hydric Soil Indicators: (Applicable to all LRRs, unless otherwise noted.)	Indicators for Problematic Hydric Soils ² :
<input type="checkbox"/> Histic (A1)	<input type="checkbox"/> 1 cm Muck (A9) (LRR C)
<input type="checkbox"/> Histic Epipedon (A2)	<input type="checkbox"/> 2 cm Muck (A10) (LRR B)
<input type="checkbox"/> Black Histic (A3)	<input type="checkbox"/> Reduced Vertic (F18)
<input type="checkbox"/> Hydrogen Sulfide (A4)	<input type="checkbox"/> Red Parent Material (TF2)
<input type="checkbox"/> Stratified Layers (A5) (LRR C)	<input type="checkbox"/> Other (Explain in Remarks)
<input type="checkbox"/> 1 cm Muck (A9) (LRR D)	
<input type="checkbox"/> Depleted Below Dark Surface (A11)	
<input type="checkbox"/> Thick Dark Surface (A12)	
<input type="checkbox"/> Sandy Mucky Mineral (S1)	
<input type="checkbox"/> Sandy Gleyed Matrix (S4)	
<input type="checkbox"/> Sandy Redox (S5)	
<input type="checkbox"/> Stripped Matrix (S6)	
<input type="checkbox"/> Loamy Mucky Mineral (F1)	
<input type="checkbox"/> Loamy Gleyed Matrix (F2)	
<input type="checkbox"/> Depleted Matrix (F3)	
<input checked="" type="checkbox"/> Redox Dark Surface (F6)	
<input type="checkbox"/> Depleted Dark Surface (F7)	
<input type="checkbox"/> Redox Depressions (F8)	
<input type="checkbox"/> Vernal Pools (F9)	

²Indicators 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:	Secondary Indicators (2 or more required)
Primary Indicators (any one indicator is sufficient)	
<input type="checkbox"/> Surface Water (A1)	<input type="checkbox"/> Water Marks (B1) (Riverine)
<input type="checkbox"/> High Water Table (A2)	<input checked="" type="checkbox"/> Sediment Deposits (B2) (Riverine)
<input checked="" type="checkbox"/> Saturation (A3)	<input type="checkbox"/> Drift Deposits (B3) (Riverine)
<input type="checkbox"/> Water Marks (B1) (Nonriverine)	<input type="checkbox"/> Drainage Patterns (B10)
<input type="checkbox"/> Sediment Deposits (B2) (Nonriverine)	<input type="checkbox"/> Dry-Season Water Table (C2)
<input type="checkbox"/> Drift Deposits (B3) (Nonriverine)	<input type="checkbox"/> Thin Muck Surface (C7)
<input type="checkbox"/> Surface Soil Cracks (B6)	<input type="checkbox"/> Crayfish Burrows (C6)
<input type="checkbox"/> Inundation Visible on Aerial Imagery (B7)	<input type="checkbox"/> Saturation Visible on Aerial Imagery (C9)
<input type="checkbox"/> Water-Stained Leaves (B9)	<input type="checkbox"/> Shallow Aquitard (D3)
<input type="checkbox"/> Salt Crust (B11)	<input type="checkbox"/> FAC-Neutral Test (D5)
<input type="checkbox"/> Biotic Crust (B12)	
<input type="checkbox"/> Aquatic Invertebrates (B13)	
<input type="checkbox"/> Hydrogen Sulfide Odor (C1)	
<input type="checkbox"/> Oxidized Rhizospheres along Living Roots (C3)	
<input type="checkbox"/> Presence of Reduced Iron (C4)	
<input type="checkbox"/> Recent Iron Reduction in Plowed Soils (C6)	
<input type="checkbox"/> Other (Explain in Remarks)	

Field Observations:

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

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

Saturation Present? 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: Sweetwater Reach City/County: P. Hills Sampling Date: 11-22-19
 Applicant/Owner: _____ State: WA Sampling Point: DP#9
 Investigator(s): Ed Smith 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 <input checked="" type="checkbox"/> No <input type="checkbox"/> Hydric Soil Present? Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> Wetland Hydrology Present? Yes <input type="checkbox"/> No <input checked="" type="checkbox"/>	Is the Sampled Area within a Wetland? Yes <input type="checkbox"/> No <input checked="" type="checkbox"/>
Remarks:	

VEGETATION

Tree Stratum (Use scientific names.)	Absolute % Cover	Dominant Species?	Indicator Status	Dominance Test worksheet:
1. <u>Populus balsamifera</u>	<u>60</u>		<u>FAC</u>	Number of Dominant Species That Are OBL, FACW, or FAC: <u>2</u> (A)
2. _____				Total Number of Dominant Species Across All Strata: <u>3</u> (B)
3. _____				Percent of Dominant Species That Are OBL, FACW, or FAC: <u>66</u> (AB)
4. _____				
Total Cover: _____				
Sapling/Shrub Stratum	Absolute % Cover	Dominant Species?	Indicator Status	Prevalence Index worksheet:
1. <u>Cornus stolonifera</u>	<u>20</u>		<u>FACW</u>	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 = _____
2. <u>Symphoricarpos albus</u>	<u>20</u>		<u>FAC</u>	
3. _____				
4. _____				
5. _____				
Total Cover: _____				
Herb Stratum	Absolute % Cover	Dominant Species?	Indicator Status	Hydrophytic Vegetation Indicators:
1. _____				___ 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)
2. _____				
3. _____				
4. _____				
5. _____				
6. _____				
7. _____				
8. _____				
Total Cover: _____				
Woody Vine Stratum	Absolute % Cover	Dominant Species?	Indicator Status	Hydrophytic Vegetation Present?
1. _____				Yes <input checked="" type="checkbox"/> No <input type="checkbox"/>
2. _____				
Total Cover: _____				
% Bare Ground in Herb Stratum _____ % Cover of Biotic Crust _____				
Remarks:				

SOIL

Sampling Point: DP#9

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

Depth (inches)	Matrix		Redox Features		Type	Loc ²	Texture	Remarks
	Color (moist)	%	Color (moist)	%				
16	10W 3/3						cubby <i>low</i>	

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

Hydric Soil Indicators: (Applicable to all LRRs, unless otherwise noted.)		Indicators for Problematic Hydric Soils ³ :
<input type="checkbox"/> Histosol (A1)	<input type="checkbox"/> Sandy Redox (S5)	<input type="checkbox"/> 1 cm Muck (A9) (LRR C)
<input type="checkbox"/> Histic Epipedon (A2)	<input type="checkbox"/> Stripped Matrix (S6)	<input type="checkbox"/> 2 cm Muck (A10) (LRR B)
<input type="checkbox"/> Black Histic (A3)	<input type="checkbox"/> Loamy Mucky Mineral (F1)	<input type="checkbox"/> Reduced Vertic (F18)
<input type="checkbox"/> Hydrogen Sulfide (A4)	<input type="checkbox"/> Loamy Gleyed Matrix (F2)	<input type="checkbox"/> Red Parent Material (TF2)
<input type="checkbox"/> Stratified Layers (A5) (LRR C)	<input type="checkbox"/> Depleted Matrix (F3)	<input type="checkbox"/> Other (Explain in Remarks)
<input type="checkbox"/> 1 cm Muck (A9) (LRR D)	<input type="checkbox"/> Redox Dark Surface (F6)	
<input type="checkbox"/> Depleted Below Dark Surface (A11)	<input type="checkbox"/> Depleted Dark Surface (F7)	
<input type="checkbox"/> Thick Dark Surface (A12)	<input type="checkbox"/> Redox Depressions (F8)	
<input type="checkbox"/> Sandy Mucky Mineral (S1)	<input type="checkbox"/> Vernal Pools (F9)	
<input type="checkbox"/> Sandy Gleyed Matrix (S4)		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:		Secondary Indicators (2 or more required)
<u>Primary Indicators (any one indicator is sufficient)</u>		
<input type="checkbox"/> Surface Water (A1)	<input type="checkbox"/> Salt Crust (B11)	<input type="checkbox"/> Water Marks (B1) (Riverine)
<input type="checkbox"/> High Water Table (A2)	<input type="checkbox"/> Biotic Crust (B12)	<input type="checkbox"/> Sediment Deposits (B2) (Riverine)
<input type="checkbox"/> Saturation (A3)	<input type="checkbox"/> Aquatic Invertebrates (B13)	<input type="checkbox"/> Drift Deposits (B3) (Riverine)
<input type="checkbox"/> Water Marks (B1) (Nonriverine)	<input type="checkbox"/> Hydrogen Sulfide Odor (C1)	<input type="checkbox"/> Drainage Patterns (B10)
<input type="checkbox"/> Sediment Deposits (B2) (Nonriverine)	<input type="checkbox"/> Oxidized Rhizospheres along Living Roots (C3)	<input type="checkbox"/> Dry-Season Water Table (C2)
<input type="checkbox"/> Drift Deposits (B3) (Nonriverine)	<input type="checkbox"/> Presence of Reduced Iron (C4)	<input type="checkbox"/> Thin Muck Surface (C7)
<input type="checkbox"/> Surface Soil Cracks (B6)	<input type="checkbox"/> Recant Iron Reduction in Plowed Soils (C6)	<input type="checkbox"/> Crayfish Burrows (C8)
<input type="checkbox"/> Inundation Visible on Aerial Imagery (B7)	<input type="checkbox"/> Other (Explain in Remarks)	<input type="checkbox"/> Saturation Visible on Aerial Imagery (C9)
<input type="checkbox"/> Water-Stained Leaves (B9)		<input type="checkbox"/> Shallow Aquitard (D3)
		<input type="checkbox"/> 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 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

Wetland name or number A

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		Points (only 1 score per box)
Water Quality Functions - Indicators that site functions to improve water quality		
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 Depressions cover > 1/10 area of wetland Depressions present but cover < 1/10 area of wetland No depressions present	points = 6 points = 3 points = 1 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 Forest or shrub 1/3 - 2/3 area of the wetland Ungrazed, herbaceous plants > 2/3 area of wetland Ungrazed herbaceous plants 1/3 - 2/3 area of wetland Forest, shrub, and ungrazed herbaceous < 1/3 area of wetland	points = 10 points = 5 points = 5 points = 2 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	0
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	1
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	1
R 3.2 Does the river on stream have TMDL limits for nutrients, toxics, or pathogens?	Yes = 1 No = 0	1
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	0
Total for R 3	Add the points in the boxes above	2

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		Points (only 1 score per box)
Hydrologic Functions	Indicators that site functions to reduce flooding and stream erosion	
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: <i>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).</i>		
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	4
R 4.2 Characteristics of plants that slow down water velocities during floods: <i>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):</i>		
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	6
Total for R 5	Add the points in the boxes above	10

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?		
R 5.1 Is the stream/river adjacent to the unit downcut?	Yes = 0 No = 1	0
R 5.2 Does the upgradient watershed include a UGA or incorporated area?	Yes = 1 No = 0	0
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	1

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? <i>Choose the description that best fits the site.</i>		
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

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
<p>SC 1.0 Vernal pools Is the wetland unit less than 4000 ft², and does it meet at least two of the following criteria?</p> <ul style="list-style-type: none"> — 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. <p>YES = Go to SC 1.1 NO - not a vernal pool</p> <p>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</p>	
<p>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</p>	<p>Cat. II Cat. III</p>
<p>SC 2.0 Alkali wetlands Does the wetland unit meets one of the following two criteria?</p> <ul style="list-style-type: none"> — 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. <p>OR does the wetland unit meets two of the following three sub-criteria?</p> <ul style="list-style-type: none"> — 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. <p>YES = Category I NO – not an alkali wetland</p>	<p>Cat. I</p>

Wetland name or number A

<p>SC 3.0 Wetlands with High Conservation Value (WHCV)</p> <p>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</p> <p>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</p> <p>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/datasetsearch/wnhpwetlands.pdf YES - contact WNHP/DNR and go to SC 2.4 NO = not a WHCV</p> <p>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</p>	<p>Cat. I</p>
<p>SC 4.0 Bogs and Calcareous Fens</p> <p>Does the wetland unit (or any part of the wetland unit) meet both the criteria for soils and vegetation in bogs or calcareous fens. <i>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.</i></p> <p>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</p> <p>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</p> <p>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</p> <p><i>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.</i></p> <p>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</p> <p>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</p> <p>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:</p> <ul style="list-style-type: none"> • 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 <p>Yes - Is a Category I calcareous fen No - Is not a calcareous fen</p>	<p>Cat. I</p>

Wetland name or number A

<p>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? (<i>Continue only if you have identified a forested class is present in question H 1.1</i>)</p> <ul style="list-style-type: none"> • The wetland is within the "100 year" floodplain of a river or stream • aspen (<i>Populus tremuloides</i>) 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 (<i>see definitions in question H3.1</i>) <p>YES = go to SC 5.1 NO = <i>not a forested wetland with special characteristics</i></p>	
<p>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 (<i>see Table 7</i>) YES = Category I NO = go to SC 5.2</p>	Cat. I
<p>SC 5.2 Does the unit have areas where aspen (<i>Populus tremuloides</i>) represents at least 20% of the total cover of woody species. YES = Category I NO = go to SC 5.3</p>	Cat. I
<p>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. (<i>see Table 7</i>) YES = Category II NO = go to SC 5.5</p>	Cat. II
<p>SC 5.4 Is the forested component of the wetland within the "100 year floodplain" of a river or stream? YES = Category II</p>	Cat. II
<p>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</p>	NA

Wetland name or number A

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.

Wetland name or number B

Sweetwater

RATING SUMMARY – Eastern Washington

Name of wetland (or ID #): Wetland B Date of site visit: 11-22-17

Rated by SD Smith 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

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

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	7			7			7		

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2. Category based on SPECIAL CHARACTERISTICS of wetland

CHARACTERISTIC	CATEGORY	
	Circle the appropriate category	
Vernal Pools	<input checked="" type="checkbox"/> II	<input type="checkbox"/> III
Alkali	<input type="checkbox"/> I	<input type="checkbox"/> II
Wetland with high conservation value	<input type="checkbox"/> I	<input type="checkbox"/> II
Bog	<input type="checkbox"/> I	<input type="checkbox"/> II
Old Growth or Mature Forest – slow growing	<input type="checkbox"/> I	<input type="checkbox"/> II
Aspen Forest	<input type="checkbox"/> I	<input type="checkbox"/> II
Old Growth or Mature Forest – fast growing	<input type="checkbox"/> I	<input checked="" type="checkbox"/> II
Floodplain forest	<input type="checkbox"/> I	<input checked="" type="checkbox"/> II
None of the above	<input type="checkbox"/> I	<input checked="" type="checkbox"/> II

Wetland name or number B

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 <i>(can be added to map of hydroperiods)</i>	D 1.1, D1.4	
Boundary of 150 ft buffer <i>(can be added to another figure)</i>	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 <i>(can be added to map of hydroperiods)</i>	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 <i>(can be added to another figure)</i>	R 2.4	
Plant cover of trees, shrubs, and herbaceous plants	R 1.2, R 4.2	
Width of unit vs. width of stream <i>(can be added to another figure)</i>	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 <i>(can be added to another figure)</i>	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 <i>(can be added to figure above)</i>	S 4.1	
Boundary of 150 ft buffer <i>(can be added to another figure)</i>	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 B

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 leave 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

Wetland name or number B

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 B

RIVERINE WETLANDS		Points (only 1 score per box)
Water Quality Functions - Indicators that site functions to improve water quality		
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





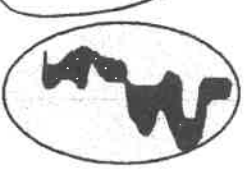

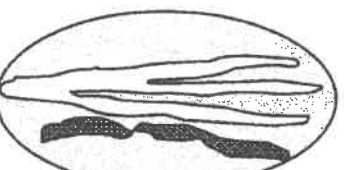
R 2.0 Does the landscape have the potential to support the water quality function at the site?		
R 2.1 Is the unit within an incorporated city or within its UGA?	Yes = 2 No = 0	0
R 2.2 Does the contributing basin include a UGA or incorporated area?	Yes = 1 No = 0	0
R 2.3 Does at least 10% of the contributing 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	1
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	1
R 3.2 Does the river on stream have TMDL limits for nutrients, toxics, or pathogens?	Yes = 2 No = 0	1
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	0
Total for R 3	Add the points in the boxes above	2

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

Wetland name or number B

These questions apply to wetlands of all HGM classes.		(only 1 score per box)
HABITAT FUNCTIONS - Indicators that site functions to provide important habitat		
H 1. Does the wetland unit have the <u>potential</u> to provide habitat for many species?		
<p>H 1.1 Categories of vegetation structure</p> <p>Check the Cowardin vegetation classes present and categories of emergent plants. Size threshold for each category is $\geq \frac{1}{4}$ acre or $\geq 10\%$ of the unit if unit is < 2.5 acres</p> <p> <input type="checkbox"/> Emergent plants 0-12 in. (0 – 30 cm) high are the highest layer and have $> 30\%$ cover <input type="checkbox"/> Emergent plants $> 12 - 40$ in. ($> 30 - 100$ cm) high are the highest layer with $> 30\%$ cover <input type="checkbox"/> Emergent plants > 40 in. (> 100 cm) high are the highest layer with $> 30\%$ cover <input checked="" type="checkbox"/> Scrub/shrub (areas where shrubs have $> 30\%$ cover) 4-6 checks points = 3 <input type="checkbox"/> Forested (areas where trees have $> 30\%$ cover) 3 checks points = 2 2 checks points = 1 1 check points = 0 </p>		9
H 1.2. Is one of the vegetation types "aquatic bed?"	YES = 1 point NO = 0 points	9
<p>H 1.3. Surface Water</p> <p>H 1.3.1 Does the unit have areas of "open" water (without herbaceous or shrub plants) over at least $\frac{1}{4}$ 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</p> <p>H 1.3.2 Does the unit have an intermittent or permanent, and unvegetated stream within its boundaries, or along one side, over at least $\frac{1}{4}$ acre or 10% of its area, (answer yes only if H 1.3.1 is NO)? YES = 3 points NO = 0 points</p>		0
<p>H 1.4. Richness of Plant Species</p> <p>Count the number of plant species in the wetland that cover at least 10 ft². (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 Eurasian Milfoil, reed canarygrass, purple loosestrife, Russian Olive, Phragmites, Canadian Thistle, Yellow-flag Iris, and Salt Cedar (Tamarisk)</p> <p># of species <u>3</u> Scoring: > 9 species = 2 points 4-9 species = 1 point < 4 species = 0 points</p>		0
<p>H 1.5. Interspersion of habitats</p> <p>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</p> <div style="display: flex; justify-content: space-around;"> <div style="text-align: center;">  <p>None = 0 points</p> </div> <div style="text-align: center;">  <p>Low = 1 point</p> </div> <div style="text-align: center;">  <p>Moderate = 2 points</p> </div> <div style="text-align: center;">  <p>High = 3 points</p> </div> </div> <div style="display: flex; justify-content: space-around; margin-top: 20px;"> <div style="text-align: center;">  <p>High = 3 points</p> </div> <div style="text-align: center;">  <p>High = 3 points</p> </div> <div style="text-align: center;">  <p>riparian braided channels with 2 classes = High</p> </div> </div> <p>NOTE: If you have four or more classes or three plants classes and open water the rating is always "high".</p>	Figure__	0

Wetland name or number B

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		Category
<p>Check off any criteria that apply to the wetland. Circle the Category when the appropriate criteria are met.</p>		
<p>SC 1.0 Vernal pools Is the wetland unit less than 4000 ft², and does it meet at least two of the following criteria?</p> <ul style="list-style-type: none"> — 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. <p>YES = Go to SC 1.1 NO - not a vernal pool</p>	<p>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</p>	
<p>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</p>	<p>NO = Category III</p>	<p>Cat. II Cat. III</p>
<p>SC 2.0 Alkali wetlands Does the wetland unit meets one of the following two criteria?</p> <ul style="list-style-type: none"> — 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. <p>OR does the wetland unit meets two of the following three sub-criteria?</p> <ul style="list-style-type: none"> — 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. <p>YES = Category I</p>	<p>NO - not an alkali wetland</p>	<p>Cat. I</p>

Wetland name or number 13

<p>SC 3.0 Wetlands with High Conservation Value (WHCV)</p> <p>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</p> <p>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</p> <p>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</p> <p>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</p>	<p>Cat. I</p>
<p>SC 4.0 Bogs and Calcareous Fens</p> <p>Does the wetland unit (or any part of the wetland unit) meet both the criteria for soils and vegetation in bogs or calcareous fens. <i>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.</i></p> <p>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</p> <p>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</p> <p>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</p> <p><i>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.</i></p> <p>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</p> <p>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</p> <p>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:</p> <ul style="list-style-type: none"> • 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 <p>Yes - Is a Category I calcareous fen No - Is not a calcareous fen</p>	<p>Cat. I</p>

Wetland name or number B

<p>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)</p> <ul style="list-style-type: none"> • The wetland is within the "100 year" floodplain of a river or stream • aspen (<i>Populus tremuloides</i>) represents at least 20% of the total cover of woody species <p>— 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)</p> <p>YES = go to SC 5.1 NO = not a forested wetland with special characteristics</p>		
<p>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</p>	<p>Cat. I</p>	
<p>SC 5.2 Does the unit have areas where aspen (<i>Populus tremuloides</i>) represents at least 20% of the total cover of woody species. YES = Category I NO = go to SC 5.3</p>	<p>Cat. I</p>	
<p>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</p>	<p>Cat. II</p>	
<p>SC 5.4 Is the forested component of the wetland within the "100 year floodplain" of a river or stream? YES = Category II</p>	<p>Cat. II</p>	
<p>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</p>		<p>NA</p>

Wetland name or number B

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.

[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

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Change map data transparency 10%

Showing 0 to 0 of 0 entries

No filter applied, to view records [filter data](#)

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[Category](#)
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[Next](#)

0 500 600ft

100%

12:49 PM 12/31/2019



PHS Features Found

Location: [Caledonia Ltd. \(pg. 120.48173, 47.10938\)](#)

Common Name	Scientific Name	Priority Area	Display Resolution	Feature Type	Full Record
Golden eagle (show)	<i>Aquila chrysaetos</i>	Breeding Area	TOWNSHIP	Area	Show Full Record
Golden eagle (show)	<i>Aquila chrysaetos</i>	Breeding Area	TOWNSHIP	Area	Show Full Record
Northern Spotted Owl (show)	<i>Strix occidentalis</i>	Management Buffer	TOWNSHIP	Area	Show Full Record
Golden eagle (show)	<i>Aquila chrysaetos</i>	Breeding Area	TOWNSHIP	Area	Show Full Record
Mule deer (show)	<i>Odocoileus hemionus hemionus</i>	Regular Concentration	AS MAPPED	Area	Show Full Record
Shrub-steppe (show)	Null	Terrestrial Habitat	AS MAPPED	Area	Show Full Record

Dismiss

My Places

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- garmin GPS Device
- garmin GPS Device
- Untitled Polygon
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- Waypoints

Layers

- Primary Database
- Announcements
- Borders and Labels
- Places
- Photos
- Roads
- 3D Buildings
- Ocean
- Weather
- Galaxy
- Global Awareness
- More
- Terrain

Builder

Line Path Polygon Circle 3D path 3D polygon

Measure the distance between two points on the ground

Map Length:	151.32	Feet
Ground Length:	151.46	
Heading:	233.77	degrees

Mouse Navigation

