

Sewall Wetland Consulting, Inc.

PO Box 880
Fall City, WA 98024

Phone: 253-859-0515

October 28, 2021

Andy Schmidt
300 MissionView Drive
Ellensburg, Washington 98926

RE: Critical Area Report – Schmidt Property
City of Ellensburg, Washington
SWC Job #19-194

Dear Andy,

This report describes our observations of any jurisdictional wetlands, streams and/or buffers on Parcels #12132, 12133, 958408, 536136, 956816-829, in unincorporated Kittitas County, Washington (the “site”). The site consists of 18 abutting parcels with a total area of 136.55 acres and located south of Game Farm Road within the NW ¼ of Section 32, Township 18 North, Range 19 East of the W.M.

METHODOLOGY

Ed Sewall of Sewall Wetland Consulting, Inc. inspected the site in early October of 2021. 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 City of Ellensburg 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).

Due to the season flood irrigation of the site and the regional high water levels in September at the end of the irrigation season, observations of the site were conducted in early October at the end and peak of the high water table season. All irrigation on the site had been off for several weeks prior to our site inspection.



Above: Vicinity Map of site



Above: Aerial photograph from Kittitas Mapsifter website

This combination of no irrigation water on the site for several weeks, as well as the seasonal regional high water period, would give us an accurate depiction of what areas on the site had wetland hydrology with no local flood irrigation influence.

A series of 53 soil pits/data points were excavated on the site to characterize the plant, soil and hydrology conditions.

OBSERVATIONS

Existing Site Documentation.

Prior to visiting the site, a review of several natural resource inventory maps was conducted. Resources reviewed included the National Wetland Inventory Map and the NRCS Soil Survey online mapping and Data, Kittitas County TaxSifter website, WADNR Fpars water type mapping and the WDFW Priority Habitats and species mapping.

National Wetlands Inventory (NWI)

The NWI map depicts several emergent wetlands on the site, all of which correspond to historic and ongoing flood irrigation patterns on the site. In addition Naneum Creek is depicted to the east of the site. Irrigation ditches are also inaccurately depicted as stream type features.

The USFWS data indicates this wetland was mapped in 2017 and not field checked during the inventory. This wetland depiction appears to be the historic pattern of flood irrigation flow paths that are no longer present on the site. The Inventory mapping for Kittitas County specifically states for this area;

Inventory Method:

Wetland identification and interpretation was done “heads-up” using ArcMap versions 10.5-10.6. US Fish & Wildlife Service (USFWS) National Wetlands Inventory (NWI) mapping contractors in Portland, Oregon completed the original aerial photo interpretation and wetland mapping. Primary authors: Michael Holscher, Josh Moss, Tim O’Neill, and Rick Griffin of SWCA Environmental Consulting. QC during the mapping was provided by members of the mapping team. Regional wetland guidance, oversight and final QA for the submitted mapping project were completed by Bill Kirchner, Region 1, USFWS, NWI.

Field reconnaissance was not conducted

Funding for the project was provided by the Washington Department of Ecology,

Data Limitations:

The user of the map is cautioned that, due to the limitation of mapping primarily through aerial photo interpretation, a small percentage of wetlands may have gone unidentified. Since the photography was taken during a particular time and season, there may be discrepancies between the map and current field conditions. Changes in the landscape which occurred after the photography was taken would result in such discrepancies.



Above: NWI map of the area of the site

Soil Survey

According to the NRCS Soil Mapper website, the site is mapped as containing 10 soil types including Nanum, Nack, Manastash, Brickmill, Tahaha, Nack-Brickmill complex and Brickmill-Nanum complex soils. All of these soils are cobbly soils formed in alluvium with drainage classes from somewhat poorly drained to well drained. None of these soil series

are considered "hydric" or wetland soils according to the publication *Hydric Soils of the United States* (USDA NTCHS Pub No.1491, 1991).



Above: NRCS soil map of the site.

Kittitas County Mapsifter

The Kittitas County Mapsifter website depicts three different emergent wetlands on the site, one on the west side of the site and two on the eastern side of the site.



Above: Kittitas County wetland and stream mapping of the site.

WDNR Fpars Stream Mapping

According to the WDNR Fpars stream mapping website, Naneum Creek, a Type S water, is located just east of the site.

WDFW Priority Habitats and Species Maps

The WDFW Priority Habitats and Species mapping for the site depicts a portion of the site as wetland somewhat similar to the NWI mapping of the site. No species specific locations of any listed species are depicted on the site.



Above: WADNR Fpars stream mapping of the site



Above: WDFW Priority habitat mapping of the area of the site.

Field observations

The site is a large flat agricultural site used primarily as grazing lands for cattle as well as growing Timothy hay. The site has a slight slope to the south which is used to facilitate flood irrigation of the site. The site is irrigated with numerous irrigation ditches and a combination of flood irrigation from the ditches, as well as from pipe (Parcels # 958408, 12132 & 12133). This irrigation water seeps across the site from north to south and generally collects along the south side of the site bordering the Cascade Canal. Several irrigation collection pipes pass this water to the south for other users. The main irrigation ditches on the site are shown below with yellow lines;



Above: Main irrigation ditches (yellow lines) that flow across the site.

The site is characterized by a grazed plant community of a mix of weeds and various pasture grasses. The site is irrigated enough during the summer to maintain grass growth for the cattle grazing the site. As a result some wetland species have colonized the site from the irrigation water influence creating seasonal artificially wet soils. In addition, some

area of heavy flood irrigation have some evidence of hydric soils, but with the exception of the identified delineated wetlands, lack any hydrology indicators when the flood irrigation ceases.

Species noted in the pastures include tall fescue, quackgrass, timothy, sedge, Baltic rush, cheat grass, bentgrass, sedge, thistle, aster and some knapweed and reed canard grass.

Soils on the site are very cobbly and extremely compact as a result of years of cattle grazing and the natural characteristics of the soil types found on the site. In general the soils on the site have soil chroma colors of 3 or 2 without any redoximorphic features. Portions of the site include cobbly sandy loams with similar soil colors.



Above: General location of Wetlands, A-E and Naneum Creek. Note: pale blue lines are irrelevant track lines for the gps and do not indicate any wetland or stream edge.

Areas within the irrigation channels has some wetland species and hydric soil indicators, particularly on the eastern side of the site which has numerous flood irrigation paths and ditches. However, wetland hydrology was not present during our site inspections on any of the site areas except those wetland areas identified along the south property line. The remaining area within the pastures outside the wetland delineations

are clearly irrigation features, man-made and should not be regulated as jurisdictional wetlands as they lack hydrology indicators without direct irrigation.

Wetlands

The southern end of the site contained five separate areas which did contain soil saturation within the upper 12” during our site inspections, as well as hydric soil and hydrophytic plants. These areas were identified as wetlands. These areas all consists of grazed pasture areas at the southern border of the site along the north edge of the Cascade Canal and represent the lowest point on the site. These areas are all located within the collection points for all flood water that passes across the site. It’s probable these areas maintain a higher level of soil saturation from the fact they receive all this irrigation water, as well as are located along the canal, which clearly has leaks and remains full during the entire growing season from April to October. The canal water undoubtedly raises groundwater in the areas along its sides and has influenced these areas hydrology. Below is a description of the wetlands found on the site;

Wetland A

Wetland A consists of a grazed pasture wetland located along the south end of the site and gps located with points 181-199. This wetland is located along the tail end of an irrigation ditch as well as the edge of the canal which has a low point where water seeps.



Above: Location of Wetland A & B. Note: pale blue lines are irrelevant track lines for the gps and do not indicate any wetland or stream edge.

Species noted within the wetland include tall fescue, soft rush, reed canary grass and some cattail in the ditched portion along the canal border.

Soil pits excavated within this wetland area revealed a cobbly loam with a B-horizon soil color of 10YR 3/2 with common, medium, distinct, redoximorphic concentrations. Soils were saturated near the surface during our 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 “depressional” wetland, this wetland scored a total of 13 points with 3 for habitat. This indicates a Category IV wetland. According to Kittitas County Municipal Code chapter 17A.04.020 (Buffer width requirements), Category IV wetlands over 1 acre in size have a buffer which consists of the zoning line setbacks and shall not exceed 25’;

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

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

Wetland B-E

Wetland B-E consists of very similar grazed emergent wetlands in very close proximity located east of Wetland A, and like Wetland A, are located along the perimeter of the north edge of the Cascade Canal. These areas were identified by GPS points 202-214 for Wetland B, 215-226 for Wetland C, 227-239 for Wetland D and 240-245 for Wetland E.



Above: Locations of Wetland B-E. Note: pale blue lines are irrelevant track lines for the gps and do not indicate any wetland or stream edge.

Species noted within these wetlands include tall fescue, soft rush, reed canary grass, spike rush, hard stem bulrush, smartweed, and some cattail in the ditched portion along the canal border.

Soil pits excavated within this wetland area revealed a mix of cobbly and sandy loam with a B-horizon soil color of 10YR 3/2 with common,

medium, distinct, redoximorphic concentrations. Soils saturated near the surface during our observation of the wetland.

These wetlands are so similar and in such close proximity, they were rated as one 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 “depressional” wetland, this wetland scored a total of 13 points with 3 for habitat. This indicates a Category IV wetland. According to Kittitas County Municipal Code chapter 17A.04.020 (Buffer width requirements), Category IV wetlands over 1 acre in size have a buffer which consists of the zoning line setbacks and shall not exceed 25’;

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<i>III</i>	<i>over 10,000 sq. ft.</i>	<i>20 - 80 feet</i>
<i>IV*</i>	<i>43,560 sq. ft. (1 acre)</i>	<i>Building setbacks will be determined by the zoning lot line setbacks, but shall not exceed 25 feet.</i>

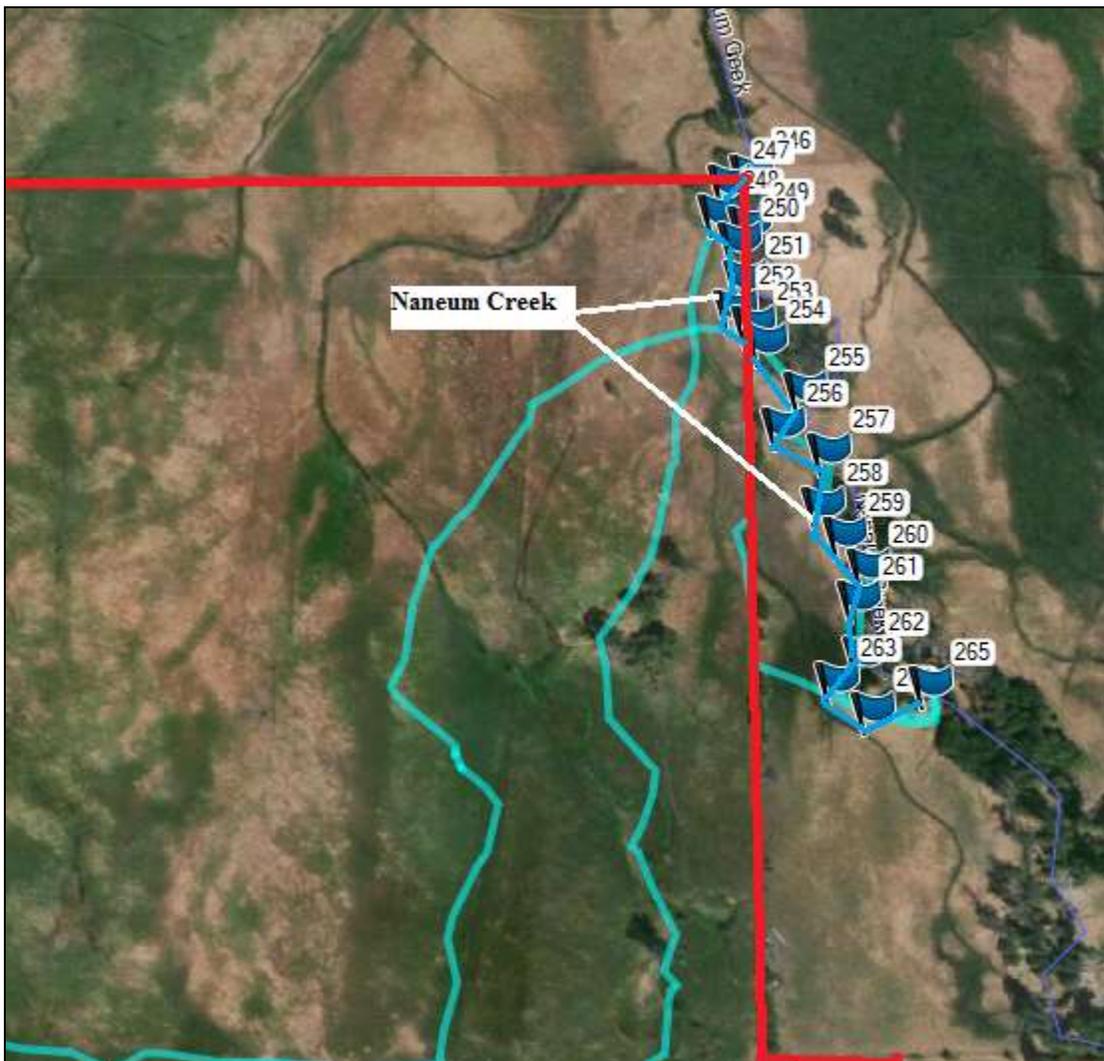
**Includes only non irrigation induced or enhanced Category IV wetlands. Irrigation water does influence ground water table elevations in Kittitas County.*

Streams

Naneum Creek is located along the northeast corner of the site. The Creek is located within the Rural Conservancy zone of the shoreline. The western OHM of the creek was located on the site and within 100’ of the site with gps points 246-265. Naneum Creek is designated as a Type S water or a Shoreline of the site. According to Table 17B.05.050-1 of the Kittitas County Shoreline regulations, Type S waters with a Rural Conservancy designation have a 100’ buffer measured from the OHWM.

17B.05.050-1. Standard Shoreline Buffers (Type S Waters)

Shoreline Environment Designation	Type S Standard Shoreline Buffer Width (feet)
Urban Conservancy	100
Shoreline Residential	100
Rural Conservancy	100
Natural	150



Above: Naneum Creek OHWM located on the northeast corner of the site.
 Note: pale blue lines are irrelevant track lines for the gps and do not indicate any wetland or stream edge.

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.

A handwritten signature in black ink on a light yellow background, appearing to read "Ed Sewall".

Ed Sewall
Senior Wetlands Ecologist PWS #212

Attached: Data sheets
Rating forms and associated exhibits



Approximate data point locations

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.

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

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

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

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

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

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

Wetland name or number _____

RATING SUMMARY – Eastern Washington

Name of wetland (or ID #): Schult Date of site visit: 10-4-21
 Rated by Ed Sand Trained by Ecology? Yes No Date of training _____
 HGM Class Used for Rating Depressional 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 IV

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		
	H	M	L	H	M	L	H	M	L
Site Potential	H	M	<u>L</u>	H	M	<u>L</u>	H	M	<u>L</u>
Landscape Potential	H	<u>M</u>	L	H	<u>M</u>	L	H	M	<u>L</u>
Value	<u>H</u>	M	L	H	<u>M</u>	L	H	M	<u>L</u>
Score Based on Ratings	<u>6</u>			<u>5</u>			<u>3</u>		

2. Category based on SPECIAL CHARACTERISTICS of wetland

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

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, H 1.3	
Location of outlet (can be added to map of hydroperiods)	D 1.1, D 1.4	
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, H 1.3	
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.

- 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)**
- 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**
- 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**
- 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**
- 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 4

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

DEPRESSIONAL WETLANDS		Points (only 1 score per box)
Water Quality Functions - Indicators that the site functions to improve water quality.		
D 1.0 Does the wetland unit have the potential to improve water quality?		
D 1.1 Characteristics of surface water flows out of the wetland unit:		
Wetland has no surface water outlet -	points = 5	3
Wetland has an intermittently flowing outlet	points = 3	
Wetland has a highly constricted permanently flowing outlet	points = 3	
Wetland has a permanently flowing surface outlet	points = 1	
D 1.2 The soil 2 inches below the surface (or duff layer) is clay or organic (use NRCS definitions of soils)		
YES points = 3	NO points = 0	0
D 1.3 Characteristics of persistent vegetation (emergent, shrub, and/or forest Cowardin class)		
Wetland has persistent, ungrazed, vegetation for > 2/3 of area	points = 5	0
Wetland has persistent, ungrazed, vegetation from 1/3 to 2/3 of area	points = 3	
Wetland has persistent, ungrazed vegetation from 1/10 to < 1/3 of area	points = 1	
Wetland has persistent, ungrazed vegetation < 1/10 of area	points = 0	
D 1.4 Characteristics of seasonal ponding or inundation.)		
<i>This is the area of ponding that fluctuates every year. Do not count the area that is permanently ponded.</i>		
Area seasonally ponded is > 1/2 total area of wetland	points = 3	0
Area seasonally ponded is 1/4 - 1/2 total area of wetland	points = 1	
Area seasonally ponded is < 1/4 total area of wetland	points = 0	
Total for D 1		3

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

D 2.0 Does the landscape have the potential to support the water quality function at the site?		
D2.1 Does the Wetland unit receive stormwater discharges?	Yes = 1 (No = 0)	0
D2.2 Is > 10% of the buffer within 150 ft of wetland unit in land uses that generate pollutants	Yes = 1 (No = 0)	1
D2.3 Are there are septic systems within 250 ft of the wetland unit?	Yes = 1 (No = 0)	0
D2.4 Are there are other sources of pollutants coming into the wetland that are not listed in questions D2.1 - D2.3? Source	Yes = 1 (No = 0)	0
Total for D 2		1

Rating of Landscape Potential If score is: 3 or 4 = H 1 or 2 = M 0 = L
Record the rating on the first page

D 3.0 Is the water quality improvement provided by the site valuable to society?		
D3.1 Does the unit discharge directly (within 1 mile) to a stream, river, or lake that is on the 303d list?	Yes = 2 (No = 0)	1
D3.2 Is the unit in a basin or sub-basin where water quality is an issue in some aquatic resource (303d list, eutrophic lakes, problems with nuisance and toxic algae)?	Yes = 1 (No = 0)	0
D3.3 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 or basin in which unit is found)	Yes = 2 (No = 0)	0
Total for D 3		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

DEPRESSIONAL WETLANDS		Points (only 1 score per box)
Hydrologic Functions - Indicators that the site functions to reduce flooding and stream erosion.		
D 4. 0 Does the wetland unit have the potential to reduce flooding and erosion?		
D 4.1 Characteristics of surface water flows out of the wetland unit:		
Wetland has no surface water outlet	points = 8	4
Wetland has an intermittently flowing outlet	points = 4	
Wetland has a highly constricted permanently flowing outlet	points = 4	
Wetland has a permanently flowing surface outlet (if outlet is a ditch and not permanently flowing treat unit as "intermittently flowing")	points = 0	
D 4.2 Depth of storage during wet periods Estimate the height of ponding above the bottom of the outlet. For units with no outlet measure from the surface of permanent water or deepest part (if dry).		
Seasonal ponding: => 3 ft above the lowest point in unit or the surface of permanent ponding	points = 8	0
Seasonal ponding: 2 ft - < 3 ft above the lowest point in unit or the surface of permanent ponding	points = 6	
The wetland is a "headwater" wetland	points = 4	
Seasonal ponding: 1 ft - < 2 ft	points = 2	
Seasonal ponding: 6 in - < 1 ft	points = 4	0
Seasonal ponding: < 6 in or unit has only saturated soils	points = 0	
Total for D 4		4

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

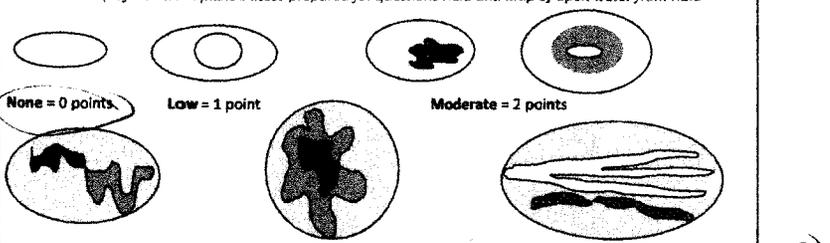
D 5.0 Does the landscape have the potential to support hydrologic functions at the site?		
D5.1 Does the unit receive any stormwater discharges?	Yes = 1 No = 0	0
D5. Is >10% of the land use within 150 ft of the wetland in a land uses that generates runoff?	Yes = 1 No = 0	1
D 5.3 Is more than 25% of the contributing basin of the wetland unit covered with intensive human land uses?	Yes = 2 No = 0	1
Total for D 5		2

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

D 6.0 Are the hydrologic functions provided by the site valuable to society?		
D 6.1 Is the unit in a landscape that has flooding problems? Choose the description that best matches conditions around the wetland unit being rated. Do not add points. Choose the highest score if more than one condition is met.		
<ul style="list-style-type: none"> <input type="checkbox"/> The wetland captures surface water that would otherwise flow downgradient into areas where flooding has damaged human or natural resources (e.g. salmon redds), AND <ul style="list-style-type: none"> <input type="checkbox"/> Damage occurs in sub-basin that is immediately downgradient of unit (points = 2) <input type="checkbox"/> Damage occurs in a sub-basin further down-gradient (points = 1) <input type="checkbox"/> The existing or potential outflow from the wetland is so constrained by human or natural conditions that the water stored by the wetland cannot reach areas that flood. 	Explain why	points = 0
<input type="checkbox"/> There are no problems with flooding downstream of the unit.		points = 0
D 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
Total for D 6		1

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

Wetland name or number A

These questions apply to wetlands of all HGM classes. (only 1 score per box)	
HABITAT FUNCTIONS - Indicators that site functions to provide important habitat	
H 1. Does the wetland unit have the potential to provide habitat for many species?	
H 1.1 Categories of vegetation structure Check the Cowardin vegetation classes present and categories of emergent plants. Size threshold for each category is $\geq \frac{1}{4}$ acre or $\geq 10\%$ of the unit if unit is < 2.5 acres	
<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 - 100cm) high are the highest layer with >30% cover <input type="checkbox"/> Emergent plants > 40 in. (> 100cm) high are the highest layer with >30% cover <input type="checkbox"/> Scrub/shrub (areas where shrubs have >30% cover) <input type="checkbox"/> Forested (areas where trees have >30% cover)	4-6 checks points = 3 3 checks points = 2 2 checks points = 1 1 check points = 0
H 1.2. Is one of the vegetation types "aquatic bed?"	YES = 1 point NO = 0 points
H 1.3. Surface Water H 1.3.1 Does the unit have areas of "open" water (without herbaceous or shrub plants) over at least $\frac{1}{4}$ 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 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	
H 1.4. Richness of Plant Species Count the number of plant species in the wetland that cover at least 10 ft ² . (different patches of the same species can be combined to meet the size threshold) You do not have to name the species. Do not include Eurasian Milfoil, reed canarygrass, purple loosestrife, Russian Olive, Phragmites, Canadian Thistle, Yellow-flag Iris, and Salt Cedar (Tamarisk) # of species _____ Scoring: > 9 species = 2 points 4-9 species = 1 point < 4 species = 0 points	
H 1.5. Interspersion of habitats Decide from the diagrams below whether interspersion between types of plant structures (described in H 1.1), and unvegetated areas (open water or mudflats) is high, medium, low, or none. Use map of Cowardin plant classes prepared for questions H1.1 and map of open water from H1.3	
	
NOTE: If you have four or more classes or three plants classes and open water the rating is always "high".	

Wetland name or number A

H 1.6. Special Habitat Features: Check the habitat features that are present in the wetland unit. The number of checks is the score. <input checked="" type="checkbox"/> Loose rocks larger than 4" or large, downed, woody debris (>4in. diameter) within the area of surface ponding or in stream. <input type="checkbox"/> Cattails or bulrushes are present within the unit. <input type="checkbox"/> Standing snags (diameter at the bottom > 4 inches) in the wetland unit or within 30 m (100ft) of the edge. <input type="checkbox"/> Emergent or shrub vegetation in areas that are permanently inundated/ponded. <input type="checkbox"/> Stable steep banks of fine material that might be used by beaver or muskrat for denning (>45 degree slope) OR signs of recent beaver activity <input type="checkbox"/> Invasive species cover less than 20% in each stratum of vegetation (canopy, sub-canopy, shrubs, herbaceous, moss/ground cover)		Maximum score possible = 6 1
H 1. TOTAL Score - Add the check marks in the box above		2
Rating of Site Potential If score is: 12 - 16 = H 6 - 11 = M 0 - 5 = L Record the rating on the first page		
H 2.0. Does the landscape have the potential to support habitat at the site? H 2.1 Accessible habitat (only area of habitat abutting wetland unit). Calculate: % undisturbed habitat <u>0</u> + [(% moderate and low intensity land uses)/2] <u>0</u> = _____ % If total accessible habitat is: > 1/3 (33.3%) of 1km circle (~100 hectares) points = 3 20 - 33% of 1km circle points = 2 10- 19% of 1km circle points = 1 <10% of 1km circle points = 0		0
H2.2 Undisturbed habitat in 1km circle around unit. If: Undisturbed habitat > 50% of circle points = 3 Undisturbed habitat 10 - 50% and in 1-3 patches points = 2 Undisturbed habitat 10 - 50% and > 3 patches points = 1 Undisturbed habitat < 10% of circle points = 0		0
H2.3 Land use intensity in 1 km circle. If: > 50% of circle is high intensity land use points = (-2) Does not meet criterion above points = 0		-2
The wetland unit is in an area where annual rainfall is less than 12 inches, and its water regime is not influenced by irrigation practices, dams, or water control structures. (Generally, this means outside boundaries of reclamation areas, irrigation district, or reservoirs) points = 3		0
Total for H 2 Add the points in the boxes above		-2
Rating of Landscape Potential If score is: 4- 6 = H 1-3 = M < 1 = L Record the rating on the first page		
H 3.0 Is the Habitat provided by the site valuable to society? H3.1 Does the site provides habitat for species valued in laws, regulations or policies? (choose the highest score) Site meets ANY of the following criteria: points = 2 <input type="checkbox"/> It provides habitat for Threatened or Endangered species (any plant or animal on state or federal lists) <input type="checkbox"/> It is a "priority area" for an individual WDFW species <input type="checkbox"/> It is a Wetland With a High Conservation Value as determined by the Department of Natural Resources <input type="checkbox"/> It has 3 or more priority habitats within 100m (see Appendix B) <input type="checkbox"/> It has been categorized as an important habitat site in a local or regional comprehensive plan, in a Shoreline Master Plan, or in a watershed plan Site has 1 or 2 priority habitats within 100m (see Appendix B) points = 1 Site does not meet any of the criteria above points = 0		0
Rating of Value If score is: 2 = 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	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 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 ¼ 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/datasearch/wnhp/wetlands.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 a WHCV</p>	<p>Cat. I</p>
<p>SC 4.0 Bogs and Calcareous Fens Does the wetland unit (or any part of the wetland unit) meet both the criteria for soils and vegetation in bogs or calcareous fens. Use the key below to identify if the wetland is a bog or calcareous fen. If you answer yes you will still need to rate the wetland based on its functions.</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>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.</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? (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) 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>	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. (see Table 7) 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.

Wetlands
B, C, D + E

Wetland name or number B-E

RATING SUMMARY – Eastern Washington

Name of wetland (or ID #): Wetland B Schmidt Date of site visit: 10-7-21

Rated by ES Trained by Ecology? Yes No Date of training _____

HGM Class Used for Rating Depressional 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 IV

1. Category of wetland based on FUNCTIONS

- ____ Category I - Total score = 22 - 27
- ____ Category II - Total score = 19 - 21
- ____ Category III - Total score = 16 - 18
- Category IV - Total score = 9 - 15

FUNCTION	Improving Water Quality			Hydrologic			Habitat		
	H	M	L	H	M	L	H	M	L
Site Potential			<u>L</u>			<u>L</u>			<u>L</u>
Landscape Potential		<u>M</u>	L		<u>M</u>	L			<u>L</u>
Value	<u>H</u>	M	L		<u>M</u>	L			<u>L</u>
Score Based on Ratings	<u>6</u>			<u>4</u>			<u>3</u>		

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
6 = H,M,M
5 = H,L,L
4 = M,M,L
3 = L,L,L

2. Category based on SPECIAL CHARACTERISTICS of wetland

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

Wetland name or number B-E

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, H 1.3	
Location of outlet (can be added to map of hydroperiods)	D 1.1, D 1.4	
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, H 2.2	
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)	H 1.3.1	

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, H 1.3	
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, H 2.2	
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, H 2.2	
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, H 2.2	
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.

- 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)**
 - 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**
 - 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**
 - 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

DEPRESSIONAL WETLANDS		Points (only 1 score per box)	
Water Quality Functions - Indicators that the site functions to improve water quality.			
D 1.0 Does the wetland unit have the potential to improve water quality?			
D 1.1 Characteristics of surface water flows out of the wetland unit:			
Wetland has no surface water outlet -	points = 5	3	
Wetland has an intermittently flowing outlet	points = 3		
Wetland has a highly constricted permanently flowing outlet	points = 3		
Wetland has a permanently flowing surface outlet	points = 1		
D 1.2 The soil 2 inches below the surface (or duff layer) is clay or organic (use NBCS definitions of soils)			
YES points = 3	NO points = 0	0	
D 1.3 Characteristics of persistent vegetation (emergent, shrub, and/or forest Cowardin class)			
Wetland has persistent, ungrazed, vegetation for > 2/3 of area	points = 5	0	
Wetland has persistent, ungrazed, vegetation from 1/3 to 2/3 of area	points = 3		
Wetland has persistent, ungrazed vegetation from 1/10 to < 1/3 of area	points = 1		
Wetland has persistent, ungrazed vegetation < 1/10 of area	points = 0		
D 1.4 Characteristics of seasonal ponding or inundation.)			
<i>This is the area of ponding that fluctuates every year. Do not count the area that is permanently ponded.</i>			
Area seasonally ponded is > 1/2 total area of wetland	points = 3	1	
Area seasonally ponded is 1/4 - 1/2 total area of wetland	points = 1		
Area seasonally ponded is < 1/4 total area of wetland	points = 0		
Total for D 1		Add the points in the boxes above	3

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

D 2.0 Does the landscape have the potential to support the water quality function at the site?			
D2.1 Does the Wetland unit receive stormwater discharges?	Yes = 1 No = 0	0	
D 2.2 Is > 10% of the buffer within 150 ft of wetland unit in land uses that generate pollutants	Yes = 1 No = 0	1	
D2.3 Are there are septic systems within 250 ft of the wetland unit?	Yes = 1 No = 0	0	
D2.4 Are there are other sources of pollutants coming into the wetland that are not listed in questions D2.1 - D2.3? Source _____	Yes = 1 No = 0	0	
Total for D 2		Add the points in the boxes above	1

Rating of Landscape Potential If score is: 3 or 4 = H 1 or 2 = M 0 = L
Record the rating on the first page

D 3.0 Is the water quality improvement provided by the site valuable to society?			
D3.1 Does the unit discharge directly (within 1 mile) to a stream, river, or lake that is on the 303d list?	Yes = 1 No = 0	1	
D 3.2 Is the unit in a basin or sub-basin where water quality is an issue in some aquatic resource (303d list, eutrophic lakes, problems with nuisance and toxic algae)?	Yes = 1 No = 0	1	
D 3.3 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 or basin in which unit is found)	Yes = 2 No = 0	2	
Total for D 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

DEPRESSIONAL WETLANDS		Points (only 1 score per box)	
Hydrologic Functions - Indicators that the site functions to reduce flooding and stream erosion.			
D 4.0 Does the wetland unit have the potential to reduce flooding and erosion?			
D 4.1 Characteristics of surface water flows out of the wetland unit:			
Wetland has no surface water outlet	points = 8	4	
Wetland has an intermittently flowing outlet	points = 4		
Wetland has a highly constricted permanently flowing outlet	points = 4		
Wetland has a permanently flowing surface outlet (if outlet is a ditch and not permanently flowing treat unit as "intermittently flowing")	points = 0		
D 4.2 Depth of storage during wet periods Estimate the height of ponding above the bottom of the outlet. For units with no outlet measure from the surface of permanent water or deepest part (if dry).			
Seasonal ponding: => 3 ft above the lowest point in unit or the surface of permanent ponding	points = 8	0	
Seasonal ponding: 2 ft - < 3 ft above the lowest point in unit or the surface of permanent ponding	points = 6		
The wetland is a "headwater" wetland"	points = 4		
Seasonal ponding: 1 ft - < 2 ft	points = 4		
Seasonal ponding: 6 in - < 1 ft	points = 2		
Seasonal ponding: < 6 in or unit has only saturated soils	points = 0		
Total for D 4		Add the points in the boxes above	4

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

D 5.0 Does the landscape have the potential to support hydrologic functions at the site?			
D5.1 Does the unit receive any stormwater discharges?	Yes = 1 No = 0	0	
D5. Is >10% of the land use within 150 ft of the wetland in a land uses that generates runoff?	Yes = 1 No = 0	1	
D 5.3 Is more than 25% of the contributing basin of the wetland unit covered with intensive human land uses?	Yes = 1 No = 0	1	
Total for D 5		Add the points in the boxes above	2

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

D 6.0 Are the hydrologic functions provided by the site valuable to society?			
D 6.1 Is the unit in a landscape that has flooding problems? Choose the description that best matches conditions around the wetland unit being rated. Do not add points. Choose the highest score if more than one condition is met.			
<input type="checkbox"/> The wetland captures surface water that would otherwise flow downgradient into areas where flooding has damaged human or natural resources (e.g. salmon redds), AND	points = 2	0	
<input type="checkbox"/> Damage occurs in sub-basin that is immediately downgradient of unit	points = 1		
<input type="checkbox"/> Damage occurs in a sub-basin further down-gradient	points = 1		
<input type="checkbox"/> The existing or potential outflow from the wetland is so constrained by human or natural conditions that the water stored by the wetland cannot reach areas that flood.	points = 0		
Explain why <u>drains to river ditch</u>	points = 0		
<input type="checkbox"/> There are no problems with flooding downstream of the unit.	points = 0		
D 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 D 6		Add the points in the boxes above	0

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

Wetland name or number B

H 1.6. Special Habitat Features: Check the habitat features that are present in the wetland unit. The number of checks is the score. <input type="checkbox"/> Loose rocks larger than 4" or large, downed, woody debris (>4in. diameter) within the area of surface ponding or in stream. <input type="checkbox"/> Cattails or bulrushes are present within the unit. <input type="checkbox"/> Standing snags (diameter at the bottom > 4 inches) in the wetland unit or within 30 m (100ft) of the edge. <input type="checkbox"/> Emergent or shrub vegetation in areas that are permanently inundated/ponded. <input type="checkbox"/> Stable steep banks of fine material that might be used by beaver or muskrat for denning (>45 degree slope) OR signs of recent beaver activity <input type="checkbox"/> Invasive species cover less than 20% in each stratum of vegetation (canopy, sub-canopy, shrubs, herbaceous, moss/ground cover) Maximum score possible = 6	
H 1. TOTAL Score - Add the check marks in the box above	
Rating of Site Potential If score is: 12 - 16 = H 6 - 11 = M 0 - 5 = L Record the rating on the first page	
H 2.0. Does the landscape have the potential to support habitat at the site?	
H 2.1 Accessible habitat (only area of habitat abutting wetland unit). Calculate: % undisturbed habitat <u>0</u> + [(% moderate and low intensity land uses)/2] <u>0</u> = <u>0</u> % If total accessible habitat is: > 1/3 (33.3%) of 1km circle (~100 hectares) points = 3 20 - 33% of 1km circle points = 2 10 - 19% of 1km circle points = 1 <10% of 1km circle points = 0	
H 2.2 Undisturbed habitat in 1km circle around unit. If: Undisturbed habitat > 50% of circle points = 3 Undisturbed habitat 10 - 50% and in 1-3 patches points = 2 Undisturbed habitat 10 - 50% and > 3 patches points = 1 Undisturbed habitat < 10% of circle points = 0	
H 2.3 Land use intensity in 1 km circle. If: > 50% of circle is high intensity land use points = (-2) Does not meet criterion above points = 0	
The wetland unit is in an area where annual rainfall is less than 12 inches, and its water regime is not influenced by irrigation practices, dams, or water control structures. (Generally, this means outside boundaries of reclamation areas, irrigation district, or reservoirs) points = 3	
Total for H 2 Add the points in the boxes above	
Rating of Landscape Potential If score is: 4 - 6 = H 1-3 = M <1 = L Record the rating on the first page	
H 3.0 Is the Habitat provided by the site valuable to society?	
H3.1 Does the site provides habitat for species valued in laws, regulations or policies? (choose the highest score) Site meets ANY of the following criteria: points = 2 <input type="checkbox"/> It provides habitat for Threatened or Endangered species (any plant or animal on state or federal lists) <input type="checkbox"/> It is a "priority area" for an individual WDFW species <input type="checkbox"/> It is a Wetland With a High Conservation Value as determined by the Department of Natural Resources <input type="checkbox"/> It has 3 or more priority habitats within 100m (see Appendix B) <input type="checkbox"/> It has been categorized as an important habitat site in a local or regional comprehensive plan, in a Shoreline Master Plan, or in a watershed plan Site has 1 or 2 priority habitats within 100m (see Appendix B) points = 1 Site does not meet any of the criteria above points = 0	
Rating of Value If score is: 2 = H 1 = M 0 = L Record the rating on the first page	

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) 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>	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. (see Table 7) 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 _____

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.

low spot

WETLAND DETERMINATION DATA FORM - Arid West Region

Project/Site: Schmitt City/County: Kittitas Sampling Date: 10-4-21
Applicant/Owner: _____ State: WA Sampling Point: DP#12
Investigator(s): Ed Sewell Section, Township, Range: S32 T18 R19
Landform (hillslope, terrace, etc.): _____ Local relief (concave, convex, none): _____ Slope (%): _____
Subregion (LRR): _____ Lat: _____ Long: _____ Datum: _____
Soil Map Unit Name: _____ NWI classification: _____
Are climatic / hydrologic conditions on the site typical for this time of year? Yes No _____ (If no, explain in Remarks.)
Are Vegetation _____, Soil _____, or Hydrology _____ significantly disturbed? Are "Normal Circumstances" present? Yes No _____
Are Vegetation _____, Soil _____, or Hydrology _____ naturally problematic? (If needed, explain any answers in Remarks.)

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

Hydrophytic Vegetation Present? Yes No _____ Is the Sampled Area within a Wetland? Yes _____ No
Hydric Soil Present? Yes _____ No
Wetland Hydrology Present? Yes _____ No
Remarks: - grazed, irrigated pasture

VEGETATION - Use scientific names of plants.

Tree Stratum (Plot size: _____) Absolute % Cover _____ Dominant Indicator Species? _____ Status _____
1. _____
2. _____
3. _____
4. _____ = Total Cover
Savanna/Shrub Stratum (Plot size: _____)
1. _____
2. _____
3. _____
4. _____ = Total Cover
Herb Stratum (Plot size: _____) Absolute % Cover _____ Dominant Indicator Species? _____ Status _____
1. Schirochloa sp 40 FAC
2. Corn 50 FAC
3. _____
4. _____
5. _____
6. _____
7. _____
8. _____ = Total Cover
Woody Vine Stratum (Plot size: _____)
1. _____
2. _____ = Total Cover
% Bare Ground in Herb Stratum _____ % Cover of Biotic Crust _____
Remarks:

SOIL

Sampling Point: _____

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)
Depth (inches) Matrix Color (moist) % Redox Features Color (moist) % Type Loc Texture Remarks
10 100% 2/2 Few Fin Silt clayey lo
Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered or Coated Sand Grains. Location: PL=Pore Lining, M=Matrix.
Hydric Soil Indicators: (Applicable to all LRRs, unless otherwise noted.)
Histosol (A1) Sandy Redox (S5)
Histic Epipedon (A2) Stripped Matrix (S6)
Black Histic (A3) Loamy Mucky Mineral (F1)
Hydrogen Sulfide (A4) Loamy Gleyed Matrix (F2)
Stratified Layers (A5) (LRR C) Depleted Matrix (F3)
1 cm Muck (A8) (LRR D) Redox Dark Surface (F6)
Depleted Below Dark Surface (A11) Depleted Dark Surface (F7)
Thick Dark Surface (A12) Redox Depressions (F8)
Sandy Mucky Mineral (S1) Vernal Pools (F9)
Sandy Gleyed Matrix (S4)
Indicators for Problematic Hydric Soils:
1 cm Muck (A9) (LRR C)
2 cm Muck (A10) (LRR B)
Reduced Vertic (F18)
Red Parent Material (TF2)
Other (Explain in Remarks)
Restrictive Layer (if present):
Type: _____
Depth (inches): _____
Hydric Soil Present? Yes No _____
Remarks:

HYDROLOGY

Wetland Hydrology Indicators:
Primary Indicators (minimum of one required; check all that apply)
Surface Water (A1) High Water Table (A2) Saturation (A3) Water Marks (B1) (Nonriverine) Sediment Deposits (B2) (Nonriverine) Drift Deposits (B3) (Nonriverine) Surface Soil Cracks (B6) Inundation Visible on Aerial Imagery (B7) Water-Stained Leaves (B9)
Secondary Indicators (2 or more required)
Silt Crust (B11) Biotic Crust (B12) Aquatic Invertebrates (B13) Hydrogen Sulfide Odor (C1) Oxidized Rhizospheres along Living Roots (C3) Presence of Reduced Iron (C4) Recant Iron Reduction in Tilled Soils (C6) Thin Muck Surface (C7) Other (Explain in Remarks)
Water Marks (B1) (Riverine) Sediment Deposits (B2) (Riverine) Drift Deposits (B3) (Riverine) Drainage Patterns (B10) Dry-Season Water Table (C2) Crayfish Burrows (C8) Saturation Visible on Aerial Imagery (C9) Shallow Aquitard (D3) FAC-Neutral Test (D5)
Field Observations:
Surface Water Present? Yes _____ No Depth (inches): _____
Water Table Present? Yes _____ No Depth (inches): _____
Saturation Present? 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:

WETLAND DETERMINATION DATA FORM – Arid West Region

Project/Site: Schmidt City/County: Kittitas Sampling Date: 10-7-21
 Applicant/Owner: _____ State: WA Sampling Point: DP# 29
 Investigator(s): Ed Scmidt Section, Township, Range: S32 T18N R14E
 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? Yes _____ No
 Are Vegetation _____, Soil _____, or Hydrology _____ naturally problematic? Yes _____ No (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: <u>grazed irrigated pasture</u>			

VEGETATION – Use scientific names of plants.

<p>Tree Stratum (Plot size: _____)</p> <p>1. _____</p> <p>2. _____</p> <p>3. _____</p> <p>4. _____</p> <p>Sapling/Shrub Stratum (Plot size: _____)</p> <p>1. _____</p> <p>2. _____</p> <p>3. _____</p> <p>4. _____</p> <p>5. _____</p> <p>Herb Stratum (Plot size: _____)</p> <p>1. <u>Fishon amara</u> <u>100</u> <u>FR</u></p> <p>2. _____</p> <p>3. _____</p> <p>4. _____</p> <p>5. _____</p> <p>6. _____</p> <p>7. _____</p> <p>8. _____</p> <p>Woody Vine Stratum (Plot size: _____)</p> <p>1. _____</p> <p>2. _____</p> <p>% Bare Ground in Herb Stratum _____ % Cover of Biotic Crust _____</p>	<p>Absolute Dominant Indicator</p> <p>% Cover _____ Species? _____ Status _____</p> <p>Dominance Test worksheet:</p> <p>Number of Dominant Species That Are OBL, FACW, or FAC: <u>1</u> (A)</p> <p>Total Number of Dominant Species Across All Strata: <u>1</u> (B)</p> <p>Percent of Dominant Species That Are OBL, FACW, or FAC: <u>100</u> (A/B)</p> <p>Prevalence Index worksheet:</p> <p>Total % Cover of: _____ Multiply by: _____</p> <p>OBL species _____ x 1 = _____</p> <p>FACW species _____ x 2 = _____</p> <p>FAC species _____ x 3 = _____</p> <p>FACU species _____ x 4 = _____</p> <p>UPL species _____ x 5 = _____</p> <p>Column Totals: _____ (A) _____ (B)</p> <p>Prevalence Index = B/A = _____</p> <p>Hydrophytic Vegetation Indicators:</p> <p>— Dominance Test is >50% <input checked="" type="checkbox"/></p> <p>— Prevalence Index is ≤3.0' <input checked="" type="checkbox"/></p> <p>— Morphological Adaptations¹ (Provide supporting data in Remarks or on a separate sheet) <input checked="" type="checkbox"/></p> <p>— Problematic Hydrophytic Vegetation¹ (Explain) <input checked="" type="checkbox"/></p> <p>¹Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.</p> <p>Hydrophytic Vegetation Present? Yes _____ No <input checked="" type="checkbox"/></p>
Remarks: _____	

SOIL

Sampling Point _____

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

Depth (inches)	Matrix		Redox Features				Texture	Remarks
	Color (moist)	%	Color (moist)	%	Type	Loc ¹		
16	10YR 3/3						subsoil	

Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered or Coated Sand Grains. ¹Location: PL=Pore Lining, M=Matrix.

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

— Histosol (A1)	— Sandy Redox (S5)	— Indicators for Problematic Hydric Soils:
— Histic Epipedon (A2)	— Stripped Matrix (S8)	— 1 cm Muck (A8) (LRR C)
— Black Histic (A3)	— Loamy Mucky Mineral (F1)	— 2 cm Muck (A10) (LRR B)
— Hydrogen Sulfide (A4)	— Loamy Gleyed Matrix (F2)	— Reduced Vertic (F18)
— Stratified Layers (A5) (LRR C)	— Depleted Matrix (F3)	— Red Parent Material (TF2)
— 1 cm Muck (A8) (LRR D)	— Redox Dark Surface (F8)	— Other (Explain in Remarks)
— Depleted Below Dark Surface (A11)	— Depleted Dark Surface (F7)	
— Thick Dark Surface (A12)	— Redox Depressions (F8)	
— Sandy Mucky Mineral (S1)	— Vernal Pools (F9)	
— Sandy Gleyed Matrix (S4)		

Restrictive Layer (if present):

Type: _____

Depth (Inches): _____

Hydric Soil Present? Yes _____ No

Remarks: _____

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (minimum of one required; check all that apply)

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

Secondary Indicators (2 or more required)

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: _____

wct B

WETLAND DETERMINATION DATA FORM - Arid West Region

Project/Site: Schmidt City/County: Kittitas Sampling Date: 10-7-21 Applicant/Owner: State: WA Sampling Point: DP # 37 Investigator(s): Ed Scumell Section, Township, Range: S32 T18N R19E

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

Hydrophytic Vegetation Present? Yes No Is the Sampled Area within a Wetland? Yes No Wetland Hydrology Present? Yes No Remarks: grassland irrigated pasture

VEGETATION - Use scientific names of plants.

Tree Stratum (Plot size:) Absolute % Cover Dominant Species? Status Dominance Test worksheet: Number of Dominant Species That Are OBL, FACW, or FAC: 2 (A) Total Number of Dominant Species Across All Strata: 2 (B) Percent of Dominant Species That Are OBL, FACW, or FAC: 100% (A/B)

SOIL

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.) Depth (inches) Matrix Color (moist) % Redox Features Color (moist) % Type Loc Texture Remarks

HYDROLOGY

Wetland Hydrology Indicators: Primary Indicators (minimum of one required; check all that apply) Secondary Indicators (2 or more required) Surface Water (A1) Silt Crust (B11) Water Marks (B1) (Riverine)

WETLAND DETERMINATION DATA FORM - Arid West Region

wet B

Project/Site: Schmidt City/County: Kittitas Sampling Date: 10-7-21
 Applicant/Owner: _____ State: WA Sampling Point: DR# 39
 Investigator(s): Ed Scumell Section, Township, Range: S32 T18N R14E
 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? Yes _____ No
 Are Vegetation _____, Soil _____, or Hydrology _____ naturally problematic? Yes _____ No (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 _____	Is the Sampled Area within a Wetland? Yes <input checked="" type="checkbox"/> No _____
Hydric Soil Present?	Yes <input checked="" type="checkbox"/> No _____	
Wetland Hydrology Present?	Yes <input checked="" type="checkbox"/> No _____	
Remarks:	<u>grazed irrigated pasture</u>	

VEGETATION - Use scientific names of plants.

Tree Stratum (Plot size: _____)	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				
Sapling/Shrub Stratum (Plot size: _____)	Absolute % Cover	Dominant Species?	Indicator Status	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 = _____
7. _____				Column Totals: _____ (A) _____ (B)
8. _____				Prevalence Index = B/A = _____
= Total Cover				
Herb Stratum (Plot size: _____)	Absolute % Cover	Dominant Species?	Indicator Status	Hydrophytic Vegetation Indicators:
1. <u>Corn</u>	<u>50</u>		<u>FAC</u>	___ Dominance Test is >50% <input checked="" type="checkbox"/>
2. _____				___ Prevalence Index is >3.0 ¹ <input checked="" type="checkbox"/>
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				
Woody Vine Stratum (Plot size: _____)	Absolute % Cover	Dominant Species?	Indicator Status	¹ Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.
1. _____				
2. _____				
= Total Cover				
% Bare Ground in Herb Stratum _____		% Cover of Biotic Crust _____		Hydrophytic Vegetation Present? Yes _____ No _____
Remarks:				

SOIL

Sampling Point: _____

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

Depth (inches)	Matrix			Redox Features				Texture	Remarks
	Color (moist)	%		Color (moist)	%	Type ¹	Loc ²		
0	<u>10YR 3/2</u>								
16	<u>2.5Y 4/2</u>			<u>CMP</u>				<u>clay</u>	

Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered or Coated Sand Grains. ²Location: PL=Pore Lining, M=Matrix.

Hydric Soil Indicators: (Applicable to all LRRs, unless otherwise noted.)	Indicators for Problematic Hydric Soils:
___ Histosol (A1)	___ Sandy Redox (S8)
___ Histic Epipedon (A2)	___ Stripped Matrix (S8)
___ Black Histic (A3)	___ Loamy Mucky Mineral (F1)
___ Hydrogen Sulfide (A4)	___ Loamy Gleyed Matrix (F2)
___ Stratified Layers (A5) (LRR C)	___ Depleted Matrix (F3)
___ 1 cm Muck (A8) (LRR D)	___ Redox Dark Surface (F8)
___ Depleted Below Dark Surface (A11)	___ Depleted Dark Surface (F7)
___ Thick Dark Surface (A12)	___ Redox Depressions (F8)
___ Sandy Mucky Mineral (S1)	___ Vernal Pools (F9)
___ Sandy Gleyed Matrix (S4)	

Remarks:

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (minimum of one required; check all that apply)	Secondary Indicators (2 or more required)
___ Surface Water (A1)	___ Salt Crust (B11)
___ High Water Table (A2)	___ Biotic Crust (B12)
___ Saturation (A3)	___ Aquatic Invertebrates (B13)
___ Water Marks (B1) (Nonriverine)	___ Hydrogen Sulfide Odor (C1)
___ Sediment Deposits (B2) (Nonriverine)	___ Oxidized Rhizospheres along Living Roots (C3)
___ Drift Deposits (B3) (Nonriverine)	___ Presence of Reduced Iron (C4)
___ Surface Soil Cracks (B6)	___ Recent Iron Reduction in Tilled Soils (C6)
___ Inundation Visible on Aerial Imagery (B7)	___ Thin Muck Surface (C7)
___ Water-Stained Leaves (B8)	___ Other (Explain in Remarks)
___ Water Marks (B1) (Riverine)	___ Water Marks (B1) (Riverine)
___ Sediment Deposits (B2) (Riverine)	___ Sediment Deposits (B2) (Riverine)
___ Drift Deposits (B3) (Riverine)	___ Drift Deposits (B3) (Riverine)
___ Drainage Patterns (B10)	___ Drainage Patterns (B10)
___ Dry-Season Water Table (C2)	___ Dry-Season Water Table (C2)
___ Crayfish Burrows (C6)	___ Crayfish Burrows (C6)
___ Saturation Visible on Aerial Imagery (C9)	___ Saturation Visible on Aerial Imagery (C9)
___ Shallow Aquitard (D3)	___ Shallow Aquitard (D3)
___ FAC-Neutral Test (D5)	___ FAC-Neutral Test (D5)

Field Observations:

Surface Water Present?	Yes _____ No <input checked="" type="checkbox"/>	Depth (Inches): _____	Wetland Hydrology Present? Yes <input checked="" type="checkbox"/> No _____
Water Table Present?	Yes <input checked="" type="checkbox"/> No _____	Depth (Inches): _____	
Saturation Present? (includes capillary fringe)	Yes <input checked="" type="checkbox"/> No _____	Depth (Inches): <u>10</u>	

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

Remarks:

WETLAND DETERMINATION DATA FORM – Arid West Region

Project/Site: Schmidt City/County: Kittitas Sampling Date: 10-7-21
 Applicant/Owner: _____ State: WA Sampling Point: DR#40
 Investigator(s): Ed Scmidt Section, Township, Range: S32 T18N R19E
 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? Yes No _____
 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"/>	Is the Sampled Area within a Wetland?	Yes <input checked="" type="checkbox"/> No <input type="checkbox"/>
Hydric Soil Present?	Yes <input type="checkbox"/> No <input checked="" type="checkbox"/>		Yes <input type="checkbox"/> No <input type="checkbox"/>
Wetland Hydrology Present?	Yes <input type="checkbox"/> No <input type="checkbox"/>		Yes <input type="checkbox"/> No <input type="checkbox"/>
Remarks: <u>grazed irrigated pasture</u>			

VEGETATION – Use scientific names of plants.

Tree Stratum (Plot size: _____)	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				
Sapling/Shrub Stratum (Plot size: _____)	Absolute % Cover	Dominant Species?	Indicator Status	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 = _____
= Total Cover				UPL species _____ x 5 = _____
				Column Totals: _____ (A) _____ (B)
				Prevalence Index = B/A = _____
Herb Stratum (Plot size: _____)	Absolute % Cover	Dominant Species?	Indicator Status	Hydrophytic Vegetation Indicators:
1. <u>Festuca arvensis</u>			<u>FAC</u>	Dominance Test is >50% <input checked="" type="checkbox"/>
2. _____				Prevalence Index is ≤3.0' <input type="checkbox"/>
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				
Woody Vine Stratum (Plot size: _____)	Absolute % Cover	Dominant Species?	Indicator Status	
1. _____				
2. _____				
= Total Cover				
% Bare Ground in Herb Stratum _____ % Cover of Biotic Crust _____				
Remarks:				¹ Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.
				Hydrophytic Vegetation Present? Yes <input checked="" type="checkbox"/> No <input type="checkbox"/>

SOIL

Sampling Point _____

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)	%				
<u>16</u>	<u>10YR 3/3</u>						<u>clay loam</u>	

Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered or Coated Sand Grains. ²Location: PL=Pore Lining, M=Matrix.

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

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

Indicators for Problematic Hydric Soils:

Restrictive Layer (if present):

Type: _____

Depth (inches): _____

Hydric Soil Present? Yes No

Remarks:

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (minimum of one required; check all that apply)

___ Surface Water (A1)	___ Salt Crust (B11)	___ Water Marks (B1) (Riverine)
___ High Water Table (A2)	___ Biotic Crust (B12)	___ Sediment Deposits (B2) (Riverine)
___ Saturation (A3)	___ Aquatic Invertebrates (B13)	___ Drift Deposits (B3) (Riverine)
___ Water Marks (B1) (Nonriverine)	___ Hydrogen Sulfide Odor (C1)	___ Drainage Patterns (B10)
___ Sediment Deposits (B2) (Nonriverine)	___ Oxidized Rhizospheres along Living Roots (C3)	___ Dry-Season Water Table (C2)
___ Drift Deposits (B3) (Nonriverine)	___ Presence of Reduced Iron (C4)	___ Crayfish Burrows (C6)
___ Surface Soil Cracks (B6)	___ Recent Iron Reduction in Tilled Soils (C5)	___ Saturation Visible on Aerial Imagery (C9)
___ Inundation Visible on Aerial Imagery (B7)	___ Thin Muck Surface (C7)	___ Shallow Aquitard (D3)
___ Water-Stained Leaves (B9)	___ Other (Explain in Remarks)	___ FAC-Neutral Test (D5)

Secondary Indicators (2 or more required)

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? (Includes capillary fringe)	Yes <input type="checkbox"/> No <input checked="" type="checkbox"/>	Depth (inches): _____	

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

Remarks:

Wet B

WETLAND DETERMINATION DATA FORM - Arid West Region

Project/Site: Schmidt City/County: Kittitas Sampling Date: 10-7-21
 Applicant/Owner: _____ State: WA Sampling Point: DP#4
 Investigator(s): Ed Scumell Section, Township, Range: S32 T18N R14E
 Landform (hilllope, 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 _____	Is the Sampled Area within a Wetland? Yes <input checked="" type="checkbox"/> No _____
Hydric Soil Present? Yes <input checked="" type="checkbox"/> No _____	
Wetland Hydrology Present? Yes <input checked="" type="checkbox"/> No _____	
Remarks: <u>grazed irrigated pasture</u>	

VEGETATION - Use scientific names of plants.

Tree Stratum (Plot size: _____)	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 (Plot size: _____)	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 = _____			
7. _____	Column Totals: _____ (A) _____ (B)			
8. _____	Prevalence Index = B/A = _____			
= Total Cover				
Herb Stratum (Plot size: _____)	Hydrophytic Vegetation Indicators:			
1. <u>Juncus balticus</u>	<u>60</u>	<u>FACU</u>		
2. <u>Festuca</u>	<u>40</u>	<u>FAC</u>		
3. _____				
4. _____				
5. _____				
6. _____				
7. _____				
8. _____				
= Total Cover				
Woody Vine Stratum (Plot size: _____)	Hydrophytic Vegetation Indicators:			
1. _____				
2. _____				
= Total Cover				
% Bare Ground in Herb Stratum _____	% Cover of Biotic Crust _____			
Remarks: _____				

SOIL

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

Depth (inches)	Matrix		Redox Features				Texture	Remarks
	Color (moist)	%	Color (moist)	%	Type	Loc		
<u>8</u>	<u>10YR 2/2</u>		<u>Cm</u>					
<u>10</u>	<u>10YR 3/2</u>		<u>Cm</u>				<u>30% lo</u>	

Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered or Coated Sand Grains. Location: PL=Pore Lining, M=Matrix.

Hydric Soil Indicators: (Applicable to all LRRs, unless otherwise noted.)	Indicators for Problematic Hydric Soils:
<input checked="" type="checkbox"/> Histosol (A1)	<input type="checkbox"/> 1 cm Muck (A9) (LRR C)
<input type="checkbox"/> Histic Epipedon (A2)	<input type="checkbox"/> Stripped Matrix (S8)
<input type="checkbox"/> Black Histic (A3)	<input type="checkbox"/> Loamy Mucky Mineral (F1)
<input type="checkbox"/> Hydrogen Sulfide (A4)	<input type="checkbox"/> Loamy Gleyed Matrix (F2)
<input type="checkbox"/> Stratified Layers (A5) (LRR C)	<input type="checkbox"/> Depleted Matrix (F3)
<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)	

Restrictive Layer (if present):
 Type: _____
 Depth (inches): _____
 Hydric Soil Present? Yes No _____

Remarks: _____

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (minimum of one required; check all that apply)	Secondary Indicators (2 or more required)
<input checked="" type="checkbox"/> Surface Water (A1)	<input type="checkbox"/> Soil Crust (B11)
<input checked="" type="checkbox"/> High Water Table (A2)	<input type="checkbox"/> Biotic Crust (B12)
<input checked="" type="checkbox"/> Saturation (A3)	<input type="checkbox"/> Aquatic Invertebrates (B13)
<input type="checkbox"/> Water Marks (B1) (Nonriverine)	<input type="checkbox"/> Hydrogen Sulfide Odor (C1)
<input type="checkbox"/> Sediment Deposits (B2) (Nonriverine)	<input type="checkbox"/> Oxidized Rhizospheres along Living Roots (C3)
<input type="checkbox"/> Drift Deposits (B3) (Nonriverine)	<input type="checkbox"/> Presence of Reduced Iron (C4)
<input type="checkbox"/> Surface Soil Cracks (B6)	<input type="checkbox"/> Recent Iron Reduction in Tilled Soils (C5)
<input type="checkbox"/> Inundation Visible on Aerial Imagery (B7)	<input type="checkbox"/> Thin Muck Surface (C7)
<input type="checkbox"/> Water-Stained Leaves (B8)	<input type="checkbox"/> Other (Explain in Remarks)

Field Observations:

Surface Water Present? Yes <input checked="" type="checkbox"/> No _____	Depth (inches): _____	Wetland Hydrology Present? Yes <input checked="" type="checkbox"/> No _____
Water Table Present? Yes <input checked="" type="checkbox"/> No _____	Depth (inches): _____	
Saturation Present? Yes <input checked="" type="checkbox"/> No _____	Depth (inches): <u>10'</u>	

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

WETLAND DETERMINATION DATA FORM – Arid West Region

Project/Site: Schmidt City/County: Kittitas Sampling Date: 10-7-21
 Applicant/Owner: _____ State: WA Sampling Point: DP# 44
 Investigator(s): Ed Semell Section, Township, Range: S32 T18N R14E
 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 <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: <u>grazed irrigated pasture</u>			

VEGETATION – Use scientific names of plants.

Tree Stratum (Plot size: _____)	Absolute % Cover	Dominant Species?	Indicator Status	Dominance Test worksheet: Number of Dominant Species That Are OBL, FACW, or FAC: _____ (A)
1. _____	_____	_____	_____	Total Number of Dominant Species Across All Strata: <u>1</u> (B)
2. _____	_____	_____	_____	
3. _____	_____	_____	_____	
4. _____	_____	_____	_____	
_____ = Total Cover				Percent of Dominant Species That Are OBL, FACW, or FAC: _____ (AB)
Sapling/Shrub Stratum (Plot size: _____)	Prevalence Index worksheet: Total % Cover of: _____ Multiply by: _____			
1. _____	OBL species _____	x 1 = _____		
2. _____	FACW species _____	x 2 = _____		
3. _____	FAC species _____	x 3 = _____		
4. _____	FACU species _____	x 4 = _____		
5. _____	UPL species _____	x 5 = _____		
_____ = Total Cover				Column Totals: _____ (A) _____ (B)
Prevalence Index = B/A = _____				
Herb Stratum (Plot size: _____)	Hydrophytic Vegetation indicators:			
1. <u>C. ca sp.</u>	Dominance Test is >50% <input checked="" type="checkbox"/>			
2. _____	Prevalence Index is ≤3.0' <input checked="" type="checkbox"/>			
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, unless disturbed or problematic.			
6. _____				
7. _____				
8. _____				
_____ = Total Cover				
Woody Vine Stratum (Plot size: _____)	Hydrophytic Vegetation Present? Yes <input checked="" type="checkbox"/> No _____			
1. _____				
2. _____				
_____ = Total Cover				
% Bare Ground in Herb Stratum _____		% Cover of Biotic Crust _____		
Remarks:				

SOIL

Sampling Point: _____

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

Depth (inches)	Matrix		Redox Features				Texture	Remarks
	Color (moist)	%	Color (moist)	%	Type	Loc ²		
<u>14</u>	<u>10B2/2</u>						<u>Sandy</u>	

¹Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered or Coated Sand Grains. ²Location: PL=Pore Lining, 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"/> Histic Epipedon (A2) <input type="checkbox"/> Black Histic (A3) <input type="checkbox"/> Hydrogen Sulfide (A4) <input type="checkbox"/> Stratified Layers (A5) (LRR C) <input type="checkbox"/> 1 cm Muck (A8) (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 (S8) <input type="checkbox"/> Loamy Mucky Mineral (F1) <input type="checkbox"/> Loamy Gleyed Matrix (F2) <input type="checkbox"/> Depleted Matrix (F3) <input type="checkbox"/> Redox Dark Surface (F8) <input type="checkbox"/> Depleted Dark Surface (F7) <input type="checkbox"/> Redox Depressions (F8) <input type="checkbox"/> Vernal Pools (F9)
<input type="checkbox"/> 1 cm Muck (A9) (LRR C) <input type="checkbox"/> 2 cm Muck (A10) (LRR B) <input type="checkbox"/> Reduced Vertic (F18) <input type="checkbox"/> Red Parent Material (TF2) <input type="checkbox"/> Other (Explain in Remarks)	

Restrictive Layer (if present):
 Type: _____
 Depth (inches): _____
 Remarks: _____

Hydric Soil Present? Yes No _____

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (minimum of one required; check all that apply)	Secondary Indicators (2 or more required)
<input type="checkbox"/> Surface Water (A1) <input type="checkbox"/> High Water Table (A2) <input type="checkbox"/> Saturation (A3) <input type="checkbox"/> Water Marks (B1) (Nonriverine) <input type="checkbox"/> Sediment Deposits (B2) (Nonriverine) <input type="checkbox"/> Drift Deposits (B3) (Nonriverine) <input type="checkbox"/> Surface Soil Cracks (B6) <input type="checkbox"/> Inundation Visible on Aerial Imagery (B7) <input type="checkbox"/> Water-Stained Leaves (B8)	<input type="checkbox"/> Silt Crust (B11) <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 Tilled Soils (C6) <input type="checkbox"/> Thin Muck Surface (C7) <input type="checkbox"/> Other (Explain in Remarks)
<input type="checkbox"/> Water Marks (B1) (Riverine) <input type="checkbox"/> Sediment Deposits (B2) (Riverine) <input type="checkbox"/> Drift Deposits (B3) (Riverine) <input type="checkbox"/> Drainage Patterns (B10) <input type="checkbox"/> Dry-Season Water Table (C2) <input type="checkbox"/> Crayfish Burrows (C8) <input type="checkbox"/> Saturation Visible on Aerial Imagery (C8) <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:

we + D

WETLAND DETERMINATION DATA FORM - Arid West Region

Project/Site: Schmidt City/County: Kittitas Sampling Date: 10-7-21
Applicant/Owner: _____ State: WA Sampling Point: DP # 45
Investigator(s): Ed Semell Section, Township, Range: S32 T18N R14E
Landform (hillslope, terrace, etc.): _____ Local relief (concave, convex, none): _____ Slope (%): _____
Subregion (LRR): _____ Let: _____ 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: grazed irrigated pasture

VEGETATION - Use scientific names of plants.

Tree Stratum (Plot size: _____) Absolute Dominant Indicator % Cover Species? Status
1. _____
2. _____
3. _____
4. _____
= Total Cover
Sapling/Shrub Stratum (Plot size: _____)
1. _____
2. _____
3. _____
4. _____
5. _____
= Total Cover
Herb Stratum (Plot size: _____)
1. Spartina 50 FALL
2. Elymus 50 FACW
3. _____
4. _____
5. _____
6. _____
7. _____
8. _____
= Total Cover
Woody Vine Stratum (Plot size: _____)
1. _____
2. _____
= Total Cover
% Bare Ground in Herb Stratum _____ % Cover of Biotic Crust _____
Remarks: _____

SOIL

Sampling Point: _____

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)
Depth (inches) Matrix Color (moist) % Redox Features Color (moist) % Type Loc' Texture Remarks
16 10R21 --- cmd --- --- --- --- ---

Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered or Coated Sand Grains. Location: PL=Pore Lining, M=Matrix.
Hydric Soil Indicators: (Applicable to all LRRs, unless otherwise noted.)
Histosol (A1) Sandy Redox (S5) 1 cm Muck (A9) (LRR C)
Histic Epipedon (A2) Stripped Matrix (S6) 2 cm Muck (A10) (LRR B)
Black Histic (A3) Loamy Mucky Mineral (F1) Reduced Vertic (F18)
Hydrogen Sulfide (A4) Loamy Gleyed Matrix (F2) Red Parent Material (TF2)
Stratified Layers (A5) (LRR C) Depleted Matrix (F3) Other (Explain in Remarks)
1 cm Muck (A8) (LRR D) Redox Dark Surface (F8)
Depleted Below Dark Surface (A11) Depleted Dark Surface (F7)
Thick Dark Surface (A12) Redox Depressions (F8)
Sandy Mucky Mineral (B1) Vernal Pools (F9)
Sandy Gleyed Matrix (S4)

Restrictive Layer (if present):
Type: _____
Depth (inches): _____
Hydric Soil Present? Yes No _____
Remarks: _____

HYDROLOGY

Wetland Hydrology Indicators:
Primary Indicators (minimum of one required; check all that apply) Secondary Indicators (2 or more required)
Surface Water (A1) Silt Crust (B11) Water Marks (B1) (Riverine)
High Water Table (A2) Bloitic Crust (B12) Sediment Deposits (B2) (Riverine)
Saturation (A3) Aquatic Invertebrates (B13) Drift Deposits (B3) (Riverine)
Water Marks (B1) (Nonriverine) Hydrogen Sulfide Odor (C1) Drainage Patterns (B10)
Sediment Deposits (B2) (Nonriverine) Oxidized Rhizospheres along Living Roots (C3) Dry-Season Water Table (C2)
Drift Deposits (B3) (Nonriverine) Presence of Reduced Iron (C4) Crayfish Burrows (C8)
Surface Soil Cracks (B6) Recent Iron Reduction in Tilled Soils (C6) Saturation Visible on Aerial Imagery (C9)
Inundation Visible on Aerial Imagery (B7) Thin Muck Surface (C7) Shallow Aquifers (D3)
Water-Stained Leaves (B8) Other (Explain in Remarks) 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): -6"
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: Schmidt City/County: Kittitas Sampling Date: 10-7-21
 Applicant/Owner: _____ State: WA Sampling Point: DP#47
 Investigator(s): Ed Scumell Section, Township, Range: S32 T18N R19E
 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 _____	Is the Sampled Area within a Wetland? Yes <input checked="" type="checkbox"/> No _____
Hydric Soil Present? Yes <input checked="" type="checkbox"/> No _____	
Wetland Hydrology Present? Yes <input checked="" type="checkbox"/> No _____	
Remarks: <u>gravel irrigated pasture</u>	

VEGETATION - Use scientific names of plants.

Tree Stratum (Plot size: _____)	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 (Plot size: _____)	Absolute % Cover	Dominant Species?	Indicator Status	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 = _____
				UPL species _____ x 5 = _____
= Total Cover				Column Totals: _____ (A) _____ (B)
= Total Cover				Prevalence Index = B/A = _____
Herb Stratum (Plot size: _____)	Absolute % Cover	Dominant Species?	Indicator Status	Hydrophytic Vegetation Indicators:
1. <u>Festuca</u>	<u>60</u>	<u>FAW</u>	<u>MC</u>	___ Dominance Test is >50%
2. <u>Carex</u>	<u>40</u>	<u>FAW</u>	<u>MC</u>	___ Prevalence Index is <3.0'
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, unless disturbed or problematic.
Woody Vine Stratum (Plot size: _____)	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: _____

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)	%				
<u>14</u>	<u>10R7/3</u>						<u>clay loam</u>	

¹Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered or Coated Sand Grains. ²Location: PL=Pore Lining, M=Matrix.

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

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

Restrictive Layer (if present):

Type: _____

Depth (Inches): _____

Hydric Soil Present? Yes No _____

Remarks: _____

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (minimum of one required; check all that apply)

___ Surface Water (A1)	___ Soil Crust (B11)	___ Water Marks (B1) (Riverine)
___ High Water Table (A2)	___ Biotic Crust (B12)	___ Sediment Deposits (B2) (Riverine)
___ Saturation (A3)	___ Aquatic Invertebrates (B13)	___ Drift Deposits (B3) (Riverine)
___ Water Marks (B1) (Nonriverine)	___ Hydrogen Sulfide Odor (C1)	___ Drainage Patterns (B10)
___ Sediment Deposits (B2) (Nonriverine)	___ Oxidized Rhizospheres along Living Roots (C3)	___ Dry-Season Water Table (C2)
___ Drift Deposits (B3) (Nonriverine)	___ Presence of Reduced Iron (C4)	___ Crayfish Burrows (C6)
___ Surface Soil Cracks (B6)	___ Recent Iron Reduction in Tilled Soils (C6)	___ Saturation Visible on Aerial Imagery (C9)
___ Inundation Visible on Aerial Imagery (B7)	___ Thin Muck Surface (C7)	___ Shallow Aquifer (D3)
___ Water-Stained Leaves (B8)	___ Other (Explain in Remarks)	___ 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: Schmidt City/County: Kittitas Sampling Date: 10-7-21
 Applicant/Owner: _____ State: WA Sampling Point: D 0148
 Investigator(s): Ed Semell Section, Township, Range: S32 T18N R14E
 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? 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 _____	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: <u>grazed irrigated pasture</u>	

VEGETATION - Use scientific names of plants.

Tree Stratum (Plot size: _____)	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 (Plot size: _____)	Absolute % Cover	Dominant Species?	Indicator Status	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)
Prevalence Index = B/A = _____				
Herb Stratum (Plot size: _____)	Absolute % Cover	Dominant Species?	Indicator Status	Hydrophytic Vegetation Indicators:
1. <u>Festuca sp</u>	<u>60</u>		<u>FAC</u>	___ Dominance Test is >50%
2. <u>Carex sp</u>	<u>40</u>		<u>FAC</u>	___ Prevalence Index is <3.0
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				
Woody Vine Stratum (Plot size: _____)	Absolute % Cover	Dominant Species?	Indicator Status	Hydrophytic Vegetation Indicators:
1. _____				___ Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.
2. _____				
= Total Cover				
% Bare Ground in Herb Stratum _____	% Cover of Biotic Crust _____			Hydrophytic Vegetation Present? Yes _____ No <input checked="" type="checkbox"/>
Remarks:				

SOIL

Sampling Point: _____

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

Depth (inches)	Matrix		Redox Features				Texture	Remarks
	Color (moist)	%	Color (moist)	%	Type	Loc ²		
<u>3</u>	<u>2.5F</u>							
<u>14</u>	<u>10R2/2</u>		<u>cm</u>				<u>cubity</u>	

Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered or Coated Sand Grains. ²Location: PL=Pore Lining, M=Matrix.

Hydric Soil Indicators: (Applicable to all LRRs, unless otherwise noted.) ___ Histosol (A1) ___ Histic Epipedon (A2) ___ Black Histic (A3) ___ Hydrogen Sulfide (A4) ___ Stratified Layers (A5) (LRR C) ___ 1 cm Muck (A8) (LRR D) ___ Depleted Below Dark Surface (A11) ___ Thick Dark Surface (A12) ___ Sandy Mucky Mineral (S1) ___ Sandy Gleyed Matrix (S4)	___ Sandy Redox (S5) ___ Stripped Matrix (S6) ___ Loamy Mucky Mineral (F1) ___ Loamy Gleyed Matrix (F2) ___ Depleted Matrix (F3) ___ Redox Dark Surface (F6) ___ Depleted Dark Surface (F7) ___ Redox Depressions (F8) ___ Vernal Pools (F9)	Indicators for Problematic Hydric Soils: ___ 1 cm Muck (A8) (LRR C) ___ 2 cm Muck (A10) (LRR B) ___ Reduced Vertic (F18) ___ Red Parent Material (TF2) ___ Other (Explain in Remarks)
--	--	---

³Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (if present):
 Type: _____
 Depth (inches): _____
 Hydric Soil Present? Yes _____ No

Remarks:

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (minimum of one required; check all that apply)	Secondary Indicators (2 or more required)
___ Surface Water (A1)	___ Salt Crust (B11)
___ High Water Table (A2)	___ Biotic Crust (B12)
___ Saturation (A3)	___ Aquatic Invertebrates (B13)
___ Water Marks (B1) (Nonriverine)	___ Hydrogen Sulfide Odor (C1)
___ Sediment Deposits (B2) (Nonriverine)	___ Oxidized Rhizospheres along Living Roots (C3)
___ Drift Deposits (B3) (Nonriverine)	___ Presence of Reduced Iron (C4)
___ Surface Soil Cracks (B6)	___ Recent Iron Reduction in Tilled Soils (C6)
___ Inundation Visible on Aerial Imagery (B7)	___ Thin Muck Surface (C7)
___ Water-Stained Leaves (B8)	___ Other (Explain in Remarks)
___ Water Marks (B1) (Riverine)	___ Sediment Deposits (B2) (Riverine)
___ Drift Deposits (B3) (Riverine)	___ Drainage Patterns (B10)
___ Dry-Season Water Table (C2)	___ Crayfish Burrows (C8)
___ Saturation Visible on Aerial Imagery (C9)	___ Shallow Aquifer (D3)
___ 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 _____	Depth (inches): _____	

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

Remarks:

low point in Flood 1500 path

WETLAND DETERMINATION DATA FORM - Arid West Region

Project/Site: Schmidt City/County: Kittitas Sampling Date: 10-7-21
 Applicant/Owner: _____ State: WA Sampling Point: DP#49
 Investigator(s): Ed Scumell Section, Township, Range: S32 T18N R14E
 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 _____	Is the Sampled Area within a Wetland? Yes _____ No _____
Hydric Soil Present? Yes <input checked="" type="checkbox"/> No _____	
Wetland Hydrology Present? Yes <input checked="" type="checkbox"/> No _____	
Remarks: <u>grazed irrigated pasture</u>	

VEGETATION - Use scientific names of plants.

Tree Stratum (Plot size: _____)	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 (Plot size: _____)	Absolute % Cover	Dominant Species?	Indicator Status	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 = _____
7. _____				Column Totals: _____ (A) _____ (B)
8. _____				Prevalence Index = B/A = _____
= Total Cover				
Herb Stratum (Plot size: _____)	Absolute % Cover	Dominant Species?	Indicator Status	Hydrophytic Vegetation Indicators:
1. <u>Festuca arvensis</u>	<u>100</u>	<u>FAU</u>	<u>FAU</u>	— Dominance Test is >50% <input checked="" type="checkbox"/>
2. <u>Carex 799</u>	<u>0</u>	<u>FAU</u>	<u>FAU</u>	— Prevalence Index is <3.0 ¹ <input checked="" type="checkbox"/>
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				
Woody Vine Stratum (Plot size: _____)	Absolute % Cover	Dominant Species?	Indicator Status	Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.
1. _____				
2. _____				
= Total Cover				
% Bare Ground in Herb Stratum _____	% Cover of Biotic Crust _____			Hydrophytic Vegetation Present? Yes _____ No _____
Remarks:				

SOIL

Sampling Point: _____

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

Depth (inches)	Matrix		Redox Features				Texture	Remarks
	Color (moist)	%	Color (moist)	%	Type ¹	Loc ²		
0	10YR 3/2							
14	10YR 2/1		cmr				colony	

¹Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered or Coated Sand Grains. ²Location: PL=Pore Linking, M=Matrix.

Hydric Soil Indicators: (Applicable to all LRRs, unless otherwise noted.) ___ Histic A1 ___ Histic Epipedon (A2) ___ Black Histic (A3) ___ Hydrogen Sulfide (A4) ___ Stratified Layers (A5) (LRR C) ___ 1 cm Muck (A8) (LRR D) ___ Depleted Below Dark Surface (A11) ___ Thick Dark Surface (A12) ___ Sandy Mucky Mineral (S1) ___ Sandy Gleyed Matrix (S4)	Indicators for Problematic Hydric Soils: ___ Sandy Redox (S5) ___ Stripped Matrix (S8) ___ Loamy Mucky Mineral (F1) ___ Loamy Gleyed Matrix (F2) ___ Depleted Matrix (F3) ___ Redox Dark Surface (F8) ___ Depleted Dark Surface (F7) ___ Redox Depressions (F8) ___ Vernal Pools (F9)	Indicators for Problematic Hydric Soils: ___ 1 cm Muck (A8) (LRR C) ___ 2 cm Muck (A10) (LRR B) ___ Reduced Vertic (F18) ___ Red Parent Material (TF2) ___ Other (Explain in Remarks)
Restrictive Layer (if present): Type: _____ Depth (inches): _____		Hydric Soil Present? Yes <input checked="" type="checkbox"/> No _____
Remarks:		

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (minimum of one required; check all that apply)	Secondary Indicators (2 or more required)
___ Surface Water (A1)	___ Salt Crust (B11)
___ High Water Table (A2)	___ Biotic Crust (B12)
___ Saturation (A3)	___ Aquatic Invertebrates (B13)
___ Water Marks (B1) (Nonriverine)	___ Hydrogen Sulfide Odor (C1)
___ Sediment Deposits (B2) (Nonriverine)	___ Oxidized Rhizospheres along Living Roots (C3)
___ Drift Deposits (B3) (Nonriverine)	___ Presence of Reduced Iron (C4)
___ Surface Soil Cracks (B6)	___ Recent Iron Reduction in Tilled Soils (C6)
___ Inundation Visible on Aerial Imagery (B7)	___ Thin Muck Surface (C7)
___ Water-Stained Leaves (B8)	___ Other (Explain in Remarks)
___ Water Marks (B1) (Riverine)	___ Water Marks (B1) (Riverine)
___ Sediment Deposits (B2) (Riverine)	___ Sediment Deposits (B2) (Riverine)
___ Drift Deposits (B3) (Riverine)	___ Drift Deposits (B3) (Riverine)
___ Drainage Patterns (B10)	___ Drainage Patterns (B10)
___ Dry-Season Water Table (C2)	___ Dry-Season Water Table (C2)
___ Crayfish Burrows (C8)	___ Crayfish Burrows (C8)
___ Saturation Visible on Aerial Imagery (C9)	___ Saturation Visible on Aerial Imagery (C9)
___ Shallow Aquitard (D3)	___ Shallow Aquitard (D3)
___ FAC-Neutral Test (D5)	___ 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:

WETLAND DETERMINATION DATA FORM – Arid West Region

Project/Site: Schmidt City/County: Kittitas Sampling Date: 10-7-21
 Applicant/Owner: _____ State: WA Sampling Point: DP#50
 Investigator(s): Julie Scumell Section, Township, Range: S32 T18N R14E
 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 _____	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:	<u>gravel irrigated pasture</u>	

VEGETATION – Use scientific names of plants.

Tree Stratum (Plot size: _____)	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 (Plot size: _____)	Absolute % Cover	Dominant Species?	Indicator Status	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 = _____
7. _____				Column Totals: _____ (A) _____ (B)
8. _____				Prevalence Index = B/A = _____
= Total Cover				
Herb Stratum (Plot size: _____)	Absolute % Cover	Dominant Species?	Indicator Status	Hydrophytic Vegetation Indicators:
1. <u>Fragaria vesca</u>	<u>50</u>	<u>FAC</u>	<u>FAC</u>	— Dominance Test is >50% <input checked="" type="checkbox"/>
2. <u>Carex sp.</u>	<u>50</u>	<u>FAC</u>	<u>FAC</u>	— Prevalence Index is ≤3.0 ¹ <input checked="" type="checkbox"/>
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				
Woody Vine Stratum (Plot size: _____)	Absolute % Cover	Dominant Species?	Indicator Status	Hydrophytic Vegetation Indicators:
1. _____				¹ Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.
2. _____				
= Total Cover				
% Bare Ground in Herb Stratum _____		% Cover of Biotic Crust _____		Hydrophytic Vegetation Present? Yes _____ No <input checked="" type="checkbox"/>
Remarks:				

SOIL

Sampling Point: _____

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

Depth (inches)	Matrix		Redox Features				Texture	Remarks
	Color (moist)	%	Color (moist)	%	Type	Loc ²		
<u>14</u>	<u>10YR 3/2</u>		<u>Fer-Fin Fin</u>				<u>clay</u>	

¹Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered or Coated Sand Grains. ²Location: PL=Pore Lining, M=Matrix.

Hydric Soil Indicators: (Applicable to all LRRs, unless otherwise noted.)	Indicators for Problematic Hydric Soils:
— Histosol (A1)	— Sandy Redox (S8)
— Histic Epipedon (A2)	— Stripped Matrix (S6)
— Black Histic (A3)	— Loamy Mucky Mineral (F1)
— Hydrogen Sulfide (A4)	— Loamy Gleyed Matrix (F2)
— Stratified Layers (A5) (LRR C)	— Depleted Matrix (F3)
— 1 cm Muck (A6) (LRR D)	— Redox Dark Surface (F8)
— Depleted Below Dark Surface (A11)	— Depleted Dark Surface (F7)
— Thick Dark Surface (A12)	— Redox Depressions (F8)
— Sandy Mucky Mineral (S1)	— Vernal Pools (F9)
— Sandy Gleyed Matrix (S4)	

³Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (if present):
 Type: _____
 Depth (inches): _____
 Hydric Soil Present? Yes No _____
 Remarks:

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (minimum of one required, check all that apply)	Secondary Indicators (2 or more required)
— Surface Water (A1)	— Salt Crust (B11)
— High Water Table (A2)	— Biotic Crust (B12)
— Saturation (A3)	— Aquatic Invertebrates (B13)
— Water Marks (B1) (Nonriverine)	— Hydrogen Sulfide Odor (C1)
— Sediment Deposits (B2) (Nonriverine)	— Oxidized Rhizospheres along Living Roots (C3)
— Drift Deposits (B3) (Nonriverine)	— Presence of Reduced Iron (C4)
— Surface Soil Cracks (B6)	— Recent Iron Reduction in Tilled Soils (C5)
— Inundation Visible on Aerial Imagery (B7)	— Thin Muck Surface (C7)
— Water-Stained Leaves (B9)	— Other (Explain in Remarks)
	— Water Marks (B1) (Riverine)
	— Sediment Deposits (B2) (Riverine)
	— Drift Deposits (B3) (Riverine)
	— Drainage Patterns (B10)
	— Dry-Season Water Table (C2)
	— Crayfish Burrows (C6)
	— Saturation Visible on Aerial Imagery (C8)
	— Shallow Aquitard (D3)
	— FAC-Neutral Test (D5)

Field Observations:
 Surface Water Present? Yes _____ No Depth (inches): _____
 Water Table Present? Yes _____ No Depth (inches): _____
 Saturation Present? 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:

WETLAND DETERMINATION DATA FORM - Arid West Region

Project/Site: Schmidt City/County: Kittitas Sampling Date: 10-7-21
 Applicant/Owner: _____ State: WA Sampling Point: DP# 53
 Investigator(s): Ed Scumell Section, Township, Range: S32 T18N R14E
 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 _____	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 _____	
Remarks: <u>gravel irrigated pasture</u>	

VEGETATION - Use scientific names of plants.

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

SOIL

Sampling Point: _____

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 3/3						clayey lo	

¹Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered or Coated Sand Grains. ²Location: PL=Pore Lining, M=Matrix.

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

<input type="checkbox"/> Histic (A1)	<input type="checkbox"/> Sandy Redox (S5)	<input type="checkbox"/> 1 cm Muck (A8) (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 (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, unless disturbed or problematic.

Restrictive Layer (if present):

Type: _____

Depth (inches): _____

Hydric Soil Present? Yes _____ No

Remarks:

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (minimum of one required; check all that apply)

<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"/> Crayfish Burrows (C6)
<input type="checkbox"/> Surface Soil Cracks (B6)	<input type="checkbox"/> Recent Iron Reduction in Tilled Soils (C6)	<input type="checkbox"/> Saturation Visible on Aerial Imagery (C9)
<input type="checkbox"/> Inundation Visible on Aerial Imagery (B7)	<input type="checkbox"/> Thin Muck Surface (C7)	<input type="checkbox"/> Shallow Aquitard (D3)
<input type="checkbox"/> Water-Stained Leaves (B9)	<input type="checkbox"/> Other (Explain in Remarks)	<input type="checkbox"/> FAC-Neutral Test (D5)

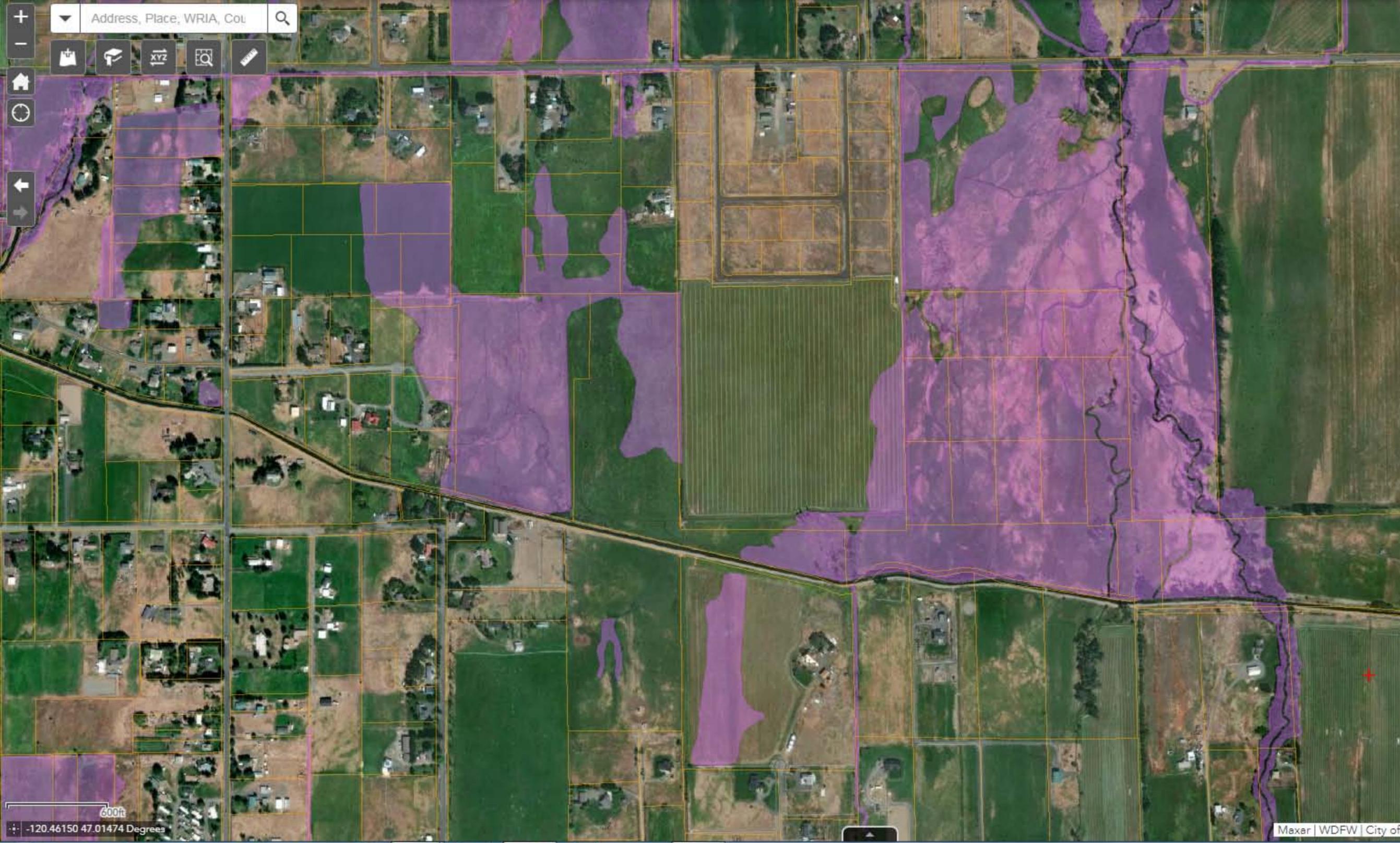
Field Observations:

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): _____	

¹Includes capillary fringe

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

Remarks:



PHS Identify

Select a tool to identify features with.

Point Line Polygon Rectangle

Buffer Options:

Distance: Units:

No results returned.

Tools

Public Notification (Buffer)

Select or search for a feature in the map

Parcel#, Map#, Name, Situs

Apply a search distance

500 Feet

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Mailing Address

Format

Comma-separated values (CSV)

Measurement

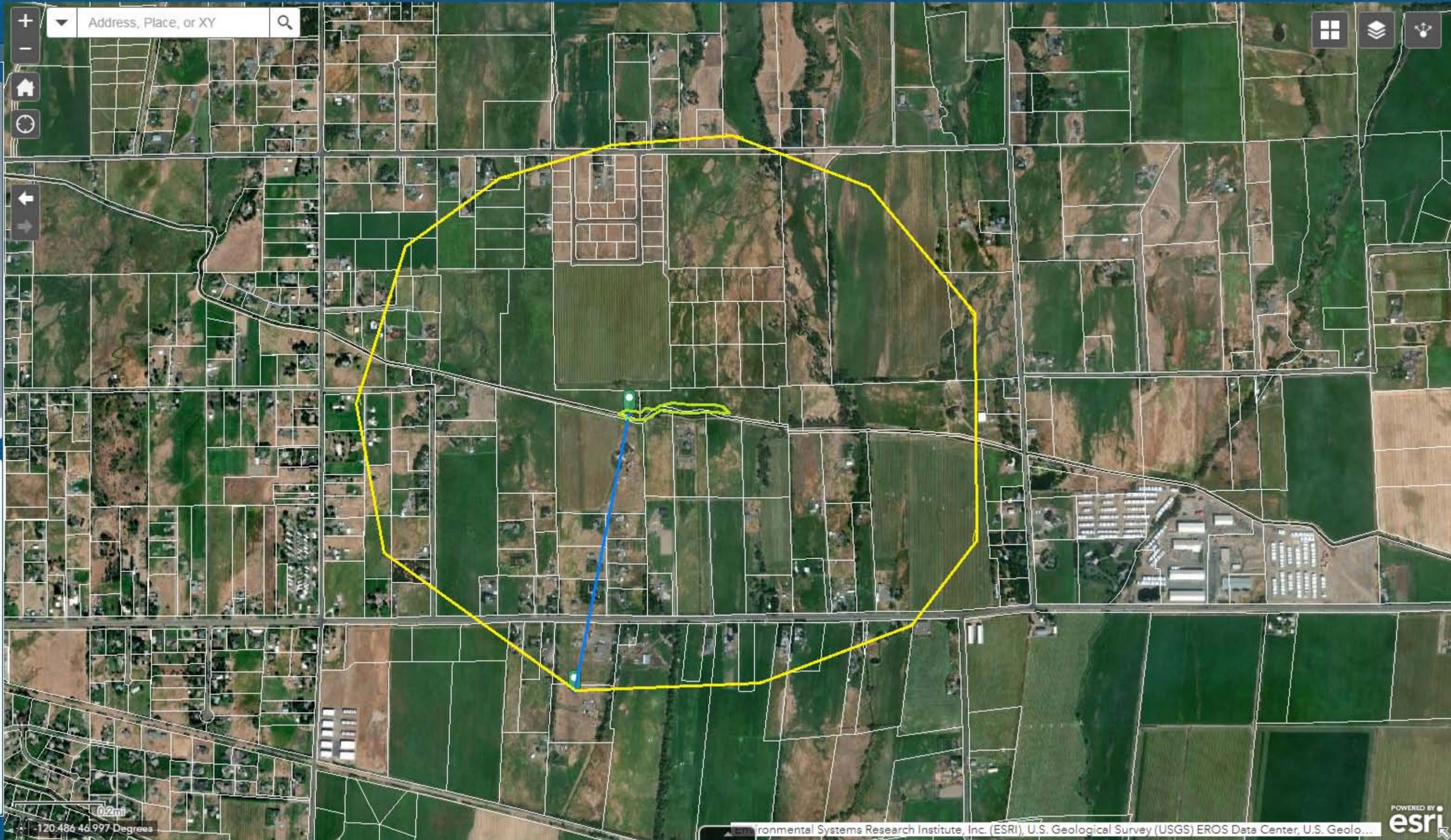
Kilometers

Measurement Result

1 Kilometers

Clear

Press CTRL to enable snapping





TopoActive Americas, North 2019.10 has certain limitations. Click here for options...

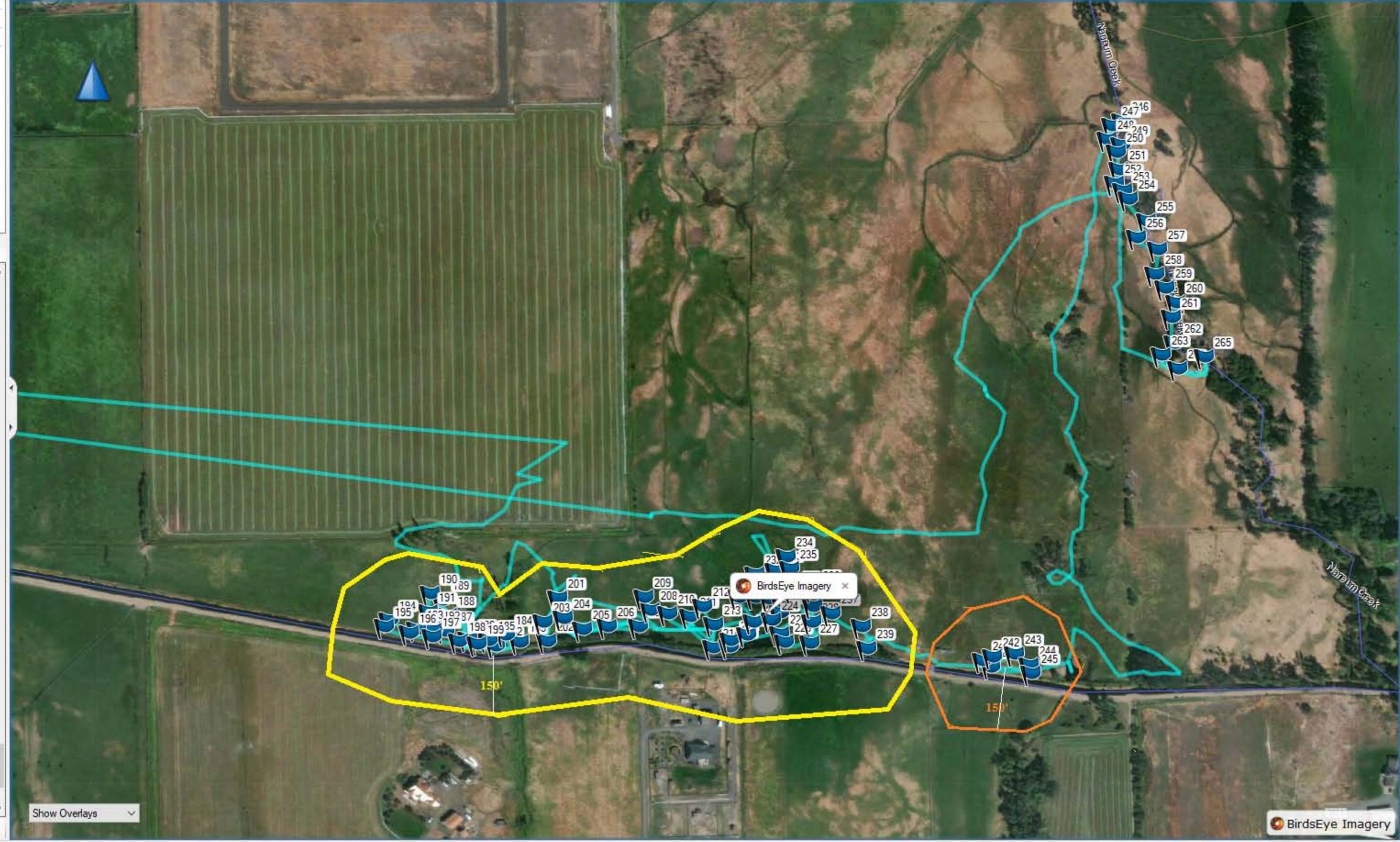
Library

Devices

- GPSPMAP 64x (Unit ID 3311103104) (E:)
 - Internal Storage
 - TopoActive Americas, Central 2019.10
 - TopoActive Americas, North 2019.10

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- BirdsEye Demo
- BirdsEye Imagery





Water Quality Atlas Map

Legend Filter Zoom Tools
Home Add/Remove Map Data
My Maps Print Share About

Basic
Drawing
Other

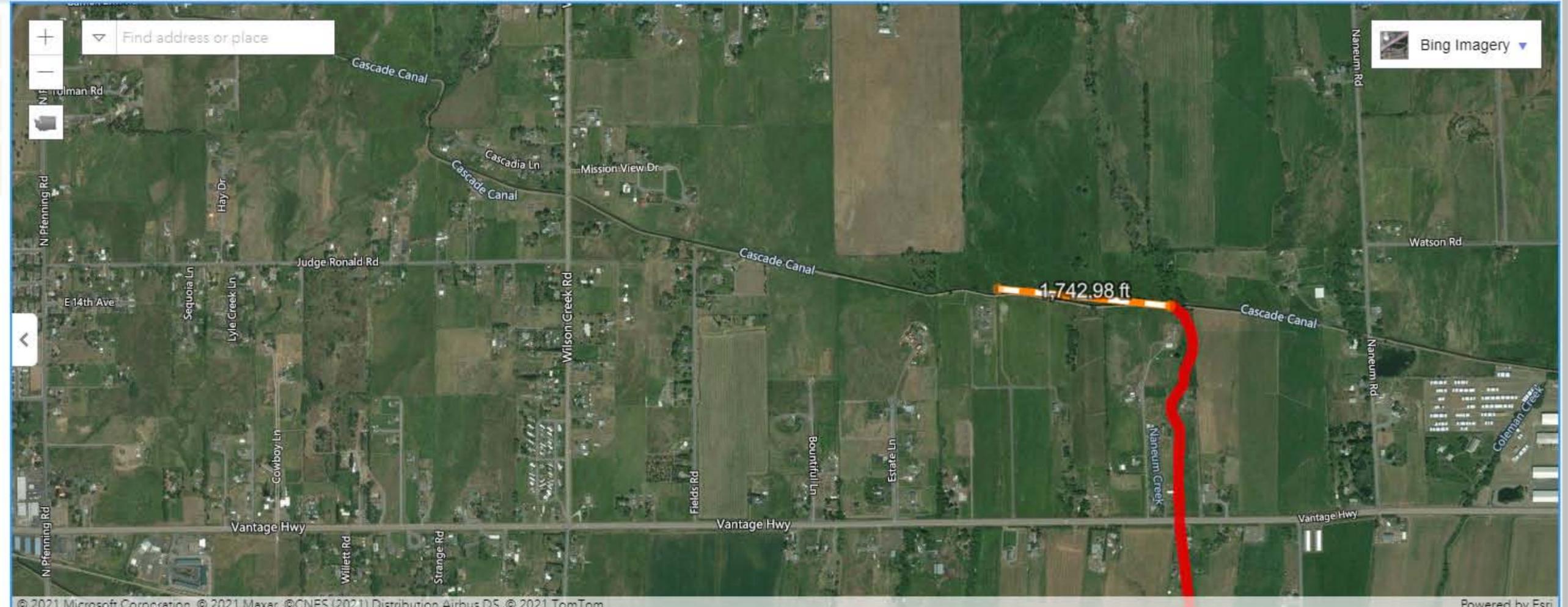
Keyboard Identify
Measure Distance
Measure Area
Image Service

Usage:
 Click on map to add measure points. Double-click to finish.

Unit: Feet

Distance: **1,742.98 ft**

New measurement



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Assessed Water/Sediment Filter Applied Clear filters Zoom to selection Table to CSV

Find	Listing ID	Assessment Unit ID	Category	Medium	Parameter	Details
	66746	170200011202_01_01	5	Water	Dissolved Oxygen	View
	11253	170200050203_01_01	5	Water	Temperature	View
	42784	170200050203_01_01	5	Water	Dissolved Oxygen	View

Show 5 entries Showing 1 to 5 of 4,548 entries First Previous Next Last