

Sewall Wetland Consulting, Inc.

PO Box 880 Fall City, WA 98024 Phone: 253-859-0515

February 18. 2022

Gayle Paul & Becky Anderson 16384 US Hwy 212 Mud Butte, South Dakota 57758

RE: Critical Area Report – Parcels# 15792-798 & 714534 City of Ellensburg, Washington SWC Job #21-193

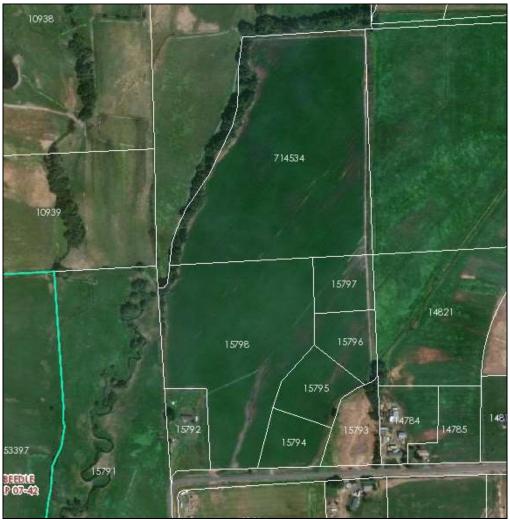
Dear Gayle & Becky,

This report describes our observations of any jurisdictional wetlands, streams and/or buffers on or within 200' of Parcels #15792, 793, 794, 795, 796, 797,798 & 714534.



Above: Vicinity Map of site

These abutting parcels are located within the NE ¹/₄ of Section 34 Township 18 North, Range 19 East of the W.M in Kittitas County, Washington. Specifically the eight parcels consist of a 68.71 acre agricultural site including a single family home.



Above: Aerial photograph of the study area from Kittitas Mapsifter website.

METHODOLOGY

Ed Sewall of Sewall Wetland Consulting, Inc. inspected the site and areas within 200' of the site on February 16, 2022.

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.

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

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

OBSERVATIONS

Existing Site Documentation.

Prior to visiting the site, a review of several natural resource inventory maps was conducted. Resources reviewed included the Kittitas Taxsifter website, National Wetland Inventory Map, WDNR Fpars Stream Typing Map, Kittitas County flood & critical areas mapping, WDFW Priority Habitats and Species Maps, and the NRCS Soil Survey online mapping and Data.

Kittitas Taxsifter Website

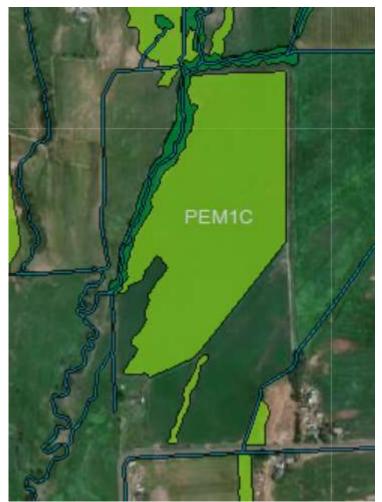
The Kittitas Taxsifter website with streams and wetland layers activated depicts a Type F stream (Coleman Creek) along the northwest side of the site. In addition, much of the agricultural fields are depicted as emergent wetland.



Above: Aerial photograph of the study area from Kittitas Mapsifter website with wetland, floodplain and DNR water type layers activated.

National Wetlands Inventory (NWI)

The NWI map depicts the same wetlands and streams as the Kittitas County website. In fact the Taxsifter mapping was taken from the NWI maps. These wetlands were interpreted from aerial photographs by the US Fish and Wildlife Service using 2017 aerial photographs with <u>no</u> <u>ground-truthing</u>.



Above: NWI map of the area of the site

Kittitas County Taxsifter Mapping

According to the Kittitas County Taxsifter website with wetland, stream and flood layers activated, there is an emergent wetland along the southwest side of the site (see image on Page 2 of this report). The start of a stream is depicted just off-site to the east of the site and

Soil Survey

According to the NRCS Soil Mapper website, the site is mapped as containing somewhat poorly drained Woldale clay loam, well drained Ackna ashey loam, moderately weel drained Opnish ashy loam and Mitta ashy silt loam, and well drained Manastash loam. None of these soils are

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

Map Unit Symbol	Map Unit Name
580	Woldale clay loam, 0 to 2 percent slopes
610	Ackna ashy loam, 2 to 5 percent slopes
621	Mitta ashy silt loam, flooded, 0 to 2 percent slopes
624	Manastash Ioam, 5 to 10 percent slopes
635	Opnish ashy loam, 0 to 2 percent slopes
791	Mitta ashy silt loam, drained, 0 to 2 percent slopes

Above: NRCS soil map of the site.

WADNR FPARS website

According to the WADNR FPARS website with stream types layers activated, there is an unclassified stream identified approximately 100' north of the site which drains to the west into Coleman Creek, a Type F stream. Coleman Creek forms the northwest boundary of the site.



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

WDFW Priority Habitats and Species Maps

The WDFW Priority Habitats and Species mapping for the site depicts the sane streams and wetlands identified on the NWI and WDNR Fpars mapping.



Above : WDFW Priority Habitat Mapping of the site. Purple shading represents wetlands on this map and light blue streams/ditches.

Field observations

As previously described, the site is a large agricultural field currently used to grow alfalfa. A single family home, with associated landscaped areas, gravel driveway and septic system are located on the southwest corner of the site. Watson Road borders the south side of the site, and agricultural properties abut the east, west and north sides of the site.

The site slopes from a high point on the northeast to a low on the southeast corner. A small irrigation ditch enters the site from the east

and drains across the southeast corner of the site. This water continues in irrigation ditches to the south of Watson Road.

The entire site is irrigated with water pumped out onto the site through pipes which allow flood irrigation of the entire alfalfa field. There was no irrigation activity during our February site visit and the entire site with the exception of the one wetland described below was dry.

The soils throughout the agricultural fields were found to be a cobbly silt loam or clay loam with soil chromes of 2 or 3 with no hydric soil indicators or evidence of wetland hydrology. The wetlands inventoried by the NWI and County are just a reflection of flood irrigated lands and do not meet wetland criteria for either vegetation or soils. Hydrology is artificially created during flood irrigation but no long enough to create wetland conditions.

Wetlands

There is one small emergent wetland on the southeast corner of the site. An irrigation ditch passes through this wetland. Below is a description of this wetland;

Wetland A

Wetland A consists of a disturbed emergent wetland surrounding the south terminus of an irrigation ditch flowing south through the site. The wetland is generally located above the ditch and does not appear to be created by the irrigation water. This wetland was flagged with orange wire flags labeled A1-A17 (gps points 232-248).

The wetland is a depressional wetland dominated by a mix of reed canary grass, cattail, sedge and dock.

Soil pits excavated within this wetland area revealed a loam with a Bhorizon soil color of 10YR 3/2 with common, medium, distinct, redoximorphic concentrations. Soils saturated near the surface during our non-growing season observation of the wetland.

Using the 2014 Washington State Department of Ecology Washington State *Wetland Rating System for Eastern Washington, 2014 Update* dated June 2014 Publication No. 14-06-018, and rating this wetland as a "depressional" wetland, this wetland scored a total of 15 points with 3 for habitat. This indicates a Category IV wetland. According to Kittitas County Municipal Code Table 17A.070.030, Category IV wetlands have a moderate land use have a 40' buffer measured from the wetland edge.

Category of Wetland	Land Use with Low Impact ¹	Land Use with Moderate Impact ²	Land Use with High Impact ³	
1	125 ft	190 ft	250 ft	
II.	100 ft	150 ft	200 ft	
111	75 ft	110 ft	150 ft	
IV	25 ft	40 ft	50 ft	

Table 17A.07.	.030: Standard	Buffer	Widths

Streams

As previously stated, Coleman Creek forms the boundary of the site on the northwest. The ordinary high water mark of the creek on the east side, towards the site, was flagged with blue flags labeled E1-E28 (gps points 260-287).

The stream is topographically well defined with a bank which is generally 4'-6' in elevation above the streambank. Much of it has a highly eroded vertical bank. The stream itself is 8'-10' in width with a cobble and gravel bottom. The immediate stream buffer is vegetated with a mix of Hawthorne, willow, cottonwood, rose and reed canary grass. The stream leaves the site and passes through two culverts under a farm road just west of the site.

Coleman Creek is a fish bearing water or a Type F stream.

According to KCMC 17A.04.030.4, Type F streams have a 100' buffer measured from the ordinary high water mark in the Columbia Plateau region.

	Riparian Management Zone Widths ^{1,2}				
Stream Type	Cascade Ecoregion (feet)	Columbia Plateau Ecoregion (feet)			
Type S (Shoreline)	See the SMP	See the SMP			
Type F	150	100			
Туре Np	100	65			
Type Ns	50	40			

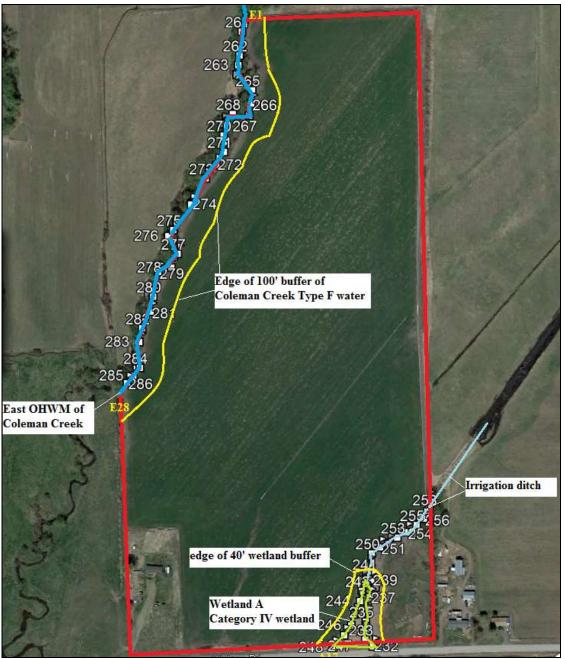
If you have any questions in regards to this report or need additional information, please feel free to contact me at (253) 859-0515 or at <u>esewall@sewallwc.com</u>.

Sincerely, Sewall Wetland Consulting, Inc.

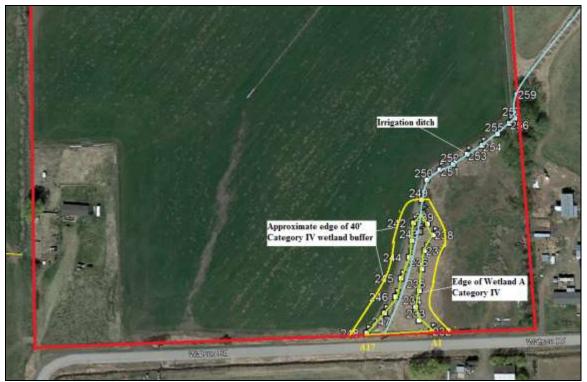
Sent

Ed Sewall Senior Wetlands Ecologist PWS #212

Attached: Data sheets & Rating Forms



Above: GPS mapping of flagged critical areas on the site.



Above: Enlargement of south end of site where Wetland A is located.

REFERENCES

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

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

Kittitas County Municipal Code

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

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

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

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

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

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

west . F Wet

WETLAND DETERMINATION DATA FORM - Arid West Region

Project/Site: Paul	City/County: Kittitas	Sempling Date: 2 -16 - 22
Applicant/Owner: Investigator(s):Fd_Stwick	State:	L Sampling Point: <u>PP#</u>)
Landform (hillslope, terrace, etc.):		
Subregion (LRR): Le	at: Long;	Datum:
Soil Map Unit Name: Variation	NWI class	sification:
Are climatic / hydrologic conditions on the site typical for this time		
Are Vegetation Soil, or Hydrology signifi	icantly disturbed? Are "Normal Circumstance	s" present? Yes No
Are Vegetation, Soil, or Hydrology natura	ally problematic? (If needed, explain any ans	wers in Remarks.)
SUMMARY OF FINDINGS - Attach site map sho	wing sampling point locations, transe	cts, important features, etc.
Hydrophytic Vegetation Present? Yes No	In the Second Asso	

Hydric Soil Present? Wetland Hydrology Present?	Yes No Yes No	within a Wetland?	Yes	No
Remarks: Frmed	agnicitical	land		

VEGETATION - Use scientific names of plants.

Tree Chattan (Distains)	Absolute	Dominant Indicator	Dominance Test worksheet:
Tree Stratum (Plot size:)		Species? Status	Number of Dominant Species
1			That Are OBL, FACW, or FAC: (A)
2			Total Number of Dominant
3			Species Across All Strata: (B)
4			Percent of Dominant Species
		= Total Cover	That Are OBL, FACW, or FAC:
Sapling/Shrub Stratum (Plot size:)			
1			Prevalence Index worksheet:
2			Total % Cover of: Multiply by:
3		<u> </u>	OBL species x1 =
4			FACW species x 2 =
5			FAC species x 3 ≠
		= Total Cover	FACU species x 4 =
Herb Stratum (Plot size:) 1)	UPL species x 5 =
1. Medicago sativa	100		Column Totals: (A) (B)
2			(1)
3			Prevalence Index = B/A =
4			Hydrophytic Vegetation Indicators:
5			Dominance Test is >50%
6			Prevalence Index is ≤3.0 ¹
			Morphological Adaptations ¹ (Provide supporting
7			data in Ramarks or on a separate sheat)
8			Problematic Hydrophytic Vegetation ¹ (Explain)
Woody Vine Stratum (Plot size:)		= Total Cover	
1			¹ Indicators of hydric soil and wetland hydrology must
			be present, unless disturbed or problematic.
2		= Total Cover	Hydrophytic
		= Total Cover	Vegetation
% Bare Ground in Herb Stratum % Cover	r of Biotic Ci	ust	Present? Yes No
Remarks:			
L			

DIL				<u></u>	Sampling Point:
	• • •	pth needed to document the		the absence of	indicators.)
Depth	Matrix Color (moist) %	Redox Feature	8		Remarks
(inches) ノム	104N313	Color (moist) %		chan lu	
10	1011-515			217-2	
					· · · · · · · · · · · · · · · · · · ·
·····					
	·	·			
	·				
	·				
		H=Reduced Matrix, CS=Covere			an: PL=Pore Uning, M=Matrix.
-		II LRRs, unless otherwise not	ed.)		Problematic Hydric Solis ³ :
Histoso		Sandy Redox (S5)			k (A9) (LRR C)
	pipedon (A2)	Stripped Matrix (S6)	1/64)		k (A10) (LRR B) Ventio (E18)
Black H Hydroge	en Sulfide (A4)	Loamy Mucky Minera Loamy Gleyed Matrix			Vertic (F18) nt Material (TF2)
	id Layers (A5) (LRR C)	Depleted Matrix (F3)	. (r z)		plain in Remarks)
_	uck (A9) (LRR D)	Redox Dark Surface	(F6)		
	d Below Dark Surface (A11)	Depleted Dark Surfac			
Thick D	ark Surface (A12)	Redox Depressions (F8)	³ Indicators of I	ydrophytic vegetation and
	Mucky Mineral (S1)	Vernal Pools (F9)		wetland hyd	irology must be present,
	Gleyed Matrix (S4)			unless dist.	rbed or problematic.
Restrictive	Layer (if present):		<u></u>	unless dist.	rbed or problematic.
Restrictive Type:	Layer (if present):				/
Restrictive Type: Depth (in	Layer (if present):				ntied or problematic.
Restrictive Type: Depth (in Remarks:	Løyer (if present):				/
Restrictive Type: Depth (in Remarks: YDROLC	Løyer (if present):				/
Restrictive Type: Depth (in Remarks: YDROLC Wetland Hy	Løyer (If present): Inchos):	ed; check all that apply)		Hydric Soil Pr	/
Restrictive Type: Depth (in Remarks: YDROLC Wetland Hy Primary Indi	Leyer (If present): Inches): DGY /drology Indicators:	ed; check all that apply) Salt Crust (B11)		Hydric Soli Pr Seconda	osont? Yes No
Restrictive Type: Depth (in Remarks: YDROLC Wetland Hy Primary Indi Surface	Leyer (If present): Inches): DGY Indrology Indicators: Incators (minimum of one requir			Hydric Soli Pr	esent? Yes No
Restrictive Type: Depth (in Remarks: YDROLC Wetland Hy Primary Indi Surface High Wi	Leyer (If present): hoches):	Salt Crust (B11)	ns (B13)	Hydric Soli Pr Seconda Wat	esent? Yes <u>No</u> ry Indicators (2 or more required) ar Marks (B1) (Riverine)
Restrictive Type: Depth (in Remarks: YDROLO Wetland Hy Primary indi Surface High Wi Seturati	Leyer (If present): hoches):	Salt Crust (B11) Biotic Crust (B12)		Hydric Soli Pr Seconda Watu Sedi Drift	psont? Yes <u>No</u> ry Indicators (2 or more required) ar Marks (B1) (Riverine) ment Deposits (B2) (Riverhe)
Restrictive Type: Depth (in Remarks: YDROLC Wetland Hy Primary Indi Surface High W: Seturati Water M	Leyer (If present): Inches):	Salt Crust (B11) Blotic Crust (B12) Aquatic Invertebrate Hydrogen Sulfide O		Hydric Soli Pr Seconda Seci Seci Crift Crati	ry Indicators (2 or more required) rr Andreators (2) or more required) ar Marks (B1) (Riverine) ment Deposits (B2) (Riverine) Deposits (B3) (Riverine)
Restrictive Type: Depth (in Remarks: YDROLC Wetland Hy Primary Indi Seturati Seturati Seturati Sedime	Leyer (If present): Iches): PGPOlogy Indicators: icators. (minimum of one requir Water (A1) ster Table (A2) ion (A3) Jarks (B1) (Nonriverine)	Salt Crust (B11) Blotic Crust (B12) Aquatic Invertebrate Hydrogen Sulfide O	dor (C1) res along Living Roo	Seconda Seconda Sed Drift Drift Drift Cray ts (C3) Cray	ry indicators (2 or more required) ar Marks (B1) (Riverine) ment Deposits (B2) (Riverine) Deposits (B3) (Riverine) age Patterns (B10) Season Water Table (C2) fish Burrows (C8)
Restrictive Type: Depth (in Remarks: YDROLC Wetland Hy Primary Indi Surface High W. Seturati Seturati Seturati Seturati Seturati Seturati Seturati Seturati Seturati	Leyer (If present): Inches):	Salt Crust (B11) Solitic Crust (B12) Aquatic Invertebrate Hydrogen Sulfide Oxidized Rhizosphe Presence of Reduce Recent Iron Reducti	dor (C1) res along Living Roo ed Iron (C4) on in Tilled Soils (C6	Hydric Soli Pr Seconda Sedi Drift Drift (C3) Drai ts (C3) Crai Satu Satu Satu	ry Indicators (2 or more required) rr Indicators (2 or more required) rr Marks (B1) (Riverine) ment Deposits (B2) (Riverine) Deposits (B3) (Riverine) nege Patterns (B10) Season Water Table (C2) fish Burrows (C8) ration Visible on Aeriel Imagery (C9)
Restrictive Type: Depth (in Remarks: YDROLC Wetland Hy Primary Indi Seturati High Wa Seturati Water N Seturati Drift De Drift De Sufface Inundat	Leyer (If present): Inches): profesory refrology Indicators: isators (minimum of one requir Water (A1) ster Table (A2) ion (A3) Warks (B1) (Nonriverine) Arit Deposits (B2) (Nonriverine) posits (B3) (Nonriverine) Soil Cracks (B6) ion Visible on Aerial Imagery (1)	Salt Crust (B11) Biotic Crust (B12) Aquatic Invertebrate Hydrogen Sulface) Oxidized Rhizosphe Presence of Reducc Recent fron Reduct B7) Thin Muck Surface (dor (C1) res along Living Roo ed Iron (C4) on in Tilled Soils (C6 (C7)	Hydric Soli Pr	ry.Indicators (2 or more required) ry.Indicators (2 or more required) rr Marks (B1) (Riverine) ment Deposits (B2) (Riverine) Deposits (B3) (Riverine) hage Patterns (B10) Season Water Table (C2) fish Burrows (C8) ration Visible on Aerial Imagery (C9) low Aquitard (D3)
Restrictive Type: Depth (in Remarks: YDROLC Wetland Hy Primary Indi Surface Surface High W. Stafface Drift De Surface Drift De Surface Surface Surface	Leyer (If present): https://www.incoments.com/ https://wwww.incoments.com/ https://www.incoments.com/ https://wwwwwwwwwwwwwwwwwwwwwwwwwwwwwwwwwww	Salt Crust (B11) Solitic Crust (B12) Aquatic Invertebrate Hydrogen Sulfide Oxidized Rhizosphe Presence of Reduce Recent Iron Reducti	dor (C1) res along Living Roo ed Iron (C4) on in Tilled Soils (C6 (C7)	Hydric Soli Pr	ry Indicators (2 or more required) rr Indicators (2 or more required) rr Marks (B1) (Riverine) ment Deposits (B2) (Riverine) Deposits (B3) (Riverine) nege Patterns (B10) Season Water Table (C2) fish Burrows (C8) ration Visible on Aeriel Imagery (C9)
Restrictive Type: Depth (in Remarks: YDROLC Wetland Hy Primary Indi Surface High W. Staturati Staturati Stat	Leyer (If present): Inches):	Salt Crust (B11) Solitic Crust (B12) Aquatic Invertebrate Hydrogen Sulfide O Sulfized Rhicosphe Presence of Reduce Recent Iron Reduct Thin Muck Surface (Other (Explain in Re	dor (C1) res along Living Roo ed Iron (C4) on in Tilled Soils (C6 (C7)	Hydric Soli Pr	ry.Indicators (2 or more required) ry.Indicators (2 or more required) rr Marks (B1) (Riverine) ment Deposits (B2) (Riverine) Deposits (B3) (Riverine) hage Patterns (B10) Season Water Table (C2) fish Burrows (C8) ration Visible on Aerial Imagery (C9) low Aquitard (D3)
Restrictive Type: Depth (in Remarks: YDROLC Wetland Hy Primary Indi Sufface High W Seturati Unit De Strate Sufface Unit De Sufface Sufface Sufface Wal	Leyer (If present): Inches):	Salt Crust (B11) Solit Crust (B12) Aquatic Invertebrate Hydrogen Sulfide O Sulfized Rhizosphe Presence of Reduce Recent from Reduct Other (Explain in Re No Depth (Inches):	dor (C1) res along Living Roo ed Iron (C4) on in Tilled Soils (C6 (C7)	Hydric Soli Pr	ry.Indicators (2 or more required) ry.Indicators (2 or more required) rr Marks (B1) (Riverine) ment Deposits (B2) (Riverine) Deposits (B3) (Riverine) hage Patterns (B10) Season Water Table (C2) fish Burrows (C8) ration Visible on Aerial Imagery (C9) low Aquitard (D3)
Restrictive Type: Depth (in Remarks: YDROLC Wetland Hy Primary Indi Surface High W. Staturati Staturati Stat	Leyer (If present): Inches):	Salt Crust (B11) Solit Crust (B12) Aquatic Invertebrate Hydrogen Sulfde O SolidIzed Rhizosphe Presence of Reduce Recent Iron Reduct Thin Muck Surface I Other (Explain in Re No Depth (Inches): No Depth (Inches):	dor (C1) res along Living Roo dl Iron (C4) on in Tilled Soils (C6 (C7) imarks)	Hydric Soli Pr Seconda Watu Sedi Drift Crab (C3) Dry- Crab (C3) Sedi Sedi Sedi Sedi Sedi Francisco Francisco Shal FAC	ry Indicators (2 or more required) ry Indicators (2 or more required) rr Marks (B1) (Riverine) ment Deposits (B2) (Riverine) Deposits (B3) (Riverine) nage Patterns (B10) Season Water Table (C2) fish Burrows (C8) ration Visible on Aeriel Imagery (C9) low Aquitard (D3) Neutral Test (D5)
Restrictive Type: Depth (in Remarks: YDROLC Wetland Hy Primary Indi Surface High W. Surface Drift De Surface Drift De Surface Under.5 Field Obser Surface Wat Water Table Surface Water Table Surface Surface Table	Leyer (if present): Inches):	Salt Crust (B11) Solit Crust (B12) Aquatic Invertebrate Hydrogen Sulfide O Sulfized Rhizosphe Presence of Reduce Recent from Reduct Other (Explain in Re No Depth (Inches):	dor (C1) res along Living Roo dl Iron (C4) on in Tilled Soils (C6 (C7) imarks)	Hydric Soli Pr	ry Indicators (2 or more required) ry Indicators (2 or more required) rr Marks (B1) (Riverine) ment Deposits (B2) (Riverine) Deposits (B3) (Riverine) nage Patterns (B10) Season Water Table (C2) fish Burrows (C8) ration Visible on Aeriel Imagery (C9) low Aquitard (D3) Neutral Test (D5)

Remarks:

US Army Corps of Engineers

Arid West - Version 2.0

US Army Corps of Engineers

	No the and .
WETLAND DETERMIN	INATION DATA FORM - Arid West Region
Protect/Site: Paul	CityCounty Kittitus Samuilon Data: 2-16-22
Applicant/Owner:	City/County: Kittitas Sempling Date: 2-16-22 State: WA Sempling Point: DP#2
Investigator(s): Ed Sewall	Section, Township, Range: 534 TISN R19E
Landform (hillslope, terrace, etc.):	Local relief (conceve, convex, none):
Subregion (LRR): Let	st; Datum:
Soil Map Unit Name: Varies	NWI classification:
Are climatic / hydrologic conditions on the site typical for this time	e of year? Yes No (If no, explain in Remarks.)
Are Vegetation Soli or Hydrology signific	ficantly disturbed? Are "Normal Circumstances" present? Yes No
Are Vegetation, Soli or Hydrology nature	
SUMMARY OF FINDINGS - Attach site map show	wing sampling point locations, transects, important features, etc.
Hydraphytic Vegetation Present? Yzs No Hydric Soli Present? Yes No	is the Sampled Area

Wetland Hydrology Present?	Yas No	within a Wetland?	Yes No	
Remarks: Franced	agricultural	land		

VEGETATION - Use scientific names of plants.

		Dominant Indicator	
		Species? Status	That Are OBL, FACW, or FAC:
2			Total Number of Dominant Species Across All Strata: (B)
4			
Sapling/Shrub Stratum (Plot size:)		= Total Cover	Percent of Dominant Species That Are OBL, FACW, or FAC: (A/B)
1			Prevalence Index worksheet:
2			Total % Cover of: Multiply by:
3			OBL species x1 =
4			FACW species x2 =
5			FAC species x3 =
		= Total Cover	FACU species x4 =
Herb Stretum (Plot size:)		-	UPL species ×5 =
1. Medicago satur			Column Totats: (A) (B)
3			Prevalence index = B/A =
4			Hydrophytic Vegetation indicators:
5			Dominance Test is >50%
6.			Prevalence Index is ≤3.01
7			Morphological Adaptations ¹ (Provide supporting data in Remarks or on a secarate sheet)
8.		= Total Cover	Problematic Hydrophytic Vegetation ¹ (Explain)
Woody Vine Stratum (Plot size:)			
1			Indicators of hydric soil and welland hydrology must
2			be present, unless disturbed or problematic.
		= Total Cover	Hydrophytic Vegetation
		n ust	Present? Yes No
% Bare Ground in Herb Stratum % Cov	er of Blottc C	1.1.201	Present Tes Pro

OIL					Sampling Point:
Profile Description: (Describe to the dep			or confirm	n the absence	of Indicators.)
Depth <u>Matrix</u> (inches) Color (moist) %	Color (maist) % Type ¹ Loc ²			Texture	Remarks
and a second sec					
16 104NZ12				100	<u>``</u>
Type: C=Concentration, D=Depletion, RM	Reduced Matrix, CS=Cove	red or Coate	d Sand Gr	ains. Loc	ation: PL=Pore Lining, M=Matrix.
lydric Soll Indicators: (Applicable to all					for Problematic Hydric Solis ³ :
Histosol (A1)	Sandy Redox (35)			1 cm M	luck (AB) (LRR C)
Histic Epipedon (A2)	Stripped Matrix (St	3)		2 cm M	luck (A10) (LRR B)
Black Histic (A3)	Loamy Mucky Min	inal (F1)		Reduce	ed Ventic (F18)
Hydrogen Sulfide (A4)	Loamy Gleyod Mal			Red Pa	arent Material (TF2)
Stratified Layers (A5) (LRR C)	Depieted Matrix (F	3)		Other (Explain in Remarks)
1 cm Muck (A9) (LRR D)	Redox Dark Surfac	æ (F8)			
Depleted Below Dark Surface (A11)	Depleted Dark Sur	face (F7)			
Thick Dark Surface (A12)	Redox Depression	s (F6)		³ Indicators	of hydrophytic vegetation and
Sandy Mucky Mineral (S1)	Vernel Pools (F9)			wetland h	hydrology must be present,
Sandy Gleyed Matrix (S4)				unless di	sturbed or problematic.
lestrictive Leyer (if present):				T	
Тура:				1	
Depth (inches):				Hydric Soll	Present? Yes No
Remarka:				1	
Section Control Contro					

HYDROLOGY

Wetland Hydrology Indicators:		
Primary Indicators (minimum of one required; ch	leck all thet apply)	Secondery indicators (2 or more required)
Surface Water (A1)	Selt Crust (B11)	Water Marks (B1) (Riverine)
High Water Table (A2)	Biotic Crust (B12)	Sediment Deposits (B2) (Riverine)
Seturation (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 Livi	ng 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 St	sils (C6) Saturation Visible on Aarial Imagery (C9)
inundation Visible on Aerial Imagery (87)	Thin Muck Surface (C?)	Shellow Aquitard (D3)
Water-Steined Leaves (B9)	Other (Explain in Remarks)	FAC-Neutral Test (D5)
Field Observations:		
Surface Water Present? Yes No _	Depth (Inches):	
	Depth (Inches):	
Saturation Present? Yes No _ (includes capillary fringe)	Depth (inches):	Wetland Hydrology Present? Yes No
Describe Recorded Data (stream gauge, monito	ring well, aerial photos, previous inspec	tions), if available:
Remarks:		
L <u></u>		

US Army Corps of Engineers

wetA

	WETLAND DET	ERMINATION DATA	FORM - Arid West R	egion		
Project/Site:	Paul	City/County:	Kittitus	Sampling Date:2 -1/4 - 2.2		
Applicant/Owner:		City/County: Kittitas Sampling Date: 2-1/6-2 State: wA Sampling Point: DP#3				
Investigator(s):	Ed Sewed			34 T18~ R14E		
Landform (hillslope, t	ierrace, etc.):	Local relief (r	concave, convex, none):	<u> </u>		
Subregion (LRR):		Let:	Long:	Datum:		
Soil Map Unit Name:	Varies			dessification:		
	gic conditions on the site typical for	this time of year? Yes	No (If no, expla	ain in Remarks.)		
Are Vegstation	Soli or Hydrology	significantly disturbed?	Are "Normal Circumsta	nces" present? Yes No		
Are Vegetation	_, Soli, or Hydrology	_ naturally problematic?	(if needed, explain any	answers in Remarks.)		
SUMMARY OF I	FINDINGS - Attach site ma	p showing sampling	point locations, tran	sects, important features, etc.		

Hydrophytic Vegetation Present? Hydric Soil Present? Wetland Hydrology Present?	Yes No Yes No	is the Sampled Area within a Watland?	Yes No
Remarks: Formed	agricultural	land	

VEGETATION - Use scientific names of plants.

	Absolute	Dominant Indicator	Dominance Test worksheet:	
<u>Iree Stratum</u> (Plot eize:) 1)		Species? Status	Number of Dominant Species 1 That Are OBL, FACW, or FAC: (A)	
2				
3			Total Number of Dominant / (B)	
f			Percent of Dominant Species	
Sapling/Shrub Stratum (Plot size:)		≖ Tetal Cover	That Are OBL, FACW, or FAC: (A/B)	
I			Prevalence Index worksheet:	
2			Total % Cover of: Multiply by:	
			OBL species x1 =	
k			FACW species x2 =	
5			FAC species x3 =	
		= Total Cover	FACU species x4 =	
terb Stratum (Plot size:)	1100	FAIL	UPL species x5=	
1. Phalaus andrea			Column Totels: (A) (B)	
2			Prevelence index = B/A =	
4			Hydrophytic Vegetation Indicators:	
5.			Dominance Test is >50%	
B			Prevalence Index is ≤3.0 ¹	
7			 Morphological Adaptations¹ (Provide supporting data in Remarks or on a separate sheet) 	
8		= Total Cover	Problematic Hydrophytic Vegetation ¹ (Explain)	
Woody Vine Stratum (Plot size:)				
1			¹ Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.	
2				
		≃ Total Cover	Hydrophytic Vegetation	
% Bare Ground In Herb Stratum % Co	over of Biotic Cr	ust tau	Present? Yes No	
Remarks:	••••••••••••••••••••••••••••••••••••••			
S Army Corps of Engineers	·····		Arid West - Version 2.0	

Depth	Matrix	oth needed to document the indicator or con Redox Features	antin pie epenice of Ridicerois.)
(inches)	Color (molest) % /0 Y/L3) Z	Color (moist) % Type ¹ Los	Texture Remarks
14	104×312	cad	sug m
		······	
		=Reduced Matrix, CS=Covered or Costed San LRRs, unless otherwise noted.)	d Grains. ² Location: PL=Pore Lining, M=Matrix. Indicators for Problematic Hydric Solis ³ :
Histosol		Sandy Redox (S5)	1 cm Muck (A9) (LRR C)
Histic Es	kpedan (A2)	Stripped Matrix (S6)	2 cm Muck (A10) (LRR B)
Black His	stic (A3)	Loamy Mucky Minerel (F1)	Reduced Vertic (F18)
	n Sulfide (A4)	Loamy Gleyed Matrix (F2)	Red Parent Material (TF2)
	Leyers (A5) (LRR C)	Depleted Matrix (F3)	Other (Explain in Remarks)
	ck (A9) (LRR D)	Redox Dark Surface (F8)	
	Below Dark Surface (A11)	Depleted Dark Surface (F7)	• • • • • • • •
	irk Surface (A12)	Redox Depressions (F8)	³ indicators of hydrophytic vegetation and
	lucky Mineral (S1)	Vernel Pools (F9)	weband hydrology must be present,
	leyed Matrix (S4) aver (if present):		unless disturbed or problematic.
Depth (Inc	nes):		Hydric Soli Present? Yes No
Remarks:			

HYDROLOGY

Wetland Hydrology Indicators:		
Primary Indicators (minimum of one required: c	heck all that apply)	Secondary indicators (2 or more required)
Surface Water (A1)	Salt Crust (B11)	Water Marks (B1) (Riverine)
High Water Table (A2)	Biotic Crust (B12)	Sediment Depozits (B2) (Riverine)
Seturation (A3)	Aquatic Invertebrates (B13)	Drift Deposite (B3) (Riverine)
Water Marks (B1) (Nonriverine)	Hydrogen Suffide Odor (C1)	Drainage Patterns (B10)
Sediment Deposits (82) (Nonriverine)	Oxidized Rhizospheres along Livi	ng Roots (C3) Dry-Season Water Table (C2)
Drift Deposits (B3) (Nonriverine)	Presence of Reduced Iron (C4)	Crayfish Burrows (C8)
Surface Soli Cracks (B6)	Recent iron Reduction in Tilled S	oils (C6) Saturation Visible on Aerial Imagery (C9)
Inundation Visible on Aerial Imagery (B7)	Thin Muck Surface (C7)	Shallow Aquitand (D3)
Water-Steined Leaves (B9)	Other (Explain in Remarks)	FAC-Neutral Test (D5)
Field Observations:		T
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
(includes capiliary fringe) Describe Recorded Data (stream gauge, monito		tione) if mailable:
Descine resolute Date (as earrigeoge, morris	anig nest come proces, provide niepor	
Remarks:		

US Army Corps of Engineers

enst of NetA

WETLAND DETERMINATION DATA FORM - Arid West Region

Project/Sille: Paul	City/County: Kittutas Sampling Date: 21/6-2 State: WA Sampling Point: DP44	22
Applicant/Owner:	State: WA Sampling Point: DP 4 4	
Investigator(s): Fed Seweil	Section, Township, Range: 534 T18~ R19E	
Landform (hillslope, terrace, etc.):	Local relief (concave, convex, none): Slope (%):	
	Long: Detum:	
Soil Map Unit Name: Variation	NWI classification:	
Are climatic / hydrologic conditions on the site typical for this time	of year? Yes No (If no, explain in Remarks.)	
Are Vegetation Soli or Hydrology significa	antly disturbed? Are "Normal Circumstances" present? Yes No	
Are Vegetation, Soil, or Hydrology natural	iy problematic? (If needed, explain any answers in Remarks.)	

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

Hydrophytic Vegetation Present? Hydric Soli Present? Wetland Hydrology Present?	Yes No Yes No Yes No	is the Sampled Area within a Wetland?	Yes No
Remarks: Frmed	agricultural i	land	

VEGETATION - Use scientific names of plants.

		Dominant		Dominance Tast worksheet:	
<u>Tree Stratum</u> (Plot size:) 1)		Species?		Number of Dominant Species (A	N)
2.		<u></u>		Total Number of Dominant 7	
3				Total Number of Dominant Z(B))
4.					
Sabling/Shrub Stratum (Plot size:)		× Total Co		Percent of Dominant Species That Are OBL, FACW, or FAC: (A	VB)
1				Prevalence Index worksheet:	
2				Total % Cover of: Multiply by:	
3.				OBL species x1 =	
4				FACW species x2 =	
5				FAC species x3 =	
		Trank Com		FACU species x4 =	
Herb Stretum (Plot size:				1	
2 Cidsing any			FA-(Column Totals: (A)	œ١
2. Cidsim and	80		FAL	()	-,
3				Prevalance index = B/A =	
4				Hydrophytic Vegetation indicators:	
S				Dominance Test is >50%	
6				Prevalence Index is ≤3.0 ¹	
7				Morphological Adaptations ¹ (Provide supporting data in Remarks or on a separate sheet)	ł
8				Problematic Hydrophylic Vegetation' (Explain)	
Woody Vine Stratum (Plot size:)		≠ Total Co	ver		
1				¹ Indicators of hydric soil and welland hydrology mus	4
2		*****		be present, unless disturbed or problematic.	
4- ·		= Total Co		Hydrophytic	
		= 10481 CO	ver	Vegstation	
% Bare Ground in Herb Stratum % Cove	er of Biotic C	rust		Present? Yes No	
Remarks:					

SOIL Sampling Point: Profile Description: (Describe to the depth needed to document the indicator or confirm the sbeence of indicators.) Depth Matrix Redox Features inches Color (moist) Color (moist) 1.00 Taxture Remarks Type' 10431 14 ²Location: PL=Pore Lining, M=Metrix. ¹Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered or Coated Sand Grains. Hydric Soll indicators: (Applicable to all LRRs, unless otherwise noted.) Indicators for Problematic Hydric Solis³ ___ Sandy Redox (S5) ____ Histosol (A1) ____ 1 cm Muck (AB) (LRR C) ____ Stripped Matrix (S6) 2 cm Muck (A10) (LRR B) Histic Epipedon (A2) Black Histic (A3) Loamy Mucky Mineral (F1) ___ Reduced Vertic (F18) Hydrogen Sulfide (A4) Loamy Gleyed Metrix (F2) ___ Red Parent Material (TF2) Stratified Layers (A5) (LRR C) Depleted Matrix (F3) Other (Explain in Remarks) 1 cm Muck (AB) (LRR D) Redox Dark Surface (F8) Depleted Dark Surface (F7) Depleted Below Dark Surface (A11) Redox Depressions (F8) ⁵Indicators of hydrophytic vegetation and Thick Dark Surface (A12) Vernal Pools (F9) Sandy Mucky Mineral (S1) wetland hydrology must be present, Sandy Glayed Matrix (S4) 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) Secondery indicators (2 or more resulted) Surface Water (A1) ____ Selt Crust (B11) ___ Water Marks (B1) (Riverine) Sediment Deposits (B2) (Rivertue) High Water Table (A2) Biotic Crust (B12) ____ Seturation (A3) ____ Aquatic Invertebrates (B13) ____ Drift Deposits (B3) (Riverine) Hydrogen Sulfide Odor (C1) Drainage Patterns (818) Water Marks (B1) (Nonriverine) Oxidized Rhizospheres along Living Roots (C3) ____ Dry-Season Water Table (C2) Sediment Deposits (B2) (Nonriverine) ____ Drift Deposits (B3) (Nonriverine) Presence of Reduced Iron (C4) ____ Crayfish Surrows (C8) Recent Iron Reduction in Tilled Soils (C6) ____ Saturation Visible on Aerial Imagery (C9) ____ Surface Soil Cracks (B6) ___ Shallow Aquitand (D3) _ Thin Muck Surface (C7) inundation Visible on Aerial Imagery (87) Water-Stained Leaves (B9) Other (Explain in Remarks) FAC-Neutral Test (D5) Field Observations: Surface Water Present? Depth (Inches): ____ Depth (inches): Water Table Present? Yes Saturation Present? ____Depth (Inches): Wetland Hydrology Present? Yes Yes_ No (Includes capillary fringe) Describe Recorded Date (stream gauge, monitoring well, serial photos, previous inspections), if available: Remarks:

US Army Corps of Engineers

Arid West -- Version 2.0

Arid West - Version 2.0

US Army Corps of Engineers

Catu of Field

		ATA PORM - AND WEST RE	
Project/Site: Paul	City/Co	unty Kittitus	sampling Date: 2-14-22 A sampling Point: PP# 5
Applicant/Owner:		State:	A Sampling Point:
Investigator(s): Fd Sew co	Section	Township, Range:5	34 T18~ R19E
Landform (hillslope, terrace, stc.):	Local r	alisf (conceve, convex, none):	Stope (%):
Subregion (LRR):	Lat:	Long:	Datum:
Soil Map Unit Name: Vanues			ssification:
Are climatic / hydrologic conditions on the site typical	for this time of year? Ye	No (If no, explain	in Remarks.)
Are Vegetation Soit or Hydrology			ces" present? Yes No
Are Vegetation, Soli, or Hydrology		c? (If needed, explain any a	nswars in Remarks.)
SUMMARY OF FINDINGS - Attach site a	nap showing samp	ling point locations, trans	ects, important features, etc.
Hydrophytic Vegetation Present? Yes	No	s the Sampled Area	
Hydric Sall Present? Yes	No / I		No
Wetland Hydrology Present? Yes	No		^{NU}

Remarks: Formed agricultural land

VEGETATION - Use scientific names of plants.

Tree Stratum (Plot eize:)		Dominant Species?		Dominance Test worksheet: Number of Dominant Species
1				That Are OBL, FACW, or FAC: (A)
2				Total Number of Dominant Species Across All Strata: (B)
4				Species Auross Al Strats: (B)
Sapling/Shrub Stratum (Plot size:)		* Total Co	Var	Percent of Dominant Species (A/B)
1				Prevalence Index worksheet:
2.				Total % Cover of: Multiply by:
3				OBL species x1 =
4				FACW species x2 =
5				FAC species x3 =
		= Total Co	ver	FACU species x4 =
Herb Stratum (Plot size:)			ii.r	UPL species x5=
1. Medicago 5-Tray				Column Totels: (A) (B)
3				Prevalence index = B/A =
4				Hydrophytic Vegetation indicators:
5				Dominance Test is >50%
8				Prevalence Index is ≤3.01
7				Morphological Adaptations ¹ (Provide supporting data in Remarks or on a separate sheet)
B		= Total Co		Problematic Hydrophytic Vegetation ¹ (Explain)
Woody Vine Stretum (Plot size:)				
1			· · · · · · · · · · · · · · · · · · ·	Indicators of hydric soll and welland hydrology must be present, unless disturbed or problematic.
		= Total Co		Hydrophytic Vegetation
				a a Sarranati
% Bare Ground in Herb Stratum % Con	er of Biotic Ci	rust		Present? Yes No

SOIL Sampling Point Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.) Depth Matrix Redox Features % Type' Loc' Texture Color (moist) % Color (moist) Remarks (inches 7 - My C 14 102303 ¹Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered or Coated Sand Grains. Location: PL=Pore Lining, M=Matrix. Hydric Soli Indicators: (Applicable to all LRRs, unless otherwise noted.) Indicators for Problematic Hydric Solis¹: ___ Sandy Redox (S5) Histosol (A1) ____ 1 cm Muck (AB) (LRR C) Histic Epipedon (A2) Stripped Matrix (S6) ____ 2 cm Muck (A10) (LRR B) Black Histic (A3) Loamy Mucky Minerel (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 (A9) (LRR D) Redox Dark Surface (F8) Depleted Below Dark Surface (A11) Depleted Dark Surface (F7) Thick Dark Surface (A12) Redox Depressions (F8) ³Indicators of hydrophytic vegetation and ----Sandy Mucky Mineral (S1) ____ Varnal Pools (F9) wetland hydrology must be present, Sandy Glayed Matrix (S4) unless disturbed or problematic. Restrictive Layer (if present): Type Depth (inches): Hydric Soll Present? Yes Remarks: HYDROLOGY Wetland Hydrology Indicators: Primery indicators (minimum of one required; check all thet apoly) Secondary indicators (2 or more required) ____ Surface Water (A1) ____ Selt Crust (B11) Water Marks (B1) (Riverine) High Water Table (A2) Biotic Crust (B12) ____ Sediment Deposits (B2) (Riverine) Seturation (A3) Aquatic Invertebrates (B13) ____ Drift Deposits (B3) (Riverine) ____ Water Marks (B1) (Nonriverine) Hydrogen Suilide Odor (C1) Drainage Patterns (B10) Sediment Daposita (82) (Nonriverine) Oxidized Rhizospheres along Living Roots (C3) ___ Dry-Season Water Table (C2) __ Drift Deposits (B3) (Nonriverine) Presence of Reduced Iron (C4) ___ Crayfish Burrows (C8) Saturation Visible on Aerial Imagery (CS) Surface Soil Crecks (B6) Recent Iron Reduction in Tilled Soils (C6) ___ Inundation Visible on Aerial Imagery (87) ____ Thin Muck Surface (C7) Shallow Aquitand (DS) Water-Steined Leaves (B9) Other (Explain in Remarks) FAC-Neutral Test (D5) Field Observations: Surface Water Present? Denth (Inches) Water Table Present? Depth (inches): Yes Saturation Present? Depth (inches): Wetland Hydrology Present? Yes Yes No

(includes capillary fringe) Describe Recorded Date (stream gauge, monitoring well, serial photos, previous inspections), if available:

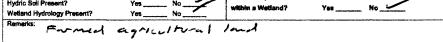
Remarks:

US Army Corps of Engineers

Arid West - Version 2.0

NW sich of a A

	TION DATA FORM - Arid West Region
Project/Site: Paul	City/County: Kittitus Sampling Date: 2-16-22
Applicant/Owner:	State: WA Sampling Point: DPH 6
investigator(s): <u>Fd Seweill</u>	Section, Township, Range: 534 T18~ R19E
Landform (hillslope, terrace, etc.):	Local relief (concave, convex, none): C C C Stope (%);
Subregion (LRR): Lat:	Long: Datum:
Soil Map Unit Name: Various	NWI classification:
Are climatic / hydrologic conditions on the site typical for this time of	
Are Vegetation Soli or Hydrology Significan	ntly disturbed? Are "Normal Circumstences" present? YesNo
Are Vegetation, Solt, or Hydrology naturally	
SUMMARY OF FINDINGS - Attach site map show	ng sampling point locations, transects, important features, etc.
Hydrophytic Vegetation Present? Yes No	is the Sampled Area



VEGETATION - Use scientific names of plants.

	Species? Stat.	
		This real USE, Incur, of PAC. Total Number of Dominant Species Across All Strata: Percent of Dominant Species
		Percent of Dominant Species
	<u> </u>	Percent of Dominant Species
	= Total Cover	
		That Are OBL, FACW, or FAC: (A/B)
		Prevalence Index worksheet:
		Total % Cover of: Multiply by:
		1 · · · · · · · · · · · · · · · · · · ·
		FAC species x3 =
	= Total Cover	FACU species x4 =
		UPL species x5 =
10.9	<i>f</i>	Column Totals: (A) (B)
		Prevalence index = B/A =
		Hydrophytic Vegetation Indicators:
		Problematic Hydrophytic Vegetation ¹ (Explain)
	= Total Cover	
		¹ Indicators of hydric soil and wetland hydrology must-
		ba present, unless disturbed or problematic.
		Hydrophytic
of Biotic Ci	runt	Vegetation Present? Yes No
		= Total Cover

	in needed to document the indicator or co	INNUT FIA STADING OF MININGRA S'
Depth Matrix	Redox Features	Tabas Banada
(mohea) Color (moist) %	Color (moist) % Type' Lo	
16 104312		_ chy in
······		
		·····
······································		
Type: CaConcentration DeDenietion RMa	Reduced Matrix, CS=Covered or Costed Sar	nd Grains. ² Location: PL=Pore Lining, M=Metrix.
lydric Soll Indicators: (Applicable to all I		Indicators for Problematic Hydric Solis ³ :
	Sandy Redox (S5)	1 cm Muck (A9) (LRR C)
Histic Epipedon (A2)	Stripped Matrix (S6)	2 on Muck (A10) (LRR B)
Black Histic (A3)	Loamy Mucky Mineral (F1)	Reduced Ventic (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 (AS) (LRR D)	Redox Dark Surface (F6)	
Depleted Below Dark Surface (A11)	Depleted Dark Surface (F7)	
Thick Dark Surface (A12)	Redox Depressions (F8)	⁹ Indicators of hydrophytic vegetation and
Sandy Mucky Mineral (S1)	Vernal Pools (F9)	wetland hydrology must be present,
Sandy Gleyed Matrix (S4)		unless disturbed or problematic.
testrictive Leyer (if present):		
Туре:		-
Depth (Inches):		Hydric Soli Present? Yes No
Vetland Hydrology Indicators:	; check all that mon(y)	Secondery Indicators (2 or more resulted).
YDROLOGY Vetland Hydrology Indicators: Primary Indicators. (minimum of one required Surface Weter (A1)	; check all that supply) Sait Crust (B11)	Seconderv indicators (2 or more neguired). Water Marks (61) (Riverfine)
Vetland Hydrology Indicatora: <u>Primary Indicatora (minimum of one required</u> Surface Water (A1)	Salt Crust (B11)	Water Marks (B1) (Riverine)
Vetland Hydrology Indicatora: Primary Indicatora (minimum of one resulted Surface Water (A1) High Water Table (A2)	Salt Crust (B11) Biotic Crust (B12)	Water Marks (B1) (Riverine) Sediment Deposits (B2) (Riverine)
Netland Hydrology Indicatora: Primary Indicatora, (minimum of one required Surface Water (A1) High Water Table (A2) Seturation (A3)	Selt Crust (B11) Biotic Crust (B12) Aquetic invertebrates (B13)	Water Marks (B1) (Riverine) Sediment Deposits (B2) (Riverine) Drift Deposits (B3) (Riverine)
Vetland Hydrology Indicatora: Primary Indicatora (minimum of one negulited Surface Weter (A1) High Water Table (A2) Seturation (A3) Weter Marks (B1) (Nonriverine)	Seit Crust (B11) Biotic Crust (B12) Aquetic Invertebrates (B13) Hydrogen Suffice Odor (C1)	Water Marks (B1) (Riverine) Sediment Deposits (B2) (Riverine) Drift Deposits (B3) (Riverine) Drainage Patterns (B10)
Vetland Hydrology Indicatora: Primary Indicatora (minimum of one recuired Surface Water (A1) High Water Table (A2) Seturation (A3) Water Marice (B1) (Nonriverine) Sediment Deposita (B2) (Nonriverine)	Seit Crust (B11) Biotic Crust (B12) Aquatic Invertebrates (B13) Hydrogen Suffice Odor (C1) Oddized Rhizospheres along Living	Water Marks (B1) (Riverine) Sediment Deposits (B2) (Riverine) Drift Deposits (B3) (Riverine) Drainage Patterns (B10) Roots (C3) Dry-Season Water Teble (C2)
Vetland Hydrology Indicators: Primary Indicators (minimum of one resulted Surface Water (A1) High Water Table (A2) Seturation (A3) Water Marks (B1) (Nonriverine) Sediment Deposits (B2) (Nonriverine) Drift Deposits (B3) (Nonriverine)	Seit Crust (B11) Biotic Crust (B12) Aquetic Invertebrates (B13) Hydrogen Suffde Odor (C1) Coldized Rhicospheres along Living Presence of Reduced Iron (C4)	Water Marks (B1) (Riverine) Sedimant Deposits (B2) (Riverine) Drift Deposits (B3) (Riverine) Drainage Patterns (B10) Dry-Season Water Table (C2) Crayfish Burrows (C8)
Vetland Hydrology Indicatora: Primary Indicatora: (minimum of one reculted Sufface Water (A1) High Water Table (A2) Seturation (A3) Water Marks (B1) (Nonriverine) Sediment Deposite (B2) (Nonriverine) Drift Deposite (B3) (Nonriverine) Surface Soli Cracks (B6)	Seit Crust (B11) Biotic Crust (B12) Aquetic Invertebrates (B13) Hydrogen Sulfide Odor (C1) Oxidized Rhizospheres along Living Presence of Reducad Iron (C4) Recent Iron Reduction in Titled Soil	Water Marks (B1) (Riverine) Sediment Deposits (B2) (Riverine) Drift Deposits (B3) (Riverine) Drainage Patterns (B10) Roots (C3) Dry-Season Water Table (C2) Crayfish Burrows (C8) S (C6) Saturation Visible on Aeriel Imagery (C
Vetland Hydrology Indicatora: Primary Indicatora (minimum of one neculitad Sufface Water (A1) Seturation (A3) Weter Marks (B1) (Nonriverine) Sadiment Deposita (B2) (Nonriverine) Drift Deposita (B3) (Nonriverine) Surface Sol Cracks (B6) Inundation Visible on Aerisi Imagery (B7)	Selt Crust (B11) Biotic Crust (B12) Aquatic Invertebrates (B13) Hydrogen Suffice Odor (C1) Oxidized Rhicospheres along Living Presence of Reduced Iron (C4) Recent Iron Reduction in Tilled Soil Thin Muck Surface (C7)	Water Marks (B1) (Riverine) Sediment Deposits (B2) (Riverine) Drift Deposits (B3) (Riverine) Drainage Patterns (B10) Roots (C3) Dry-Season Water Table (C2) Crayfish Burrows (C8) Staturation Visible on Aeriel Imagery (C Shallow Aquitard (D3)
Vetland Hydrology Indicatora: Primary Indicatora: (minimum of one reculted Sufface Water (A1) High Water Table (A2) Seturation (A3) Water Marks (B1) (Nonriverine) Sediment Deposite (B2) (Nonriverine) Drift Deposite (B3) (Nonriverine) Surface Soli Cracks (B6)	Seit Crust (B11) Biotic Crust (B12) Aquetic Invertebrates (B13) Hydrogen Sulfide Odor (C1) Oxidized Rhizospheres along Living Presence of Reducad Iron (C4) Recent Iron Reduction in Titled Soil	Water Marks (B1) (Riverine) Sediment Deposits (B2) (Riverine) Drift Deposits (B3) (Riverine) Drainage Patterns (B10) Roots (C3) Dry-Season Water Table (C2) Crayfish Burrows (C8) S (C6) Saturation Visible on Aeriel Imagery (C
Vetland Hydrology Indicatora: Primary Indicatora (minimum of one reculted Surface Water (A1) High Water Table (A2) Seturation (A3) Water Marks (B1) (Nonriverine) Sediment Deposits (B2) (Nonriverine) Drift Deposits (B3) (Nonriverine) Surface Soil Cracks (B6) Inunctation Visible on Aerisi Imagery (B7 Water-Steined Leaves (B9)	Selt Crust (B11) Biotic Crust (B11) Aquatic Invertebrates (B13) Hydrogen Suffice Odor (C1) Oxidized Rhizospheras along Living Presence of Reduced Iron (C4) Recent Iron Reduction in Tilled Soil Thin Muck Surface (C7) Other (Explain in Remarks)	Water Marks (B1) (Riverine) Sediment Deposits (B2) (Riverine) Drift Deposits (B3) (Riverine) Drainage Patterns (B10) Roots (C3) Dry-Season Water Table (C2) Crayfish Burrows (C8) Staturation Visible on Aeriel Imagery (C Shallow Aquitard (D3)
Vetland Hydrology Indicatora: Primary Indicatora (minimum of one reculted Surface Water (A1) High Water Table (A2) Seturation (A3) Water Marks (B1) (Nonriverine) Sediment Deposits (B2) (Nonriverine) Drift Deposits (B3) (Nonriverine) Surface Soil Cracks (B6) Inunctation Visible on Aerisi Imagery (B7 Water-Steined Leaves (B9)	Selt Crust (B11) Biotic Crust (B11) Aquatic Invertebrates (B13) Hydrogen Suffice Odor (C1) Oxidized Rhizospheras along Living Presence of Reduced Iron (C4) Recent Iron Reduction in Tilled Soil Thin Muck Surface (C7) Other (Explain in Remarks)	Water Marks (B1) (Riverine) Sediment Deposits (B2) (Riverine) Drift Deposits (B3) (Riverine) Drainage Patterns (B10) Roots (C3) Dry-Season Water Table (C2) Crayfish Burrows (C8) Staturation Visible on Aeriel Imagery (C Shallow Aquitard (D3)
Vetland Hydrology Indicatora: Primary Indicatora (minimum of one reculted Surface Water (A1) High Water Table (A2) Seturation (A3) Water Marks (B1) (Nonriverine) Sediment Deposits (B2) (Nonriverine) Drift Deposits (B3) (Nonriverine) Surface Soil Cracks (B6) Inunctation Visible on Aerisi Imagery (B7 Water-Steined Leaves (B9)	Selt Crust (B11) Biotic Crust (B11) Aquatic Invertebrates (B13) Hydrogen Suffice Odor (C1) Oxidized Rhizospheras along Living Presence of Reduced Iron (C4) Recent Iron Reduction in Tilled Soil Thin Muck Surface (C7) Other (Explain in Remarks)	Water Marks (B1) (Riverine) Sediment Deposits (B2) (Riverine) Drift Deposits (B3) (Riverine) Drainage Patterns (B10) Roots (C3) Dry-Season Water Table (C2) Crayfish Burrows (C8) Staturation Visible on Aeriel Imagery (C Shallow Aquitard (D3)
Wetland Hydrology Indicatora: Primary Indicatora: (minimum of one reculred Surface Weter (A1) High Water Table (A2) Seturation (A3) Water Marks (B1) (Nonriverine) Seturation (Deposite (B2) (Nonriverine) Drift Deposite (B3) (Nonriverine) Surface Soit Cracks (B6) Inundation Visible on Aerial Imagery (B7 Water-Stained Leaves (B9) Teld Observations: Water Table Present? Yes	Seit Crust (B11) Biotic Crust (B12) Aquetic Invertebrates (B13) Hydrogen Suffice Odor (C1) Oxidized Rhicospheres along Living Presence of Reduced Iron (C4) Recent Iron Reduction in Titled Solil Other (Explain in Remarks) Bepth (Inches):	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 Aeriel Imagery (C Shaltow Aguitard (D3) FAC-Neutral Test (D5)
Wetland Hydrology Indicatora: Primary Indicatora: (minimum of one reculted Surface Water (A1) High Water Table (A2) Seturation (A3) Water Marks (B1) (Nonriverine) Softmant Deposite (B2) (Nonriverine) Drift Deposite (B3) (Nonriverine) Surface Soit Cracks (B6) Inundation Visible on Aerist Imagery (B7 Water-Steined Leaves (B9) Teid Observations: Surface Water Present? Yes Nater Table Present? Yes Saturation Present? Yes	Seit Crust (B11) Biotic Crust (B12) Aquetic Invertebrates (B13) Hydrogen Suffice Odor (C1) Oxidized Rhicospheres along Living Presence of Reduced Iron (C4) Recent Iron Reduction in Titled Solil Other (Explain in Remarks) Bepth (Inches):	Water Marks (B1) (Riverine) Sediment Deposite (B2) (Riverine) Drift Deposite (B3) (Riverine) Drainage Patterns (B10) Roots (C3) Dry-Season Water Table (C2) Crayfish Burrows (C8) s (C6) Saturation Visible on Aeriel Imagery (C Shallow Aquitard (D3) FAC-Neutral Test (D5)
Wetland Hydrology Indicatora: Primary Indicatora: (minimum of one reculted Surface Water (A1) High Water Table (A2) Seturation (A3) Water Marks (B1) (Nonriverine) Softmant Deposite (B2) (Nonriverine) Drift Deposite (B3) (Nonriverine) Surface Soit Cracks (B6) Inundation Visible on Aerist Imagery (B7 Water-Steined Leaves (B9) Teid Observations: Surface Water Present? Yes Nater Table Present? Yes Saturation Present? Yes	Seit Crust (B11) Biotic Crust (B12) Aquatic Invertebrates (B13) Hydrogen Suffice Odor (C1) Oxidized Rhicospheres along Living Presence of Reduced Iron (C4) Recent Iron Reduction in Tâted Soil Other (Explain in Remarks) Other (Explain in Remarks) Bepth (Inches): Bepth (Inches):	Water Marks (B1) (Riverine) Sediment Deposite (B2) (Riverine) Drift Deposite (B3) (Riverine) Drainage Patterns (B10) Roots (C3) Dry-Season Water Table (C2) Crayfish Burrows (C8) s (C6) Saturation Visible on Aeriel Imagery (C Shallow Aquitard (D3) FAC-Neutral Test (D5)
Wetland Hydrology Indicatora: Primary Indicatora: (minimum of one reculted Surface Water (A1) High Water Table (A2) Seturation (A3) Water Marks (B1) (Nonriverine) Softmant Deposite (B2) (Nonriverine) Drift Deposite (B3) (Nonriverine) Surface Soit Cracks (B6) Inundation Visible on Aerist Imagery (B7 Water-Steined Leaves (B9) Teid Observations: Surface Water Present? Yes Nater Table Present? Yes Saturation Present? Yes	Seit Crust (B11) Biotic Crust (B12) Aquatic Invertebrates (B13) Hydrogen Suffice Odor (C1) Oxidized Rhicospheres along Living Presence of Reduced Iron (C4) Recent Iron Reduction in Tâted Soil Other (Explain in Remarks) Other (Explain in Remarks) Bepth (Inches): Bepth (Inches):	Water Marks (B1) (Riverine) Sediment Deposite (B2) (Riverine) Drift Deposite (B3) (Riverine) Drainage Patterns (B10) Roots (C3) Dry-Season Water Table (C2) Crayfish Burrows (C8) s (C6) Saturation Visible on Aeriel Imagery (C Shallow Aquitard (D3) FAC-Neutral Test (D5)
Vetland Hydrology Indicatora: Primary Indicatora (minimum of one negulited Sufface Weter (A1) Seturation (A3) Weter Merice (B1) (Nonriverine) Saturation (A3) Drift Deposite (B2) (Nonriverine) Drift Deposite (B2) (Nonriverine) Surface Sol Cracks (B6) Inundation Visible on Aerial Imagery (B7 Weter-Steined Leaves (B9) Teld Observations: Surface Weter Present? YesN Nater Table Present? YesN Saturation Present? Yes N Saturation Present? Yes N Saturation Present? Yes N Saturation Present? Yes N	Seit Crust (B11) Biotic Crust (B12) Aquatic Invertebrates (B13) Hydrogen Suffice Odor (C1) Oddized Rhicospheres along Living Presence of Reduced Iron (C4) Recent Iron Reduction in Tâted Soil Other (Explain in Remarks) Other (Explain in Remarks) Bepth (Inches): Bepth (Inches):	Water Marks (B1) (Riverine) Sediment Deposite (B2) (Riverine) Drift Deposite (B3) (Riverine) Drainage Patterns (B10) Roots (C3) Dry-Season Water Table (C2) Crayfish Burrows (C8) s (C6) Saturation Visible on Aeriel Imagery (C Shallow Aquitard (D3) FAC-Neutral Test (D5)
Vetland Hydrology Indicatora: Primary Indicatora (minimum of one negulited Sufface Weter (A1) Seturation (A3) Weter Merice (B1) (Nonriverine) Saturation (A3) Drift Deposite (B2) (Nonriverine) Drift Deposite (B2) (Nonriverine) Surface Sol Cracks (B6) Inundation Visible on Aerial Imagery (B7 Weter-Steined Leaves (B9) Teld Observations: Surface Weter Present? YesN Nater Table Present? YesN Saturation Present? Yes N Saturation Present? Yes N Saturation Present? Yes N Saturation Present? Yes N	Seit Crust (B11) Biotic Crust (B12) Aquatic Invertebrates (B13) Hydrogen Suffice Odor (C1) Oddized Rhicospheres along Living Presence of Reduced Iron (C4) Recent Iron Reduction in Tâted Soil Other (Explain in Remarks) Other (Explain in Remarks) Bepth (Inches): Bepth (Inches):	Water Marks (B1) (Riverine) Sediment Deposite (B2) (Riverine) Drift Deposite (B3) (Riverine) Drainage Patterns (B10) Dry-Season Water Table (C2) Crayfish Burrows (C8) Staturation Visible on Aeriel Imagery (C Shallow Aquitard (D3) FAC-Neutral Test (D5)
Vetland Hydrology Indicatora: Primary Indicatora (minimum of one negulited Sufface Weter (A1) Seturation (A3) Weter Marks (B1) (Nonriverine) Saturation (A3) Drift Deposite (B2) (Nonriverine) Drift Deposite (B2) (Nonriverine) Surface Sol Cracks (B6) Inundation Visible on Aerial Imagery (B7 Weter-Steined Leaves (B9) Teld Observations: Surface Weter Present? YesN Nater Table Present? YesN Saturation Present? YesN Saturation Present? Yes N Saturation Present? YesN Saturation Present? Yes N	Seit Crust (B11) Biotic Crust (B12) Aquatic Invertebrates (B13) Hydrogen Suffice Odor (C1) Oddized Rhicospheres along Living Presence of Reduced Iron (C4) Recent Iron Reduction in Tâted Soil Other (Explain in Remarks) Other (Explain in Remarks) Bepth (Inches): Bepth (Inches):	Water Marks (B1) (Riverine) Sediment Deposite (B2) (Riverine) Drift Deposite (B3) (Riverine) Drainage Patterns (B10) Roots (C3) Dry-Season Water Table (C2) Crayfish Burrows (C8) s (C6) Saturation Visible on Aeriel Imagery (C Shallow Aquitard (D3) FAC-Neutral Test (D5)
Vetland Hydrology Indicatora: Primary Indicatora (minimum of one negulited Sufface Weter (A1) Seturation (A3) Weter Marks (B1) (Nonriverine) Saturation (A3) Drift Deposite (B2) (Nonriverine) Drift Deposite (B2) (Nonriverine) Surface Sol Cracks (B6) Inundation Visible on Aerial Imagery (B7 Weter-Steined Leaves (B9) Teld Observations: Surface Weter Present? YesN Nater Table Present? YesN Saturation Present? YesN Saturation Present? Yes N Saturation Present? YesN Saturation Present? Yes N	Seit Crust (B11) Biotic Crust (B12) Aquatic Invertebrates (B13) Hydrogen Suffice Odor (C1) Oddized Rhicospheres along Living Presence of Reduced Iron (C4) Recent Iron Reduction in Tâted Soil Other (Explain in Remarks) Other (Explain in Remarks) Bepth (Inches): Bepth (Inches):	Water Marks (B1) (Riverine) Sediment Deposite (B2) (Riverine) Drift Deposite (B3) (Riverine) Drainage Patterns (B10) Dry-Season Water Table (C2) Crayfish Burrows (C8) s (C6) Saturation Visible on Aeriel Imagery (C Shallow Aquitard (D3) FAC-Neutral Test (D5)
Vetland Hydrology Indicatora: Primary Indicatora (minimum of one negulited Sufface Weter (A1) Seturation (A3) Weter Marks (B1) (Nonriverine) Saturation (A3) Drift Deposite (B2) (Nonriverine) Drift Deposite (B2) (Nonriverine) Surface Sol Cracks (B6) Inundation Visible on Aerial Imagery (B7 Weter-Steined Leaves (B9) Teld Observations: Surface Weter Present? YesN Nater Table Present? YesN Saturation Present? YesN Saturation Present? Yes N Saturation Present? YesN Saturation Present? Yes N	Seit Crust (B11) Biotic Crust (B12) Aquatic Invertebrates (B13) Hydrogen Suffice Odor (C1) Oddized Rhicospheres along Living Presence of Reduced Iron (C4) Recent Iron Reduction in Tâted Soil Other (Explain in Remarks) Other (Explain in Remarks) Bepth (Inches): Bepth (Inches):	Water Marks (B1) (Riverine) Sediment Deposite (B2) (Riverine) Drift Deposite (B3) (Riverine) Drainage Patterns (B10) Dry-Season Water Table (C2) Crayfish Burrows (C8) Staturation Visible on Aeriel Imagery (C Shallow Aquitard (D3) FAC-Neutral Test (D5)

Sw s.d. F s.k pling Date: 2-16-22 Profile pling Point: PP#7

WETLAND DETERMINATION DATA FORM - Arid West Region

Project/Site: Paul	City/County: Kittitus	Sempling Date: 2 1/6 - 2
Applicant/Owner:	State:	A Sampling Point
Investigator(s): Fed Sewer	Section, Township, Range:	534 T18~ R19E
Landform (hillslope, terrace, etc.):	Local relief (conceve, convex, none): _	
Subregion (LRR): Lat	t Long:	Datum:
Soil Map Unit Name: Variaus		1 classification:
Are climatic / hydrologic conditions on the site typical for this time	of year? Yes No (If no, ex	plein in Remarks.)
Are VegetationSoil or Hydrologysignific	antly disturbed? Are "Normal Circums	tances" present? YesNo
Are Vegetation, Soil, or Hydrology natural	lly problematic? (If needed, explain ar	ny answers in Remarks.)
SUMMARY OF FINDINGS - Attach site map show	wing sampling point locations, tra	nsects, important features, etc.
Hydrophytic Vegetation Present? Yes No		

Hydric Soll Present? Wetland Hydrology Present?	Yes No Yes No	is the Sampled Area within a Wetland?	Yee	No
Remarks: Formed	agricultural .	land		

VEGETATION - Use scientific names of plants.

	Abroluta	Dominant Indicator	Dominance Test workshee	5
Tree Stratum (Plot size:)	% Cover	Species? Status	Number of Dominent Specie	
1			That Are OBL, FACW, or FA	c: (A)
2.			Total Number of Dominant	1
3			Species Across All Strata:	· (B)
4		-	Percent of Dominant Species	0
Sepling/Shrub Stratum (Plot size:)		= Total Covar	That Are OBL, FACW, or FA	
I			Prevalence Index workshe	rt:
2			Total % Cover of:	Multiply by:
3			OBL species	x1=
4			FACW species	x2=
5			FAC species	x3=
		= Total Cover	FACU species	x4=
Herb Stratum (Plot size:)			UPL species	×5=
1. Midling J Subimm		,	Column Totals:	
3.			Prevalence Index = B/	A =
4			Hydrophytic Vegetation Inc	licators:
5			Dominance Test is >509	6
8			Prevalence index is \$3.0	р Г
7			Morphological Adaptatio	ns ¹ (Provide supporting n a separate sheet)
8			Problematic Hydrophytic	Vecetation ¹ (Exclain)
Woody Vine Stratum (Plot size:		= Total Cover		
1)			Indicators of hydric soil and	welland hydrology must
2			be present, unless disturbed	
		= Total Cover	Hydrophytic	
			Vegetation	
% Bare Ground in Herb Stratum % C	over of Biotic C	rust	Present? Yes	No

tric Soll Indicators: (Applicable to all LRRs, unless otherwise noted.) Indicators for Problematic Hydric Solls*: Histoc Epideon (A2) Sardy Redox (S5)	ohas) Color (moist) %		
ac: C=Concentration, D=Deptetion, RM=Reduced Matrix, CB=Covered or Costed Sand Grains. ************************************		Color (moist) % Type Lo	C Texture Remarks
So Soll Indicators: (Applicable to all LRRs, unless otherwise noted.) Indicators for Problematic Hydric Bolts*: Histoc Expland (A1)	<u>v /vr3/2</u>		any in
bit indicators: (Applicable to all LRRs, unless otherwise noted.) Indicators for Problematic Hydric Bolts*: istaction (A1)			
bit indicators: (Applicable to all LRRs, unless otherwise noted.) Indicators for Problematic Hydric Bolts*: istaction (A1)	······································		,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,
So Soll Indicators: (Applicable to all LRRs, unless otherwise noted.) Indicators for Problematic Hydric Bolts*: Histoc Expland (A1)			
Histosol (A1)			
Histic Explored (A2) Stripped Matrix (S9) 2 cm Muck (A10) (LRR B) Black Histic (A3) Loamy Mucky Minaral (F1) Reduced Vertic (F18) Hydrogen Sulfide (A4) Loamy Mucky Minaral (F1) Red Parent Material (TF2) Stratified Layser (A5) (LRR C) Depieted Matrix (F2) Red Parent Material (TF2) Stratified Layser (A5) (LRR C) Depieted Matrix (F3) Other (Explain in Remarks) 1 cm Muck (A8) (LRR D) Redox Derk Surface (F6) Depieted Matrix (S1) Depieted Matrix (S4) water (A12) Redox Depressions (F9) Sandy Mucky Mineral (S1) Vernal Pools (F9) watend hydrology must be present, unless disturbed or problematic. Sandy Mucky Mineral (S1) Vernal Pools (F9) unless disturbed or problematic. Sandy Mucky Mineral (S1) Vernal Pools (F9) Water Marks (B1) (Riverine) Sandy Mucky Mineral (S1) Sat Crues (B11) Water Marks (B1) (Riverine) Saturation (A1) Sat Crues (B11) Water Marks (B1) (Riverine) Saturation (A1) Sat Crues (B11) Water Marks (B1) (Riverine) Saturation (A1) Biols Crues (B11) Water Marks (B1) (Riverine) Saturation (A1) Sat Crues (B11) Saturation Stable (B2) (Nonriverine)			-
Black Histic (A3) Loamy Mucky Minaral (F1) Reduced Vertic (F18) Hydrogen Sulfide (A4) Loamy Gleyed Matrix (F2) Red Parent Material (TF2) Stratified Layers (A5) (LRR C) Depieted Matrix (F2) Red Parent Material (TF2) Stratified Layers (A5) (LRR C) Depieted Matrix (F3) Other (Explain in Remarks) 1 cm Muck (A9) (LRR D) Redox Dark Surface (F6) "Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic. Thick Dark Surface (A12) Redox Derk Surface (F8) "Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic. Sandy Mucky Mineral (S1) Vernal Poole (F9) unless disturbed or problematic. Type:			
Hydrogen Sulfide (A4)			
Stretified Layers (A5) (LRR C)			
1 cm Muck (AB) (LRR D)			
Depleted Below Dark Surface (A11) Depleted Dark Surface (F7) Thick Dark Surface (A12) Redox Depressions (F8) Sandy Muchy Warreri (S1) Vernal Pools (F9) Sandy Muchy Warreri (S1) Vernal Pools (F9) strictive Layer (if present): unless disturbed or problematic. Type:			- Andrew Producer of Concernal
Thick Dark Surface (A12) Redox Depressions (F8) ³ Indicators of hydrophytic vegetation and welland hydrology must be present, unless disturbed or problematic. Sandy Oleyad Matrix (S4) unless disturbed or problematic. Sandy Oleyad Matrix (S4) unless disturbed or problematic. Type:			
Sandy Mucky Mineral (S1) Vernal Pools (F9) wetland hydrology must be present; unless disturbed or problematic. Sandy Mucky Mineral (S1)			Sindicators of hydrophysic unastation and
Sandy Gleyed Matrix (S4) unless disturbed or problematic. strictive Layer (if present):			
strictive Layer (if present): Type: Dopth (inches): Imarks: DROLOGY tiand Hydrology Indicators: marks: Days Indicators: Surface Water (A1) Satt Crust (B12) Sturface Mater (A2) Biolic Crust (B12) Seturation (A3) Aquesic Invertexts (B13) Drift Deposits (B3) (Nonriverine) Dresence of Reduced Iron (C4) Surface Sol Cracks (B5) Recent Iron Reduction in Tited Solis (C5) Saturation Visible on Aerial Imagery (B7) Thin Muck Surface (C7)		Addig Look (La)	
Type:		····	
Depth (inches): Hydric Soil Present? Yes No marks: marks: DROLOGY tiand Hydrology Indicators: marks: marks: Secondary Indicators: marks: Secondary Indicators: mary Indicators (minimum of one resulted: check all that apply) Secondary Indicators (2 or more resulted: check all that apply) Surface Water (A1) Salt Crust (B11) Water Marks (B1) (Riverline) High Water Table (A2) Biotic Crust (B12) Sediment Deposits (B3) (Riverline) Sturstion (A3) Aquetic Invertiserates (B13) Drift Deposits (B3) (Riverline) Water Marks (B1) (Nonriverline) Presence of Reduced Iron (C4) Crayfish Burrows (C5) Surface Sol Cracks (B6) Recent Iron Reduction in Tiled Solis (C6) Saturation Visible on Aeriel Imagery Inundation Visible on Aeriel Imagery (B7) Thin Muck Surface (C7) Shallow Aquitard (D3) Water Present? Yes No Depth (Inches): Here in the marks) Face Water Present? Yes No Depth (Inches): Here interesent? ter Table Present? Yes No Depth (Inches): Here interesent? No Apeth (Inches): Dep	• • • •		
DROLOGY tiland Hydrology Indicators: bary Indicators (infininum of one required: check all that apply) Surface Water (A1) Surface Water (A1) High Water Table (A2) Biobic Crust (B11) Water Marks (B1) (Riverine) Seturation (A3) Water Marks (B1) (Riverine) Seturation (A3) Water Marks (B1) (Nonriverine) High Water (B1) (Monriverine) Drift Deposits (B3) (Nonriverine) Oxidized Rhizosphares along Living Roots (C3) Drift Deposits (B3) (Nonriverine) Oxidized Rhizosphares along Living Roots (C3) Drift Deposits (B3) (Nonriverine) Presence of Reduced Iron (C4) Crayfish Burrows (C8) Surface Solid Cracks (B6) Inundation Visible on Aeriel Imagery (B7) Thin Much Surface (C7) Water Present? Yes No Depth (Inches): Water Present? Yes No Depth (Inches): Water Present? Yes No Depth (Inches): Water Tresent? Yes No			
DROLOGY tland Hydrology Indicators: mary indicators (minimum of one required: check all that apply) Surface Water (A1) Sait Crust (B11) High Water Table (A2) Biobic Crust (B12) Sediment Deposits (B2) (Rivertine) High Water Table (A2) Biobic Crust (B12) Sediment Deposits (B3) (Rivertine) Hydrologen Suffice Odor (C1) Drift Deposits (B3) (Nonrivertine) Oddzad Rhizospheres along Living Roots (C3) Drift Deposits (B3) (Nonrivertine) Presence of Reduced Iron (C4) Cracks (B6) Inundation Visible on Aeriel Imagery (B7) Thin Muck Surface (C7) Water-Stained Leaves (B9) Other (Explain in Remarks) FAC-Neutral Test (D5) Id Observations: ter Table Present? Yes No Depth (Inches): utation Present? Yes No	Depth (inches):		Hydric Soli Present? Yes No
Attand Hydrology Indicators: Secondary Indicators: mary Indicators (minimum of one required: check all that apply) Secondary Indicators (2 or more required; Surface Water (A1) Set Cruet (B11) Water Marks (B1) (Relvertine) High Water Table (A2) Biotic Crust (B12) Sediment Deposits (B2) (Relvertine) Seturation (A3) Aquebic Invertiburater (B13) Drift Deposits (B3) (Revertine) Water Marks (B1) (Nenrivertine) Hydrogen Suffice Odor (C1) Drainage Patterns (B10) Sediment Deposits (B2) (Nenrivertine) Oxid/Izda Ritizospheres along Living Roots (C3) DrSeason Water Table (C2) Drift Deposits (B3) (Nonrivertine) Presence of Reduced Iron (C4) Crayfish Burrows (C8) Surface Soft Cracks (B6) Recent Iron Reduction in Titled Soils (C6) Saturation Visible on Aerial Imagery (B7) 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) Id Observetions: If act Visibr Present? Yes No Mart Table Present? Yes No Depth (Inches): Inches): Auritari Trans Explain in Remarks) FAC-Neutral Test (D5) Id Observetions: No<	ROLOGY	<u></u>	<u></u>
Surface Water (A1)	tiand Hydrology Indicators:		
High Water Table (A2) Biotic Crust (B12) Sediment Deposits (B2) (Rivertine) Seturation (A3) Aquastic Invertebrates (B13) Drift Deposits (B3) (Rivertine) Water Merike (B1) (Nonrivertine) Hydrogen Sulfde Odor (C1) Drainage Patterns (B10) Sediment Deposits (B3) (Nonrivertine) Oxidized Rhizospheres along Living Roots (C3) Dry-Season Water Table (C2) Drift Deposits (B3) (Nonrivertine) Oxidized Rhizospheres along Living Roots (C3) Dry-Season Water Table (C2) Drift Deposits (B3) (Nonrivertine) Presence of Reduced Iron (C4) Crayfish Burrows (C8) Surface Soil Cracks (B6) Recent Iron Reduction in Tiled Soils (C6) Saturation Visible on Aeriel Imagery Inundation Visible on Aeriel Imagery (B7) Thin Muck Surface (C7) Shallow Aquitard (D3) Water-Steined Leaves (B9) Other (Explain in Remarks) FAC-Neutral Test (D5) Id Observations: Table Present? Yes No Atter Table Present? Yes No Depth (inches): Wetland Hydrology Present? Yes No Unation Present? Yes No Depth (inches): Wetland Hydrology Present? Yes No Surface scelliery fringe) Ker Recorded Data (streem gauge, monitoring weil, serial photos, previous inspections), if svailable	mary indicators (minimum of one required	: check all thet apply)	
Seturation (A3) Aquatic Invertebrates (B13) Drift Deposits (B3) (Rivertine) Water Merks (B1) (Nonrivertine) Hydrogen Sulfide Odor (C1) Drainage Patterns (B10) Sediment Deposits (B3) (Nonrivertine) Oxidized Rhizospheres along Living Roots (G3) Dry-Sesson Water Table (C2) Drift Deposits (B3) (Nonrivertine) Oxidized Rhizospheres along Living Roots (G3) Dry-Sesson Water Table (C2) Dift Deposits (B3) (Nonrivertine) Presence of Reduced Iron (C4) Crayfish Burows (C8) Surface Soil Cracks (B6) Recent Iron Reduction in Tiled Soils (C6) Saturation Visible on Aeriel Imagery Inundation Visible on Aeriel Imagery (B7) Thin Muck Surface (C7) Shallow Aquitard (D3) Water Table Present? Yes No Jepth (Inches): Depth (Inches): Metland Hydrology Present? Yes No Lincke scapillary finge) Depth (Inches): Wetland Hydrology Present? Yes No Scapilary finge) No Depth (Inches): No No Chudes capillary finge) Yes No Depth (Inches): No			
Water Narks (B1) (Nonriverine) Hydrogen Sulfide Odor (C1) Drainage Patterns (B10) Sediment Deposits (B2) (Nenriverine) Oxidizad Ritizosphares along Living Roots (C3) Dry-Season Water Table (C2) Drift Deposits (B3) (Nonriverine) Presence of Reduced Iron (C4) Crayfish Burrows (C8) Surface Sole Cracks (B6) Recent Iron Reduced Iron (C4) Saturstion Visible on Aeriel Imagery 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) Id Observations: Ifface Water Present? Yes No Mater Table Present? Yes No Depth (Inches):	Surface Water (A1)	,	
Sediment Deposits (B2) (Nonriverine) Oddized Rhizospheras along Living Roots (C3) Dny-Season Water Table (C2) Drift Deposits (B3) (Nonriverine) Presence of Reduced Iron (C4) Crayfish Burrows (C3) Surface Soli Cracks (B6) Recent Iron Reduction in Tiled Solis (C6) Saturation Visible on Aeriel Imagery Inundation Visible on Aeriel Imagery (B7) Thin Muck Surface (C7) Shallow Aquiter (D3) Water-Stained Leaves (B9) Other (Explain in Remarks) FAC-Neutral Test (D5) Id Observations: If appth (Inches): Imagery (Inches): uration Present? Yes No Depth (Inches): Depth (Inches): Imagery (Inches): uration Present? Yes No Depth (Inches): Under capiliery finge) Wetland Hydrology Present? Yes No Scribe Recorded Data (stream gauge, monitoring weil, serial photos, previous inspections), if seriable: Capilable: Capilable:		,	Water Marks (B1) (Riverine) Sedment Deposits (B2) (Riverine)
Drift Deposits (B3) (Nonriverine) Presence of Reduced Iron (C4) Crayfish Burrows (C8) Surface Soli Cracks (B6) Recent Iron Reduction in Tiled Solis (C6) Saturation Visible on Aeriel Imagery Inundation Vieble on Aeriel Imagery (B7) Thin Muck Surface (C7) Shallow Aquitard (D3) Water-Steined Leaves (B9) Other (Explain in Remarks) FAC-Neutral Test (D5) id Observations: Stepth (Inches):	High Water Table (A2)	Biotic Crust (B12)	Sediment Deposits (B2) (Rivertue)
Drift Deposits (B3) (Nonriverine) Presence of Reduced Iron (C4) Crayfish Burrows (C8) Surface Soil Cracks (B6) Recent Iron Reduction in Tiled Soils (C6) Saturation Visible on Aeriel Imagery Inundation Visible on Aeriel Imagery (B7) Thin Muck Surface (C7) Shallow Aquitard (D3) Water-Steined Leaves (B9) Other (Explain in Remarks) FAC-Neutral Test (D5) id Observations: Inc. Inc. rface Water Present? Yes No Depth (Inches): Depth (Inches): Inches): uration Present? Yes No Depth (Inches): Wetland Hydrology Present? Yes Scribe Recorded Data (streem gauge, monitoring weil, serial photos, previous inspections), if svailable: Stallable:	High Water Table (A2) Seturation (A3)	Biotic Grust (B12) Aquatic Invertebrates (B13)	Sediment Deposits (B2) (Riverba) Drift Deposits (B3) (Riverba)
Surface Soils Cracks (B6)	High Water Table (A2) Seturation (A3) Water Merks (B1) (Nonriverine)	Biotic Crust (B12) Aquatic Invertebrates (B13) Hydrogen Sulfide Odor (C1)	Sediment Deposits (B2) (Riverine) Drift Deposits (B3) (Riverine) Dreinage Patterns (B10)
Inundation Vielole on Aerial Imagery (B7) Thin Muck Surface (C7) Shallow Aquitard (D3) Water-Stained Leaves (B9) Other (Explain in Remarks) FAC-Neutral Test (D5) Id Observations: Face Water Present? Yes No Ifrace Water Present? Yes No Depth (inches): ktration Present? Yes No Depth (inches): stration Present? Yes No Depth (inches): audes capillary hinge) Scribe Recorded Data (stream gauge, monitoring weil, serial photos, previous inspections), if evaluable:	High Water Table (A2) Seturation (A3) Water Marks (B1) (Nonriverine) Sediment Deposits (B2) (Nonriverine)	Biotic Crust (B12) Aquatic Invertebrates (B13) Hydrogen Sulfide Odor (C1) Oxidized Rhizospheres along Livin	Sediment Deposits (B2) (Rivertine) Drift Deposits (B3) (Rivertine) Drainage Patterns (B10) g Roots (C3) Dry-Season Water Table (C2)
Water-Stained Leaves (B9) Other (Explain in Remarks) FAC-Neutral Test (D5) Id Observations:	High Water Table (A2) Seturation (A3) Water Marks (B1) (Nonriverine) Sedfmet Deposits (B2) (Nonriverine) Drift Deposits (B3) (Nonriverine)	Biotic Crust (B12) Aquatic Invertebrates (B13) Hydrogen Sulfide Odor (C1) Oxidized Rhizospheres along Livin Presence of Reduced Iron (C4)	Sediment Deposits (B2) (Rivertise) Drift Deposits (B3) (Rivertise) Drainage Patterns (B10) g Roots (C3) Dry-Season Water Table (C2) Crayfish Burrows (C8)
Id Observations:	High Water Table (A2) Seturation (A3) Water Marks (B1) (Nonriverine) Sediment Deposits (B2) (Nonriverine) Drift Deposits (B3) (Nonriverine) Surface Sols (R3) (Nonriverine)	Biotic Crust (B12) Aquetic Invertebrates (B13) Hydrogen Sulfide Odor (C1) Oxidized Rhizospheres along Livin Presence of Reduced Iron (C4) Recent fron Reduction in Tilled Soi	Sediment Deposits (B2) (Rivertine) Drift Deposits (B3) (Rivertine) Drift Deposits (B3) (Rivertine) Driverinage Patterns (B10) Roots (C3) Dry-Season Water Table (C2) Crayfish Surrows (C8) s (C6) Saturation Visible on Aeriel Imagery (C6)
frace Water Present? Yes No	High Water Table (A2) Seturation (A3) Water Merks (B1) (Nonriverine) Sediment Deposits (B2) (Nonriverine) Drift Deposits (B3) (Nonriverine) Surface 300 Cracks (B6) Inundation Vieible on Aerial Imagery (B7	Biotic Crust (B12) Aquebic Invertebrates (B13) Hydrogen Sulfide Odor (C1) Oxidized Rhizospheres along Livin; Presence of Reduced Iron (C4) Recent Iron Reduction in Tilled Soi Thin Muck Surface (C7)	Sediment Deposits (B2) (Riverine) Drift Deposits (B3) (Riverine) Drift Deposits (B3) (Riverine) Driverines (B10) Roots (C3) Dry-Season Water Table (C2) Crayfish Burrows (C8) Soturistion Visible on Aeriel Imagery (C8 Shallow Aquiterd (D3)
iter Table Present? Yes NoDepth (inches): turation Present? Yes NoDepth (inches): cludes capillary finge) scribe Recorded Data (stream gauge, monitoring well, serial photos, previous inspections), if svailable:	High Water Table (A2) Seturation (A3) Water Marks (B1) (Nonriverine) Sediment Deposits (B2) (Nonriverine) Drift Deposits (B3) (Nonriverine) Surface Soë Cracks (B6) Inundation Vielbie on Aerial Imagory (B7 Water-Steined Leaves (B9)	Biotic Crust (B12) Aquebic Invertebrates (B13) Hydrogen Sulfide Odor (C1) Oxidized Rhizospheres along Livin; Presence of Reduced Iron (C4) Recent Iron Reduction in Tilled Soi Thin Muck Surface (C7)	Sediment Deposits (B2) (Riverine) Drift Deposits (B3) (Riverine) Drift Deposits (B3) (Riverine) Driverines (B10) Roots (C3) Dry-Season Water Table (C2) Crayfish Burrows (C8) Soturistion Visible on Aeriel Imagery (C8 Shallow Aquiterd (D3)
turation Present? Yes No Depth (inches): Wetland Hydrology Present? Yes No audes capillery finge) scribe Recorded Data (stream gauge, monitoring well, serial photos, previous inspections), if evailable:	High Water Table (A2) Seturation (A3) Water Marks (B1) (Nonriverine) Sediment Deposits (B2) (Nonriverine) Drift Deposits (B3) (Nonriverine) Surface SoB Cracks (B6) Inundation Vielble on Aerial Imagory (B7 Water-Staten Leaves (B9) Id Observations:	Biotic Crust (B12) Aquetic Invertebrates (B13) Hydrogen Sulfide Odor (C1) Oxidized Rhizospheres along Livin Presence of Reduced Iron (C4) Recent Iron Reduction in Tilled Soi Thin Muck Surface (C7) Other (Explain in Remarks)	Sediment Deposits (B2) (Riverine) Drift Deposits (B3) (Riverine) Drift Deposits (B3) (Riverine) Driverines (B10) Roots (C3) Dry-Season Water Table (C2) Crayfish Burrows (C8) Soturistion Visible on Aeriel Imagery (C8 Shallow Aquiterd (D3)
sudes capiliary filinge) scribe Recorded Data (stream gauge, monitoring well, serial photos, previous inspections), if evailable:	High Water Table (A2) Seturetion (A3) Water Merks (B1) (Nenriverine) Sediment Deposits (B2) (Nenriverine) Drift Deposits (B3) (Nenriverine) Surface Soil Cracks (B6) Inundation Vielbie on Aerial Imagory (B7 Water-Steined Leaves (B9) Id Observations: face Water Present? Yes No.	Biotic Crust (B12) Aquetic Invertebrates (B13) Hydrogen Sulfide Odor (C1) Oxidized Rhizospheres along Livin Presence of Reduced Iron (C4) Recent fron Reduction in Tilled Soi Thin Muck Surface (C7) Other (Explain in Remarks)	Sediment Deposits (B2) (Riverine) Drift Deposits (B3) (Riverine) Drift Deposits (B3) (Riverine) Driverines (B10) Roots (C3) Dry-Season Water Table (C2) Crayfish Burrows (C8) Soturistion Visible on Aeriel Imagery (C8 Shallow Aquiterd (D3)
· · - ·	High Water Table (A2) Seturelion (A3) Water Merks (B1) (Nonriverine) Sediment Deposits (B2) (Nonriverine) Drift Deposits (B3) (Nonriverine) Surface Soil Cracks (B6) Inundation Visible on Aerial Imagory (B7 Water-Steined Leaves (B9) d Observations: face Water Present? Yes No	Biotic Crust (B12) Aquetic Invertebrates (B13) Hydrogen Sulfide Odor (C1) Oxidized Rhizospheres along Livin Presence of Reduced Iron (C4) Recent fron Reduction in Tilled Soi Thin Muck Surface (C7) Other (Explain in Remarks)	Sediment Deposits (B2) (Riverine) Drift Deposits (B3) (Riverine) Drift Deposits (B3) (Riverine) Driverines (B10) Roots (C3) Dry-Season Water Table (C2) Crayfish Burrows (C8) Soturistion Visible on Aeriel Imagery (C8 Shallow Aquiterd (D3)
merks:	High Water Table (A2) Seturation (A3) Water Marke (B1) (Nonriverine) Sediment Deposits (B2) (Nonriverine) Drift Deposits (B3) (Nonriverine) Surface Soil Cracks (B6) Inundation Vieble on Aarial Imagory (B7 Water-Steined Leaves (B9) Id Observations: rface Water Present? Yes N ter Table Present? Yes N turation Present? Yes N	Biotic Crust (B12) Aquetic Invertebrates (B13) Hydrogen Sulfide Odor (C1) Oxidized Rhizospheres along Livin Presence of Reduced Iron (C4) Recent fron Reduction in Tilled Soi Thin Muck Surface (C7) Other (Explain in Remarks) Bepth (Inches): Depth (Inches): io	Sediment Deposits (B2) (Rivertise) Dreinage Patierns (B10) Dreinage Patierns (B10) Crayfish Burrows (C8) Crayfish Burrows (C8) Saturation Visible on Aeriel Imagery (C6 Shallow Aquitard (D3) FAC-Neutral Test (D5)
	High Water Table (A2) Seturation (A3) Water Marke (B1) (Nonriverine) Sediment Deposits (B2) (Nonriverine) Drift Deposits (B3) (Nonriverine) Surface Soil Cracks (B6) Inundation Vieble on Aarial Imagory (B7 Water-Steined Leaves (B9) Id Observations: rface Water Present? Yes N ter Table Present? Yes N turation Present? Yes N	Biotic Crust (B12) Aquetic Invertebrates (B13) Hydrogen Sulfide Odor (C1) Oxidized Rhizospheres along Livin Presence of Reduced Iron (C4) Recent fron Reduction in Tilled Soi Thin Muck Surface (C7) Other (Explain in Remarks) Bepth (Inches): Depth (Inches): io	Sediment Deposits (B2) (Rivertne) Sediment Deposits (B3) (Rivertne) Dreinage Petterns (B10) Crayfish Burrows (C8) Crayfish Burrows (C8) Sturistion Visible on Aeriel Imagery (C0 Shallow Aquitand (D3) FAC-Neutral Test (D5) Wetland Hydrology Present? Yes No
	High Water Table (A2) Seturetion (A3) Water Merke (B1) (Nonrtvertne) Sediment Deposits (B2) (Nonrtvertne) Drift Deposits (B3) (Nonrtvertne) Surface SoB Cracks (B6) Inurdation Visible on Aerial Imagory (B7 Water-Steined Leaves (B9) Ind Observations: frace Water Present? Yes No Neter Table Present? Yes No Nater Table Present? Yes No Autors capillary hinge) Scribe Recorded Data (stream gauge, more	Biotic Crust (B12) Aquetic Invertebrates (B13) Hydrogen Sulfide Odor (C1) Oxidized Rhizospheres along Livin Presence of Reduced Iron (C4) Recent fron Reduction in Tilled Soi Thin Muck Surface (C7) Other (Explain in Remarks) Bepth (Inches): Depth (Inches): io	Sediment Deposits (B2) (Rivertise) Sediment Deposits (B3) (Rivertise) Drainage Patierns (B10) Crayfish Burrows (C8) Crayfish Burrows (C8) Sediment Divisible on Aeriel Imagery (C6) Shallow Aquitand (D3) FAC-Neutral Test (D5) Wetland Hydrology Present? Yes No
	High Water Table (A2) Seturation (A3) Water Marke (B1) (Nonriverine) Sediment Deposits (B2) (Nonriverine) Drift Deposits (B3) (Nonriverine) Surface So8 Cracks (B6) Inundation Vielble on Aerial Imagery (B7 Water-Steined Losves (B9) sid Observestons: Inface Water Present? Yes N ater Table Present? Yes N cludes capillery fringe) Secribe Recorded Data (stream gauge, more	Biotic Crust (B12) Aquetic Invertebrates (B13) Hydrogen Sulfide Odor (C1) Oxidized Rhizospheres along Livin Presence of Reduced Iron (C4) Recent fron Reduction in Tilled Soi Thin Muck Surface (C7) Other (Explain in Remarks) Bepth (Inches): Depth (Inches): io	Sediment Deposits (B2) (Rivertise) Sediment Deposits (B3) (Rivertise) Drainage Patierns (B10) Crayfish Burrows (C8) Crayfish Burrows (C8) Sediment Divisible on Aeriel Imagery (C6) Shallow Aquitand (D3) FAC-Neutral Test (D5) Wetland Hydrology Present? Yes No
	High Water Table (A2) Seturation (A3) Weter Marke (B1) (Nonrtvertine) Sediment Deposits (B2) (Nonrtvertine) Drift Deposits (B3) (Nonrtvertine) Surface Soil Cracks (B6) Inundation Visible on Aerial Imagory (B7 Water-Steined Leaves (B9) and Observations: rface Water Present? Yes No ster Table Present? Yes No turation Present? Yes No cludes capillary fringe)	Biotic Crust (B12) Aquetic Invertebrates (B13) Hydrogen Sulfide Odor (C1) Oxidized Rhizospheres along Livin Presence of Reduced Iron (C4) Recent fron Reduction in Tilled Soi Thin Muck Surface (C7) Other (Explain in Remarks) Bepth (Inches): Depth (Inches): Depth (Inches):	Sediment Deposits (B2) (Rivertise) Sediment Deposits (B3) (Rivertise) Drainage Patierns (B10) Crayfish Burrows (C8) Crayfish Burrows (C8) Sediment Divisible on Aeriel Imagery (C6) Shallow Aquitand (D3) FAC-Neutral Test (D5) Wetland Hydrology Present? Yes No
	High Water Table (A2) Seturetion (A3) Water Marke (B1) (Nonriverine) Sediment Daposits (B2) (Nonriverine) Drift Deposits (B3) (Nonriverine) Surface SoB Cracks (B6) Inundation Visible on Aerial Imagory (B7 Water-Steined Leaves (B9) Id Observations: frace Water Present? Yes No Neter Table Present? Yes No Neter Table Present? Yes No Number Present? Yes No Numb	Biotic Crust (B12) Aquetic Invertebrates (B13) Hydrogen Sulfide Odor (C1) Oxidized Rhizospheres along Livin Presence of Reduced Iron (C4) Recent fron Reduction in Tilled Soi Thin Muck Surface (C7) Other (Explain in Remarks) Bepth (Inches): Depth (Inches): Depth (Inches):	Sediment Deposits (B2) (Rivertise) Sediment Deposits (B3) (Rivertise) Drainage Patierns (B10) Crayfish Burrows (C8) Crayfish Burrows (C8) Sediment Divisible on Aeriel Imagery (C6) Shallow Aquitand (D3) FAC-Neutral Test (D5) Wetland Hydrology Present? Yes No
	High Water Table (A2) Seturation (A3) Water Marks (B1) (Nonriverine) Sediment Deposits (B2) (Nonriverine) Drift Deposits (B3) (Nonriverine) Surface Soil Cracks (B6) Inundsion Vieible on Aerial Imagery (B7 Water-Stained Leaves (B9) id Observations: aface Water Present? Yes N Ater Table Present? Yes N Ater Table Present? Yes N Ater Table Present? Yes N	Biotic Crust (B12) Aquetic Invertebrates (B13) Hydrogen Sulfide Odor (C1) Oxidized Rhizospheres along Livin Presence of Reduced Iron (C4) Recent fron Reduction in Tilled Soi Thin Muck Surface (C7) Other (Explain in Remarks) Bepth (Inches): Depth (Inches): Depth (Inches):	Sediment Deposits (B2) (Rivertise) Drift Deposits (B3) (Rivertise) Dreinage Patterns (B10) g Roots (G3) Dry-Season Water Table (C2) Crayfish Burrows (C8) s (C6) Sturistion Visible on Aeriel Imagery (Ci Shallow Aquitand (D3) FAC-Neutral Test (D5) Wetland Hydrology Present? Yes No

US Army Corps of Engineers

Arid West - Version 2.0

.

Y Y	RETLAND DETERMIN	IATION DATA FORM -	Arid West Regi	on	
Project/Site: Paul		City/County: K.T	titus	Sempling Date: 2 1/4	- 2
Applicant/Owner:			State:	Sampling Point:	_
Applicant/Owner:	Sewed _	Section, Township, Ran	ge: <u>53</u>	4 T18~ R190	Ē
Landform (hillslope, terrace, etc.);					
Subregion (LRR):		· · · · · · · · · · · · · · · · · · ·	Long:	Datum:	
Soil Map Unit Name: V 🧉	5000		NVVI class	ification:	
Are climatic / hydrologic conditions on	the site typical for this time	of year? Yes No	(If no, explain i	Remarks.)	
Are Vegetation Soil o	r Hydrologysignific	antly disturbed? Are "N	Iormal Circumstance	s" present? YesNo	
Are Vegetation, Soli, o	r Hydrology natural	iy problematic? (If ner	ided, explain any ans	wers in Remarks.)	
SUMMARY OF FINDINGS -	Attach site map show	ving sampling point io	cations, transe	ts, important features, etc	
Hydrophytic Vegetation Present? Hydric Soil Present?	Yes No Yes No	is the Sampled / within a Wetland		No]

Wetland Hydrology Present?	Yes No	within a Wetland?	Yes No
Remarks: Frend	agnicitical	land	

VEGETATION - Use scientific names of plants.

<u>Ires Stratum</u> (Plot size;) 1)		Species?	Status	Dominance Test worksheet: Number of Dominant Species That Are OBL, FACW, or FAC: (A)
2.				
3				Total Number of Dominant (B)
4	····			Percent of Dominant Species
Sapling/Shrub Stratum (Piot size:)		= Total Co	Ver	That Are OBL, FACW, or FAC: (A/B)
1				Prevalence Index worksheet:
2				Total % Cover of: Multiply by:
3.				OBL species x1 =
4.				FACW species x2 =
5				FAC species x3 =
		= Total Co	ver	FACU species x4 =
Herb Stratum (Plot size:) 1Medicage suferio	DI		Unt	UPL species x5 =
				Column Totals: (A) (B)
2				Prevalence Index = B/A =
4				Hydrophytic Vegetation indicators:
5				Dominance Test is >50%
6				Prevalence Index is <3.0'
7				Morphological Adaptations ¹ (Provide supporting data in Remarks or on a separate sheet)
8				Problematic Hydrophytic Vegetation ¹ (Explain)
Manda Man Dentring (Distance)		_ = Total Co	VBI.	
<u>Woody Vine Stratum</u> (Plot size:) 1)				¹ Indicators of hydric soil and welland hydrology must
2				be present, unless disturbed or problematic.
		= Total Co	ver	Hydrophytic
		th set		Vegetation Present? Yes No
% Bare Ground in Herb Stratum % Con	ver or chorac o			

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.) Redox Features Depth Matrix Color (moist) Type Loc2 (anches Color (maist) * Texture Remarks 16 10m2/2 10-¹Type: C=Concentration, D=Depietion, RM=Reduced Matrix, CS=Covered or Costed Sand Grains. Location: PL=Pore Lining, M=Metrix. Indicators for Problematic Hydric Solis": Hydric Soli Indicators: (Applicable to all LRRs, unless otherwise noted.) ____ 1 cm Muck (AB) (LRR C) Histosol (A1) ____ Sandy Redox (S5) ____ Stripped Matrix (S6) Histic Epipedon (A2) ____ 2 cm Muck (A10) (LRR B) ____ Reduced Vertic (F18) Black Histic (A3) Loamy Mucky Mineral (F1) ____ Red Parent Material (TF2) ____ Hydrogen Sulfide (A4) Loamy Gleyed Matrix (F2) Stratified Lavers (A5) (LRR C) Depleted Matrix (F3) Other (Explain in Remarks) Redox Dark Surface (F6) 1 cm Muck (A9) (LRR D) ___ Depleted Dark Surface (F7) Depleted Below Dark Surface (A11) Redox Depressions (F8) ³Indicators of hydrophytic vegetation and Thick Dark Surface (A12) -----____ Vernei Pools (F9) wetland hydrology must be present, Sandy Mucky Mineral (S1) Sandy Glayed Matrix (S4) unless disturbed or problematic. Restrictive Layer (if present): Type: Depth (inches): _ Hydric Soil Present? Yes Remarks: HYDROLOGY Wetland Hydrology Indicators: Primery Indicators (minimum of one required: check all that apply) Secondery indicators (2 or more required) ___ Salt Crust (B11) Surface Water (A1) Water Marks (B1) (Riverine) High Water Table (A2) Biotic Crust (B12) ____ Sediment Deposits (B2) (Riverine) ____ Drift Deposits (B3) (Riverine) ____ Seturation (A3) ____ Aquatic Invertebrates (B13) ____ Hydrogen Sulfide Odor (C1) ____ Water Marks (B1) (Nonriverine) Drainage Patterns (B10) Oxidized Rhizospheres along Living Roots (C3) ___ Dry-Season Water Table (C2) Sediment Deposits (B2) (Nonriverine) ____ Crayfish Burrows (C8) ___ Presence of Reduced Iron (C4) ____ Drift Deposite (83) (Nonriverine) Saturation Visible on Aarial Imagery (C9) ____ Surface Soil Cracks (B6) Recent Iron Reduction in Tilled Soils (C6) ____ Shallow Aquitand (D3) Inundation Visible on Aerial Imagery (B7) Thin Muck Surface (C7) FAC-Neutral Test (D5) Water-Steined Leaves (B9) Other (Explain in Remarks) Field Observations: Surface Water Present? Depth (Inches): Water Table Present? Yes Depth (Inches): Saturation Present? Yes Depth (Inches): Wetland Hydrology Present? Yes (includes capitary fringe) Describe Recorded Data (stream gauge, monitoring wes, serial photos, previous inspections), if available: Remarks:

US Army Corps of Engineers

SOIL

Arid West - Version 2.0

Sampling Point

RATING SUMMARY – Eastern Washington

Name of wetland (or ID #):	Wetland A	Date of site visit: <u>2-14-22</u>
Rated by Ed Sewell	Trained by Ecology	Yes_No Date of training
HGM Class Used for Rating	pressure Unit has mu	Iltiple HGM classes?YN

NOTE: Form is not complete without the figures requested (figures can be combined). Source of base aerial photo/map

OVERALL WETLAND CATEGORY

1. Category of wetland based on FUNCTIONS

Category I - Total score = 22 - 27

- Category II Total score = 19 21
- **Category III** Total score = 16 18

Category IV – Total score = 9 - 15

FUNCTION		nprov ter Q	/ing uality	H	drole	sgic		Habit	at
		Cir	cle the	ap	propr	iate	rati	ngs	
Site Potential	н	M	D	Н	Μ	0	Η	М	\bigcirc
Landscape Potential	н	M	L	H	М	Ł	Н	M	$\overline{)}$
Value	Ð	M	L	Н	MP) L	н	Μ	C
Score Based on Ratings		6			6			3	

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, L7 = H, M, M6 = H, M, L6 = M, M, M5 = H,L,L5 = M, M, L4 = M,L,L3 = L, L, L

2. Category based on SPECIAL CHARACTERISTICS of wetland

CHARACTERISTIC	CATEGORY Circle the appropriate category		
Vernal Pools	II III		
Alakali	I		
Wetland with high conservation value	I		
Bog	ľ		
Old Growth or Mature Forest - slow growing	I		
Aspen Forest	I		
Old Growth or Mature Forest – fast growing	II		
Floodplain forest	11		
None of the above			

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

Depressional Wetlands

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

Riverine Wetlands

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

Lake-fringe Wetlands

Map of:	To answer questions:	Figure #
Cowardin plant classes and classes of emergents	L 1.1, L 4.1, H 1.1, H 1.4	
Plant cover of trees, shrubs, and herbaceous plants	L 1.2	1
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	\$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	

HGM Classification of Wetland Units in Eastern Washington

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

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

- 1. Does the entire wetland unit meet both of the following criteria?
 - The vegetated part of the wetland is on the water side of the Ordinary High Water Mark of a body of permanent open water (without any plants on the surface) that is at least 20 acres (8 ha) in size
 - At least 30% of the open water area is deeper than 10 ft (3 m)

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

- 2. Does the entire wetland unit meet all of the following criteria?
 - ____The wetland is on a slope (slope can be very gradual),

____The water flows through the wetland in one direction (unidirectional) and usually comes from seeps. It may flow subsurface, as sheetflow, or in a swale without distinct banks. _____Does the water leaves the wetland **without being impounded**?

- NOTE: Surface water does not pond in these type of wetlands except occasionally in very small and shallow depressions or behind hummocks (depressions are usually <3ft diameter and less than 1 foot deep).
- NO go to 3 YES The wetland class is **Slope**
- 3. Does the entire wetland unit meet all of the following criteria?
 - ____ The unit is in a valley, or stream channel, where it gets inundated by overbank flooding from that stream or river
 - ____ The overbank flooding occurs at least once every ten years.
 - NOTE: The riverine unit can contain depressions that are filled with water when the river is not flooding.
 - NO go to 4 YES The wetland class is **Riverine**
- **4**. Is the entire wetland unit in a topographic depression in which water ponds, or is saturated to the surface, at some time during the year. This means that any outlet, if present, is higher than the interior of the wetland.

NO - go to 5YES – 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 Rating System for Eastern WA: 2014 Update Rating Form 3

Wetland name or number ______

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	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 Water Quality Functions - Indicators that the site functions to improve water quality.	Points (only 1 score per box)
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 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	2 3
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, vegetationfor > 2/3 of areapoints = 5Wetland has persistent, ungrazed, vegetation from 1/3 to 2/3 of areapoints = 3Wetland has persistent, ungrazed vegetation from 1/10 to < 1/3 of area	0
D 1.4 Characteristics of seasonal ponding or inundation.)	
This is the area of ponding that fluctuates every year. Do not count the area that is permanently ponded. Area seasonally ponded is > ½ total area of wetland points = 3	
Area seasonally ponded is > % total area of wetland points = 3 Area seasonally ponded is % - % total area of wetland points = 1	
Area seasonally ponded is < ¼ total area of wetland (points = 1)	
Total for D 1 Add the points in the boxes above	3
<u>Rating of Site Potential</u> If score is: $12 - 16 = H$ $6 - 11 = M$ $0 - 5 = L$ Record the rating on the first potential	Ine
D 2.0 Does the landscape have the potential to support the water quality function at the site?	.yc
D2.1 Does the Wetland unit receive stormwater discharges? Yes = 1 No = 0	,
D 2.2 Is > 10% of the buffer within 150 ft of wetland unit in land uses that generate pollutants (Yes = 1) to	=0 1
D2.3 Are there are septic systems within 250 ft of the wetland unit? $Yes = 1$ No = 0	\mathcal{D}
D2.4 Are there are other sources of pollutants coming into the wetland that are not listed in questions	
D2.1 – D2.3? SourceYes = 1 No = 0	$\overline{\boldsymbol{y}}$
Total for D 2 Add the points in the boxes above	2
Rating of Landscape Potential If score is: 3 or 4 = H 1 or 2 = M 0 = L Record the rating on the first participation	ge
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 303dlist Yes = 1 No =	
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)?	•0 \
D 3.3 Has the site been identified in a watershed or local plan as important for maintaining water quality? (answ YES if there is a TMDL for the drainage or basin in which unit is found)	~
Total for D 3 Add the points in the boxes above	
	3
Rating of ValueIf score is: $2-4 = H$ $1 = M$ $0 = L$ Record the rating on the first point	lge

Wetland name or number_

DEPRESSIONAL WETLANDS Hydrologic Functions - Indicators that th	e site functio	ns to reduce f	looding and stream erosi	Points (only 1 score ON: per box)
D 4. 0 Does the wetland unit have the potent	ial to reduce f	looding and erc	osion?	a de la constante de la constan te
D 4.1 Characteristics of surface water flows out o	f the wetland ur	nit:	······································	
Wetland has no surface water outlet			points = 1	8
Wetland has an intermittently flowing outlet			points = 4	4
Wetland has a highly constricted permanently	flowing outlet		points = 2	D
Wetland has a permanently flowing surface ou (If outlet is a ditch and not permanently flo		as "intermittently	points = (
D 4.2 Depth of storage during wet periods Es units with no outlet measure from the surfor Seasonal ponding: => 3 ft above the lowest p	ice of permaner	nt water or deepe		
Seasonal ponding: 2 ft -< 3 ft above the lowest p				-
The wetland is a "headwater" wetland"	pe ponte in anne	of the surface of	points =	-
Seasonal ponding: 1 ft - < 2 ft			points =	
Seasonal ponding: 6 in - < 1 ft			points =	
Seasonal ponding: <6 in orr unit has only sat	urated soils		points =	
Total for D 4		A	dd the points in the boxes abo	
Rating of Site Potential If score is: 1	2-16 = H	6 - 11 = M	0-5=1	
		Record	I the rating on the first pa	ige
D 5.0 Does the landscape have the potential	to support hyd	Irologic functio	ns at the site?	
D5.1 Does the unit receive any stormwater disch	arges?		Yes = 1 No	=0 /

Rating of Landscape Potential If score is: (3 = H) 1,2 = M 0 = L	
Total for D 5Add the points in the boxes above	3
D 5.3 Is more than 25% of the contributing basin of the wetland unit covered with intensive human land uses? Yes = 1 the = 0	(
D5. Is >10% of the land use within 150 ft of the wetland in a land uses that generates runoff? $\sqrt{2s=1}$ to = 0	1
D5.1 Does the unit receive any stormwater discharges?	1

Rating of Landscape Potential If score is: (3=H)

Record the rating on the first page

D 6.0 Are the hydrologic functions provided	by the site valu	able to society?		
D 6.1 Is the unit is in a landscape that has flooding				
Choose the description that best matches condition Choose the highest score if more than one condition The wetland captures surface water that we has damaged human or natural resources o Damage occurs in sub-basin that is immediate Damage occurs in a sub-basin further do	on is met. vould otherwise (e.g. salmon rede ediately downgra own-gradient	flow downgradient into are ds), AND idient of unit	eas where flooding points=2 points=1	
The existing or potential outflow from the the water stored by the wetland cannot re			ural conditions that	
Explain why			points = 0	,
There are no problems with flooding down	nstream of the u	nit.	points = 0	
D 6.2 Has the site has been identified as importan control plan?	nt for flood stora	· · ·	a regional flood es = 2 No = 0	0
Total for D 6		Add the points in	the boxes above	ł
Rating of Value If score is:	2-4 = H	1=M	0 = L	

Record the rating on the first page

Wetland Rating System for Eastern WA: 2014 Update **Rating Form**

A

These questions apply to wetlands of all HGM classes. HABITAT FUNCTIONS - Indicators that site functions to provide important habitat	(only 1 score per box)
H 1. Does the wetland unit have the potential to provide habitat for many species?	
H 1.1 Categories of vegetation structure Check the Cowardin vegetation classes present and categories of emergent plants. Size threshold for each category is $>= \%$ acre or $>= 10\%$ of the unit if unit is < 2.5 acres	
Emergent plants 0-12 in. (0 – 30 cm) high are the highest layer and have > 30% cover Emergent plants >12 – 40 in.(>30 – 100cm) high are the highest layer with >30% cover Emergent plants > 40 in.(> 100cm) high are the highest layer with >30% cover Scrub/shrub (areas where shrubs have >30% cover) 4-6 checks points = 3 Forested (areas where trees have >30% cover) 3 checks points = 2 2 checks points = 1 1 check points = 0	⊃ ,
H 1.2. Is one of the vegetation types "aquatic bed?" YES = 1 point NO = 0 points	0
H 1.3. <u>Surface Water</u> 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? <i>Note: answer YES for Lake-fringe wetlands</i> YES = 3 points & go to H 1.4 H 1.3.2 Does the unit have an intermittent or permanent, and unvegetate,d stream within its boundaries, or along one side, over at least ¼ acre or 10% of its area, (<i>answer yes only if H 1.3.1 is NO</i>)? YES = 3 points	Ð
H 1.4. <u>Richness of Plant Species</u> Count the number of plant species in the wetland that cover at least 10 ft ² . (different patches of the same species can be combined to meet the size threshold) You do not have to name the species. Do not include Eurasean Milfoil, reed canarygrass, purple loosestrife, Russian Olive, Phragmites, Canadian Thistle, Yellow-flag Iris, and Salt Cedar (Tamarisk) # of species Scoring: > 9 species = 2 points 4-9 species = 1 point 4 species = 0 points	(
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
None = 0 points Low = 1 point Moderate = 2 points High = 3 points High = 3 points riparian braided channels with 2 classes = High NOTE: If you have four or more classes or three plants classes and open water the rating is always "high".	0

Wetland	name	or	number_
---------	------	----	---------

Check the habitat features that are present in the v Loose rocks larger than 4" <u>or</u> large, downed, woody ponding or in stream.		
Cattails or bulrushes are present within the unit. Standing snags (diameter at the bottom > 4 inches) Emergent or shrub vegetation in areas that are perr Stable steep banks of fine material that might be us		
slope) OR signs of recent beaver activity Invasive species cover less than 20% in each stratum	m of vegetation (canopy, sub-canopy, shrubs,	ł
herbaceous, moss/ground cover) H 1. TOTAL Score -	Maximum score possible = 6 Add the check marks in the box above	

		and the second
Rating of Site Poter	ntial If score is:	12 – 16 = H

6 - 11 = M 0 - 5 = L Record the rating on the first page

H 2.0 . Does t	he landscape have the potential to support habitat at the s	site?	
H 2.1 Accessib	le habitat (only area of habitat abutting wetland unit). Calculate:		
% undisturbed	habitat 🙋 🔸 [(% moderate and low intensity land uses)/2]	<u> </u>	
If total a	accessible habitat is:		
1) high	> 1/3 (33.3%) of 1km circle (~100 hectares)	points = 3	
PIL WAY	20 - 33% of 1km circle	points = 2	
it Da M	10- 19% of 1km circle	points = 1	
	<10% of 1km circle	points = 0	0
H2.2 Undisturt	bed habitat in 1km circle around unit, If:		
Ψ	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)	بالقاصر
	Does not meet criterion above	points = 0	· 2
The w	vetland unit is in an area where annual rainfall is less than 12 inch	nes, and its water regime is not	
	ed by irrigation practices, dams, or water control structures. (Gen	nerally, this means outside	
bounda	ries of reclamation areas, irrigation district, or reservoirs)	points = 3	
Total for H 2	Add the points in the boxes a	bove	~ <u>`_</u>
Rating of Lan	dscape Potential If score is: 4-6 = H 1-3 =	= M <1=+	

Record the rating on the first page

HUGHING OF VUINE	11 3001 0 13.	2 - 11	T — (A)	U -L	
Rating of Value	If score is:	2 = H	1 = M	(0 = 1)	
Site does not meet a	ny of the criteria above)		points = 0	0
Site has 1 or 2 priori	y habitats within 100m	(see Appendix B)		points = 1	
Site meets ANY of th lt provides h lt is a "priorit lt is a Wetlar lt has 3 or m lt has been c Shoreline f	e following criteria: abitat for Threatened o cy area" for an individu: d With a High Conserva ore priority habitats wi ategorized as an impor Master Plan, or in a wat	or Endangered species (a al WDFW species ation Value as determin thin 100m (see Appendi tant habitat site in a loca tershed plan	ny plant or animal ed by the Departm x B)	(choose the highest score) points = 2 on state or federal lists) nent of Natural Resources prehensive plan, in a	
		valuable to society?	· · · · · · · · · · · · · · · · · · ·		
1 11 2 12 14 46 6 11 66 14 6	مختم مطخيدة اممامتي معمر	الاكتباد فيتمسم مطرقا مترامين			

Wetland Rating System for Eastern WA: 2014 Update **Rating Form**

CATEGORIZATION BASED ON SPECIAL CHARACTERISTICS

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

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

SC 3.0 Wetlands with High Conservation Value (WHCV)	
SC 2.1 Has the Department of Natural Resources updated their web site to include the list of	
Wetlands with High Conservation Value?	Cat. I
YES - Go to SC 2.2 NO – Go to SC 2.3 $100 - 100$	
SC 2.2 Is the wetland unit you are rating listed on the DNR database as having a High	
Conservation Value? YES = Category I NO = not a WHCV	
SC 2.3 Is the wetland unit being rated in a Section/Township/Range that contains a Natural	
Heritage wetland?	
http://www1.dnr.wa.gov/nhp/refdesk/datasearch/wnhpwettands.pdf	
YES contact WNHP/DNR and go to SC 2.4 NO = not a WHCV	
SC 2.4 Has DNR identified the wetland within the S/T/R as a wetland with High Conservation	
value and is listed on their web site?	
YES = Category I NO not an WHCV	
SC 4.0 Bogs and Calcareous Fens	
Does the wetland unit (or any part of the wetland unit) meet both the criteria for soils and	
vegetation in bogs or calcareous fens. Use the key below to identify if the wetland is a bog or	
calcareous fen. If you answer yes you will still need to rate the wetland based on its functions.	
SC 4.1. Does an area within the wetland unit have organic soil horizons (i.e. layers of organic	
soil), either peats or mucks, that compose 16 inches or more of the first 32 inches of the	
soil profile? (See Appendix C for a field key to identify organic soils)?	
Yes - go to SC 4.3 No - go to SC 4.2	
SC 4.2. Does an area within the unit have organic soils, either peats or mucks that are less	
than 16 inches deep over bedrock or an impermeable hardpan such as clay or volcanic	
ash, or that are floating on top of a lake or pond??	
Yes - go to SC 4.3 No - Is not a bog for rating	
SC 4.3. Does an area within the unit have more than 70% cover of mosses at ground level	
AND at least 30% of the total plant cover consists of species in Table 5?	
Yes – Category I bog No - go to SC 4.4	
NOTE: If you are uncertain about the extent of mosses in the understory you may	
substitute that criterion by measuring the pH of the water that seeps into a hole dug at	
least 16" deep. If the pH is less than 5.0 and the plant species in Table 5 are present, the	
wetland is a bog.	
SC 4.4 Is an area with peats or mucks forested (> 30% cover) with subalpine fir, western red	
cedar, western hemlock, lodgepole pine, quaking aspen, Englemann's spruce, or western	
white pine, AND any of the species (or combination of species) listed in Table 5 provide	
more than 30% of the cover under the canopy	
Yes – Category I bog NO – go to question SC 4.5	Cat. I
5. Do the species listed in Table 6 comprise at least 20% of the total plant cover within an area of peats and mucks?	
Yes – Is a Calcareous Fen for purpose of rating No - go to Question 6	
6. Do the species listed in Table 6 comprise at least 10% of the total plant cover an area of peats	
and mucks, AND one of the two following conditions is met:	
 Marl deposits (calcium carbonate (CaCO3) precipitate) occur on the soil surface or plant stems 	
 The pH of free water ≥ 6.8 AND electrical conductivity ≥ 200 uS/cm at multiple locations within the wetland 	
Yes – Is a Category I calcareous fen No - Is not a calcareous fen	Cat. I

SC 5.0 Forested Wetlands		
Does the wetland unit have an area of for	est rooted within its boundary that meets at least	
one of the following three criteria? (C present in question H 1.1)	ontinue only if you have identified a forested class is	
• The wetland is within the "100 year	ar" floodplain of a river or stream	
	esents at least 20% of the total cover of woody	
— There is at least ¼ acre of trees (ev	ven in wetlands smaller than 2.5 acres) that are	
"mature" or "old-growth" accordi	ng to the definitions for these priority habitats	
developed by WDFW (see definiti	ons in question H3.1)	
YES = go to SC 5.1 NO -not a for	ested wetland with special characteristics	
SC 5.1 Does the wetland unit have a forest	canopy where more than 50% of the tree species (by	
cover) are slow growing native trees (s	ee Table 7)	Cat. I
YES = Category I	NO = go to SC 5.2	
SC 5.2 Does the unit have areas where asp the total cover of woody species.	en (Populus tremuloides) represents at least 20% of	Cat. I
YES = Category !	NO = go to SC 5.3	
SC 5.3 Does the wetland unit have areas wi species (by cover) are fast growing spe	th a forest canopy where more than 50% of the tree ecies. (<i>see Table 7</i>)	Cat. II
YES = Category II	NO = go to SC 5.5	
SC 5.4 Is the forested component of the we stream?	tland within the "100 year floodplain" of a river or	
YES = Category II		Cat. II
Category of wetland based on Special	Characteristics	
	st" rating if wetland falls into several categories.	NIA
	ed NO for all types enter "Not Applicable" on p.1	1017

Appendix B: WDFW Priority Habitats in Eastern Washington

<u>Priority habitats listed by WDFW</u> (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. <u>http://wdfw.wa.gov/publications/00165/wdfw00165.pdf</u>)

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: <u>Old-growth east of Cascade crest</u>: 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. <u>Mature forests</u>: 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.

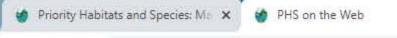
Snags and Logs: Trees are considered snags if they are dead or dying and exhibit sufficient decay characteristics to enable cavity excavation/use by wildlife. Priority snags have a diameter at breast height of > 51 cm (20 in) in western Washington and are > 2 m (6.5 ft) in height. Priority logs are >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

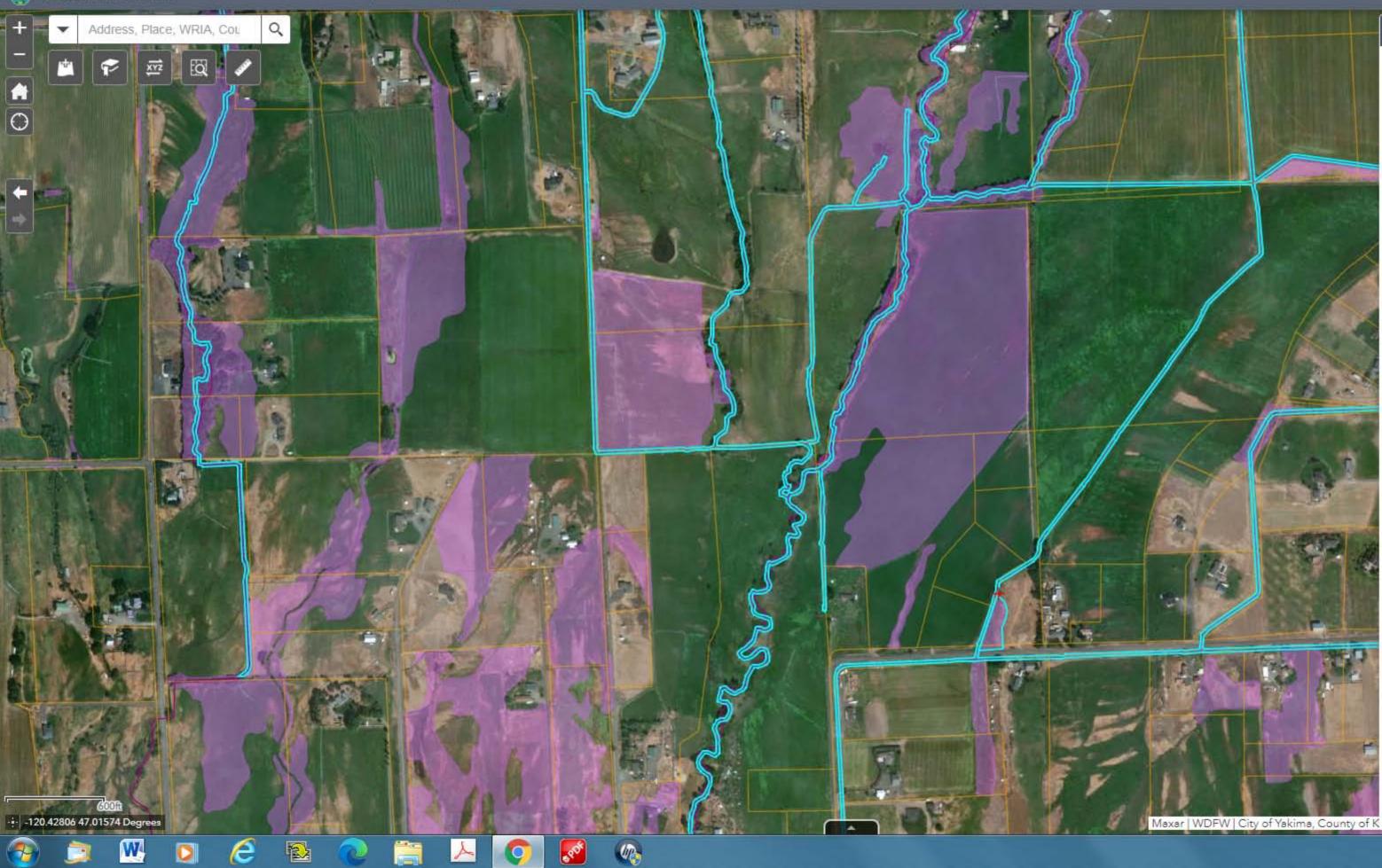
Note: All vegetated wetlands are by definition a priority habitat but are not included in this list because they are addressed elsewhere.



PHS on the Web

Quick Start Guide | User Guide | Feedback

× +



PHS Identify

Generate Report

Occurrence Name	Freshwater Emergent Wetland
Priority Area	Aquatic Habitat
Site Name	N/A
Accuracy	NA
Notes	Wetland System: Freshwater Emerge nt Wetland - NWI Code: PEM1A
Source Dataset	NWIWetlands
Source Name	Not Given
Source Entity	US Fish and Wildlife Service
Federal Status	N/A
State Status	N/A
PHS Listing Status	PHS Listed Occurrence
Sensitive	N
SGCN	N
Display Resolution	AS MAPPED
Management Recommendations	Click for more info.
Geometry Type	Polygons

- 0 ×

≈ ×

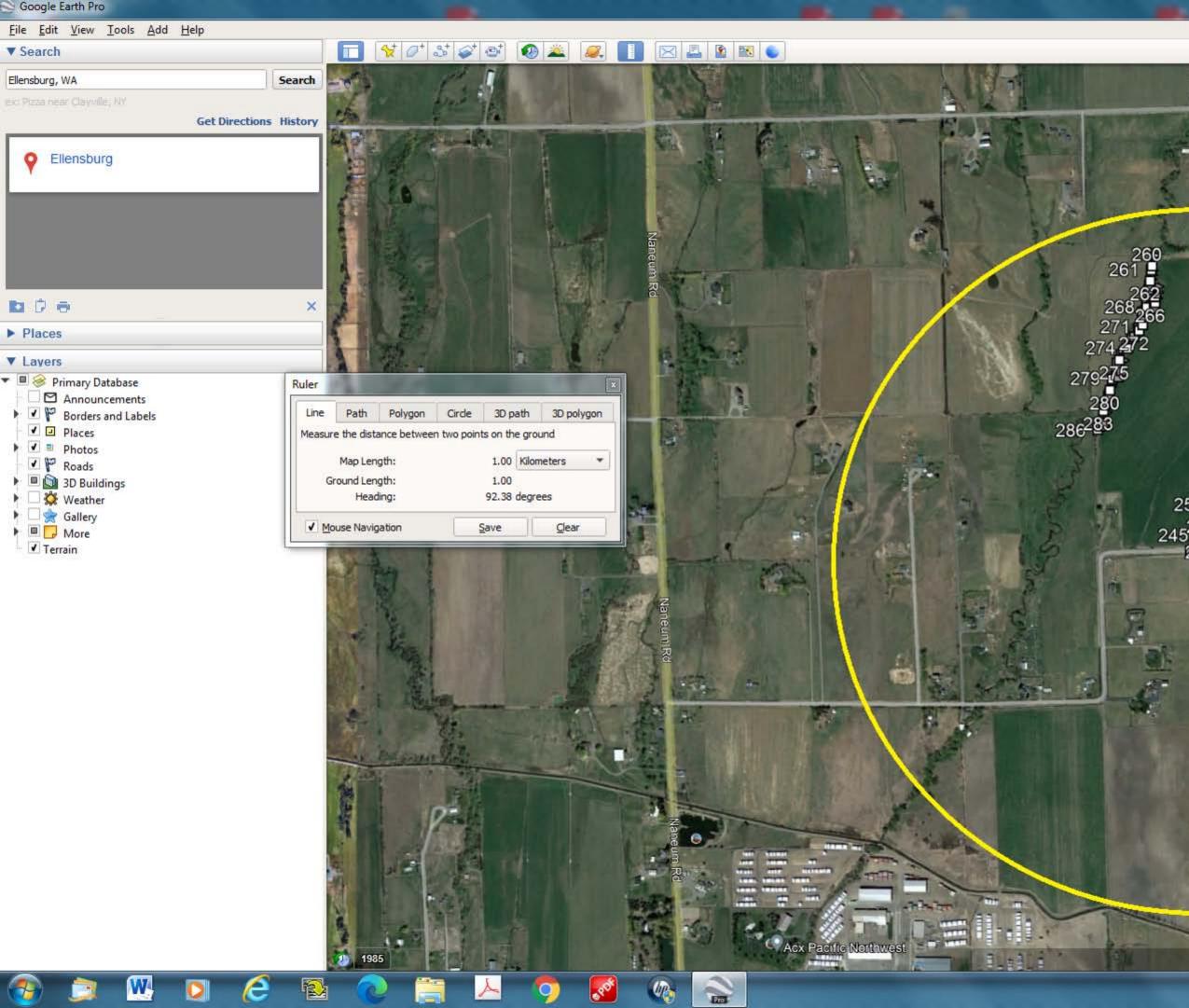
₿☆ . :

🗄 🛸 👪 🔍

~

Occurrence Name	Riverine
Priority Area	Aquatic Habitat
Site Name	N/A
Accuracy	NA
Notes	Wetland System: Riverine - NWI Cod e: R4SBCx
Source Dataset	NWIWetlands
Source Name	Not Given
Source Entity	US Fish and Wildlife Service
Federal Status	N/A
State Status	N/A
PHS Listing Status	PHS Listed Occurrence
Sensitive	N
SGCN	N
Display Resolution	AS MAPPED

() - 10:55 AM 2/18/2022



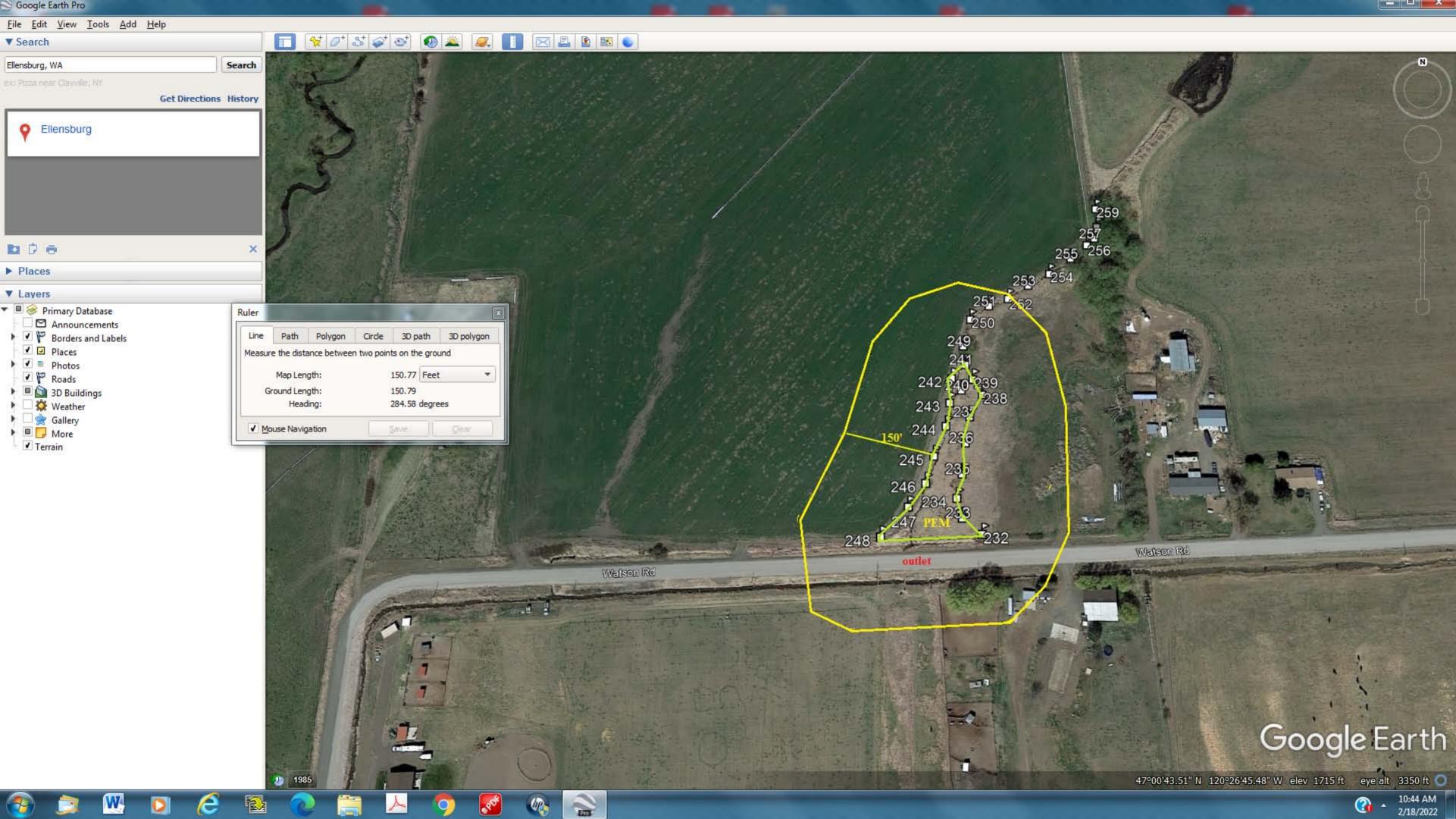


Google Earth

47°00'11.92" N 120°26'08.90" W elev 1692 ft eye alt 13380 ft 🔘

Beefalo Meats







 Priority Habitats and Species: Ma × Assessment of state waters 3 Assessment of state waters 3 Assessment of state waters 3 	203d × S Water Quality Atlas - Map × + ap?CustomMap=y&BBox=-14338616,5395963,-12562831,6503994&RT=0&Layers=27&Filters=y,n,n,n,n,&F1.4=n,n,n,n,y
DEPARTMENT OF ECOLOGY State of Washington	Water Quality Atlas
Legend Filter Zoom Tools	
✓ Basic	+ Find address or place
✓ Drawing	
∧ Other	
Keyboard Identify Distance Area	
Usage: Click on map to add measure points. Double-click to finsh. Unit Feet	7,148.59 ft
7,148.59 ft New measurement	Assessed Water/Sediment T Filter Applied Clear filters
	Find Listing ID Assessment Unit ID Category Medium
	A 66746 170200011202_01_01 5 Water
	11253 170200050203_01_01 5 Water
	A 42784 170200050203_01_01 5 Water
	Show 5 v entries Showing 1 to 5 of 4,548 entries

Q

X

ROS

W

-19

O

e

