

# **Sewall Wetland Consulting, Inc.**

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

November 12, 2019

Kylie Clark Steel Structures America PO Box 895 Post Falls, ID 83877

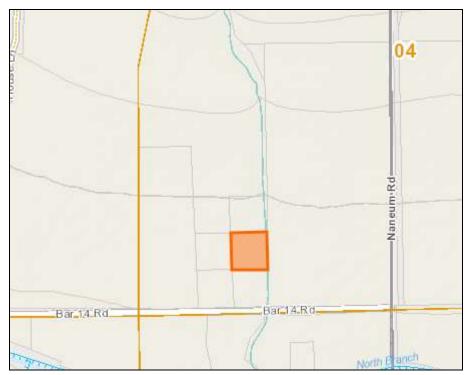
RE: Critical Area Report - Parcel #20937

Kittitas County, Washington

SWC Job #19-189

Dear Kylie,

This report describes our observations of any jurisdictional wetlands, streams and/or buffers on or within 200' of Parcel #20937, located at 1657 Bar 14 Road, in unincorporated Kittitas County, Washington (the "site"). The 3.16 acre site is within Section 4, Township 18 North, Range 19 East of the W.M.



Above: Vicinity Map of site



Above: Aerial photograph from Kittitas Mapsifter website.

### **METHODOLOGY**

Ed Sewall of Sewall Wetland Consulting, Inc. inspected the site on November 1, 2019. The site was reviewed using methodology described in the *Regional Supplement to the Corps of Engineers Wetland Delineation Manual: Arid West Region (Version 2.0)* (USACOE September 2008) as required by the US Army Corps of Engineers starting in June of 2009. This is the methodology currently recognized by the Kittitas County for wetland determinations and delineations. The site was also reviewed using methodology described in Soil colors were identified using the 1990 Edited and Revised Edition of the *Munsell Soil Color Charts* (Kollmorgen Instruments Corp. 1990.

#### **OBSERVATIONS**

Existing Site Documentation.

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

## **National Wetlands Inventory (NWI)**

The NWI map depicts a portion of an emergent wetland along the northwest side of the site. A narrow forested wetland is also mapped along Naneum Creek on the eastern side of the site. The USFWS data indicates this wetland was mapped in 1983 and not field checked during the inventory. This wetland depiction appears to be the historic pattern of flood irrigation flow paths that are no longer present on the site.



Above: NWI map of the area of the site

# **Soil Survey**

According to the NRCS Soil Mapper website, the site is mapped as containing Brickmill-Naneum complex (somewhat poorly drained) and Weirman-Kayak complex (moderately well drained). These soils are generally formed in alluvium and are not considered "hydric" soils according to the publication Hydric Soils of the United States (USDA NTCHS Pub No.1491, 1991).



Above: NRCS soil map of the site.

#### Field observations

### Field observations

The site contains a gravel driveway leading to a single family home. Several fenced livestock areas are present on the site. Naneum Creek, topographically a well-defined stream is located along the eastern side of the site.

The site is generally vegetate with a mix of xeric species such as cheatgrass, tumble mustard, thistle and prickly lettuce.

Soils were found to be a dry, cobbly loam with soil colors of 10YR3/2-2/2.

The inventory maps for the site are incorrect. There is no forested wetland located along the eastern side of the site, just Naneum Creek in a deeply incised channel.

A small area of wetland is located on the northwest corner of the site. This wetland extends a short distance north and west of the site and is not associated with Naneum Creek or the 200' shoreline area. Below is a description of this area.

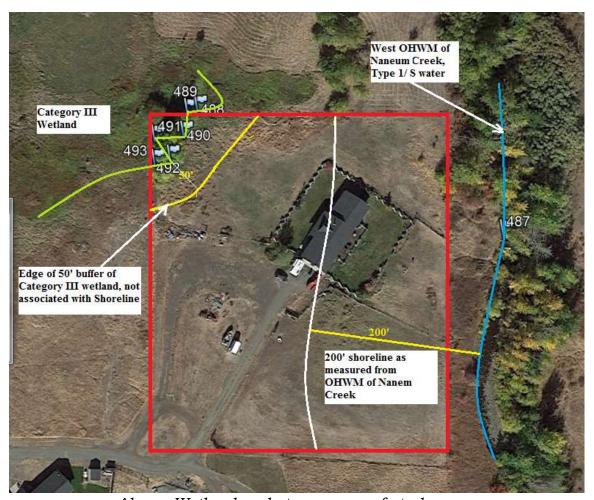
# Wetland A

An emergent wetland located on the northwest corner of the site was flagged with flags A1-A6 (gps points 488-493). The wetland extends a short distance to the north and west of the site. The wetland may be maintained by irrigation water from the property to the north. It does not appear to be associated with Neneum Creek. Species observed in the wetland were sedge, creeping buttercup, and reed canary grass. A few small willows were planted along a small bermed pond area on the corner of the property within the wetland.

Using the 991 WADOE Wetland State Wetlands Rating System Form as utilized by Kittitas County, the wetland on-site would be classified as a Class III wetland. Per KCC 17A.04.020, Category III wetlands have a buffer range of 20-80' in width. Given the agricultural character of the wetland a 50' buffer would be adequate to protect its functions.

## Naneum Creek

Naneum Creek is considered a Shoreline of the State or a Type 1/S water. Per KCC 17A.02.300 the buffers for a Type 1 water are 40'-200' from the OHWM 17A.07.010.



Above: Wetland and stream map of study area.

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 <a href="mailto:esewall@sewallwc.com">esewall@sewallwc.com</a>.

Sincerely,

Sewall Wetland Consulting, Inc.

Ed Sewall

Senior Wetlands Ecologist PWS #212

Attached: Data sheets & Rating Form

#### **REFERENCES**

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

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

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

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

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

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

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

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



Above and below: Two views of Wetland A on the northwest corner.





Above: Looking west along the north property line towards Wetland A Below: Looking east along the eastern side of the driveway at the dry pasture.





Above: looking north from the drieway along the western side of the site.

WetA

## WETLAND DETERMINATION DATA FORM - Arid West Region

Project/Site: Dan 12/5	City/County	· K	This Sampling Date: 11-1-1
Applicant/Owner:	,		State: WA Sampling Point: DP#
Investigator(s): Ed Sewall	Section To	washin Re	547/8~ R19E
Landform (hillslope, terrace, etc.):			
Subregion (LRR): Lat:			
Soil Map Unit Name:			NWI classification:
			(If no, explain in Remarks.)
Are Vegetation, Soil, or Hydrology significa		Are '	"Normal Circumstances" present? Yes No
Are Vegetation, Soil, or Hydrology naturally	y problematic?	(If ne	eeded, explain any answers in Remarks.)
SUMMARY OF FINDINGS – Attach site map show	ing samplin	g point l	ocations, transects, important features, etc
Hydrophytic Vegetation Present?  Hydric Soil Present?  Wetland Hydrology Present?  Yes No	with	ie Sampied in a Wetiar	
Remarks: grazed agricultual site	2		
VEGETATION			
Absol			Dominance Test worksheet:
	over Species?	Status	Number of Dominant Species That Are OBL, FACW, or FAC:(A)
2	<del></del>	<del></del>	That Are OBL, FACW, or FAC: (A)
3.			Total Number of Dominant Species Across All Strata: (B)
4	<del></del>		Species Across All Strata: (B)
Total Cover:		<del></del>	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 x 1 =
4.			FACW species x 2 =
5			FAC species x 3 =
Total Cover:	<del></del>		FACU species x 4 =
1. Runcolus rigns 60	2	FACL	, UPL species x 5 =
2 Phalais and 40	<i>5</i>	FACL	Column Totals: (A) (B)
3.		<u></u>	Prevalence Index = B/A =
4.			Hydrophytic Vegetation Indicators:
5			Dominance Test is >50%
6			Prevalence Index is ≤3.01
7			Morphological Adaptations' (Provide supporting data in Remarks or on a separate sheet)
Total Cover:			Problematic Hydrophytic Vegetation (Explain)
Woody Vine Stratum	<del></del>		
1			Indicators of hydric soil and wetland hydrology must
2			be present.
Total Cover:		;	Hydrophytic Vegetation
% Bare Ground in Herb Stratum % Cover of Bioti	ic Crust		Present? Yes No No
Remarks:	····		

US Army Corps of Engineers

	depth needed to document the indicator or o	committee absence of malcalors.
Depth <u>Matrix</u> (inches) Color (moist) %	Redox Features Color (moist) % Type L	.oc <sup>2</sup> Texture Remarks
11 104-011	Color (moist) % Type 1	
16 101h-011		c/m/n
ype: C=Concentration, D=Depletion, I		ning, RC=Root Channel, M=Matrix.
ydric Soil indicators: (Applicable to		Indicators for Problematic Hydric Solis <sup>3</sup> :
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_ Histic Epipedon (A2)	Stripped Matrix (S6)	2 cm Muck (A10) (LRR B)
_ Black Histic (A3)	Loamy Mucky Mineral (F1)	Reduced Vertic (F18)
_ Hydrogen Sulfide (A4) _ Stratified Layers (A5) (LRR C)	Loamy Gleyed Matrix (F2) Depleted Matrix (F3)	Red Parent Material (TF2)
_ 1 cm Muck (A9) (LRR D)	Nedox Dark Surface (F6)	Other (Explain in Remarks)
_ Depleted Below Dark Surface (A11)		
_ Thick Dark Surface (A12)	Redox Depressions (F8)	
_ Sandy Mucky Mineral (S1)	Vernal Pools (F9)	<sup>3</sup> Indicators of hydrophytic vegetation and
_ Sandy Gleyed Matrix (S4)		wetland hydrology must be present.
<del></del>		
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estrictive Layer (if present): Type:		
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_		Hydric Soli Present? Yes No
Type:		Hydric Soli Present? Yes No No
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# WETLAND DETERMINATION DATA FORM - Arid West Region

Up with A

Project/Site: Dav 12/5		City/County	, K,	Thitas	Sempling Date: 1/-/-/
Applicant/Owner:		-g		State: W	<u>^</u> Sampling Point: D P#
		Section To	wnshin Ra	nne: 54	T18~ R19E
Landform (hillslope, terrace, etc.):					
Subregion (LRR):	!				
Soll Map Unit Name:					assification:
Are climatic / hydrologic conditions on the site typical for this	<del></del>			(if no, explair	
Are Vegetation, Soil, or Hydrology si					ces' present? Yes No
	- 1				
Are Vegetation, Soil, or Hydrology na BUMMARY OF FINDINGS — Attach site map s					inswers in Remarks.) ects. important features. etc
Hydrophytic Vegetation Present? Yes No		<u>.</u>	<u> </u>		
Hydric Soil Present? Yes No		1	e Sampled		and the same of th
Wetland Hydrology Present? Yes No	,	" with	in a Wetla	nd? Yes	No
grazed agricultual :	FUR	5 <del>- 1                                  </del>			
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3.				Total Number of D Species Across Al	
4					(-)
Septing/Shrub Stratum	***************************************			Percent of Domina That Are OBL, FA	
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4.					x 2 =
J					x3=
Herb Stratum			-		x 4 = x 5 =
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2		<del></del>		Hydrophytic	
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1791 mi itw.					,

US Army Corps of Engineers

Arid West - Version 11-1-2006

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Sampling Point:

Depth   Metrix   Color (moist)   Secondary   Depte   Loc'   Texture   Remark	
Type: C=Concentration, D=Depletion, RM=Reduced Matrix.   2 Location: PL=Pore Lining, RC=Root Channel, M=Matrix.   1 Indicators: (Applicable to all LRRs, unless otherwise noted.) Indicators for Problematic Hydric Soil Indicators: (Applicable to all LRRs, unless otherwise noted.) Indicators for Problematic Hydric Soil Indicators: (Applicable to all LRRs, unless otherwise noted.) Indicators for Problematic Hydric Soil Indicators: (Applicable to all LRRs, unless otherwise noted.) Indicators for Problematic Hydric Soil Indicators for Problematic Hydric Hydr	: Soile*:
ydric Soil Indicators: (Applicable to all LRRs, unless otherwise noted.)  Histosol (A1) Sandy Redox (S5) 1 cm Muck (A9) (LRR C)  Histic Epipedon (A2) Stripped Matrix (S6) 2 cm Muck (A10) (LRR B)  Black Histic (A3) Loamy Mucky Mineral (F1) Reduced Vertic (F18)  Hydrogen Sulfide (A4) Loamy Gleyed Matrix (F2) Red Parent Material (TF2)  Stratified Layers (A5) (LRR C) Depleted Matrix (F3) Other (Explain in Remarks)  1 cm Muck (A9) (LRR D) Redox Dark Surface (F6)  Depleted Below Dark Surface (A11) Depleted Dark Surface (F7)  Thick Dark Surface (A12) Redox Depressions (F8)  Sandy Mucky Mineral (S1) Vernal Pools (F9) Indicators of hydrophytic vegetative setrictive Layer (if present):  Type:  Depth (inches):  Popth (inches):  Emarks:  Depth (inches):  Saturation (A3) Sait Crust (B11) Soit Crust (B12) Drift Deposits (B3) (River Bart Crust (B12) Drainage Patterns (B10) Drainage Patterns (B10)	: Soile <sup>9</sup> :
ydric Soil Indicators: (Applicable to all LRRs, unless otherwise noted.)  Histosol (A1) Sandy Redox (S5) 1 cm Muck (A9) (LRR C)  Histic Eplpedon (A2) Stripped Matrix (S6) 2 cm Muck (A10) (LRR B)  Black Histic (A3) Loamy Mucky Mineral (F1) Reduced Vertic (F18)  Hydrogen Sulfide (A4) Loamy Gleyed Matrix (F2) Red Parent Material (TF2)  Stratified Layers (A5) (LRR C) Depleted Matrix (F3) Other (Explain in Remarks)  1 cm Muck (A9) (LRR D) Redox Dark Surface (F6)  Depleted Below Dark Surface (A11) Depleted Dark Surface (F7)  Thick Dark Surface (A12) Redox Depressions (F8)  Sandy Mucky Mineral (S1) Vernal Pools (F9) Indicators of hydrophytic vegetative satrictive Layer (if present):  Type: Depth (inches): Hydrology Indicators: Improvince (A11) Surface (A11) Surface (A11) Secondary Indicators (A12) Secondary Indicators (A12) Secondary Indicators (A13) Secondary Indicators (A13) Deposits (A14) Deposits (A14) Deposits (A15) Deposits (A14) Deposits (A15) Deposits (A14) Deposits (A15) Deposits (A14) Deposits (A15) Deposits (A15) Deposits (A14) Deposits (A15) Deposits (A15) Deposits (A14) Deposits (A15) Deposits (A15) Deposits (A15) Deposits (A15) De	Solle*:
ydric Soil Indicators: (Applicable to all LRRs, unless otherwise noted.)  Histosol (A1) Sandy Redox (S5) 1 cm Muck (A9) (LRR C)  Histic Eplpedon (A2) Stripped Matrix (S6) 2 cm Muck (A10) (LRR B)  Black Histic (A3) Loamy Mucky Mineral (F1) Reduced Vertic (F18)  Hydrogen Sulfide (A4) Loamy Gleyed Matrix (F2) Red Parent Material (TF2)  Stratified Layers (A5) (LRR C) Depleted Matrix (F3) Other (Explain in Remarks)  1 cm Muck (A9) (LRR D) Redox Dark Surface (F6)  Depleted Below Dark Surface (A11) Depleted Dark Surface (F7)  Thick Dark Surface (A12) Redox Depressions (F8)  Sandy Mucky Mineral (S1) Vernal Pools (F9) Indicators of hydrophytic vegetative satrictive Layer (if present):  Type: Depth (inches): Hydrology Indicators: Improvince (A11) Surface (A11) Surface (A11) Secondary Indicators (A12) Secondary Indicators (A12) Secondary Indicators (A13) Secondary Indicators (A13) Deposits (A14) Deposits (A14) Deposits (A15) Deposits (A14) Deposits (A15) Deposits (A14) Deposits (A15) Deposits (A14) Deposits (A15) Deposits (A15) Deposits (A14) Deposits (A15) Deposits (A15) Deposits (A14) Deposits (A15) Deposits (A15) Deposits (A15) Deposits (A15) De	Solle*:
ydric Soil Indicators: (Applicable to all LRRs, unless otherwise noted.)  Histosol (A1) Sandy Redox (S5) 1 cm Muck (A9) (LRR C)  Histic Epipedon (A2) Stripped Matrix (S6) 2 cm Muck (A10) (LRR B)  Black Histic (A3) Loamy Mucky Mineral (F1) Reduced Vertic (F18)  Hydrogen Sulfide (A4) Loamy Gleyed Matrix (F2) Red Parent Material (TF2)  Stratified Layers (A5) (LRR C) Depleted Matrix (F3) Other (Explain in Remarks)  1 cm Muck (A9) (LRR D) Redox Dark Surface (F6)  Depleted Below Dark Surface (A11) Depleted Dark Surface (F7)  Thick Dark Surface (A12) Redox Depressions (F8)  Sandy Mucky Mineral (S1) Vernal Pools (F9) Indicators of hydrophytic vegetative setrictive Layer (if present):  Type:  Depth (inches):  Popth (inches):  Emarks:  Depth (inches):  Saturation (A3) Sait Crust (B11) Soit Crust (B12) Drift Deposits (B3) (River Bart Crust (B12) Drainage Patterns (B10) Drainage Patterns (B10)	: Soils <sup>9</sup> :
ydric Soil Indicators: (Applicable to all LRRs, unless otherwise noted.)  Histosol (A1) Sandy Redox (S5) 1 cm Muck (A9) (LRR C)  Histic Epipedon (A2) Stripped Matrix (S6) 2 cm Muck (A10) (LRR B)  Black Histic (A3) Loamy Mucky Mineral (F1) Reduced Vertic (F18)  Hydrogen Sulfide (A4) Loamy Gleyed Matrix (F2) Red Parent Material (TF2)  Stratified Layers (A5) (LRR C) Depleted Matrix (F3) Other (Explain in Remarks)  1 cm Muck (A9) (LRR D) Redox Dark Surface (F6)  Depleted Below Dark Surface (A11) Depleted Dark Surface (F7)  Thick Dark Surface (A12) Redox Depressions (F8)  Sandy Mucky Mineral (S1) Vernal Pools (F9) Indicators of hydrophytic vegetative setrictive Layer (if present):  Type:  Depth (inches):  Popth (inches):  Emarks:  Depth (inches):  Saturation (A3) Sait Crust (B11) Soit Crust (B12) Drift Deposits (B3) (River Bart Crust (B12) Drainage Patterns (B10) Drainage Patterns (B10)	: Solis <sup>5</sup> :
Indicators: (Applicable to all LRRs, unless otherwise inoted.)   Histosol (A1)	Solis <sup>3</sup> :
Indicators for Problematic Hydro   Histosol (A1)	: Solls <sup>3</sup> :
Indicators for Problematic Hydro   Histosol (A1)	: Solls <sup>3</sup> :
Histosol (A1) Sendy Redox (S5) 1 cm Muck (A9) (LRR C) Histosol (A1) Sendy Redox (S5) 2 cm Muck (A10) (LRR B) Black Histic Eplpedon (A2) Stripped Matrix (S6) 2 cm Muck (A10) (LRR B) Black Histic (A3) Loamy Mucky Mineral (F1) Reduced Vertic (F18) Hydrogen Sulfide (A4) Loamy Gleyed Matrix (F2) Red Parent Material (TF2) Stratified Layers (A5) (LRR C) Depleted Matrix (F3) Other (Explain in Remarks)  1 cm Muck (A9) (LRR D) Redox Dark Surface (F6) Depleted Below Dark Surface (A11) Depleted Dark Surface (F7) Thick Dark Surface (A12) Redox Depressions (F8) Sandy Gleyed Matrix (S4) Wernal Pools (F9) Indicators of hydrophytic vegetative testrictive Layer (if present):  Type: Depth (inches): Hydric Soil Present? Yes  Vertaind Hydrology Indicators: Trimary Indicators (any one indicator is sufficient) Surface Water (A1) Sait Crust (B11) Sediment Deposits (B2) (High Water Table (A2) Biotic Crust (B12) Drainage Patterns (B10)  Deninge Patterns (B10)	: Soils <sup>3</sup> :
Histosol (A1) Sandy Redox (S5) 1 cm Muck (A9) (LRR C) Histic Epipedon (A2) Stripped Matrix (S6) 2 cm Muck (A10) (LRR B) Black Histic (A3) Loamy Mucky Mineral (F1) Reduced Vertic (F18) Hydrogen Sulfide (A4) Loamy Gleyed Matrix (F2) Red Parent Material (TF2) Stratified Layers (A5) (LRR C) Depleted Matrix (F3) Other (Explain in Remarks)  1 cm Muck (A9) (LRR D) Redox Dark Surface (F6) Depleted Below Dark Surface (A11) Depleted Dark Surface (F7) Thick Derk Surface (A12) Redox Depressions (F8) Sandy Mucky Mineral (S1) Vernal Pools (F9) Sandy Gleyed Matrix (S4) wetland hydrology must be presenticitive Layer (if present):  Type: Depth (inches): Hydric Soil Present? Yee  Type: Depth (inches): Sandy Gleyed Matrix (B1) Sandy Gleyed Matrix (B1) Sandy Gleyed Matrix (B1) Secondary Indicators (2 or matrix):  Water Marks (B1) (River Surface Water (A1) Salt Crust (B11) Sediment Deposits (B2) (High Water Table (A2) Biotic Crust (B12) Drainage Patterns (B10)	: Solls <sup>3</sup> :
Histic Epipedon (A2)  Black Histic (A3)  Loamy Mucky Mineral (F1)  Hydrogen Sutfide (A4)  Stratified Layers (A5) (LRR C)  1 cm Muck (A9) (LRR C)  Depleted Matrix (F3)  1 cm Muck (A9) (LRR D)  Depleted Below Dark Surface (A11)  Depleted Dark Surface (F7)  Thick Derk Surface (A12)  Sandy Mucky Mineral (S1)  Sandy Gleyed Matrix (S4)  Sandy Gleyed Matrix (S4)  Estrictive Layer (iff present):  Type:  Depth (inches):  Depth (inches):  Sandy Gleyed Matrix (S4)  Sandy Gleyed Matrix (S4)  Estrictive Layer (iff present):  Type:  Depth (inches):  Sacondary Indicators (2 or matrix (B1))  Surface Water (A1)  Salt Crust (B11)  High Water Table (A2)  Saturation (A3)  Aquatic invertebrates (B13)  Drainage Patterns (B10)	
Elack Histic (A3)	
Hydrogen Sulfide (A4) Loamy Gleyed Matrix (F2) Stratified Layers (A5) (LRR C) Depleted Matrix (F3) Other (Explain in Remarks)  1 cm Muck (A9) (LRR D) Redox Dark Surface (F6) Depleted Below Dark Surface (A11) Depleted Dark Surface (F7) Thick Dark Surface (A12) Sandy Mucky Mineral (S1) Sandy Gleyed Matrix (S4) Vernal Pools (F9)  **Indicators of hydrophytic vegetatis wetland hydrology must be presenticitive Layer (if present): Type: Depth (inches):  Depth (inches):  Emarks:  **Proceedings of the present of the pre	
Stratified Layers (A5) (LRR C) Depleted Matrix (F3) Other (Explain in Remarks)  1 cm Muck (A9) (LRR D) Redox Dark Surface (F6) Depleted Below Dark Surface (A11) Depleted Dark Surface (F7) Thick Dark Surface (A12) Redox Depressions (F8) Sandy Mucky Mineral (S1) Vernal Pools (F9) Indicators of hydrophytic vegetative Sandy Gleyed Matrix (S4) wetland hydrology must be present (F7)  Type: Depth (inches): Hydric Soil Present? Yes emarks:    Depth (inches): Secondary Indicators (2 or matrix) indicators (any one indicator is sufficient) Surface Water (A1) Salt Crust (B11) Sediment Deposits (B2) (River Indicator (A3) Aquatic Invertebrates (B13) Drainage Patterns (B10)	
1 cm Muck (A9) (LRR D) Redox Dark Surface (F6) Depleted Below Dark Surface (A11) Depleted Dark Surface (F7) Thick Dark Surface (A12) Redox Depressions (F8) Sandy Mucky Mineral (S1) Vernal Pools (F9) Sandy Gleyed Matrix (S4) wetland hydrology must be present (S4) Sandy Gleyed Matrix (S4) Wetland hydrology must be present (S4) Eastrictive Layer (If present): Type: Hydric Soli Present? Yes Hydric Soli Present? Yes Secondary Indicators: Interval Indicators (any one indicator is sufficient) Surface Water (A1) Sult Crust (B11) Sediment Deposits (B2) (Pily Water Table (A2) Biotic Crust (B12) Drift Deposits (B3) (River Saturation (A3) Aquatic Invertebrates (B13) Drainage Patterns (B10)	
Depleted Below Dark Surface (A11) Depleted Dark Surface (F7) Thick Dark Surface (A12) Redox Depressions (F8)  Sandy Mucky Mineral (S1) Vernal Pools (F9) Indicators of hydrophytic vegetation wetland hydrology must be presented to Layer (If present):  Type:	
Thick Dark Surface (A12)	
Sandy Mucky Mineral (S1) Vernal Pools (F9)	
Sandy Gleyed Matrix (S4) wetland hydrology must be pre-  Restrictive Layer (if present):  Type:  Depth (inches):	n and
Type:	
Depth (inches): Hydric Soll Present? Yes	
/DROLOGY  fetland Hydrology Indicators:  rimery Indicators (any one indicator is sufficient)  Surface Water (A1)  High Water Table (A2)  Saturation (A3)  Secondary Indicators (2 or method water Marks (B1) (River)  Secondary Indicators (2 or method water Marks (B1) (River)  Secondary Indicators (2 or method water Marks (B1) (River)  Sediment Deposits (B2) (Drift Deposits (B3) (River)  Aquatic Invertebrates (B13)  Drainage Patterns (B10)	_
VDROLOGY  Vetland Hydrology Indicators:  Secondary Indicators (2 or maintenance)  Water Marks (B1) (River)  Surface Water (A1)  High Water Table (A2)  Salt Crust (B12)  Saturation (A3)  Aquatic Invertebrates (B13)  Drainage Patterns (B10)	_ No
fetland Hydrology Indicators:  rimery Indicators (any one indicator is sufficient)  Surface Water (A1)  High Water Table (A2)  Salt Crust (B12)  Salt Crust (B12)  Drift Deposits (B3) (River (B14))  Salt Crust (B15)  Drift Deposits (B16) (River (B16))  Salt Crust (B17)  Drinage Patterns (B10)	
rimery indicators (any one indicator is sufficient)  Surface Water (A1)  High Water Table (A2)  Salt Crust (B12)  Salturation (A3)  Aquatic Invertebrates (B13)  Water Marks (B1) (River)  Sediment Deposits (B2) ( Drift Deposits (B3) (River)  Drainage Patterns (B10)	
Surface Water (A1) Salt Crust (B11) Sediment Deposits (B2) ( High Water Table (A2) Biotic Crust (B12) Drift Deposits (B3) (River Saturation (A3) Aquatic Invertebrates (B13) Drainage Patterns (B10)	re required)
High Water Table (A2) Biotic Crust (B12) Drift Deposits (B3) (River Saturation (A3) Aquatic Invertebrates (B13) Drainage Patterns (B10)	ne)
Saturation (A3) Aquatic Invertebrates (B13) Drainage Patterns (B10)	Riverine)
	ine)
Water Marks (R1) (Montivering) Limbones Suitale Ador (C4)	
	(C2)
Sediment Deposits (B2) (Nonriverine) Oxidized Rhizospheres along Living Roots (C3) Thin Muck Surface (C7)	-
Drift Deposits (B3) (Nonriverine) Presence of Reduced Iron (C4) Crayfish Burrows (C8)	-
Surface Soil Cracks (B6) Recent Iron Reduction in Plowed Soils (C6) Saturation Visible on Aerial Imagery (B7) Other (Explain in Remarks) Shallow Adultant (D3)	
Water-Stained Leaves (69) FAC-Neutral Test (05)	
surface Water Present? Yes No Depth (inches);	
laturation Present? Yes No Depth (inches): Wetland Hydrology Present? Yes Includes capillary fringe)	al Imagery (C9
Pescribe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:	
	al Imagery (C9
Remarks:	al Imagery (C9
$I_{c}=I_{c}$	al Imagery (C9
No real tasks	al Imagery (C9
	al Imagery (C9
	al Imagery (C9

east side P

# WETLAND DETERMINATION DATA FORM - Arid West Region

Project/Site: Dan u 15		CitylCounty	. K	Ttitas	Compline	. Date: //	-/-/
Applicant/Owner:		Caycounty		State: W			
nvestigator(s): Zd Sewall		Saakaa Ta		ange: 5 4			
		i					
andform (hillstope, terrace, etc.):							
tubregion (LRR):	Lat:						
oil Map Unit Name:		<u> </u>		NM d			
re climatic / hydrologic conditions on the site typical fo	- 1			(If no, explai		_	
re Vegetation, Soil, or Hydrology	significantly	disturbed?	Are	"Normal Circumstan	ces" present?	Yes	No
re Vegetation, Soil, or Hydrology	naturally pr	oblematic?	(If n	eeded, explain any s	inswers in Remi	erks.)	
SUMMARY OF FINDINGS - Attach site ma	ap showing	samplin	g point	locations, trans	ects, import	ant featur	es, etc
Hydrophytic Vegetation Present? Yes	No_			4.4			
Hydric Soil Present? Yes	No /	/	e Sample:				
Wetland Hydrology Present? Yes	No	Willi	in a Wetla	ng? Yes	No.		
Remarks: grazed agricultural	sile						
/EGETATION			***************************************				
Tree Stratum (Use scientific names.)	Absolute			Dominance Test	worksheet:	**************************************	
1		Species?		Number of Domin That Are OBL, FA		0	_ (A)
2. 3.				Total Number of E Species Across A		1	_ (B)
4	over:	-		Percent of Domini That Are OBL, FA		0	_ (A/B)
1				Prevalence Index	k worksheet:		<del></del>
2		'		Total % Cove	r of:	Multiply by:	
3		,		OBL species _	x 1	=	
<u> </u>		<del></del>		FACW species _			
5				FAC species			
Total Co	wer:	†	7	FACU species			
1. Brons teclose	25		M. Jan	UPL species			
2.				Column Totals:	(A)		(B)
3.				Prevalence	Index = B/A = _		
4.				Hydrophytic Veg	etation indicate	Drs:	
5			<del></del>	Dominance T			
6.				Prevalence in	dex is ≤3.01		
7 8				data in Re	l Adaptations¹ (F marks or on a se	parate sheet	)
Total Co	wer:		<del></del>	Problematic H	lydrophytic Vege	station (Expl	ain)
Woody Vine Stratum  1				<sup>1</sup> Indicators of hydribe present.	ic soil and wetla	nd hydrology	must
2Total Co	wer:	-		Hydrophytic			
% Bare Ground in Herb Stratum % Co	wer of Biotic C	rust		Vegetation Present?	Yes	No /	_
Remarks:				1			· • • • • • • • • • • • • • • • • • • •
					•		

US Army Corps of Engineers

B

Sempling Point: DP#3

Profile Description: (Describe to the depth Depth Matrix		1				-
(inches) Color (moist) %	Color (moist)	x Features		Loc	Texture	Remarks
16 104-313						h lan
					<u> </u>	/
					-	
		-				
Type: C=Concentration, D=Depletion, RM=R	educed Matrix.	<sup>2</sup> Location	: PL=Pon	e Linina. R	C=Root Che	nnel, M=Metrix.
lydric Soil indicators: (Applicable to all Li	RRs, unless other	wise note	ed.)			s for Problematic Hydric Soils <sup>3</sup> :
Histosol (A1)	Sandy Redo	ox (85)	•			Muck (A9) (LRR C)
Histic Epipedon (A2)	Stripped Ma					Muck (A10) (LRR B)
Black Histic (A3)	Loamy Muc	, ,	(F1)			· · · · · · · · · · · · · · · · · · ·
Hydrogen Sulfide (A4)	Loamy Gley	-			_	ced Vertic (F18)
Stratified Layers (A5) (LRR C)	Depleted M		\r'4)			Parent Material (TF2)
1 cm Muck (A9) (LRR D)			ce.		Other	(Explain in Remarks)
Depleted Below Dark Surface (A11)	Redox Dark					
Depreted Below Dark Surface (A11) Thick Dark Surface (A12)	Depleted Da					
<del>_</del>	Redox Depr		· <b>ð</b> }		<b>9</b>	
Sandy Mucky Mineral (S1)	Vernal Pool	s (F9)				s of hydrophytic vegetation and
Sandy Gleyed Matrix (S4)					wetlan	d hydrology must be present.
testrictive Layer (if present):		!			1	
Туре:					1	
Depth (inches):						
					Hydric Sol	Present? Yes No
lemarks:				-	1	i Present? Yes No
emerks:				•	1	
Pemerks:				•	1	
POROLOGY  Foliand Hydrology Indicators:				-	/~»	
Pemerks:	nt)				Saco	ndary Indicators (2 or more required)
POROLOGY  Foliand Hydrology Indicators:		B11)				ndary Indicators (2 or more required) Veter Marks (B1) (Riverine)
POROLOGY  fetland Hydrology Indicators: rimary Indicators (any one indicator is sufficie Surface Water (A1)	Salt Crust (				9acco	ndary indicators (2 or more required)  Vater Marks (B1) (Riverine)  Sediment Deposits (B2) (Riverine)
POROLOGY  fetland Hydrology Indicators: rimary indicators (any one indicator is sufficie  Surface Water (A1)  High Water Table (A2)	Salt Crust (	(B12)	(B13)		- Seco	ndary indicators (2 or more required)  Veter Marks (B1) (Riverine)  Sediment Deposits (B2) (Riverine)  Orifi Deposits (B3) (Riverine)
POROLOGY  Vetland Hydrology Indicators: rimary indicators (any one indicator is sufficie  Surface Water (A1)  High Water Table (A2)  Saturation (A3)	Salt Crust ( Biotic Crust Aquatic Inv	(B12) ertebrates			Second   S	Indexy Indicators (2 or more required)  Water Marks (B1) (Riverine)  Sediment Deposits (B2) (Riverine)  Orift Deposits (B3) (Riverine)  Drainage Patterns (B10)
POROLOGY  Fetiand Hydrology Indicators:  rimary Indicators (any one indicator is sufficie  Surface Water (A1)  High Water Table (A2)  Saturation (A3)  Water Marks (B1) (Nonriverine)	Salt Crust ( Biotic Crust Aquatic Inv Hydrogen 8	t (B12) ertebrates Sulfide Odd	or (C1)		Secondary 1	ndary Indicators (2 or more required)  Nater Marks (B1) (Riverine)  Sediment Deposits (B2) (Riverine)  Orift Deposits (B3) (Riverine)  Originage Patterns (B10)  Ory-Season Water Table (C2)
YDROLOGY  Vetland Hydrology Indicators: rimary Indicators (any one indicator is sufficie  Surface Water (A1)  High Water Table (A2)  Saturation (A3)  Water Marks (B1) (Nonriverine)  Sediment Deposits (B2) (Nonriverine)	Salt Crust ( Biotic Crust Aquatic Inv Hydrogen 8 Oxidized Ri	t (B12) ertebrates Sulfide Odd hizosphere	or (C1) es along L	iving Root	Second	Indary Indicators (2 or more required)  Nater Marks (B1) (Riverine)  Sediment Deposits (B2) (Riverine)  Orlft Deposits (B3) (Riverine)  Oranage Patterns (B10)  Ory-Season Water Table (C2)  Thin Muck Surface (C7)
POROLOGY  Vetland Hydrology Indicators: rimary Indicators (any one indicator is sufficie  Surface Water (A1)  High Water Table (A2)  Saturation (A3)  Water Marks (B1) (Nonriverine)  Sediment Deposits (B2) (Nonriverine)  Drift Deposits (B3) (Nonriverine)	Salt Crust ( Biotic Crust Aquatic Inv Hydrogen 8 Oxidized Ri	t (B12) ertebrates Sulfide Odd hizosphere f Reduced	or (C1) es along L I Iron (C4)	iving Root	Second Se	Indary Indicators (2 or more required)  Nater Marks (B1) (Riverine)  Sediment Deposits (B2) (Riverine)  Orif Deposits (B3) (Riverine)  Oranage Patterns (B10)  Ory-Season Water Table (C2)  Thin Muck Surface (C7)  Crayfish Burrows (C8)
POROLOGY  Fetland Hydrology Indicators: rimary Indicators (any one indicator is sufficie  Surface Water (A1)  High Water Table (A2)  Saturation (A3)  Water Marks (B1) (Nonriverine)  Sediment Deposits (B2) (Nonriverine)  Drift Deposits (B3) (Nonriverine)  Surface Soil Cracks (B6)	Salt Crust ( Biotic Crust Aquatic Inv Hydrogen 8 Oxidized Ri Presence o	t (B12) ertebrates Sulfide Odd hizosphere if Reduced i Reduction	or (C1) es along L I Iron (C4) n in Plowe	iving Root	Second Se	Indary Indicators (2 or more required)  Nater Marks (B1) (Riverine)  Sediment Deposits (B2) (Riverine)  Orlft Deposits (B3) (Riverine)  Oranage Patterns (B10)  Ory-Season Water Table (C2)  Thin Muck Surface (C7)
POROLOGY  Vetland Hydrology Indicators: rimary indicators (any one indicator is sufficie  Surface Water (A1)  High Water Table (A2)  Saturation (A3)  Water Marks (B1) (Nonriverine)  Sediment Deposits (B2) (Nonriverine)  Drift Deposits (B3) (Nonriverine)  Surface Soil Cracks (B6)  Inundation Visible on Aerial Imagery (B7)	Salt Crust ( Biotic Crust Aquatic Inv Hydrogen 8 Oxidized Ri	t (B12) ertebrates Sulfide Odd hizosphere if Reduced i Reduction	or (C1) es along L I Iron (C4) n in Plowe	iving Root	Second Se	Indary Indicators (2 or more required)  Nater Marks (B1) (Riverine)  Sediment Deposits (B2) (Riverine)  Orif Deposits (B3) (Riverine)  Oranage Patterns (B10)  Ory-Season Water Table (C2)  Thin Muck Surface (C7)  Crayfish Burrows (C8)
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WETLANDS RATING FIELD DATA FORM	
BACKGROUND INFORMATION:	
Name of Rater: Ed Sembl Affiliation: Schull Wether Cars Da	ite: 11-1-19
Name of wetland (if known): Wet A - Davids	
Government Jurisdiction of wetland: Rithitas Co.	
Location: 1/4 S: of 1/4 S: _SW_ SEC: TWNSHP: 18N RNGI	E: <u>19 E</u>
SOURCES OF INFORMATION: (Check all sources that apply)	
Site visit:	survey:
Other: Describe:	
WHEN THE FIELD DATA FORM IS COMPLETE ENTER CATEGORY HERE:	TI
Q.1. High Ouality Natural Heritage Wetland.	Circle answers
Answer this question if you have adequate information or experience to do so. If not find someone with the expertise to answer the questions. Then, if the answer to questions 1a, 1b and 1c are all NO, contact the Natural Heritage program of DNR.  1a. Is there significant evidence of human-caused changes to topography or hydrology of the wetland? Significant changes could include clearing, grading, filling, logging of the wetland or its immediate buffer, or culverts, ditches, dredging, diking or drainage of the wetland. Briefly describe the changes and your information source/s:  Paster with 1 all more real.	Yes: go to Q.3.) No: go to 1b.
1b. Are there populations of non-native plants which are currently present and appear to be invading native populations? Briefly describe any non-native plant populations and information source(s):	Yes: go to Q.3. No: go to 1c.
1c. Is there significant evidence of human-caused disturbance of the water quality of the system? Degradation of water quality could be evidenced by culverts entering the system, direct road/parking lot runoff, evidence of historic dumping of wastes, oily sheens, extreme eutrophic conditions, livestock use or dead fish etc.  Briefly describe:	Yes: go to Q.3. No: <u>Possible</u> <u>Category I</u>

Q.2. Regionally Rare Native Wetland Communities	
The Department of Ecology is developing a methodology for regionally rare native wetland communities. It is not yet available for use.	
Q.3. Irreplaceable Ecological Functions:	
Does the wetland:	No to all: go to Q.4.
- have at a least 1/2 acre of contiguous peat wetland;	Yes: go to 3a.
- or, have a forested class greater than 1 acre;	Yes: go to 3b.
- or, have characteristics of an estuarine system;	Yes: go to 3c.
- or, have eel grass, floating or non-floating kelp beds?	Yes: go to 3d.
3a. Peat Wetlands.	
3a1. Does at least 1/2 acre of the contiguous peat wetland have < 25% areal cover of any combination of species from the list of invasive/exotic species on p.19, and have < 80% areal cover of Spirea douglasii?	Yes: Category I No: go to Q.4.
Q.3b. Mature forested wetland.	·
3b1. Is the average age of dominant trees in the forested wetland > 80 years?	Yes: Category I No: go to 3b2.
3b2. Is the average age of dominant trees in the forested wetland 50-80 years, and is the structural diversity high as characterized by a multi-layer community of trees > 50' tall and trees 20'-49' tall and shrubs and herbaceous groundcover?	Yes: go to 3b3. No: go to Q.5.
3b3. Is > 50% (areal cover) of the dominant plants in one or more layers (canopy, young trees, shrubs, herbs) invasive/exotic plant species from the p.19 list?	Yes: go to Q.5. No: Category I

Q.3c. Estuarine wetlands.	
3c1. Is the wetland listed as National Wildlife Refuge, National Park, National Estuary Reserve, Natural Area Preserve, State Park, or Educational,	
Environmental or Scientific Reserves designated under WAC 332-30-151?	Yes: Category I No: go to 3c2.
3c2. Is the wetland > 5 acres;	Yes: Category I
or is the wetland 1-5 acres;	Yes: go to 3c3.
or is the wetland < 1 acre?	Yes: go to 3c4.
3c3. Does the wetland meet at least 3 of the following 4 criteria:	Yes: Category I No: Category II
<ul> <li>minimum existing evidence of human related disturbance such as diking, ditching, filling, cultivation, grazing or the presence of non-native plant species (see guidance for definition);</li> </ul>	Ţ
- surface water connection with tidal saltwater or tidal freshwater;	
<ul> <li>at least 75% of the wetland has a 100' buffer of ungrazed pasture, open water, shrub or forest;</li> </ul>	
- has at least 3 of the following features: low marsh; high marsh; tidal channels; lagoon(s); woody debris; or contiguous freshwater wetland.	
3c4. Does the wetland meet all of the four criteria under 3c3. (above)?	Yes: Category II No: Category III
Q.3d. Eel Grass and Kelp Beds.	
3d1. Are eel grass beds present?	Yes: Category I No: go to 3d2.
3d2. Are there floating or non-floating kelp bed(s) present with greater than 50% macro algal cover in the month of August or September?	Yes: Category I No: Category II
Q.4. Category IV wetlands	Triangle A line you had been recorded to the second
4.1. Is the wetland: less than 1 acre and, hydrologically isolated and, comprised of one vegetated class that is dominated (> 80%	
areal cover) by one species from the list in guidance p.18	Yes: Category IV No: go to 4.2.
4.2. Is the wetland: less than two acres  and, hydrologically isolated, with one vegetated class, and > 90% of areal cover is any	
combination of species from the list in guidance p.19	Yes: Category IV No: go to Q.5.

O.5. Significant habitat value. Answer all questions and enter da	ta requested.	Circle scores
O.O. Digitilicant theorial value, 1220 ver an questions and enter an	that qualify	
5a. Total wetland area	acres	
	> 20.00	Yes=6
Estimate area, select from choices in the near-right column, and so		Yes=5
in the far column:	5-9.99	Yes=4
Training and covered borne 5 - among and covered these	1-4.99 0.1-0.99	Yes=3 Yes=2
Enter acreage of wetland here: 5-acres, and source: 5-acres,	<0.1	Yes=1
5b. Wetland classes: Circle the wetland classes below that quality		
Open Water: if the area of open water is > 1/2 acre or > 10% of the area. Source:	ne total wetland	
Aquatic Beds: if the area of aquatic beds > 10% of the open water	area <u>or</u> > 1/2 acre.	·
Emergent: if the area of emergent class is > 1/2 acre or > 10% of the area	ne total wetland	
Scrub-Shrub: if the area of scrub-shrub class is $> 1/2$ acre or $> 10\%$ area.	of the total wetland	
Forested: if area of forested class is > 1/2 acre or > 10% of the tot	al wetland area.	
Add the number of wetland classes, above, that qualify, and	# of classes	
then score according to the columns at right.	1(	Yes =1
16.1	2 3	Yes =3 Yes =5
e.g. If there are 4 classes (aquatic beds, open water, emergent & scrub-shrub), you would circle 7 points in the far right column.	4	Yes =7
Scrap strate, you would circle , points in the last 1.8 in column	5	Yes =10
5c. Plant species diversity.	#of	
	<u>Class</u> species	V 1
For all wetland classes (at right) that qualify in 5b. above, count	Aquatic Bed 1-2	Yes=1 Yes=2
the number of different plant species you can find. You do not have to name them.	" " >3	Yes=3
THE ACT OF THE TELESCOPE	- 0	"
Score in column at far right:	Emergent 1-2	Yes=1
	3-4	Yes=2
e.g. If a wetland has an aquatic bed class with 3 species, an	" >4(	Yes=3
emergent class with 4 species and a scrub-shrub class with 2	Scrub-Shrub 1-2	Yes=1
species you would circle 2, 2, and 1 in the far column.	" 3-4	
	" >4	1
i		
		Yes=1
:	" 3-4	Yes=2
	* >4	Yes=3

-tree -shr -heri	s > 50' talls 20'- 49' tall	Yes=1 Yes=1 Yes=1 Yes=1
5e. Decide from the diagrams below whether <u>inters</u> is high, moderate, low or none?	persion between wetland classes	
low	low	High=3 Moderate=2
moderate moderate	high	None=0
5f. Habitat features.		
Answer questions below, circle features that apply,	and score to right:	
Is there evidence of current use by beavers?  Is a heron rookery located within 300?  Are raptor nest/s located within 300?		Yes=3 Yes=2 Yes=1
Are there at least 3 standing dead trees (snags) per a Are any of these standing dead trees (snags) > 10" in Are there any other perches (wires, poles or posts)?	cre?	Yes=1 Yes=1 Yes=1
Are there at least 3 downed logs per acre?	~0	Yes=1
5g. Connection to streams. (Score one answer only.)		
Is the wetland connected at any time of the year viz to a perennial stream or a or, to a seasonal stream <u>wi</u>	a surface water: seasonal stream <u>with</u> fish;	Yes=5 Yes=3 Yes=0

5h. <u>Buffers</u> .		
STEP 1 Estimate (to the nearest 5%) the % of each buffer or land-use type (below) that adjoins the wetland boundary.  Then multiply the %/s by the factor(s) below and enter result in column to right:	STEP 2 Multiply result(s) of step 1: by 1, if buffer width is 25-50'; by 2, if buffer width is 50-100'; by 3, if buffer width is >100'.  Enter results below and add subscore:	
roads, buildings or parking lots: $\% \underline{\mathcal{S}} \times 0 =$	0	
lawn, grazed pasture, vineyards or annual crops:	50x3=150	
ungrazed grassland or orchards: %x2=	x =	
open water or native grasslands: % x 3 =	x _ =	
forest or shrub: %x4=	x=	
201000 41 4111	Add Buffer total = 10	
STEP 3. Score points according to table at rig	ght:  Buffer total  900-1200  600-899  300-599  100-299	Yes=4 Yes=3 Yes=2 Yes=1
5i. Connection to other habitat areas:		
- Is there a riparian corridor to other wetlar 100' wide with good forest or shrub cover	nds within 0.25 of a mile, <u>or</u> a corridor > to any other habitat area?	Yes =5
To the man a manuscript and a 1001 wilds with		1
- Is there a narrow corridor < 100 wide with with low cover to any other habitat area? .	good cover <u>or</u> a wide corridor > 100' wide	Yes=3
<ul> <li>Is there a narrow corridor &lt; 100 wide with with low cover to any other habitat area?</li> <li>Is there a narrow corridor &lt; 100 wide with a significant habitat area within 0.25 mile</li> </ul>	low cover <u>or</u>	Yes=3 Yes=1
<ul> <li>with low cover to any other habitat area?</li> <li>Is there a narrow corridor &lt; 100' wide with a significant habitat area within 0.25 mile</li> <li>Is the wetland and buffer completely isola</li> </ul>	low cover <u>or</u> but no corridor?	