

**Sewall Wetland Consulting, Inc.**

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SEP 27 2024

Kittitas County CDS

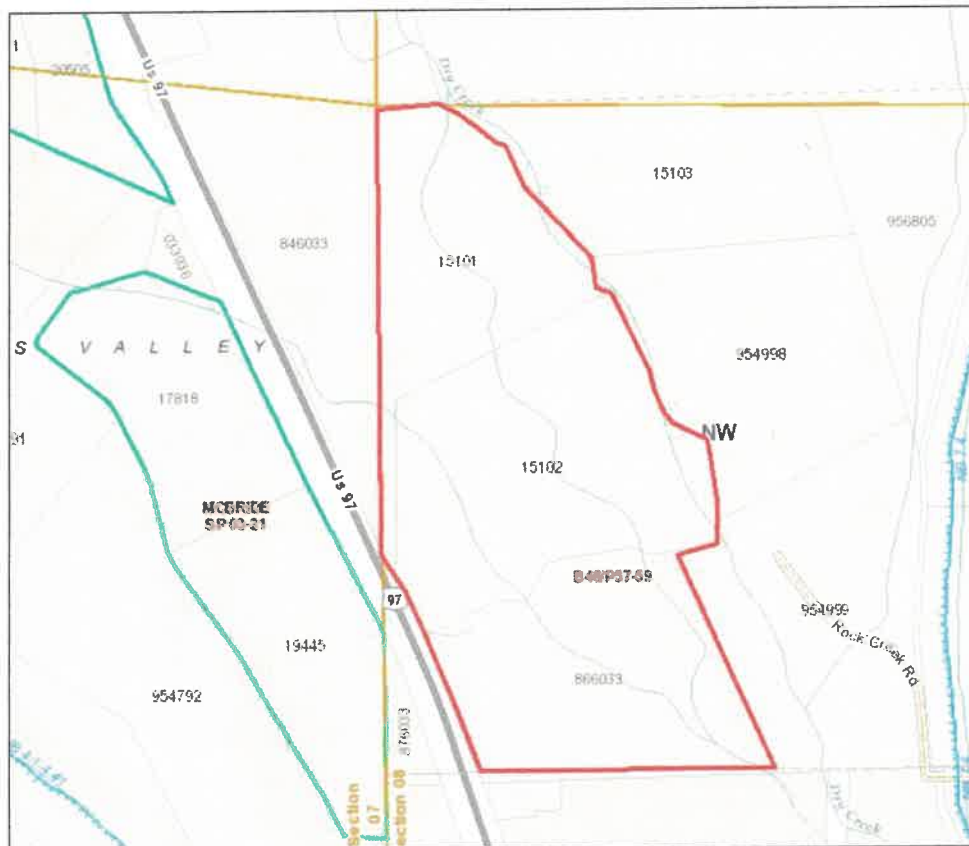
September 3, 2024

Scott McIntosh  
7820 Highway 97  
Ellensburg, Washington 98926

RE: Kittitas County Critical Area Report – Parcels #15101, #15102 &  
#866033  
SWC Job #24-149

Dear Scott,

This report describes our observations of any jurisdictional wetlands, streams and/or buffers on or within 300' of Parcels #15101, #15102 & #866033, in unincorporated Kittitas County, Washington.



*Above: Vicinity Map of site*



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

The site consists of 3 abutting parcels with an overall area of 62.61 acres  
The site consists of grazed and historically irrigated pasture located  
within the NW  $\frac{1}{4}$  of Section 8, Township 18 North, Range 18 east of the  
W.M.

## **METHODOLOGY**

Sewall Wetland Consulting investigated the site previously in the spring and summer of 2007. Ed Sewall of Sewall Wetland Consulting, Inc. inspected the site again and areas within 300' of the site in July of 2024.

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 Kittitas County for wetland determinations and delineations. The site was also reviewed using methodology described in Soil colors were identified using the 1990 Edited and Revised Edition of the ***Munsell Soil Color Charts*** (Kollmorgen Instruments Corp. 1990).

Wetlands in 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.

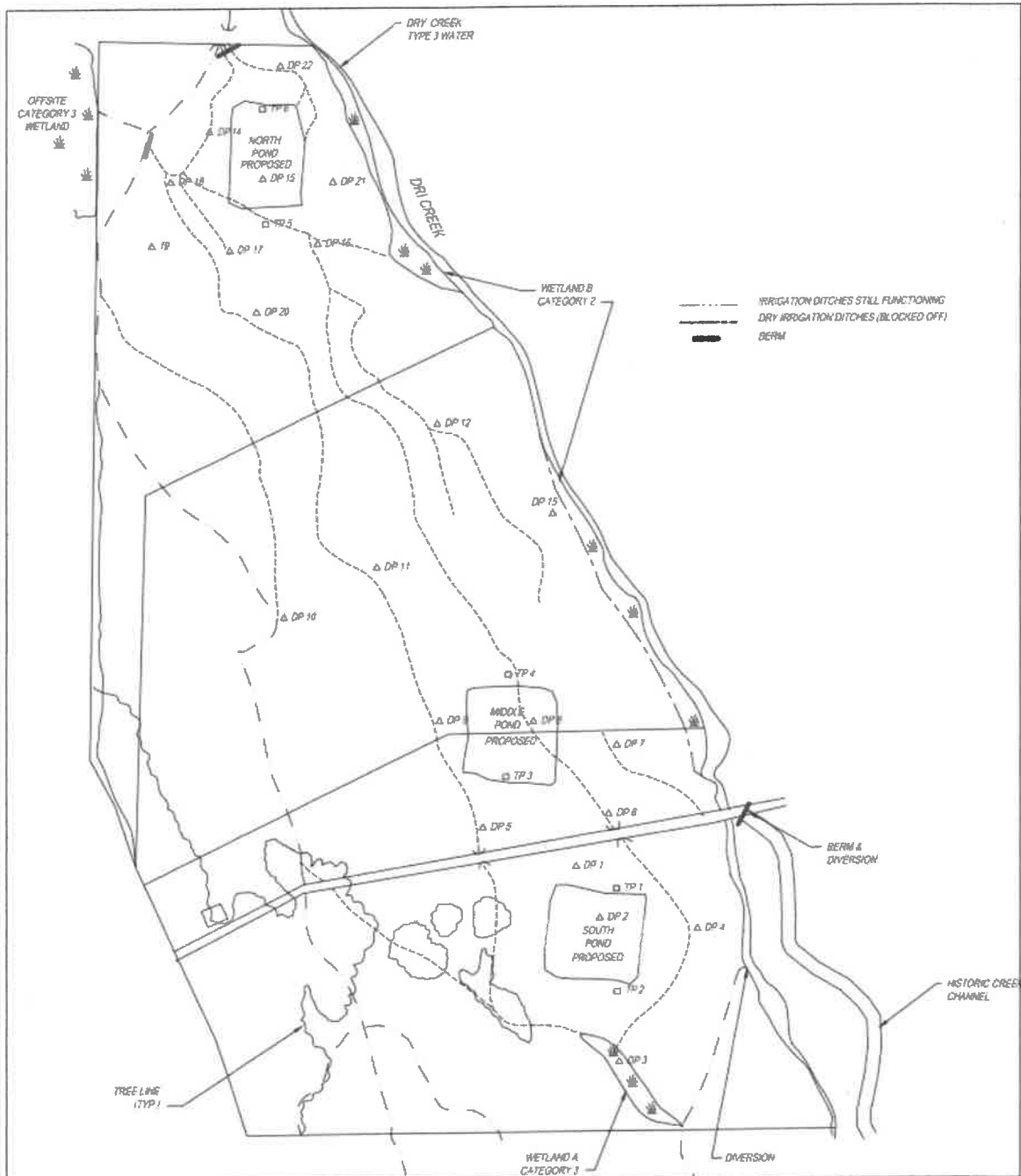
The ordinary high water mark (OHWM) of any streams was located based upon the criteria described in the *Washington Department of Ecology publication Determining The Ordinary High Water Mark for Shoreline Management Act Compliance in Washington State* (WADOE Publication 16-06-029, March 2010 revised October 2016).

## **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, WDFW Priority Habitats and Species Maps, NRCS Soil Survey online mapping and Data and the Kittitas Irrigation District maps.

**McIntosh Ponds Critical Areas Report, August 20, 2007 – Sewall  
Wetland Consulting, Inc.**



*Above: 2007 Critical Area Mapping of the site from the McIntosh Ponds Critical Area Study.*

A study of the site was conducted in 2007 between April and August to determine what critical areas existed on the site. Hydrologic monitoring of the site was conducted at that time for the duration of the growing season. The purpose of this study was to assess critical areas in regards to 3 proposed ponds to be excavated on the site.

The study found two wetlands on the site and one abutting off-site wetland to the northwest. Dry Creek was also identified on the site. The remaining ditches were all found to be irrigation features and not streams. This was confirmed at the time by Brent Renfrow of WDFW. The wetland delineations were also confirmed at the time by Cathy Reed of WADOE.

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

The NWI map depicts the two excavated man-made ponds as well as the existing irrigation ditches and Dry Creek. Several other wetlands area depicted on and next to the site. These areas were interpreted from aerial photographs by the US Fish and Wildlife Service using 2017 aerial photographs taken during irrigation season with no ground-truthing.





The wetlands and deepwater habitats in this area were photo interpreted using **1 meter (or less) digital, color infrared** imagery from **2017**. Click [here](#) for project specific mapping conventions and information.

*Above: NWI map of the area of the site*

### **Kittitas Taxsifter Website**

The Kittitas Taxsifter website with streams and wetland layers activated depicts the same features carried over from the NWI maps.



*Above: Kittitas County Taxsifter with wetland and stream layers activated.*

## **Soil Survey**

Based upon the Kittitas County Soil maps, the site contains three (3) different soil types. The following is a description of each soil type;

*Map Unit #715-Weirman gravelly sandy loam 0%-2% slopes.*

This soil type is found on the east and south side of the site. Weirman soils have formed on terraces in flood plains. This soil has a seasonal high water table at a depth >45" deep and is not a hydric soil. Weirman soils have a moderate to rapid rate of permeability in the A and B horizon and rapid in the C horizon.

*Map Unit #793 – Zillah-Kayak complex, 0%-2% slopes.*

This well drained soil is formed in alluvium and is found in the center of parcel's A2 and A3. The Zillah portion of this soil has a seasonal high water table at a depth >5" deep and is a hydric soil. The Kayak portion of the soil complex is not considered a hydric soil.

*Map Unit #802 – Brysill cobbly ashy loam, 2%-5% slopes.*

This moderately well drained soil is formed in alluvium with the influence of volcanic ash is found along the west edge of the site. This soil has a water table at a depth >60" deep and is not a hydric soil.

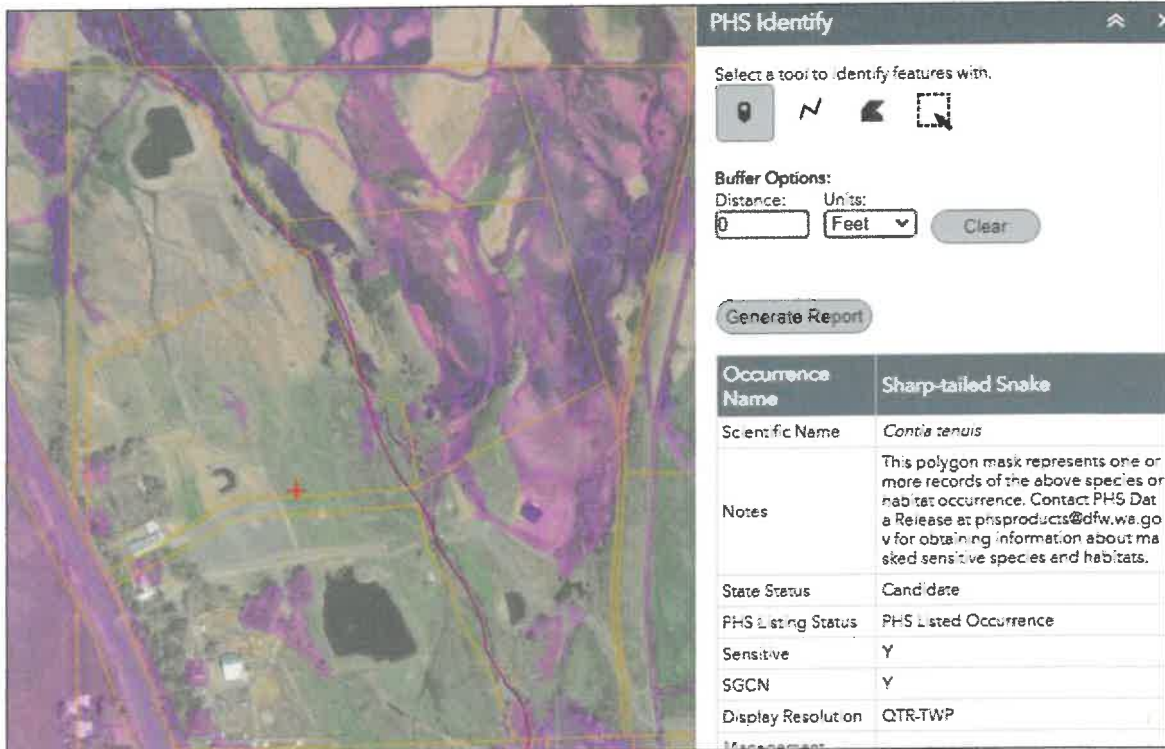




*Above: NRCS soil map of the site.*

## WDFW Priority Species Maps

The WDFW Priority Habitats and species maps for the site show the NWI wetland layer, again with no field verification as well as the site being within the ¼ Township where the sharp tailed snake has been observed.



Above: WDFW Priority Habitats and species map of the site. Pink shading indicates priority habitat.

## Field observations

Specifically, the three irregular shaped parcels are bordered by SR 97 on the west, the centerline of Dry Creek on the east, and agricultural land on the north and south. In addition, a wedding venue, a home and several agricultural buildings, corrals, and farm equipment storage areas are located on the west side of the site within the treed areas. A gravel road crosses through the site from west to east in the vicinity of the border between Parcels #15102 & #866033. This road crosses Dry Creek and provides access to parcels located east of the site.

The majority of the site is dry, irrigated pasture. Irrigation turnouts from Dry Creek are found at the north end of the site and along the east side of the southern parcels. Irrigation water has been directed through the site for many years by the previous owner in a crude pattern of hand dug ditches and using natural topography and berms to direct water across the site. The site has not been irrigated in many years.

The site has been highly manipulated for many years in order to irrigate for land for livestock grazing. Dry Creek is the only natural water body on the site, and defines the eastern side of the site. Dry Creek has been diverted and manipulated in order to send water to the pasture on the site. At the north end of the site is the main diversion for irrigation water on the site. A concrete block and wooden diversion with a steel flow gate structure re-directs stream flow into a culvert directed south onto the site. This culvert is approximately 100' long. This feature is no longer used. A detailed description of the irrigation features and history is found in the 2007 Critical Areas Report for the McIntosh Ponds. The only nature waterbody on the site was found to be Dry Creek with all others some form of irrigation ditch.

Two of the 3 ponds that were proposed now exist on the site on the north and south ends.

The site has a mix of vegetation comprised of typical pasture grasses and weedy species. These species included knapweed, cornflower, tumble mustard, cheatgrass, timothy, orchard grass, meadow foxtail, and bulbous bluegrass. Irrigation ditches along the west side of the site several hundred feet from the proposed ponds continued to carry water and had some wetland vegetation along the edges.

The area surrounding the wedding venue, farm structures, corrals etc. on the west along SR97 has scattered pacific willow (*Salix lasiandra*) with little understory vegetation.

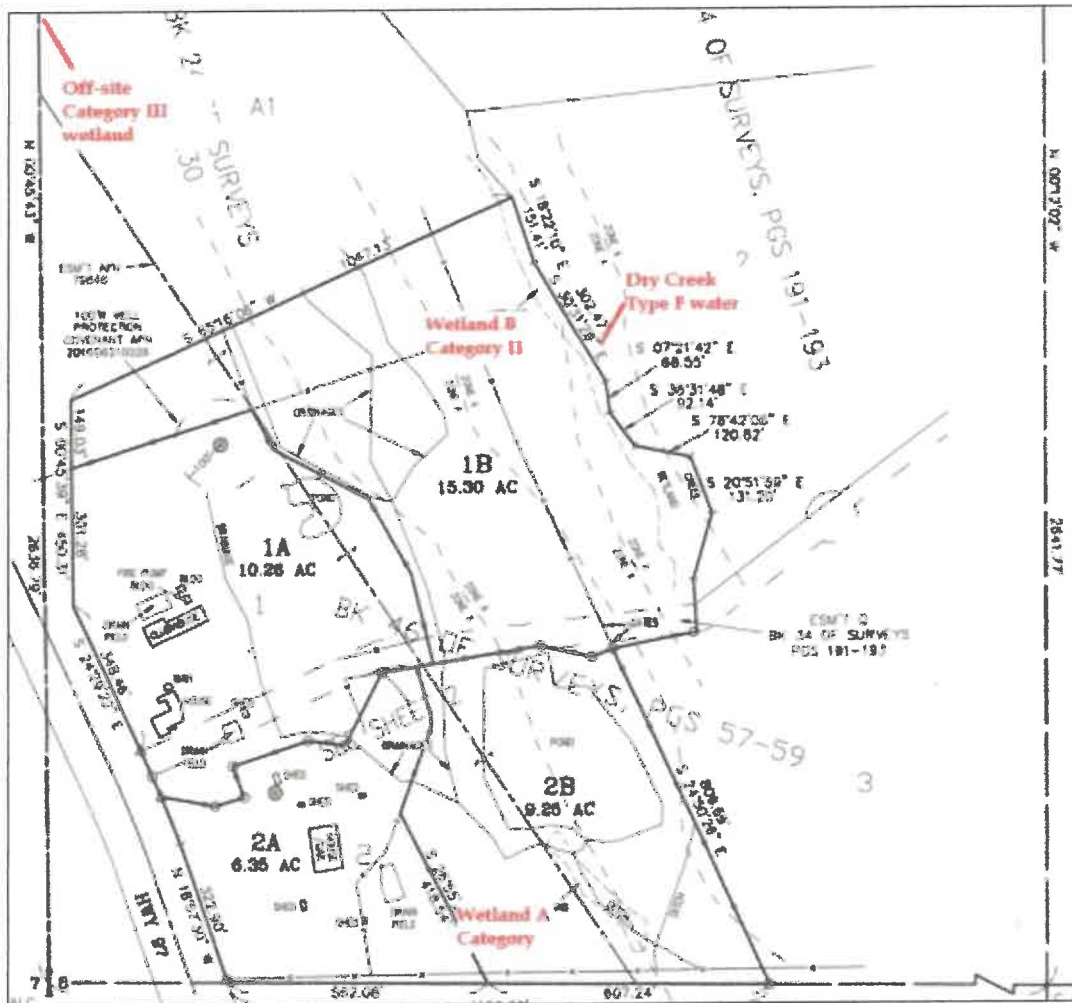
The area along Dry Creek contains a mix of cottonwoods, coyote willow, reed canary grass and some foxtail. This area is 125'-200' east of the proposed ponds.

Soils throughout the site have been influenced by seasonal flood irrigation as well as grazing and compaction by livestock. Generally

shallow soil pits excavated throughout the site to a depth of 16" were found to be comprised of a very Cobbly loam with a soil color of 10YR 2/2. The A-horizon was found to have some redox features (concentrations) which were generally few, fine and faint in character. These are indicative of the surface saturation that historically occurred during flood irrigation.

### Critical Areas

There are two wetlands on the site as well as Dry Creek. There is also an off-site wetland to the northwest of the northern parcel. Below is a description of these critical areas;



*Above: Critical area map of the southern two parcels and a portion of the northern one.*



### Wetland A

This small emergent wetland is located within an excavated basin in an irrigation ditch on the south end of the site just west of the southern pond. Water from irrigation water fed to the property south of the site backs up onto the site and creates wetland conditions. This area was vegetated with Lady's thumb (*Polygonum persicaria*), dock (*Rumex crispus*), and foxtail (*Alopecurus geniculatus*).

Soil pits within this area are a black (10YR 2/1) cobbly loam that were saturated during the July site visit.

Wetland A was rated using the *WADOE Washington State Wetland Rating System for Eastern Washington* 2014 update (Publ No. 14-06-030). This wetland was rated as a depressional wetland and scored a total of 17 points with 5 points for habitat indicating a Category III wetland.

According to Kittitas County Municipal Code Chapter 17A.07, Category III wetlands for a moderate impact land use such as a single-family homes have a 110' buffer measured from the wetland edge

**Table 17A.07.030: Standard Buffer Widths**

Category of Wetland	Land Use with Low Impact <sup>1</sup>	Land Use with Moderate Impact <sup>2</sup>	Land Use with High Impact <sup>3</sup>
I	125 ft	190 ft	250 ft
II	100 ft	150 ft	200 ft
III	75 ft	110 ft	150 ft
IV	25 ft	40 ft	50 ft

### Wetland B

A narrow band of riparian wetland borders the west bank of Dry Creek. This area is a mix of forested wetland dominated by cottonwoods and coyote willow, and portions are willow dominated or non-vegetated cobble substrate.



Soils in this area are very cobbly sandy loam with mixed colors. This area appears to have wetland hydrology in the early spring when Dry Creek runs high.

Wetland B was rated using the *WADOE Washington State Wetland Rating System for Eastern Washington* 2014 update (Publ No. 14-06-030). This wetland was rated as a riverine wetland and scored a total of 19 points with 6 points for habitat indicating a Category II wetland.

According to Kittitas County Municipal Code Chapter 17A.07, Category II wetlands for a moderate impact land use such as a single-family homes have a 150' buffer measured from the wetland edge

**Table 17A.07.030: Standard Buffer Widths**

Category of Wetland	Land Use with Low Impact <sup>1</sup>	Land Use with Moderate Impact <sup>2</sup>	Land Use with High Impact <sup>3</sup>
I	125 ft	190 ft	250 ft
II	100 ft	150 ft	200 ft
III	75 ft	110 ft	150 ft
IV	25 ft	40 ft	50 ft

#### Off-site wetland

A scrub-shrub wetland dominated by willow is located west of the northwest corner of the site. This wetland is artificially supported by irrigation water. However, WADOE considers wetlands fed by irrigation water that are unintentionally created to be regulated wetlands as long as wetland hydrology persists. As such, we have considered this area a jurisdictional wetland.

The off-site wetland was rated using the *WADOE Washington State Wetland Rating System for Eastern Washington* 2014 update (Publ No. 14-06-030). This wetland was rated as a depressional wetland and scored a total of 17 points with 5 points for habitat indicating a Category III wetland.

According to Kittitas County Municipal Code Chapter 17A.07, Category III wetlands for a moderate impact land use such as a single-family homes have a 110' buffer measured from the wetland edge

**Table 17A.07.030: Standard Buffer Widths**

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I	125 ft	190 ft	250 ft
II	100 ft	150 ft	200 ft
III	75 ft	110 ft	150 ft
IV	25 ft	40 ft	50 ft

## **Dry Creek**

Dry Creek is a well-defined creek that passes along the east side of the site. Dry Creek has a highly altered hydrology, having natural spring snowmelt runoff in the months from March through June. Irrigation tailwater feeds Dry Creek through KRD irrigation water starting when irrigation starts in April. When Irrigation water stops running in late September, Dry Creek dries out in the area of the site.

The creek channel flows 8'-10' in width with a variety of substrates and channel configurations. Most of the channel has a cobble and boulder substrate and consists of riffles and glides. Several areas along the Creek have sand and mud substrate in slower backwater areas and where the creek widens.

Dry Creek is known to contain several species of salmonids.

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 of the county.

Stream Type	Riparian Management Zone Widths <sup>1,2</sup>	
	Cascade Ecoregion (feet)	Columbia Plateau Ecoregion (feet)
Type S (Shoreline)	See the SMP	See the SMP
Type F	150	100
Type 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 [esewall@sewallwc.com](mailto:esewall@sewallwc.com) .

Sincerely,  
*Sewall Wetland Consulting, Inc.*



Ed Sewall  
Senior Wetlands Ecologist PWS #212

Attached: Site Survey  
Data sheets  
Wetland Rating form and exhibits

## REFERENCES

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

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

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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.

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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.

Sewall Wetland Consulting, Inc. *McIntosh Ponds Critical Area Report*. August 20, 2007.

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





Wetland name or number A

## RATING SUMMARY – Eastern Washington

Name of wetland (or ID #): McIntosh - Wet A Date of site visit: 8/24  
 Rated by Ed Smith Trained by Ecology? Yes No Date of training \_\_\_\_\_  
 HGM Class used for rating Dependent Wetland has multiple HGM classes? Y N

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

OVERALL WETLAND CATEGORY III (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  
 \_\_\_\_\_ Category IV – Total score = 9-15

FUNCTION		Improving Water Quality		Hydrologic		Habitat				
Circle the appropriate ratings										
Site Potential	H	M	L	H	M	L	H	M	L	
Landscape Potential	H	M	L	H	M	L	H	M	L	
Value	H	M	L	H	M	L	H	M	L	
Score Based on Ratings	5			7			5			TOTAL
									17	

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
Circle the appropriate category	
Vernal Pools	II III
Alkali	I
Wetland of High Conservation Value	I
Bog and Calcareous Fens	I
Old Growth or Mature Forest – slow growing	I
Aspen Forest	I
Old Growth or Mature Forest – fast growing	II
Floodplain forest	II
None of the above	✓

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	
Hydroperiods	H 1.2, H 1.3	
Plant cover of dense trees, shrubs, and herbaceous plants	S 1.3	
Plant cover of dense, rigid trees, shrubs, and herbaceous plants (can be added to figure above)	S 4.1	
Boundary of area within 150 ft of the wetland (can be added to another figure)	S 2.1, S 5.1	
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)	S 3.1, S 3.2	
Screen capture of list of TMDLs for WRIA in which wetland is found (website)	S 3.3	

## 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 river;  
☐ 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.

Wetland name or number A

**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 wetland 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

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

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

<b>D 2.0. Does the landscape have the potential to support the water quality function of the site?</b>		
<b>D 2.1. Does the wetland receive stormwater discharges?</b>	Yes = 1 No = 0	<b>1</b>
<b>D 2.2. Is <math>&gt; 10\%</math> of the area within 150 ft of the wetland in land uses that generate pollutants?</b>	Yes = 1 No = 0	<b>0</b>
<b>D 2.3. Are there septic systems within 250 ft of the wetland?</b>	Yes = 1 No = 0	<b>1</b>
<b>D 2.4. Are there other sources of pollutants coming into the wetland that are not listed in questions D 2.1- D 2.3? Source</b>	Yes = 1 No = 0	<b>0</b>
<b>Total for D 2</b>	<b>Add the points in the boxes above</b>	<b>2</b>

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

<b>D 3.0. Is the water quality improvement provided by the site valuable to society?</b>		
<b>D 3.1. Does the wetland discharge directly (i.e., within 1 mi) to a stream, river, or lake that is on the 303(d) list?</b>	Yes = 1 No = 0	<b>0</b>
<b>D 3.2. Is the wetland in a basin or sub-basin where water quality is an issue in some aquatic resource [303(d) list, eutrophic lakes, problems with nuisance and toxic algae]?</b>	Yes = 1 No = 0	<b>1</b>
<b>D 3.3. Has the site been identified in a watershed or local plan as important for maintaining water quality (answer YES if there is a TMDL for the drainage or basin in which the wetland is found)?</b>	Yes = 2 No = 0	<b>0</b>
<b>Total for D 3</b>	<b>Add the points in the boxes above</b>	<b>1</b>

**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

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

**Rating of Site Potential** If score is: 12-16 = H 6-11 = M 0-5 = L

Record the rating on the first page

D 5.0. Does the landscape have the potential to support the hydrologic functions of the site?		
D 5.1. Does the wetland receive stormwater discharges?	Yes = 1 No = 0	1
D 5.2. Is > 10% of the area within 150 ft of the wetland in a land use that generates runoff?	Yes = 1 No = 0	1
D 5.3. Is more than 25% of the contributing basin of the wetland covered with intensive human land uses?	Yes = 1 No = 0	1
Total for D 5		3

**Rating of Landscape Potential** If score is: 3 = H 1 or 2 = M 0 = L


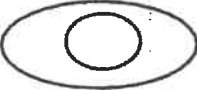

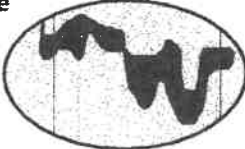

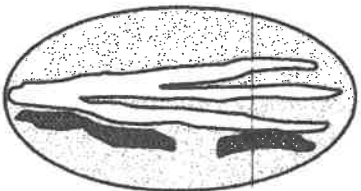
Record the rating on the first page

D 6.0. Are the hydrologic functions provided by the site valuable to society?		
D 6.1. The wetland is in a landscape that has flooding problems. Choose the description that best matches conditions around the wetland being rated. Do not add points. Choose the highest score if more than one condition is met. The wetland captures surface water that would otherwise flow down-gradient into areas where flooding has damaged human or natural resources (e.g., houses or salmon redds), AND Flooding occurs in sub-basin that is immediately down-gradient of wetland Surface flooding problems are in a sub-basin farther down-gradient The existing or potential outflow from the wetland is so constrained by human or natural conditions that the water stored by the wetland cannot reach areas that flood. Explain why _____ There are no problems with flooding downstream of the wetland		
		points = 2 points = 1 points = 0 points = 0
D 6.2. Has the site has been identified as important for flood storage or flood conveyance in a regional flood control plan?		Yes = 2 No = 0
Total for D 6		1

**Rating of Value** If score is: 2-4 = H 1 = M 0 = L

Record the rating on the first page

Wetland name or number A

These questions apply to wetlands of all HGM classes.		(only 1 score per box)
HABITAT FUNCTIONS - Indicators that site functions to provide important habitat		
H 1.0. Does the wetland have the potential to provide habitat for many species?		
H 1.1. Structure of the plant community: <i>Check the Cowardin vegetation classes present and categories of emergent plants. Size threshold for each category is <math>\geq \frac{1}{4}</math> ac or <math>\geq 10\%</math> of the wetland if wetland is <math>&lt; 2.5</math> ac.</i> <input type="checkbox"/> Aquatic bed <input type="checkbox"/> Emergent plants 0-12 in (0-30 cm) high are the highest layer and have $> 30\%$ cover <input checked="" type="checkbox"/> Emergent plants >12-40 in (>30-100 cm) high are the highest layer with $> 30\%$ cover <input checked="" type="checkbox"/> Emergent plants > 40 in (> 100 cm) high are the highest layer with $> 30\%$ cover <input type="checkbox"/> Scrub-shrub (areas where shrubs have $> 30\%$ cover) <input type="checkbox"/> Forested (areas where trees have $> 30\%$ cover) <div style="text-align: right;">             4 or more checks: points = 3              3 checks: points = 2              2 checks: points = <u>1</u>              1 check: points = 0           </div>		1
H 1.2. Is one of the vegetation types Aquatic Bed?		Yes = 1 <u>No = 0</u>
H 1.3. <u>Surface water</u> H 1.3.1. Does the wetland have areas of open water (without emergent or shrub plants) over at least $\frac{1}{4}$ ac OR 10% of its area during the March to early June OR in August to the end of September? <i>Answer YES for Lake Fringe wetlands.</i> Yes = 3 points & go to H 1.4 No = <u>go to H 1.3.2</u> 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 $\frac{1}{4}$ ac or 10% of its area? <i>Answer yes only if H 1.3.1 is No.</i> Yes = 3 <u>No = 0</u> <i>irr ditch</i>		0
H 1.4. <u>Richness of plant species</u> Count the number of plant species in the wetland that cover at least 10 ft <sup>2</sup> . <i>Different patches of the same species can be combined to meet the size threshold. You do not have to name the species.</i> <i>Do not include Eurasian milfoil, reed canarygrass, purple loosestrife, Russian olive, Phragmites, Canadian thistle, yellow-flag iris, and saltcedar (Tamarisk)</i> # of species _____ <div style="text-align: right;">             Scoring: <math>&gt; 9</math> species: points = 2              4-9 species: points = <u>1</u>  <math>&lt; 4</math> species: points = 0           </div>		1
H 1.5. <u>Interspersion of habitats</u> Decide from the diagrams below whether interspersions among types of plant structures (described in H 1.1), and unvegetated areas (open water or mudflats) is high, moderate, low, or none. <i>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.</i> <div style="display: flex; justify-content: space-around; align-items: flex-end;"> <div style="text-align: center;">   <b>None = 0 points</b> </div> <div style="text-align: center;">   <b>Low = 1 point</b> </div> <div style="text-align: center;">   <b>Moderate = 2 points</b> </div> </div> <div style="display: flex; justify-content: space-around; align-items: flex-end; margin-top: 20px;"> <div style="text-align: center;">   <b>High = 3 points</b> </div> <div style="text-align: center;">   <b>High = 3 points</b> </div> <div style="text-align: center;">   <b>Riparian braided channels with 2 classes</b> </div> </div>		Figure <u>0</u>

Wetland name or number                     

<b>H 1.6. Special habitat features</b> <i>Check the habitat features that are present in the wetland. The number of checks is the number of points.</i> <input checked="" type="checkbox"/> Loose rocks larger than 4 in OR large, downed, woody debris (> 4 in diameter) within the area of surface ponding or in stream. <input checked="" type="checkbox"/> Cattails or bulrushes are present within the wetland. <input type="checkbox"/> Standing snags (diameter at the bottom > 4 in) in the wetland or within 30 m (100 ft) of the edge. <input type="checkbox"/> Emergent or shrub vegetation in areas that are permanently inundated/ponded. <input type="checkbox"/> Stable steep banks of fine material that might be used by beaver or muskrat for denning (> 45 degree slope) OR signs of recent beaver activity <input type="checkbox"/> Invasive species cover less than 20% in each stratum of vegetation (canopy, sub-canopy, shrubs, herbaceous, moss/ground cover)	2
Total for H 1	4

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

<b>H 2.0. Does the landscape have the potential to support habitat functions of the site?</b>		
<b>H 2.1. Accessible habitat (only area of habitat abutting wetland). If total accessible habitat is:</b> Calculate: % undisturbed habitat <u>5</u> + [(% moderate and low intensity land uses)/2] <u>2</u> = <u>5</u> % > 1/3 (33.3%) of 1 km Polygon points = 3 20-33% of 1km Polygon points = 2 10-19% of 1km Polygon points = 1 <10% of 1km Polygon points = 0	0	
<b>H 2.2. Undisturbed habitat in 1 km Polygon around wetland.</b> Calculate: % undisturbed habitat <u>24</u> + [(% moderate and low intensity land uses)/2] <u>4</u> = <u>34</u> % Undisturbed habitat > 50% of Polygon 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 Polygon points = 0	1	
<b>H 2.3. Land use intensity in 1 km Polygon:</b> > 50% of Polygon is high intensity land use points = (-2) Does not meet criterion above points = 0	0	
<b>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</b> Yes = 3 No = 0	0	
Total for H 2	1	

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

<b>H 3.0. Is the habitat provided by the site valuable to society?</b>		
<b>H 3.1. Does the site provide habitat for species valued in laws, regulations, or policies? Choose the highest score that applies to the wetland being rated</b> 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 — 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	0	

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

Wetland name or number A

## CATEGORIZATION BASED ON SPECIAL CHARACTERISTICS

**Please determine if the wetland 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 <small>Check off any criteria that apply to the wetland. Circle the category when the appropriate criteria are met.</small>	Category
<b>SC 1.0. Vernal pools</b> Is the wetland less than 4000 ft <sup>2</sup> , 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. <i>If you find perennial, obligate, wetland plants, the wetland is probably NOT a vernal pool.</i> — 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. <div style="text-align: right;">Yes – Go to SC 1.1   No = <u>Not a vernal pool</u></div>	
<b>SC 1.1.</b> Is the vernal pool relatively undisturbed in February and March? <div style="text-align: right;">Yes – Go to SC 1.2   No = <b>Not a vernal pool with special characteristics</b></div>	
<b>SC 1.2.</b> 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.)? <div style="text-align: right;">Yes = <b>Category II</b>   No = <b>Category III</b></div>	<b>Cat. II</b> <b>Cat. III</b>
<b>SC 2.0. Alkali wetlands</b> 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. <b>OR</b> 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. <div style="text-align: right;">Yes = <b>Category I</b>   No = <u>Not an alkali wetland</u></div>	<b>Cat. I</b>
<b>SC 3.0. Wetlands of High Conservation Value (WHCV)</b> <b>SC 3.1.</b> Has the WA Department of Natural Resources updated their website to include the list of Wetlands of High Conservation Value? <div style="text-align: right;">Yes – Go to SC 3.2   No – <u>Go to SC 3.3</u></div> <b>SC 3.2.</b> Is the wetland listed on the WDNR database as a Wetland of High Conservation Value? <div style="text-align: right;">Yes = <b>Category I</b>   No = <b>Not a WHCV</b></div> <b>SC 3.3.</b> Is the wetland in a Section/Township/Range that contains a Natural Heritage wetland? <a href="http://www1.dnr.wa.gov/nhp/refdesk/datasearch/wnhpwetlands.pdf">http://www1.dnr.wa.gov/nhp/refdesk/datasearch/wnhpwetlands.pdf</a> <div style="text-align: right;">Yes – <b>Contact WNHP/WDNR and go to SC 3.4</b>   No = <u>Not a WHCV</u></div> <b>SC 3.4.</b> Has WDNR identified the wetland within the S/T/R as a Wetland of High Conservation Value and it is listed on their website? <div style="text-align: right;">Yes = <b>Category I</b>   No = <b>Not a WHCV</b></div>	<b>Cat. I</b>

A

<p><b>SC 4.0 Bogs and Calcareous Fens</b></p> <p>Does the wetland (or any part of the wetland unit) meet both the criteria for soils and vegetation in bogs or calcareous fens? <i>Use the key below to identify if the wetland is a bog or calcareous fen. If you answer yes you will still need to rate the wetland based on its functions.</i></p> <p>SC 4.1. Does an area within the wetland 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? <i>See Appendix C for a field key to identify organic soils.</i> Yes – Go to SC 4.3 No – Go to SC 4.2</p> <p>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</p> <p>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</p> <p><b>NOTE:</b> 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.</p> <p>SC 4.4. Is an area with peats or mucks forested (&gt; 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</p> <p>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</p> <p>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:</p> <ul style="list-style-type: none"> <li>— Marl deposits [calcium carbonate (CaCO<sub>3</sub>) precipitate] occur on the soil surface or plant stems</li> <li>— The pH of free water is ≥ 6.8 AND electrical conductivity is ≥ 200 uS/cm at multiple locations within the wetland</li> </ul> <p>Yes = Is a Category I calcareous fen No = Is not a calcareous fen</p>	<p>Cat. I</p> <p>Cat. I</p>
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<p><b>SC 5.0. Forested Wetlands</b></p> <p>Does the wetland have an area of forest rooted within its boundary that meets at least one of the following three criteria? <i>(Continue only if you have identified that a forested class is present in question H 1.1)</i></p> <ul style="list-style-type: none"> <li>— The wetland is within the 100 year floodplain of a river or stream</li> <li>— Aspen (<i>Populus tremuloides</i>) represents at least 20% of the total cover of woody species</li> <li>— 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 <i>(see definitions in question H3.1)</i></li> </ul> <p>Yes – Go to SC 5.1 No = Not a forested wetland with special characteristics</p> <p>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 <i>(see Table 7)?</i> Yes = Category I No – Go to SC 5.2</p> <p>SC 5.2. Does the wetland have areas where aspen (<i>Populus tremuloides</i>) represents at least 20% of the total cover of woody species? Yes = Category I No – Go to SC 5.3</p> <p>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 <i>(see Table 7)?</i> Yes = Category II No – Go to SC 5.4</p> <p>SC 5.4. Is the forested component of the wetland within the 100 year floodplain of a river or stream? Yes = Category II No = Not a forested wetland with special characteristics</p> <p><b>Category of wetland based on Special Characteristics</b> Choose the highest rating if wetland falls into several categories If you answered No for all types, enter “Not Applicable” on Summary Form</p>	<p>Cat. I</p> <p>Cat. I</p> <p>Cat. II</p> <p>Cat. II</p> <p>NA</p>
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## 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: **NOTE: This question is independent of the land use between the wetland 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.
- **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 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 > 12 in (30 cm) in eastern 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 addressed elsewhere.

Wetland name or number

B12  
150'**RATING SUMMARY – Eastern Washington**Name of wetland (or ID #): McIntosh - Wetland B Date of site visit: 8/24Rated by Ed Smith Trained by Ecology? ☒ Yes ☐ No Date of training \_\_\_\_\_HGM Class used for rating Riverine Wetland has multiple HGM classes? ☐ Y ☐ N**NOTE:** Form is not complete without the figures requested (*figures can be combined*).

Source of base aerial photo/map \_\_\_\_\_

**OVERALL WETLAND CATEGORY** FF (based on functions ☒ or special characteristics ☐)**1. Category of wetland based on FUNCTIONS**Category I – Total score = 22-27Category II – Total score = 19-21Category III – Total score = 16-18Category IV – Total score = 9-15

FUNCTION	Improving Water Quality	Hydrologic	Habitat	
Circle the appropriate ratings				
Site Potential	H <u>(M)</u> L	<u>(H)</u> M L	H <u>(M)</u> L	
Landscape Potential	H <u>(M)</u> L	H <u>(M)</u> L	H <u>(M)</u> L	
Value	H M <u>(L)</u>	<u>(H)</u> M L	H <u>(M)</u> L	<b>TOTAL</b>
Score Based on Ratings	<u>5</u>	<u>8</u>	<u>6</u>	<u>19</u>

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

9 = H,H,H

8 = H,H,M

7 = H,H,L

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 Circle the appropriate category
Vernal Pools	<b>II</b> <b>III</b>
Alkali	<b>I</b>
Wetland of High Conservation Value	<b>I</b>
Bog and Calcareous Fens	<b>I</b>
Old Growth or Mature Forest – slow growing	<b>I</b>
Aspen Forest	<b>I</b>
Old Growth or Mature Forest – fast growing	<b>II</b>
Floodplain forest	<b>II</b>
None of the above	<input checked="" type="checkbox"/>

Wetland name or number B

## 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 ( <i>can be added to map of hydroperiods</i> )	D 1.1, D 4.1	
Boundary of area within 150 ft of the wetland ( <i>can be added to another figure</i> )	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 ( <i>can be added to another figure</i> )	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 ( <i>can be added to another figure</i> )	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 ( <i>can be added to another figure</i> )	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	
Hydroperiods	H 1.2, H 1.3	
Plant cover of dense trees, shrubs, and herbaceous plants	S 1.3	
Plant cover of dense, rigid trees, shrubs, and herbaceous plants ( <i>can be added to figure above</i> )	S 4.1	
Boundary of area within 150 ft of the wetland ( <i>can be added to another figure</i> )	S 2.1, S 5.1	
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)	S 3.1, S 3.2	
Screen capture of list of TMDLs for WRIA in which wetland is found (website)	S 3.3	

## 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 river;  
☐ 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.

Wetland name or number B

**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 wetland 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 B

<b>RIVERINE WETLANDS</b>		Points (only 1 score per box)
<b>Water Quality Functions - Indicators that the site functions to improve water quality</b>		
<b>R 1.0. Does the site have the potential to improve water quality?</b>		
R 1.1. Area of surface depressions within the Riverine wetland that can trap sediments during a flooding event:		
Depressions cover $> \frac{1}{3}$ area of wetland	points = 6	6
Depressions cover $> \frac{1}{10}$ area of wetland	points = 3	
Depressions present but cover $< \frac{1}{10}$ area of wetland	points = 1	
No depressions present	points = 0	
R 1.2. Structure of plants in the wetland (areas with $> 90\%$ cover at person height; not Cowardin classes):		
Forest or shrub $> \frac{2}{3}$ the area of the wetland	points = 10	5
Forest or shrub $\frac{1}{3} - \frac{2}{3}$ area of the wetland	points = 5	
Ungrazed, herbaceous plants $> \frac{2}{3}$ area of wetland	points = 5	
Ungrazed herbaceous plants $\frac{1}{3} - \frac{2}{3}$ area of wetland	points = 2	
Forest, shrub, and ungrazed herbaceous $< \frac{1}{3}$ area of wetland	points = 0	
Total for R 1	Add the points in the boxes above	11

**Rating of Site Potential** If score is: 12-16 = H 6-11 = M 0-5 = L

Record the rating on the first page

<b>R 2.0. Does the landscape have the potential to support the water quality function of the site?</b>		
R 2.1. Is the wetland within an incorporated city or within its UGA?	Yes = 2 No = 0	
R 2.2. Does the contributing basin include a UGA or incorporated area?	Yes = 1 No = 0	
R 2.3. Does at least 10% of the contributing basin contain tilled fields, pastures, or forests that have been clearcut within the last 5 years?	Yes = 1 No = 0	
R 2.4. Is $> 10\%$ of the area within 150 ft of wetland in land uses that generate pollutants	Yes = 1 No = 0	1
R 2.5. Are there other sources of pollutants coming into the wetland that are not listed in questions R 2.1-R 2.4? Source _____	Yes = 1 No = 0	0
Total for R 2	Add the points in the boxes above	1

**Rating of Landscape Potential** If score is: 3-6 = H 1 or 2 = M 0 = L

Record the rating on the first page

<b>R 3.0. Is the water quality improvement provided by the site valuable to society?</b>		
R 3.1. Is the wetland along a stream or river that is on the 303(d) list or on a tributary that drains to one within 1 mi?	Yes = 1 No = 0	0
R 3.2. Does the river or stream have TMDL limits for nutrients, toxics, or pathogens?	Yes = 1 No = 0	0
R 3.3. Has the site been identified in a watershed or local plan as important for maintaining water quality? <u>Answer</u> YES if there is a TMDL for the drainage in which wetland is found.	Yes = 2 No = 0	2
Total for R 3	Add the points in the boxes above	0

**Rating of Value** If score is: 2-4 = H 1 = M 0 = L

Record the rating on the first page



Wetland name or number B

### RIVERINE WETLANDS

Points  
(only 1 score  
per box)

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

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

R 4.1. Characteristics of the overbank storage the wetland provides:

*Estimate the average width of the wetland perpendicular to the direction of the flow and the width of the stream or river channel (distance between banks). Calculate the ratio: (average width of wetland)/(average width of stream between banks).*

If the ratio is more than 2

points = 10

If the ratio is 1-2

points = 8

If the ratio is  $\frac{1}{2}$ -1

points = 4

If the ratio is  $\frac{1}{4}$ - $\frac{1}{2}$

points = 2

If the ratio is  $< \frac{1}{4}$

points = 1

8

R 4.2. Characteristics of plants that slow down water velocities during floods: *Treat large woody debris as forest or shrub. Choose the points appropriate for the best description (polygons need to have > 90% cover at person height. These are NOT Cowardin classes).*

Forest or shrub for more than  $\frac{2}{3}$  the area of the wetland

points = 6

Forest or shrub for  $> \frac{1}{3}$  area OR emergent plants  $> \frac{2}{3}$  area

points = 4

Forest or shrub for  $> \frac{1}{10}$  area OR emergent plants  $> \frac{1}{3}$  area

points = 2

Plants do not meet above criteria

points = 0

4

Total for R 5

Add the points in the boxes above

12

Rating of Site Potential If score is: 12-16 = H 6-11 = M 0-5 = L

Record the rating on the first page

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

R 5.1. Is the stream or river adjacent to the wetland downcut?

Yes = 0 No = 1

1

R 5.2. Does the up-gradient watershed include a UGA or incorporated area?

Yes = 1 No = 0

0

R 5.3. Is the up-gradient stream or river controlled by dams?

Yes = 0 No = 1

1

Total for R 5

Add the points in the boxes above

2

Rating of Landscape Potential If score is: 3 = H 1 or 2 = M 0 = L

Record the rating on the first page

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

R 6.1. Distance to the nearest areas downstream that have flooding problems? *Choose the description that best fits the site.*

The sub-basin immediately down-gradient of site has surface flooding problems that result in damage to human or natural resources

points = 2

Surface flooding problems are in a basin farther down-gradient

points = 1

No flooding problems anywhere downstream

points = 0

2

R 6.2. Has the site been identified as important for flood storage or flood conveyance in a regional flood control plan?

Yes = 2 No = 0

0

Total for R 6






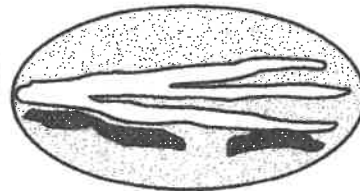
Add the points in the boxes above

2

Rating of Value If score is: 2-4 = H 1 = M 0 = L

Record the rating on the first page

Wetland name or number B

These questions apply to wetlands of all HGM classes.		(only 1 score per box)
HABITAT FUNCTIONS - Indicators that site functions to provide important habitat		
H 1.0. Does the wetland have the potential to provide habitat for many species?		
<p>H 1.1. Structure of the plant community:</p> <p>Check the Cowardin vegetation classes present and categories of emergent plants. Size threshold for each category is <math>\geq \frac{1}{4}</math> ac or <math>\geq 10\%</math> of the wetland if wetland is <math>&lt; 2.5</math> ac.</p> <p><input type="checkbox"/> Aquatic bed</p> <p><input type="checkbox"/> Emergent plants 0-12 in (0-30 cm) high are the highest layer and have <math>&gt; 30\%</math> cover</p> <p><input type="checkbox"/> Emergent plants <math>&gt; 12-40</math> in (<math>&gt; 30-100</math> cm) high are the highest layer with <math>&gt; 30\%</math> cover</p> <p><input checked="" type="checkbox"/> Emergent plants <math>&gt; 40</math> in (<math>&gt; 100</math> cm) high are the highest layer with <math>&gt; 30\%</math> cover</p> <p><input type="checkbox"/> Scrub-shrub (areas where shrubs have <math>&gt; 30\%</math> cover)</p> <p><input checked="" type="checkbox"/> Forested (areas where trees have <math>&gt; 30\%</math> cover)</p> <p style="text-align: right;">4 or more checks: points = 3 3 checks: points = 2 2 checks: points = 1 1 check: points = 0</p>	2	
H 1.2. Is one of the vegetation types Aquatic Bed?		Yes = 1 No = 0
<p>H 1.3. <u>Surface water</u></p> <p>H 1.3.1. Does the wetland have areas of open water (without emergent or shrub plants) over at least <math>\frac{1}{4}</math> ac OR 10% of its area during the March to early June OR in August to the end of September? <i>Answer YES for Lake Fringe wetlands.</i> Yes = 3 points &amp; go to H 1.4 No = go to H 1.3.2</p> <p>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 <math>\frac{1}{4}</math> ac or 10% of its area? <i>Answer yes only if H 1.3.1 is No.</i> Yes = 3 No = 0</p>		3
<p>H 1.4. <u>Richness of plant species</u></p> <p>Count the number of plant species in the wetland that cover at least 10 ft<sup>2</sup>. Different patches of the same species can be combined to meet the size threshold. You do not have to name the species.</p> <p>Do not include Eurasian milfoil, reed canarygrass, purple loosestrife, Russian olive, Phragmites, Canadian thistle, yellow-flag iris, and saltcedar (Tamarisk)</p> <p># of species _____</p> <p style="text-align: right;">Scoring: <math>&gt; 9</math> species: points = 2 4-9 species: points = 1 <math>&lt; 4</math> species: points = 0</p>		1
<p>H 1.5. <u>Interspersion of habitats</u></p> <p>Decide from the diagrams below whether interspersions among types of plant structures (described in H 1.1), and unvegetated areas (open water or mudflats) is high, moderate, low, or none.</p> <p>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.</p> <div style="display: flex; justify-content: space-around; align-items: center;"> <div style="text-align: center;">  <p>None = 0 points</p> </div> <div style="text-align: center;">  <p>Low = 1 point</p> </div> <div style="text-align: center;">  <p>Moderate = 2 points</p> </div> </div> <p>All three diagrams in this row are High = 3 points</p> <div style="display: flex; justify-content: space-around; align-items: center;">    </div> <p style="text-align: right;">Riparian braided channels with 2 classes</p>		Figure__  2

Wetland name or number B

8

<b>H 1.6. Special habitat features</b> <i>Check the habitat features that are present in the wetland. The number of checks is the number of points.</i>		
<input checked="" type="checkbox"/> Loose rocks larger than 4 in OR large, downed, woody debris (> 4 in diameter) within the area of surface ponding or in stream. <input type="checkbox"/> Cattails or bulrushes are present within the wetland. <input checked="" type="checkbox"/> Standing snags (diameter at the bottom > 4 in) in the wetland or within 30 m (100 ft) of the edge. <input type="checkbox"/> Emergent or shrub vegetation in areas that are permanently inundated/ponded. <input type="checkbox"/> Stable steep banks of fine material that might be used by beaver or muskrat for denning (> 45 degree slope) OR signs of recent beaver activity <input type="checkbox"/> Invasive species cover less than 20% in each stratum of vegetation ( <i>canopy, sub-canopy, shrubs, herbaceous, moss/ground cover</i> )		2
Total for H 1	Add the points in the boxes above	10

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

<b>H 2.0. Does the landscape have the potential to support habitat functions of the site?</b>		
<b>H 2.1. Accessible habitat (only area of habitat abutting wetland). If total accessible habitat is:</b> <i>Calculate:</i> 5 % undisturbed habitat <u>5</u> + [(% moderate and low intensity land uses)/2] <u>0</u> = <u>5</u> % > 1/3 (33.3%) of 1 km Polygon points = 3 20-33% of 1km Polygon points = 2 10-19% of 1km Polygon points = 1 <10% of 1km Polygon points = 0		0
<b>H 2.2. Undisturbed habitat in 1 km Polygon around wetland.</b> <i>Calculate:</i> 30 % undisturbed habitat <u>20</u> + [(% moderate and low intensity land uses)/2] <u>10</u> = <u>30</u> % Undisturbed habitat > 50% of Polygon 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 Polygon points = 0		1
<b>H 2.3. Land use intensity in 1 km Polygon:</b> > 50% of Polygon is high intensity land use points = (- 2) Does not meet criterion above points = 0		0
<b>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</b> Yes = 3 No = 0		0
Total for H 2	Add the points in the boxes above	1

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

<b>H 3.0. Is the habitat provided by the site valuable to society?</b>		
<b>H 3.1. Does the site provide habitat for species valued in laws, regulations, or policies? Choose the highest score that applies to the wetland being rated</b> 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 — 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		M

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

Wetland name or number B

## 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 <i>Check off any criteria that apply to the wetland. Circle the category when the appropriate criteria are met.</i>	Category
<b>SC 1.0. Vernal pools</b> Is the wetland <b>less than 4000 ft<sup>2</sup></b> , and does it meet at least <b>two</b> 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. <i>If you find perennial, obligate, wetland plants, the wetland is probably NOT a vernal pool.</i> — 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. <div style="text-align: right;">Yes – Go to <b>SC 1.1</b> No = <b>Not a vernal pool</b></div> <b>SC 1.1.</b> Is the vernal pool relatively undisturbed in February and March? <div style="text-align: right;">Yes – Go to <b>SC 1.2</b> No = <b>Not a vernal pool with special characteristics</b></div>	
<b>SC 1.2.</b> 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.)? <div style="text-align: right;">Yes = <b>Category II</b> No = <b>Category III</b></div>	<b>Cat. II</b> <b>Cat. III</b>
<b>SC 2.0. Alkali wetlands</b> Does the wetland meet <b>one</b> 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. <b>OR</b> 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. <div style="text-align: right;">Yes = <b>Category I</b> No = <b>Not an alkali wetland</b></div>	<b>Cat. I</b>
<b>SC 3.0. Wetlands of High Conservation Value (WHCV)</b> <b>SC 3.1.</b> Has the WA Department of Natural Resources updated their website to include the list of Wetlands of High Conservation Value? <div style="text-align: right;">Yes – Go to <b>SC 3.2</b> No – Go to <b>SC 3.3</b></div> <b>SC 3.2.</b> Is the wetland listed on the WDNR database as a Wetland of High Conservation Value? <div style="text-align: right;">Yes = <b>Category I</b> No = <b>Not a WHCV</b></div> <b>SC 3.3.</b> Is the wetland in a Section/Township/Range that contains a Natural Heritage wetland? <a href="http://www1.dnr.wa.gov/nhp/refdesk/datasetsearch/wnhpwetlands.pdf">http://www1.dnr.wa.gov/nhp/refdesk/datasetsearch/wnhpwetlands.pdf</a> <div style="text-align: right;">Yes – Contact <b>WNHP/WDNR</b> and go to <b>SC 3.4</b> No = <b>Not a WHCV</b></div> <b>SC 3.4.</b> Has WDNR identified the wetland within the S/T/R as a Wetland of High Conservation Value and it is listed on their website? <div style="text-align: right;">Yes = <b>Category I</b> No = <b>Not a WHCV</b></div>	<b>Cat. I</b>

Wetland name or number B

#### 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 ( $\text{CaCO}_3$ ) precipitate] occur on the soil surface or plant stems
  - The pH of free water is  $\geq 6.8$  AND electrical conductivity is  $\geq 200$  uS/cm at multiple locations within the wetland
- Yes = Is a Category I calcareous fen No = Is not a calcareous fen

Cat. I

Cat. I

#### 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 H 1.1)*

- 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 WDEW *(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

Cat. I

Cat. I

Cat. II

Cat. II

#### 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

NA

# 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: **NOTE: This question is independent of the land use between the wetland 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.
- **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 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 > 12 in (30 cm) in eastern 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 addressed elsewhere.



Wetland name or number 05

## RATING SUMMARY – Eastern Washington

Name of wetland (or ID #): offsite wetland to NW Date of site visit: 8/24  
 Rated by Ed Smith Trained by Ecology? ☒ Yes ☐ No Date of training \_\_\_\_\_  
 HGM Class used for rating Deposited Wetland has multiple HGM classes? ☐ Y ☒ N

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

OVERALL WETLAND CATEGORY DI (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  
 \_\_\_\_\_ Category IV – Total score = 9-15

FUNCTION	Improving Water Quality	Hydrologic	Habitat	
Circle the appropriate ratings				
Site Potential	H <u>M</u> L	H M <u>L</u>	H M <u>L</u>	
Landscape Potential	H <u>M</u> L	<u>H</u> M L	H <u>M</u> L	
Value	H M <u>L</u>	H <u>M</u> L	H <u>M</u> L	TOTAL
Score Based on Ratings	<u>5</u>	<u>6</u>	<u>5</u>	<u>16</u>

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

9 = H,H,H  
 8 = H,H,M  
 7 = H,H,L  
 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 Circle the appropriate category
Vernal Pools	<input checked="" type="checkbox"/> II <input type="checkbox"/> III
Alkali	<input type="checkbox"/> I
Wetland of High Conservation Value	<input type="checkbox"/> I
Bog and Calcareous Fens	<input type="checkbox"/> I
Old Growth or Mature Forest – slow growing	<input type="checkbox"/> I
Aspen Forest	<input type="checkbox"/> I
Old Growth or Mature Forest – fast growing	<input type="checkbox"/> II
Floodplain forest	<input type="checkbox"/> II
None of the above	<input checked="" type="checkbox"/>

Wetland name or number 05

## 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 ( <i>can be added to map of hydroperiods</i> )	D 1.1, D 4.1	
Boundary of area within 150 ft of the wetland ( <i>can be added to another figure</i> )	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 ( <i>can be added to another figure</i> )	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 ( <i>can be added to another figure</i> )	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 ( <i>can be added to another figure</i> )	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	
Hydroperiods	H 1.2, H 1.3	
Plant cover of dense trees, shrubs, and herbaceous plants	S 1.3	
Plant cover of dense, rigid trees, shrubs, and herbaceous plants ( <i>can be added to figure above</i> )	S 4.1	
Boundary of area within 150 ft of the wetland ( <i>can be added to another figure</i> )	S 2.1, S 5.1	
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)	S 3.1, S 3.2	
Screen capture of list of TMDLs for WRIA in which wetland is found (website)	S 3.3	

## 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 river;  
☐ 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.

Wetland name or number 09

**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 wetland 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 05

<b>DEPRESSIONAL WETLANDS</b>		Points (only 1 score per box)
<b>Water Quality Functions</b> - Indicators that the site functions to improve water quality		
D 1.0. Does the site have the potential to improve water quality?		
D 1.1. Characteristics of surface water outflows from the wetland:		
Wetland has no surface water outlet	points = 5	3
Wetland has an intermittently flowing outlet	points = 3	
Wetland has a highly constricted permanently flowing outlet	points = 3	
Wetland has a permanently flowing, unconstricted, surface outlet	points = 1	
D 1.2. The soil 2 in below the surface (or duff layer) is true clay or true organic (use NRCS definitions of soils)	YES = 3 NO = 0	0
D 1.3. Characteristics of persistent vegetation (Emergent, Scrub-shrub, and/or Forested Cowardin classes)		
Wetland has persistent, ungrazed, vegetation for $> \frac{2}{3}$ of area	points = 5	5
Wetland has persistent, ungrazed, vegetation from $\frac{1}{3}$ to $\frac{2}{3}$ of area	points = 3	
Wetland has persistent, ungrazed vegetation from $\frac{1}{10}$ to $< \frac{1}{3}$ of area	points = 1	
Wetland has persistent, ungrazed vegetation $< \frac{1}{10}$ of area	points = 0	
D 1.4. Characteristics of seasonal ponding or inundation:		
<i>This is the area of ponding that fluctuates every year. Do not count the area that is permanently ponded.</i>		
Area seasonally ponded is $> \frac{1}{2}$ total area of wetland	points = 3	0
Area seasonally ponded is $\frac{1}{4}$ - $\frac{1}{2}$ total area of wetland	points = 1	
Area seasonally ponded is $< \frac{1}{4}$ total area of wetland	points = 0	
Total for D 1	Add the points in the boxes above	8

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

D 2.0. Does the landscape have the potential to support the water quality function of the site?		
D 2.1. Does the wetland receive stormwater discharges?	Yes = 1 No = 0	1
D 2.2. Is $> 10\%$ of the area within 150 ft of the wetland in land uses that generate pollutants?	Yes = 1 No = 0	0
D 2.3. Are there septic systems within 250 ft of the wetland?	Yes = 1 No = 0	0
D 2.4. Are there other sources of pollutants coming into the wetland that are not listed in questions D 2.1- D 2.3? Source _____	Yes = 1 No = 0	0
Total for D 2	Add the points in the boxes above	1

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

D 3.0. Is the water quality improvement provided by the site valuable to society?		
D 3.1. Does the wetland discharge directly (i.e., within 1 mi) to a stream, river, or lake that is on the 303(d) list?	Yes = 1 No = 0	0
D 3.2. Is the wetland in a basin or sub-basin where water quality is an issue in some aquatic resource (303(d) list, eutrophic lakes, problems with nuisance and toxic algae)?	Yes = 1 No = 0	0
D 3.3. Has the site been identified in a watershed or local plan as important for maintaining water quality (answer YES if there is a TMDL for the drainage or basin in which the wetland is found)?	Yes = 1 No = 0	0
Total for D 3	Add the points in the boxes above	0

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

Wetland name or number 05

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

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

D 5.0. Does the landscape have the potential to support the hydrologic functions of the site?		
D 5.1. Does the wetland receive stormwater discharges?	Yes = 1 No = 0	1
D 5.2. Is > 10% of the area within 150 ft of the wetland in a land use that generates runoff?	Yes = 1 No = 0	1
D 5.3. Is more than 25% of the contributing basin of the wetland covered with intensive human land uses?	Yes = 1 No = 0	1
Total for D 5	Add the points in the boxes above	3




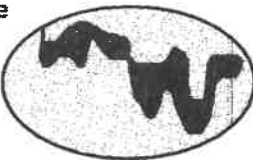

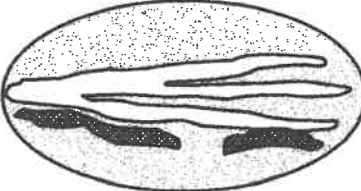
**Rating of Landscape Potential** If score is: 3 = H 1 or 2 = M 0 = L Record the rating on the first page

D 6.0. Are the hydrologic functions provided by the site valuable to society?		
D 6.1. The wetland is in a landscape that has flooding problems.		
Choose the description that best matches conditions around the wetland being rated. Do not add points. Choose the highest score if more than one condition is met.		
The wetland captures surface water that would otherwise flow down-gradient into areas where flooding has damaged human or natural resources (e.g., houses or salmon redds), AND		
Flooding occurs in sub-basin that is immediately down-gradient of wetland	points = 2	
Surface flooding problems are in a sub-basin farther down-gradient	points = 1	
The existing or potential outflow from the wetland is so constrained by human or natural conditions that the water stored by the wetland cannot reach areas that flood.		
Explain why _____	points = 0	
There are no problems with flooding downstream of the wetland	points = 0	
D 6.2. Has the site has been identified as important for flood storage or flood conveyance in a regional flood control plan?	Yes = 2 No = 0	2
Total for D 6	Add the points in the boxes above	1

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



Wetland name or number 05

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?		
<p>H 1.1. Structure of the plant community:</p> <p>Check the Cowardin vegetation classes present and categories of emergent plants. Size threshold for each category is <math>\geq \frac{1}{4}</math> ac or <math>\geq 10\%</math> of the wetland if wetland is <math>&lt; 2.5</math> ac.</p> <p><input type="checkbox"/> Aquatic bed</p> <p><input type="checkbox"/> Emergent plants 0-12 in (0-30 cm) high are the highest layer and have <math>&gt; 30\%</math> cover</p> <p><input checked="" type="checkbox"/> Emergent plants &gt;12-40 in (&gt;30-100 cm) high are the highest layer with <math>&gt;30\%</math> cover</p> <p><input type="checkbox"/> Emergent plants <math>&gt; 40</math> in (&gt; 100 cm) high are the highest layer with <math>&gt;30\%</math> cover</p> <p><input checked="" type="checkbox"/> Scrub-shrub (areas where shrubs have <math>&gt;30\%</math> cover)</p> <p><input type="checkbox"/> Forested (areas where trees have <math>&gt;30\%</math> cover)</p> <p style="text-align: right;">4 or more checks: points = 3 3 checks: points = 2 2 checks: points = <u>1</u> 1 check: points = 0</p>		1
H 1.2. Is one of the vegetation types Aquatic Bed?		Yes = <u>1</u> No = 0
<p>H 1.3. Surface water</p> <p>H 1.3.1. Does the wetland have areas of open water (without emergent or shrub plants) over at least <math>\frac{1}{4}</math> 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 &amp; go to H 1.4 No = go to H 1.3.2</p> <p>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 <math>\frac{1}{4}</math> ac or 10% of its area? Answer yes only if H 1.3.1 is No. Yes = <u>3</u> No = 0</p>		0
<p>H 1.4. Richness of plant species</p> <p>Count the number of plant species in the wetland that cover at least 10 ft<sup>2</sup>. 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)</p> <p># of species _____</p> <p style="text-align: right;">Scoring: <math>&gt; 9</math> species: points = 2 4-9 species: points = <u>1</u> <math>&lt; 4</math> species: points = 0</p>		1
<p>H 1.5. Interspersion of habitats</p> <p>Decide from the diagrams below whether interspersions among types of plant structures (described in H 1.1), and unvegetated areas (open water or mudflats) is high, moderate, low, or none.</p> <p>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.</p> <div style="display: flex; justify-content: space-around; align-items: flex-end;"> <div style="text-align: center;">  <p>None = 0 points</p> </div> <div style="text-align: center;">  <p>Low = 1 point</p> </div> <div style="text-align: center;">  <p>Moderate = 2 points</p> </div> </div> <p>All three diagrams in this row are High = 3 points</p> <div style="display: flex; justify-content: space-around; align-items: flex-end;">    </div> <p style="text-align: center;">Riparian braided channels with 2 classes</p>		Figure <u>1</u>

Wetland name or number 05

<b>H 1.6. Special habitat features</b> <i>Check the habitat features that are present in the wetland. The number of checks is the number of points.</i> <input checked="" type="checkbox"/> Loose rocks larger than 4 in OR large, downed, woody debris (> 4 in diameter) within the area of surface ponding or in stream. <input checked="" type="checkbox"/> Cattails or bulrushes are present within the wetland. <input type="checkbox"/> Standing snags (diameter at the bottom > 4 in) in the wetland or within 30 m (100 ft) of the edge. <input type="checkbox"/> Emergent or shrub vegetation in areas that are permanently inundated/ponded. <input type="checkbox"/> Stable steep banks of fine material that might be used by beaver or muskrat for denning (> 45 degree slope) OR signs of recent beaver activity <input type="checkbox"/> Invasive species cover less than 20% in each stratum of vegetation (canopy, sub-canopy, shrubs, herbaceous, moss/ground cover)		2
Total for H 1	Add the points in the boxes above	5

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

<b>H 2.0. Does the landscape have the potential to support habitat functions of the site?</b> <b>H 2.1. Accessible habitat (only area of habitat abutting wetland). If total accessible habitat is:</b> Calculate: % undisturbed habitat <u>26</u> + [(% moderate and low intensity land uses)/2] <u>14</u> = <u>32</u> % > 1/3 (33.3%) of 1 km Polygon points = 3 20-33% of 1km Polygon points = 2 10-19% of 1km Polygon points = 1 <10% of 1km Polygon points = 0		2
<b>H 2.2. Undisturbed habitat in 1 km Polygon around wetland.</b> Calculate: % undisturbed habitat <u>26</u> + [(% moderate and low intensity land uses)/2] <u>14</u> = <u>36</u> % Undisturbed habitat > 50% of Polygon 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 Polygon points = 0		1
<b>H 2.3. Land use intensity in 1 km Polygon:</b> > 50% of Polygon is high intensity land use points = (- 2) Does not meet criterion above points = 0		0
<b>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</b> Yes = 3 No = 0		0
Total for H 2	Add the points in the boxes above	2

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

<b>H 3.0. Is the habitat provided by the site valuable to society?</b> <b>H 3.1. Does the site provide habitat for species valued in laws, regulations, or policies? Choose the highest score that applies to the wetland being rated</b> 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 — 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		1
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**Rating of Value** If score is: 2 = H 1 = M 0 = L Record the rating on the first page

Wetland name or number 23

### 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
<i>Check off any criteria that apply to the wetland. Circle the category when the appropriate criteria are met.</i>	
<b>SC 1.0. Vernal pools</b> Is the wetland <b>less than 4000 ft<sup>2</sup></b> , and does it meet at least <b>two</b> 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. <i>If you find perennial, obligate, wetland plants, the wetland is probably NOT a vernal pool.</i> — 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 = <u>Not a vernal pool</u>	
SC 1.1. Is the vernal pool relatively undisturbed in February and March? Yes – Go to SC 1.2 No = <b>Not a vernal pool with special characteristics</b>	
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 = <b>Category II</b> No = <b>Category III</b>	<b>Cat. II</b> <b>Cat. III</b>
<b>SC 2.0. Alkali wetlands</b> Does the wetland meet <b>one</b> 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. <b>OR</b> 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 $\frac{3}{4}$ 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 = <b>Category I</b> No = <u>Not an alkali wetland</u>	<b>Cat. I</b>
<b>SC 3.0. Wetlands of High Conservation Value (WHCV)</b> 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 = <b>Category I</b> No = <b>Not a WHCV</b> SC 3.3. Is the wetland in a Section/Township/Range that contains a Natural Heritage wetland? <a href="http://www1.dnr.wa.gov/nhp/refdesk/datasearch/wnhpwetlands.pdf">http://www1.dnr.wa.gov/nhp/refdesk/datasearch/wnhpwetlands.pdf</a> Yes – <b>Contact WNHP/WDNR and go to SC 3.4</b> No = <u>Not a WHCV</u> SC 3.4. Has WDNR identified the wetland within the S/T/R as a Wetland of High Conservation Value and it is listed on their website? Yes = <b>Category I</b> No = <b>Not a WHCV</b>	<b>Cat. I</b>

Wetland name or number 09

<b>SC 4.0 Bogs and Calcareous Fens</b>	<p>Does the wetland (or any part of the wetland unit) meet both the criteria for soils and vegetation in bogs or calcareous fens? <i>Use the key below to identify if the wetland is a bog or calcareous fen. If you answer yes you will still need to rate the wetland based on its functions.</i></p>	<b>Cat. I</b>		
<p>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? <i>See Appendix C for a field key to identify organic soils.</i>  Yes – Go to SC 4.3 No – Go to SC 4.2</p>	<b>Cat. I</b>			
<p>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</p>				
<p>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  <b>NOTE:</b> 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.</p>				
<p>SC 4.4. Is an area with peats or mucks forested (&gt; 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</p>				
<p>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</p>		<b>Cat. I</b>		
<p>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<sub>3</sub>) 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</p>				
<b>SC 5.0. Forested Wetlands</b>	<p>Does the wetland have an area of forest rooted within its boundary that meets at least one of the following three criteria? <i>(Continue only if you have identified that a forested class is present in question H 1.1)</i></p>		<b>Cat. I</b>	
<p>— The wetland is within the 100 year floodplain of a river or stream  — Aspen (<i>Populus tremuloides</i>) represents at least 20% of the total cover of woody species  — There is at least ¼ 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</p>	<b>Cat. I</b>			
<p>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</p>				<b>Cat. II</b>
<p>SC 5.2. Does the wetland have areas where aspen (<i>Populus tremuloides</i>) represents at least 20% of the total cover of woody species?  Yes = Category I No – Go to SC 5.3</p>		<b>Cat. II</b>		
<p>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</p>				
<p>SC 5.4. Is the forested component of the wetland within the 100 year floodplain of a river or stream?  Yes = Category II No – Not a forested wetland with special characteristics</p>				
<p><b>Category of wetland based on Special Characteristics</b></p>	<p>Choose the highest rating if wetland falls into several categories  If you answered No for all types, enter “Not Applicable” on Summary Form</p>		NA	

# Appendix B: WDFW Priority Habitats in Eastern Washington

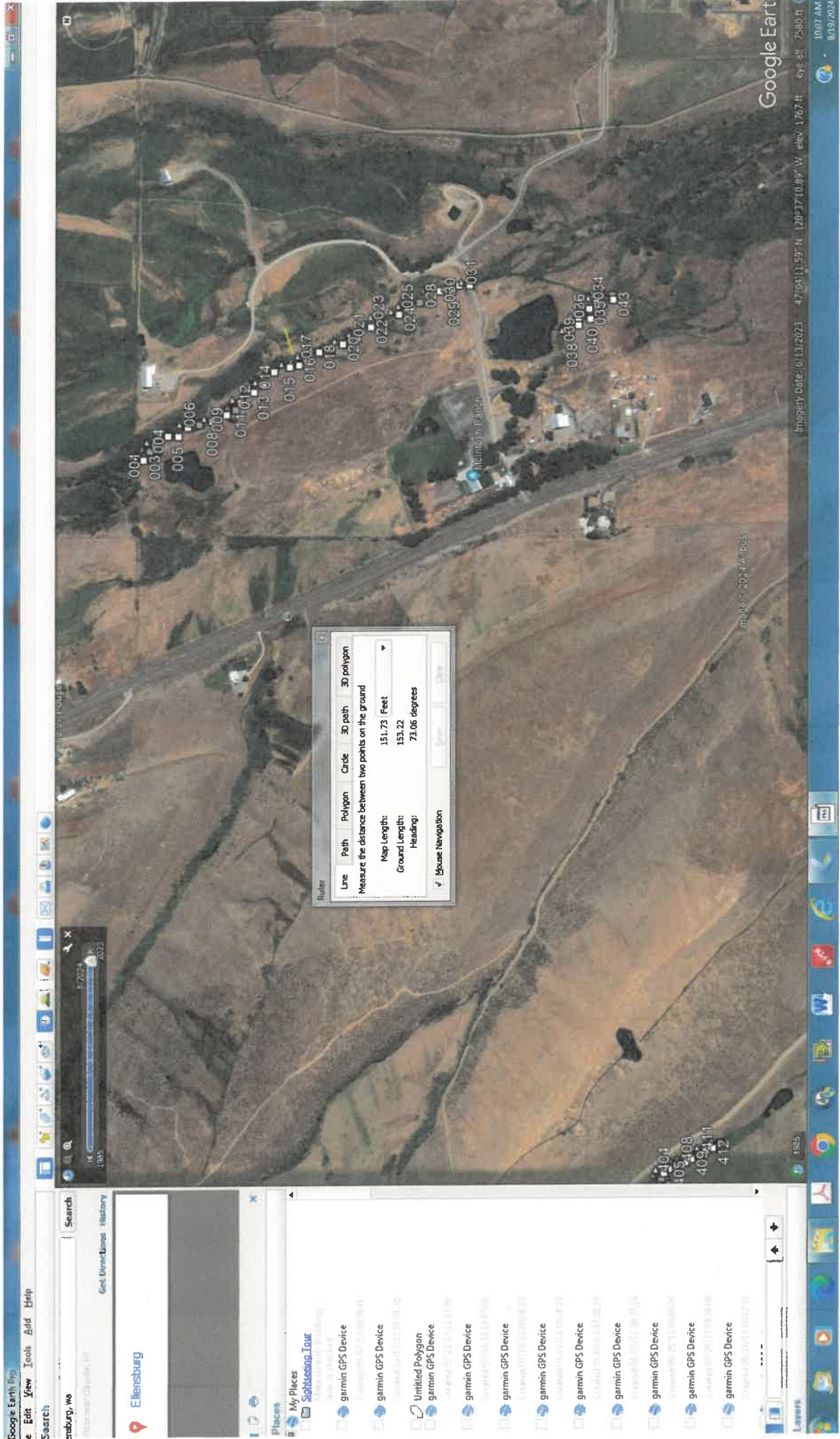
Priority habitats listed by WDFW (see complete descriptions of WDFW priority habitats, and the counties in which they can be found, in: Washington Department of Fish and Wildlife. 2008. Priority Habitat and Species List. Olympia, Washington. 177 pp. <http://wdfw.wa.gov/publications/00165/wdfw00165.pdf> 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: **NOTE:** *This question is independent of the land use between the wetland 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.
- **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 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 > 12 in (30 cm) in eastern 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 addressed elsewhere.









# Water Quality Atlas Map

Legend Filter Zoom Tools

Home Add/Remove Map Data

My Maps Print Share About

Bing Imagery

77513405 ft

Measure Distance

Measure Area

Print Map

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

Unit

Feet

Distance  
7,513.05 ft

New measurement



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Assessed Water/Sediment Filter Applied Clear filters

Zoom to selection Table to CSV

Find	Listing ID	Assessment Unit ID	Category	Medium	Parameter	Details
<a href="#">A1</a>	3724	17060108000228_001_001	5	Water	Temperature	<a href="#">View</a>
<a href="#">A1</a>	3726	17030003000236_001_001	5	Water	Temperature	<a href="#">View</a>
<a href="#">A1</a>	3727	17030001000538_001_001	5	Water	Temperature	<a href="#">View</a>

Show 5 entries Showing 1 to 5 of 5,739 entries

First Previous Next Last





