WETLAND DELINEATION REPORT AND SURFACE WATER EVALUATION

Spokane County Parcel #'s
25361.0004 and 25364.0001
S36, T22N, R45E

June 2021

Prepared by:
Environmental Inc.
/Advanced Wetland Studies
Rathdrum, ID 83858
208.651.4536
davidAarmes@gmail.com

EXECUTIVE SUMMARY AND FINDINGS

Environmental Inc. completed this Wetland Delineation Report and Surface Water Evaluation (Report) for Spokane County Parcel #s 25361.0004 and 25364.0001 (Property). No wetlands or wetland buffers were identified on the Property. No Washington Department of Natural Resources or Spokane County typed streams or surface waters are located on the Property.

This Wetland Delineation was completed on behalf of and for the exclusive use of the client and/or its agents, consultants, and contractors. The scope of services performed to complete this report may not be appropriate to satisfy the needs of other users, and any other use or re-use of this report is at the sole risk of said user. The findings and conclusions contained in this report are based upon the currently accepted legal and regulatory requirements, agency guidance, and the best professional judgment of the preparer. The findings presented herein apply to those conditions observed on the site at the time of the evaluation. The timing of the field evaluation may not always coincide with the growing season, identifiable phenological stages of vegetation, or during the hydrological active (wet) season. Often time's secondary indicators, interpretation of vegetation and hydrology indicators and best professional judgment may be required to determine the presence or absence of wetlands. Future environmentally significant changes may occur at the site, which could result in future findings and conclusions differing from those contained in this report.

Prepared by:
David A. Armes
Qualified Wetland Biologist
Environmental Inc.
Advanced Wetland Studies
Rathdrum, ID 83858
208.651.4536
davidAarmes@gmail.com

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1. INTRODUCTION

Environmental Inc. completed this Wetland Delineation Report and Surface Water Evaluation (Report) for Spokane County Parcel #s 25361.0004 and 25364.0001 (Property). The Property is located in Spokane County, Washington in Section 36, Township 22N, Range 45E (Appendix A. Figure 1 Vicinity Map). This Wetland Delineation Report (Report) is based upon the requirements and definitions contained within Chapter 17E.070 Wetlands Protection of the Spokane Municipal Code (SMC).

1.1 Purpose

The purpose of the study was to document the presence or absence and extent of wetlands or surface waters located on the Property and determine jurisdictional status and regulatory requirements based upon the findings.

1.2 Regulatory Requirements

This Report delineates, describes, and maps the presence and extent of wetlands, jurisdictional waters of the United States and non-jurisdictional surface waters based upon definitions in the 1987 Corps of Engineers Wetlands Delineation Manual (Environmental Laboratory. 1987); Regional Supplement to the Corps of Engineers Wetland Delineation Manual: Western Mountains, Valleys, and Coast Region or Arid West (U.S. Army Corps of Engineers. 2008); Washington State Wetlands Identification and Delineation Manual (DOE. 1997); and Chapter 17E.070 Wetlands Protection of the Spokane Municipal Code.

Federal

Local, state and federal regulations apply to activities in and near wetlands. The Clean Water Act is a federal act that regulates the placement of fill in jurisdictional wetlands and waters of the United States. Section 404 of the Clean Water Act requires permits for filling jurisdictional wetlands and waters of the United States. Section 404 permits must be administered by the United States Army Corps of Engineers (USACE) and certified by the state agency (as outlined in Section 401 of the Clean Water Act). Work within the boundaries of jurisdictional wetlands or the ordinary high water mark of waters of the United States are regulated under the USACE permitting process.

The USACE defines wetlands as those areas that are inundated or saturated by surface or ground water at a frequency and duration sufficient to support, and that under normal circumstances do support, a prevalence of vegetation typically adapted for life in saturated soil conditions. Generally, this definition requires the three parameters of hydrophytic vegetation, hydric soils, and wetland hydrology be simultaneously present. The USACE only regulates jurisdictional wetlands. Wetlands are considered jurisdictional by the USACE if they are closely associated with jurisdictional waters of the United States. The term waters of the United States has a broad meaning and incorporates both deepwater aquatic habitats and special aquatic sites, including wetlands, as follows:

a. The territorial seas;

b. Costal and inland waters, lakes, rivers, and streams that are navigable waters of the United States, including adjacent wetlands;

c. Tributaries to navigable waters of the United States, including adjacent wetlands;

d. Interstate waters and their tributaries, including adjacent wetlands; and

e. All other waters of the United States not identified above, the degradation of or destruction of which could affect interstate commerce.

Final determination of jurisdictional wetlands and waters of the United States is subject to approval by the USACE. Wetlands and surface waters that are not under USACE jurisdiction may still require permits for local, county, or state agencies.

State
The Washington State Department of Ecology (DOE) defines and regulates wetlands as described in Washington State Wetlands Identification and Delineation Manual and Wetland Rating System for Eastern Washington (Hruby, T. 2014). The DOE wetland definition is based on the USACE wetland definition and includes areas where hydrophytic vegetation, hydric soils, and wetland hydrology are simultaneously present.

Local
Defined in Chapter 17E.070 Wetlands Protection of the Spokane Municipal Code.

2. METHODOLOGY

The analysis for wetlands conducted on this site is based on the routine (on-site) methodology of the USACE Wetlands Delineation Manual (Environmental Laboratory, 1987) and the Interim Regional Supplement to the Corps of Engineers Wetland Delineation Manual: Western Mountains, Valleys, and Coast Region or Arid West. This method requires that evidence of three parameters (hydrophytic vegetation, hydric soils, and wetland hydrology) be simultaneously present for a wetland determination (specific and problematic situations may not always require all three parameters to be present).

Two levels of information, preliminary site research and a site-specific investigation have been gathered for this analysis for the purposes of determining the presence and extent or absence of wetlands and water bodies.

2.1 Preliminary Research

Environmental Inc. conducted a review of existing information to develop background knowledge of physical features and to identify the potential for wetland occurrence on the subject property. The following information related to topography, drainage, and water features was obtained for preliminary review of the site conditions:

- National Wetland Inventory (NWI) Map (Appendix A Figure 2);
- Washington Department of Ecology Water Quality Atlas (Appendix A Figure 3);
- Aerial Images showing 1 kilometer area (Google Maps accessed 2019) (Appendix A Figure 4);
- Washington Department of Natural Resources Forest Practices Map (Appendix A Figure 5).

2.2 Site Specific Investigation

A site investigation was completed on 5/18/21. One data plot (DP) was established to evaluate for the three-wetland parameters of hydrology, hydric soils, and hydrophytic vegetation (Appendix B Wetland Data Forms). In addition to the two DP's, the Property was visually inspected (no associated DP's) for the three wetland parameters of hydrology, hydric soils, and hydrophytic vegetation as necessary to assist in identifying and determining wetland boundaries.

3. RESULTS

No wetlands or wetland buffers were identified on the Property. One emergent slope wetland area was identified on the adjacent property to the north (Appendix A Figure 6 Approximate Wetland Boundary). The wetland boundary was recorded and marked on an aerial based upon the presence of hydrophytic vegetation, surface water and saturated soils. The wetland boundary and buffer shall be included on any subsequent site plans or plats. No Washington Department of Natural Resources typed streams or surface waters are located on the Property.

Wetland Rating

Wetland ratings were based upon the 2014 Washington State Wetland Rating System for Eastern Washington and definitions identified in Chapter 17E.070 Wetlands Protection of the Spokane Municipal Code. This wetland is rated as a Category 4 (Appendix C. Wetland Rating Form).

Wetland Buffer

This wetland is a Category 4 wetland with a recommended 50 foot buffer (based upon Chapter 17E.070 Wetlands Protection of the Spokane Municipal Code).

Impacts

The wetland on the adjacent property is located greater than 50 feet from the Property, as such, no impacts will occur (Appendix A Figure 6 Approximate Wetland Boundary).

4. REFERENCES

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Washington Department of Ecology (DOE). 2014. Eastern Washington Wetland Rating System.

Appendix A Figures

Figure 1. Vicinity Map

Parcel Numbers 25362.0004 and 25364.0001

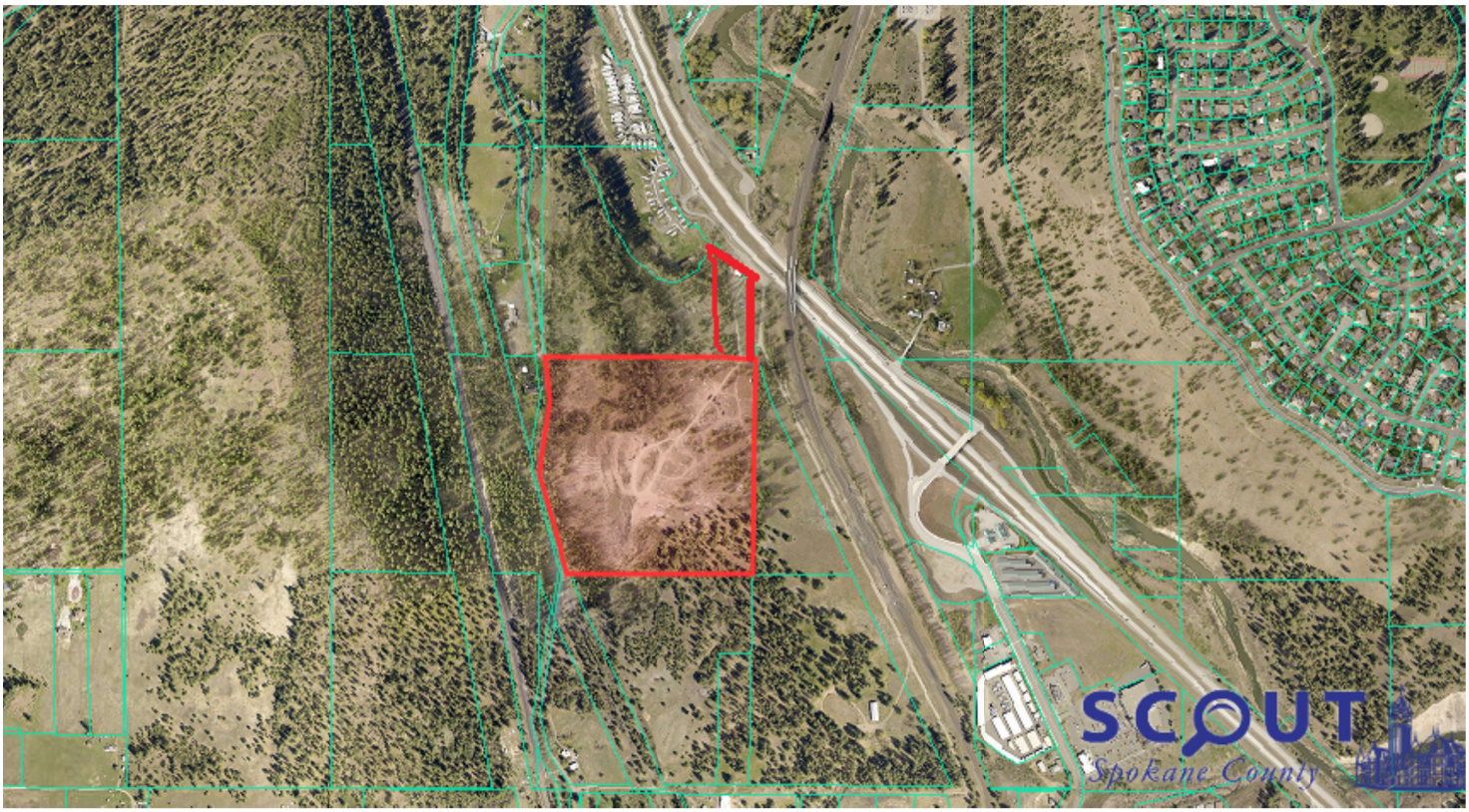


Figure 2. National Wetland Inventory

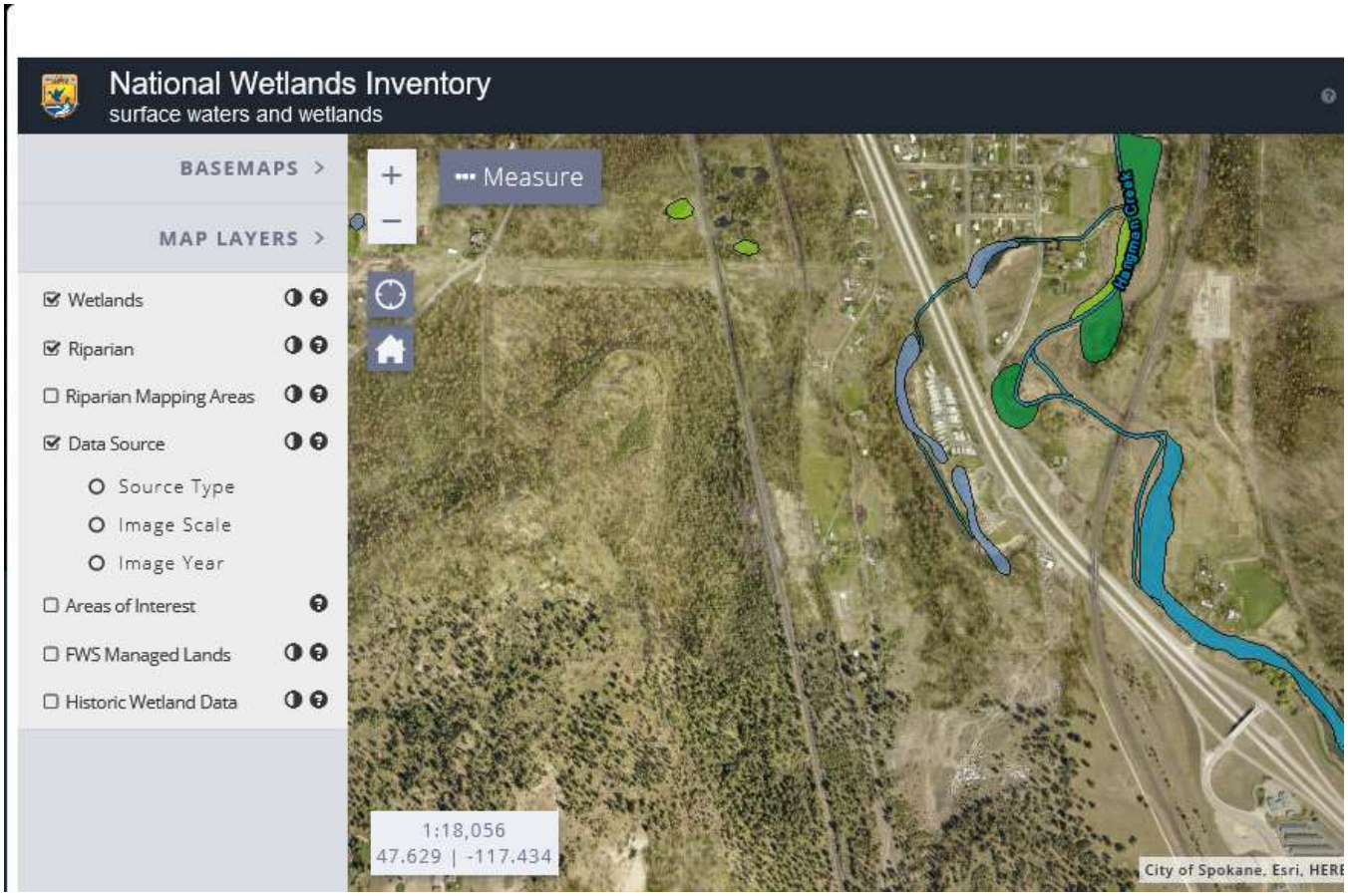


Figure 3. Washington Department of Ecology Water Quality Atlas

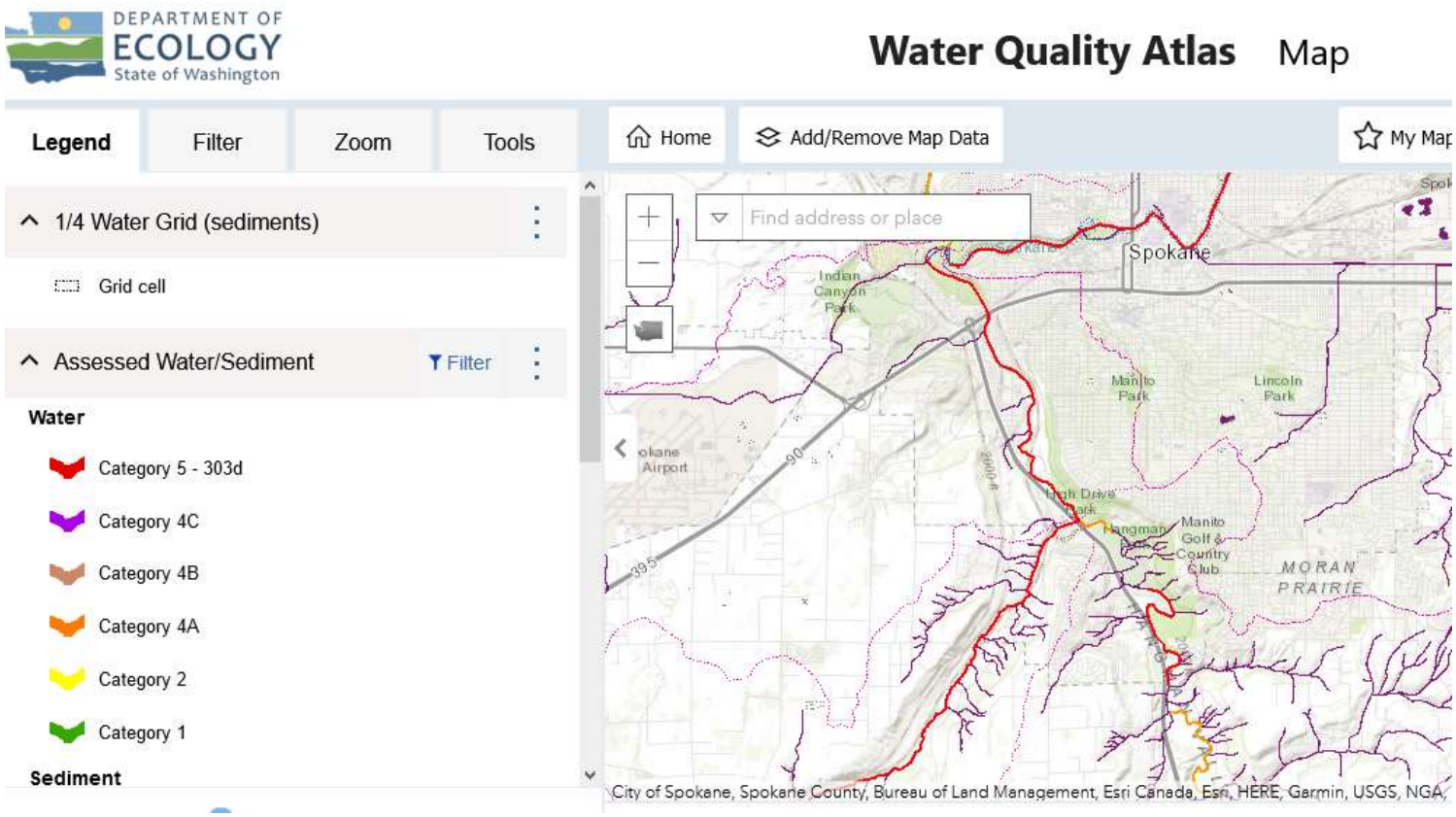


Figure 4. Aerial Images showing 1 kilometer area

Figure 5. Washington Department of Natural Resources Forest Practices Map

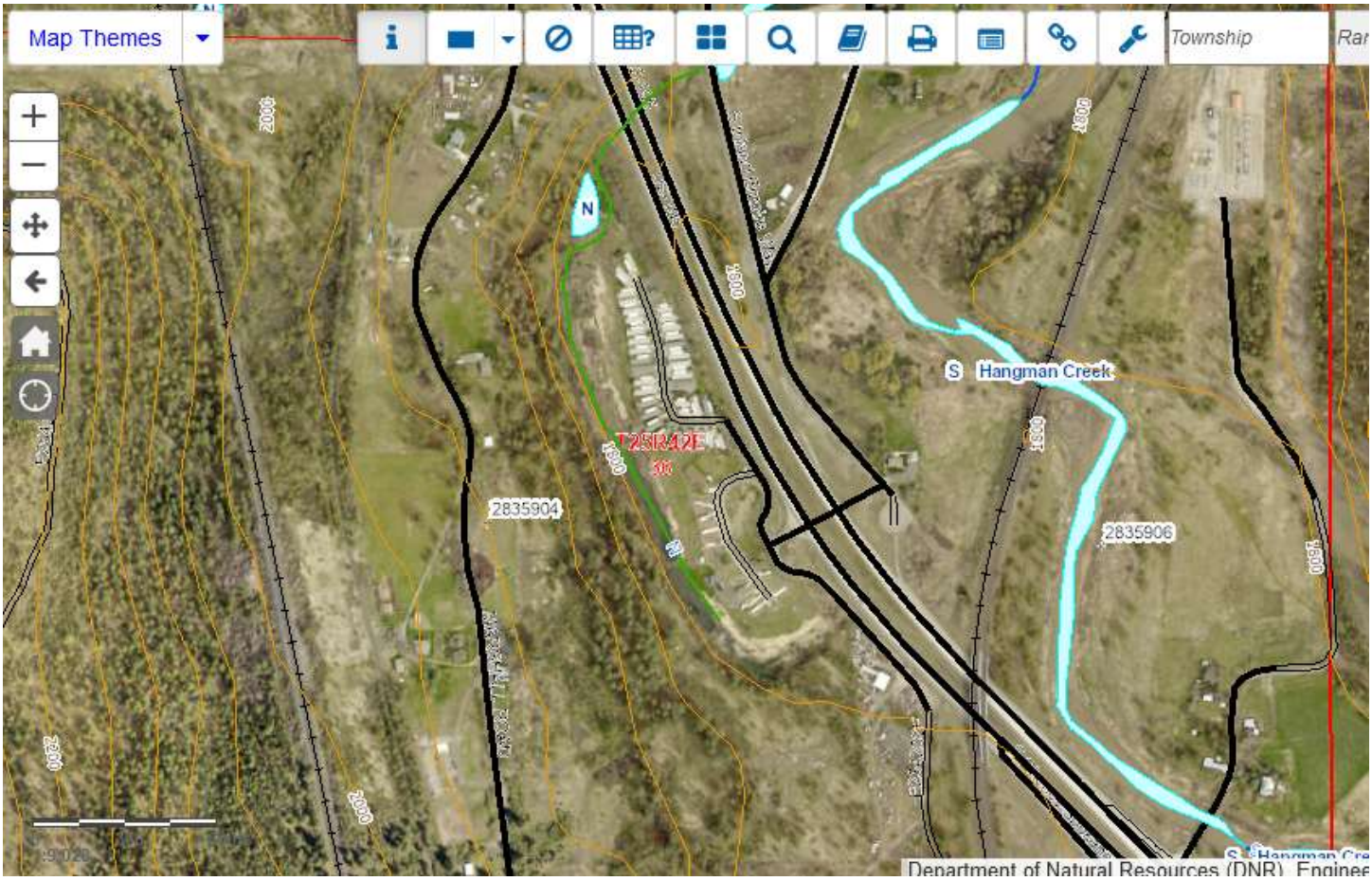


Figure 6. Approximate Wetland Boundary

Distance from Property Line is 54.6 feet

Appendix B Wetland Data Forms

(Attached)

Appendix C Wetland Rating Form

(Attached)

WETLAND DETERMINATION DATA FORM – Western Mountains, Valleys, and Coast Region

Project Site: Spokane County PN 25361.0004 City/County: Spokane Sampling Date: 5/18/21

Applicant/Owner: Simmons State: WA Sampling Point: DP1

Investigator(s): David Armes Section, Township, Range: S36 22N 45E

Landform (hillslope, terrace, etc.): Slope Local relief (concave, convex, none): None Slope (%): 1

Subregion (LRR): E Lat: 47.62194 Long:-117.43844 Datum:

Soil Map Unit Name: Endoaqolls and fluvoquents 0 to 3 percent slopes NWI classification: Emergent

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

Are Vegetation ☐, Soil ☐, Or Hydrology ☐, significantly disturbed? no Are "Normal Circumstances" present? Yes ☒ No ☐

Are Vegetation ☐, Soil ☐, Or Hydrology ☐, naturally problematic? no (If needed, explain any answers in Remarks.)

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

Hydrophytic Vegetation Present?	Yes ☒	No ☐		
Hydric Soil Present?	Yes ☒	No ☐	**Is the Sampling Area within a Wetland?**	**Yes ☒ No ☐**
Wetland Hydrology Present?	Yes ☒	No ☐		

Remarks:

VEGETATION – Use scientific names of plants

Tree Stratum (Plot Size:)	Absolute % Cover	Dominant Species?	Indicator Status
1.			
2.			
3.			
4.			
		= Total Cover	
Sapling/Shrub Stratum (Plot Size:)			
5.			
6.			
7.			
8.			
9.			
		= Total Cover	
Herb Stratum (Plot Size:)			
10.			
11.			
12. Typha latifolia	100%	Yes	OBL
13.			
14.			
15.			
16.			
17.			
18.			
19.			
20.			
	100%	= Total Cover	
Woody Vine Stratum (Plot Size:)			
1.			
2.			
		= Total Cover	
% Bare Ground in Herb Stratum			

Dominance Test Worksheet:

Number of Dominant Species That Are OBL, FACW, or FAC:	**1**	(A)
Total Number of Dominant Species Across All Strata:	**1**	(B)
Percent of Dominant Species That Are OBL, FACW, or FAC:	**100%**	(A/B)

Prevalence Index worksheet:

Total % Cover of:	Multiply by:
OBL species	x1 =
FACW species	x2 =
FAC species	x3 =
FACU species	x4 =
UPL species	x5 =
Column Totals: (A)	(B)

Prevalence Index = B/A =

Hydrophytic Vegetation Indicators:

x Dominance Test is >50%

Prevalence Index is ≤3.0[1]

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

Wetland Non-Vascular Plants[1]

Problematic Hydrophytic Vegetation[1] (Explain)

[1]Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.

Hydrophytic Vegetation Present? Yes ☒ No ☐

Remarks:

Project Site:

SOIL **Sampling Point:**

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

Depth	Matrix		Redox Features					
(inches)	Color (moist)	%	Color (Moist)	%	Type[1]	Loc[2]	Texture	Remarks
0-18	10YR2/1		10YR5/5	3	C	M	Loam	

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

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

- ☐ Histosol (A1)
- ☐ Histic Epipedon (A2)
- ☐ Black Histic (A3)
- ☐ Hydrogen Sulfide (A4)
- ☒ Depleted Below Dark Surface (A11)
- ☐ Thick Dark Surface (A12)
- ☐ Sandy Mucky Mineral (S1)
- ☐ Sandy Gleyed Matrix (S4)
- ☐ Sandy Redox (S5)
- ☐ Stripped Matrix (S6)
- ☐ Loamy Mucky Mineral (F1) **(except MLRA 1)**
- ☐ Loamy Gleyed Matrix (F2)
- ☒ Depleted Matrix (F3)
- ☐ Redox Dark Surface (F6)
- ☒ Depleted Dark Surface (F7)
- ☐ Redox Depressions (F8)

Indicators for Problematic Hydric Soils[3]:

- ☐ 2 cm Muck (A10)
- ☐ Red Parent Material (TF2)
- ☐ Other (Explain in Remarks)

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

Restrictive Layer (if present):

Type:

Depth (Inches):

Hydric Soils Present? **Yes** ☒ **No** ☐

Remarks:

HYDROLOGY

Wetland Hydrology Indicators:

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

- ☒ Surface Water (A1)
- ☐ High Water Table (A2)
- ☒ Saturation (A3)
- ☐ Water Marks (B1)
- ☐ Sediment Deposits (B2)
- ☐ Drift Deposits (B3)
- ☐ Algal Mat or Crust (B4)
- ☐ Iron Deposits (B5)
- ☐ Surface Soil Cracks (B6)
- ☐ Inundation Visible on Aerial Imagery (B7)
- ☐ Sparsely Vegetated Concave Surface (B8)
- ☐ Water-Stained Leaves (B9) **(except MLRA 1, 2, 4A, and 4B)**
- ☐ Salt Crust (B11)
- ☐ Aquatic Invertebrates (B13)
- ☐ Hydrogen Sulfide Odor (C1)
- ☒ Oxidized Rhizospheres along Living Roots (C3)
- ☐ Presence of Reduced Iron (C4)
- ☐ Recent Iron Reduction in Tilled Soils (C6)
- ☐ Stunted or Stresses Plants (D1) **(LRR A)**
- ☐ Other (Explain in Remarks)

Secondary Indicators (2 or more required)

- ☒ Water-Stained Leaves (B9) **(MLRA 1, 2, 4A, and 4B)**
- ☒ Drainage Patterns (B10)
- ☐ Dry-Season Water Table (C2)
- ☒ Saturation Visible on Aerial Imagery (C9)
- ☐ Geomorphic Position (D2)
- ☐ Shallow Aquitard (D3)
- ☐ FAC-Neutral Test (D5)
- ☐ Raised Ant Mounds (D6) **(LRR A)**
- ☐ Frost-Heave Hummocks (D7)

Field Observations:

Surface Water Present?	Yes	☒	No	☐	Depth (inches):	8+
Water Table Present?	Yes	☒	No	☐	Depth (inches):	0
Saturation Present? (includes capillary fringe)	Yes	☒	No	☐	Depth (inches):	0

Wetland Hydrology Present? **Yes** ☒ **No** ☐

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

Remarks:

Wetland name or number A

RATING SUMMARY – Eastern Washington

Name of wetland (or ID #): Spokane County PN 25361.0004 Date of site visit: 5/18/2021

Rated by David Armes Trained by Ecology? ☒ Yes ☐ No Date of training 2012

HGM Class used for rating Slope Wetland has multiple HGM classes? ☐ Yes ☒ No

NOTE: Form is not complete with out the figures requested (*figures can be combined*).
Source of base aerial photo/ma Report and attached figures.

OVERALL WETLAND CATEGORY IV (based on functions ☒ or special characteristics ☐)

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
X **Category IV** - Total score = 9 - 15

FUNCTION	Improving Water Quality	Hydrologic	Habitat	
	List appropriate rating (H, M, L)			
Site Potential	L	L	L	
Landscape Potential	M	M	L	
Value	H	L	L	**Total**
Score Based on Ratings	6	4	3	**13**

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

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

2. Category based on SPECIAL CHARACTERISTICS of wetland

CHARACTERISTIC	Category
Vernal Pools	
Alkali	
Wetland of High Conservation Value	
Bog and Calcareous Fens	
Old Growth or Mature Forest - slow growing	
Aspen Forest	
Old Growth or Mature Forest - fast growing	
Floodplain forest	

None of the above	x

Wetland name or number A

Maps and Figures required to answer questions correctly for Eastern Washington

Depressional Wetlands

Map of:	To answer questions:	Figure #
Cowardin plant classes and classes of emergents	D 1.3, H 1.1, H 1.5	
Hydroperiods (including area of open water for H 1.3)	D 1.4, H 1.2, H 1.3	
Location of outlet (*can be added to map of hydroperiods*)	D 1.1, D 4.1	
Boundary of area within 150 ft of the wetland (*can be added to another figure*)	D 2.2, D 5.2	
Map of the contributing basin	D 5.3	
1 km Polygon: Area that extends 1 km from entire wetland edge - including polygons for accessible habitat and undisturbed habitat	H 2.1, H 2.2, H 2.3	
Screen capture of map of 303(d) listed waters in basin (from Ecology website)	D 3.1, D 3.2	
Screen capture of list of TMDLs for WRIA in which wetland is found (website)	D 3.3	

Riverine Wetlands

Map of:	To answer questions:	Figure #
Cowardin plant classes and classes of emergents	H 1.1, H 1.5	
Hydroperiods	H 1.2, H 1.3	
Ponded depressions	R 1.1	
Boundary of area within 150 ft of the wetland (*can be added to another figure*)	R 2.4	
Map of the contributing basin	R 2.2, R 2.3, R 5.2	
Plant cover of trees, shrubs, and herbaceous plants	R 1.2, R 4.2	
Width of wetland vs. width of stream (*can be added to another figure*)	R 4.1	
1 km Polygon: Area that extends 1 km from entire wetland edge - including polygons for accessible habitat and undisturbed habitat	H 2.1, H 2.2, H 2.3	
Screen capture of map of 303(d) listed waters in basin (from Ecology website)	R 3.1	
Screen capture of list of TMDLs for WRIA in which wetland is found (website)	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 1.5	
Plant cover of trees, shrubs, and herbaceous plants	L 1.2	
Boundary of area within 150 ft of the wetland (*can be added to another figure*)	L 2.2	
1 km Polygon: Area that extends 1 km from entire wetland edge - including polygons for accessible habitat and undisturbed habitat	H 2.1, H 2.2, H 2.3	
Screen capture of map of 303(d) listed waters in basin (from Ecology website)	L 3.1, L 3.2	
Screen capture of list of TMDLs for WRIA in which wetland is found (website)	L 3.3	

Slope Wetlands

Map of:	To answer questions:	Figure #
Cowardin plant classes and classes of emergents	H 1.1, H 1.5	Report
Hydroperiods	H 1.2, H 1.3	Report
Plant cover of **dense** trees, shrubs, and herbaceous plants	S 1.3	Report
Plant cover of **dense, rigid** trees, shrubs, and herbaceous plants (*can be added to figure above*)	S 4.1	Report
Boundary of area within 150 ft of the wetland (*can be added to another figure*)	S 2.1, S 5.1	Report
1 km Polygon: Area that extends 1 km from entire wetland edge - including polygons for accessible habitat and undisturbed habitat	H 2.1, H 2.2, H 2.3	Report
Screen capture of map of 303(d) listed waters in basin (from Ecology website)	S 3.1, S 3.2	Report
Screen capture of list of TMDLs for WRIA in which wetland is found (website)	S 3.3	Report

HGM Classification of Wetland in Eastern Washington

For questions 1 - 4, the criteria described must apply to the entire unit being rated.

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 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 ac (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;

☒ The water leaves the wetland **without being impounded**.

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

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 <3 ft diameter and less than 1 foot deep).

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 rive

☐ The overbank flooding occurs at least once every 10 years.

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

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

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

☒ NO - go to 5 ☐ **YES** - The wetland class is **Depressional**

5. Your wetland unit seems to be difficult to classify and probably contains several different HGM classes. For example, seeps at the base of a slope may grade into a riverine floodplain, or a small stream within a Depressional wetland has a zone of flooding along its sides. GO BACK AND IDENTIFY WHICH OF THE HYDROLOGIC REGIMES DESCRIBED IN QUESTIONS 1 - 4 APPLY TO DIFFERENT AREAS IN THE WETLAND UNIT (make a rough sketch to help you decide). Use the following table to identify the appropriate class to use for the rating system if you have several HGM classes present within the wetland unit being scored.

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

HGM classes within the wetland unit being rated	HGM Class to use in rating
Slope + Riverine	Riverine
Slope + Depressional	Depressional
Slope + Lake Fringe	Lake Fringe
Depressional + Riverine (the riverine portion is within the boundary of depression)	Depressional
Depressional + Lake Fringe	Depressional
Riverine + Lake Fringe	Riverine

*If you are still unable 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

SLOPE WETLANDS

Water Quality Functions - Indicators that the site functions to improve water quality		Points (only 1 score per box)
S 1.0. Does the site have the potential to improve water quality?		
S 1.1. Characteristics of the average slope of wetland: (*a 1% slope has a 1 ft vertical drop in elevation for every 100 ft of horizontal distance*)		2
Slope is 1% or less	points = 3	
Slope is > 1% - 2%	points = 2	
Slope is > 2% - 5%	points = 1	
Slope is greater than 5%	points = 0	
S 1.2. The soil 2 in below the surface (or duff layer) is true clay or true organic (*use NRCS definitions*):	Yes = 3 No = 0	0
S 1.3. Characteristics of the plants in the wetland that trap sediments and pollutants: Choose the points appropriate for the description that best fits the plants in the wetland. *Dense means you have trouble seeing the soil surface (>75% cover), and uncut means not grazed or mowed and plants are higher than 6 in.*		2
Dense, uncut, herbaceous plants > 90% of the wetland area	points = 6	
Dense, uncut, herbaceous plants > ½ of area	points = 3	
Dense, woody, plants > ½ of area	points = 2	
Dense, uncut, herbaceous plants > ¼ of area	points = 1	
Does not meet any of the criteria above for plants	points = 0	
Total for S 1	Add the points in the boxes above	**4**

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

S 2.0. Does the landscape have the potential to support the water quality function at the site?		
S 2.1. Is > 10% of the area within 150 ft on the uphill side of the wetland in land uses that generate pollutants?	Yes = 1 No = 0	0
S 2.2. Are there other sources of pollutants coming into the wetland that are not listed in question S 2.1?		1
Other Sources	Yes = 1 No = 0	
Total for S 2	Add the points in the boxes above	**1**

Rating of Landscape Potential If score is: ☐ **1 - 2 = M** ☒ **0 = L** *Record the rating on the first page*

S 3.0. Is the water quality improvement provided by the site valuable to society?		
S 3.1. Does the wetland discharge directly to a stream, river, or lake that is on the 303(d) list (*within 1 mi*)?	Yes = 1 No = 0	1
S 3.2. Is the wetland in a basin or sub-basin where water quality is an issue? *At least one aquatic resource in the basin is on the 303(d) list.*	Yes = 1 No = 0	1
S 3.3. Has the site been identified in a watershed or local plan as important for maintaining water quality (*answer YES if there is a TMDL for the drainage or basin in which the wetland is found*)?	Yes = 2 No = 0	2
Total for S 3	Add the points in the boxes above	**4**

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

Wetland name or number A

SLOPE WETLANDS

Hydrologic Functions - Indicators that the site functions to reduce flooding and erosion

Points (only 1 score per box)

S 4.0. Does the site have the potential to reduce flooding and erosion?

S 4.1. Characteristics of plants that reduce the velocity of surface flows during storms: Choose the points appropriate for the description that best fits conditions in the wetland. *Stems of plants should be thick enough (usually > 1/8 in), or dense enough, to remain erect during surface flows.*

Dense, uncut, **rigid** plants cover > 90% of the area of the wetland	points = 1	0
All other conditions	points = 0	

Rating of site Potential If score is: ☐ **1 = M** ☒ **0 = L** *Record the rating on the first page*

S 5.0. Does the landscape have the potential to support the hydrologic functions of the site?

S 5.1. Is more than 25% of the area within 150 ft upslope of wetland in land uses that generate excess surface runoff?	Yes = 1 No = 0	1

Rating of Landscape Potential If score is: ☒ **1 = M** ☐ **0 = L** *Record the rating on the first page*

S 6.0. Are the hydrologic functions provided by the site valuable to society?

S 6.1. Distance to the nearest areas downstream that have flooding problems:		
The sub-basin immediately down-gradient of site has flooding problems that result in damage to human or natural resources (e.g., houses or salmon redds)	points = 2	0
Surface flooding problems are in a sub-basin farther down-gradient	points = 1	
No flooding problems anywhere downstream	points = 0	
S 6.2. Has the site been identified as important for flood storage and flood conveyance in a regional flood control plan?	Yes = 2 No = 0	0
Total for S 6	Add the points in the boxes above	**0**

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

NOTES and FIELD OBSERVATIONS:

Wetland name or number A

These questions apply to wetlands of all HGM classes. (only 1 score per box)

HABITAT FUNCTIONS - Indicators that site functions to provide important habitat

H 1.0. Does the wetland have the potential to provide habitat for many species?

H 1.1. Structure of plant community:

Check the Cowardin vegetation classes present and categories of emergent plants. Size threshold for each category is > = ¼ ac or > = 10% of the wetland if wetland is < 2.5 ac.

- ☐ Aquatic bed
- ☒ Emergent plants 0 - 12 in (0-30 cm) high are the highest layer and have > 30% cover
- ☒ Emergent plants > 12 - 40 in (> 30-100 cm) high are the highest layer with >30% cover
- ☐ Emergent plants > 40 in (> 100 cm) high are the highest layer with >30% cover
- ☐ Scrub-shrub (areas where shrubs have > 30% cover)
- ☐ Forested (areas where trees have > 30% cover)

4 or more checks: points = 3
3 checks: points = 2
2 checks: points - 1
1 check: points = 0

1

H 1.2. Is one of the vegetation types Aquatic Bed? Yes = 1 No = 0 — 1

H 1.3. Surface water

H 1.3.1. Does the wetland have areas of open water (without emergent or shrub plants) over at least ¼ ac **OR** 10% of its area during the March to early June **OR** in August to the end of September? *Answer YES for Lake Fringe wetlands.*

☐ Yes = 3 points & go to H 1.4 No = go to H 1.3.2 — 0

H 1.3.2. Does the wetland have an intermittent or permanent, and unvegetated stream within its boundaries, or along one side, over at least ¼ ac or 10% of its area? *Answer yes only if H 1.3.1 is No.*

☐ Yes = 3 No = 0

H 1.4. Richness of plant species

Count the number of plant species in the wetland that cover at least 10 ft². *Different patches of the same species can be combined to meet the size threshold. You do not have to name the species. Do not include Eurasian milfoil, reed canarygrass, purple loosestrife, Russian olive, Phragmites, Canadian thistle, yellow-flag iris, and saltcedar (Tamarisk)*

0

# of species 3

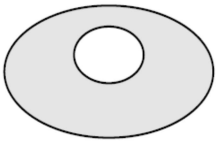
Scoring: > 9 species: points = 2
4 - 9 species: points = 1
< 4 species: points = 0

H 1.4. Interspersion of habitats

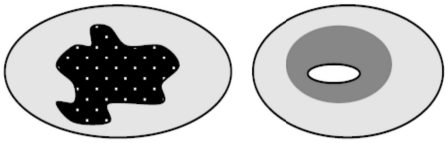
Decide from the diagrams below whether interspersion among types of plant structures (described in H 1.1), and unvegetated areas (open water or mudflats) is high, moderate, low, or none.

Use map of Cowardin and emergent plant classes prepared for questions H 1.1 and map of open water from H 1.3. If you have four or more plant classes or three classes and open water, the rating is always high

None = 0 points



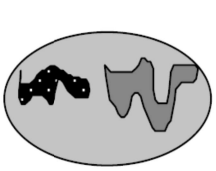
Low = 1 point

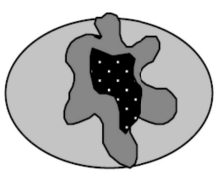


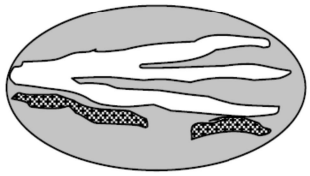
Moderate = 2 points

0

All three diagrams in this row are **HIGH** = 3 points







Riparian braided channels with 2 classes

Wetland name or number A

H 1.6. Special habitat features: *Check the habitat features that are present in the wetland. The number of checks is the number of points*	
☐ Loose rocks larger than 4 in OR large, downed, woody debris (> 4 in diameter) within the area of surface ponding or in stream.	
☒ Cattails or bulrushes are present within the wetland.	
☐ Standing snags (diameter at the bottom > 4 in) in the wetland or within 30 m (100 ft) of the edg	1
☐ Emergent or shrub vegetation in areas that are permanently inundated/ponded.	
☐ Stable steep banks of fine material that might be used by beaver or muskrat for denning (> 45 degree slope) OR signs of recent beaver activity	
☐ Invasive species cover less than 20% in each stratum of vegetation (*canopy, sub-canopy, shrubs, herbaceous, moss/ground cover*)	
Total for H 1 — Add the points in the boxes above	**3**

Rating of Site Potential If Score is: ☐ **15 - 18 = H** ☐ **7 - 14 = M** ☒ **0 - 6 = L** *Record the rating on the first page*

H 2.0. Does the landscape have the potential to support habitat functions of the site?		
H 2.1 Accessible habitat (only area of habitat abutting wetland). If total accessible habitat is: *Calculate:*		
0 % undisturbed habitat + (25 % moderate & low intensity land uses / 2) = 12.5%		
> 1/3 (33.3%) of 1 km Polygon	points = 3	1
20 - 33% of 1 km Polygon	points = 2	
10 - 19% of 1 km Polygon	points = 1	
< 10 % of 1 km Polygon	points = 0	
H 2.2. Undisturbed habitat in 1 km Polygon around wetland. *Calculate:*		
0 % undisturbed habitat + (25 % moderate & low intensity land uses / 2) = 12.5%		
Undisturbed habitat > 50% of Polygon	points = 3	1
Undisturbed habitat 10 - 50% and in 1 - 3 patches	points = 2	
Undisturbed habitat 10 - 50% and > 3 patches	points = 1	
Undisturbed habitat < 10% of 1 km Polygon	points = 0	
H 2.3 Land use intensity in 1 km Polygon:		
> 50% of 1 km Polygon is high intensity land use	points = (-2)	-2
Does not meet criterion above	points = 0	
H 2.4. The wetland is in an area where annual rainfall is less than 12 in, and its water regime is not influenced by irrigation practices, dams, or water control structures. *Generally, this means outside boundaries of reclamation areas, irrigation districts, or reservoirs* Yes = 3 No = 0		0
Total for H 2 — Add the points in the boxes above		**0**

Rating of Landscape Potential If Score is ☐ **4 - 9 = H** ☐ **1 - 3 = M** ☒ **< 1 = L** *Record the rating on the first page*

H 3.0. Is the habitat provided by the site valuable to society?		
H 3.1. Does the site provide habitat for species valued in laws, regulations, or policies? *Choose only the highest score that applies to the wetland being rated*.		
Site meets ANY of the following criteria:	points = 2	
☐ It has 3 or more priority habitats within 100 m (see Appendix B)		
☐ It provides habitat for Threatened or Endangered species (any plant or animal on state or federal lists)		
☐ It is mapped as a location for an individual WDFW species		0
☐ It is a Wetland of High Conservation Value as determined by the Department of Natural Resources		
☐ It has been categorized as an important habitat site in a local or regional comprehensive plan, in a Shoreline Master Plan, or in a watershed plan		
Site has 1 or 2 priority habitats within 100 m (see Appendix B)	points = 1	
Site does not meet any of the criteria above	points = 0	

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

CATEGORIZATION BASED ON SPECIAL CHARACTERISTICS

Please determine if the wetland 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 wetlands should also be characterized based on their functions.

Wetland Type	Category
Check off any criteria that apply to the wetland. List the category when the appropriate criteria are met.	
SC 1.0. Vernal Pools Is the wetland **less than 4000 ft²**, and does it meet at least **two** of the following criteria? ☐ Its only source of water is rainfall or snowmelt from a small contributing basin and has no groundwater input. ☐ Wetland plants are typically present only in the spring; the summer vegetation is typically upland annuals. *If you find perennial, obligate, wetland plants, the wetland is probably NOT a vernal pool.* ☐ The soil in the wetland is shallow [< 1 ft (30 cm) deep] 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 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 mi (other wetlands, rivers, lakes etc.)? ☐ Yes = **Category II** ☐ No = **Category III**	
SC 2.0. Alkali wetlands Does the wetland meet **one** of the following criteria? ☐ The wetland has a conductivity > 3.0 mS/cm. ☐ The wetland has a conductivity between 2.0 and 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 meet two of the following three sub-criteria? ☐ Salt encrustations around more than 75% of the edge of the wetland ☐ More than ¾ of the plant cover consists of species listed on Table 4 ☐ A pH above 9.0. All alkali wetlands have a high pH, but please note that some freshwater wetlands may also have a high pH. Thus, pH alone is not a good indicator of alkali wetlands. ☐ Yes = **Category I** ☒ No = **Not an alkali wetland**	
SC 3.0. Wetlands of High Conservation Value (WHCV) SC 3.1. Has the WA Department of Natural Resources updated their website to include the list of Wetlands of High Conservation Value? ☐ Yes - Go to **SC 3.2** ☒ No - Go to **SC 3.3** SC 3.2. Is the wetland listed on the WDNR database as a Wetland of High Conservation Value? ☐ Yes = **Category I** ☒ No = **Not WHCV** SC 3.3. Is the wetland in a Section/Township/Range that contains a Natural Heritage wetland? http://www1.dnr.wa.gov/nhp/refdesk/datasearch/wnhpwetlands.pdf ☐ Yes - **Contact WNHP/WDNR and to SC 3.4** ☒ No = **Not WHCV** SC 3.4. Has WDNR identified the wetland within the S/T/R as a Wetland of High Conservation Value and listed it on their website? ☐ Yes = **Category I** ☒ No = **Not WHCV**	

SC 4.0. Bogs and Calcareous Fens

Does the wetland (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 have organic soil horizons (i.e., layers of organic soil), either peats or mucks, that compose 16 in or more of the first 32 in 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 wetland have organic soils, either peats or mucks, that are less than 16 in 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 wetland 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 in 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, Engelmann 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 **SC 4.5**

SC 4.5. 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 **SC 4.6**

SC 4.6. Do the species listed in Table 6 comprise at least 10% of the total plant cover in an area of peats and mucks, AND one of the two following conditions is met:

☐ Marl deposits [calcium carbonate ($CaCO_3$) precipitate] occur on the soil surface or plant stems

☐ The pH of free water is ≥ 6.8 AND electrical conductivity is ≥ 200 uS/cm at multiple locations within the wetland

☐ Yes = **Is a Category I calcareous fen** ☒ No = **Is not a calcareous fen**

SC 5.0. Forested Wetlands

Does the wetland have an area of forest rooted within its boundary that meets **at least one** of the following three criteria? (*Continue only if you have identified that a forested class is present in question H1.1*)

☐ The wetland is within the 100 year floodplain of a river or stream

☐ Aspen (*Populus tremuloides*) represents at least 20% of the total cover of woody species

☐ There is at least ¼ ac of trees (even in wetlands smaller than 2.5 ac) that are "mature" or "old-growth" according to the definitions for these priority habitats developed by WDFW (*see definitions in question H3.1*)

☐ Yes - Go to **SC 5.1** ☒ No = **Not a forested wetland with special characteristics**

SC 5.1. Does the wetland have a forest canopy where more than 50% of the tree species (by cover) are slow growing native trees (*see Table 7*)?

☐ Yes = **Category I** ☒ No - Go to **SC 5.2**

SC 5.2. Does the wetland have areas where aspen (*Populus tremuloides*) represents at least 20% of the total cover of woody species?

☐ Yes = **Category I** ☒ No - Go to **SC 5.3**

SC 5.3. Does the wetland have at least ¼ acre with a forest canopy where more than 50% of the tree species (by cover) are fast growing species (*see Table 7*)?

☐ Yes = **Category II** ☐ No - Go to **SC 5.4**

SC 5.4. Is the forested component of the wetland within the 100 year floodplain of a river or stream?

☐ Yes = **Category II** ☐ No = **Not a forested wetland with special characteristics**

Category of wetland based on Special Characteristics

Choose the highest rating if wetland falls into several categories

If you answered No for all types, enter "Not Applicable" on Summary Form

Appendix B: WDFW Priority Habitats in Eastern Washington

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

Count how many of the following priority habitats are within 330 ft (100 m) 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 1 ac (0.4 ha).

☐ **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*).

☐ **Old-growth/Mature forests**: Old-growth east of Cascade crest – Stands are highly variable in tree species composition and structural characteristics due to the influence of fire, climate, and soils. In general, stands will be >150 years of age, with 10 trees/ac (25 trees/ha) that are > 21 in (53 cm) dbh, and 1-3 snags/ac (2.5-7.5 snags/ha) that are > 12-14 in (30-35 cm) diameter. Downed logs may vary from abundant to absent. Canopies may be single or multi-layered. Evidence of human-caused alterations to the stand will be absent or so slight as to not affect the ecosystem's essential structures and functions. Mature forests – Stands with average diameters exceeding 21 in (53 cm) 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**: Woodland 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.

☐ **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 25 ft (7.6 m) high and occurring below 5000 ft elevation.

☐ **Talus**: Homogenous areas of rock rubble ranging in average size 0.5 - 6.5 ft (0.15 - 2.0 m), 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 > 20 in (51 cm) in western Washington and are > 6.5 ft (2 m) in height. Priority logs are > 12 in (30 cm) in diameter at the largest end, and > 20 ft (6 m) 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 needlegrasses (*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