



Wetland Delineation and Rating for a Property on Huntzinger Rd. Near Vantage, WA

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Prepared for BSCBN

Prepared by,
Environmental Assessment Services

1 Introduction

Environmental Assessment Services (EAS) was contracted by BSCBN to delineate the extent of a wetland located along a property along Huntzinger Road to the south of the town of Vantage, Kittitas County, Washington along the Columbia River (Figure 1).

The results and conclusions of this report represent the professional opinion of experienced scientists employed by EAS. They are based in part upon site reconnaissance and testing, information provided by the property owner, and examination of public domain information concerning the proposed site.

The primary objective of the study was to delineate the waters/wetlands on the property consistent with current regulatory guidance. For the purposes of federal, Washington State, and Kittitas County jurisdictions, wetlands were delineated consistent with the definition provided in the 1987 Corps of Engineers Wetlands Delineation Manual, Arid West Regional Supplement (2008), and Washington State Wetland Rating System for Eastern Washington (2014).



Figure 1. Location of the Huntzinger Road property, Kittitas County, Washington.

EAS staff visited the subject property on April 18, 2019, to perform a site reconnaissance and delineate the boundaries of the waters/wetland on the site. The following report is a summary of the findings of this investigation. The information in the report is arranged in order to introduce the reader to the site and method used for field delineation, and to provide technical results.

2 Site Location, Geomorphic Context, Climate, and Land-Use History

2.1 Location

The property is located along Huntzinger Road to the south of the town of Vantage, Kittitas County, Washington. It is located in Section 30, Township 17, Range 23 East at latitude 46° 55'58.97"N and longitude 120° 00'07.57"W. The study area is approximately 90 acres. It is part of the Upper Columbia-Entiat watershed. The property is part of the Alkali/Squilchuck Water Resource Inventory Area (WRIA). The property is bordered to the west and south by the Ginkgo Petrified Forest State Park, to the east by Grant County PUD property, and to the north by private property. The Columbia River inundates the bay adjacent to the project area.

2.2 Geomorphic Context

The Columbia River along the property was impounded by Wanapum Dam in 1964, which is located 3.5 miles downstream of the property. The topography in the vicinity of the property generally drops steeply toward the river. The elevation on the property ranges 645-705 feet at Huntzinger Road, down to 573 feet at the river shoreline. The soils on the property consist of Malaga gravelly sandy loam along the river shoreline, transitioning to Malaga stony sandy loam, Sagehill-Timmerman complex, and Malaga cobbly sandy loam further upland (NRCS).

2.3 Climate

The Columbia Plateau is in the rain shadow of the Cascade Mountain Range, resulting in dry desert landscapes. Average high temperatures range from 39F in February to 91F in July, and average annual precipitation is under 7.5 inches, as recorded at the Priest Rapids Dam which is located 20 miles to the south of the property on the Columbia River (NWS).

2.4 Land-Use History

The property has a history of agricultural use, evidenced by the presence of fencing, irrigation, and livestock grazing, although it does not appear that the site is currently under use for those purposes. A one kilometer buffer was placed around the wetland area in order to characterize the levels of habitat disturbance surrounding the site. The buffer covered a total of 652 acres, not including area over the water. Of the 652 acres, 101 acres (15%) had a high level of disturbance consisting of houses, roads, and active agricultural operations. Another 86 acres (13%) had a lower level of disturbance consisting of past agricultural operations. The remaining 465 acres (71%) is relatively intact sagebrush steppe (Figure 2).



Figure 2. Overview map of project area with 1km wetland buffer and disturbed areas identified.

3 Methods

3.1 Rationale

Waters of the U.S. including wetlands were delineated on the property consistent with guidelines in the 1987 Corps of Engineers Wetlands Delineation Manual, Arid West Regional Supplement (2008), and Washington State Wetland Rating System for Eastern Washington (2014).

3.2 Office

Prior to the site visit, staff collected information on the property from the U.S. Department of Agriculture Natural Resources Conservation Service Soil Mapping Service (NRCS). Staff also evaluated the data available in the U.S. Fish and Wildlife Service National Wetland Inventory (NWI) mapper (FWS) as well as aerial photographs.

3.3 Field Delineation

3.3.1 Hydrology Evaluation

The presence of wetland hydrology was assessed on the property in accordance with the 1987 Corps of Engineers Wetlands Delineation Manual, Arid West Regional Supplement (2008), and Washington State Wetland Rating System for Eastern Washington (2014). Wetland hydrology can be determined by a number of direct and indirect indicators. Direct indicators may be recorded data from stream gages, lake gages, tidal gages, flood predictions, and historical records. Indirect indicators may include drainage patterns, drift lines, sediment deposition, watermarks, visual observation of saturated soils, visual observation of inundation, oxidized channels (rhizospheres) associated with living roots and rhizomes, water-stained leaves, surface scoured areas, wetland drainage patterns, morphological plant adaptations, and hydric soil characteristics.

3.3.2 Soil Evaluation

The presence of Hydric soils were evaluated on the property along Huntzinger Road using criteria in the 1987 Corps of Engineers Wetlands Delineation Manual, Arid West Regional Supplement (2008), and Washington State Wetland Rating System for Eastern Washington (2014). The definition of "a hydric soil" is a soil that formed under conditions of saturation, flooding, or ponding long enough during the growing season to develop anaerobic conditions in the upper part. (USDA, NRCS 1996). The National Technical Committee for Hydric Soils (NTCHS) has developed criteria for hydric soils (USDA, NRCS 1996):

- a. "All Histosols* except Folists; or
- b. Soils in Aquic suborders, great groups, or subgroups, Albolls suborder, Aquisalids, Pachic subgroups, or Cumulic subgroups that are:
 - (1) Somewhat poorly drained with a water table equal to 0.0 foot (ft) from the surface during the growing season, or
 - (2) Poorly drained or very poorly drained and have either:
 - (a) A water table equal to 0.0 ft during the growing season if textures are coarse sand, sand, or fine sand in all layers within 20 inches(in), or for other soils
 - (b) A water table is at less than or equal to 0.5 ft from the surface during the growing season if permeability is equal to or greater than 6.0 in/hour in all layers within 20 in, or
 - (c) the water table is at less than or equal to 1.0 ft from the surface during the growing season if permeability is less than 6.0 in/hour in any layer within 20 in, or

- c. Soils that are frequently ponded for long or very long duration during the growing season; or
- d. Soils that are frequently flooded for long duration or very long duration during the growing season.”

These criteria can be determined using both published soils information and field indicators. Field indicators may include the soil is a histosol, a histic epipedon is present, hydrogen sulfide odor is present, the soil occurs in an aquic or peraquic soil moisture regime, the soil has a depleted matrix, the soil is gleyed, the soil has a low chroma matrix with redoximorphic features such as mottles, the soil appears on the hydric soils list, and iron and/or manganese concretions are present.

3.3.3 Vegetation Evaluation

The presence of hydrophytic vegetation was determined consistent with U.S. Army Corps of Engineers National Wetland Plant List for the State of Washington (NWPL 2016). Dominant species were identified in each of the four strata (tree, sapling/shrub, woody vine, and herb). Dominant species are those species that when ranked in descending order of abundance and cumulatively totaled, exceed 50 percent cover of the total dominance measure for that stratum and any species that consists of at least 20 percent cover. Each species was assigned their indicator using the NWPL. Table 1 defines each category.

Table 1. U.S. Fish & Wildlife Service Plant Indicator Status.

Indicator Status	Definition
Obligate Wetland (OBL)	Occur almost always (estimated probability >99%) under natural conditions in wetlands.
Facultative Wetland (FACW)	Usually occur in wetlands (estimated probability 67%-99%), but occasionally found in non-wetlands.
Facultative (FAC)	Equally likely to occur in wetlands or non-wetlands (estimated probability 34%-66%).
Facultative Upland (FACU)	Usually occur in non-wetlands, but occasionally found in wetlands (1%-33%).
Obligate Upland (UPL)	Plants that rarely occur (estimated probability <1%) in wetlands but occur almost always in non-wetlands under natural conditions.
No Indicator Status (NI)	Insufficient information exists to assign an indicator status.
Not Listed (NL)	Not on the National List in any region.

In accordance with the 1987 Corps of Engineers Wetlands Delineation Manual, Arid West Regional Supplement (2008) an area meets the hydrophytic vegetation criteria if under normal circumstances, more than 50 percent of the dominant species from each stratum are obligate wetland (OBL), facultative wetland (FACW), and/or facultative (FAC) species. A plus or minus following a species indicator status specifies a higher or lower

indicator. A FAC- is not considered a indicator of hydrophic vegetation. In the Northwest where protracted summer droughts occur, the U.S. Army Corps of Engineers allow the presence of facultative upland (FACU) dominated plant communities where wetland hydrology is clearly present.

3.3.4 Washington State Wetlands Rating System

The study area wetland was rated using the Washington State Wetlands Rating System for Eastern Washington (DOE 2014). Washington State recognizes that some wetlands are rarer than others. Washington Department of Ecology has developed a wetlands rating system that can differentiate wetlands according to specific functions, sensitivity to disturbance, rarity, and irreplaceability. The wetland rating for the property can be found in Appendix A.

3.3.5 Identification of Boundaries

A high-accuracy Trimble GeoXH GPS was used to record features in the field and then the data was corrected using post-processing prior to generating maps. Flagging was also used to indicate the boundary of features recorded in the field for subsequent site evaluations. Buffers were applied using a geographic information system (GIS).

4 Results

4.1 Hydrology

Although the NWI indicates a seasonally flooded streambed (R4SBC) is present on the property, none was noted during field reconnaissance. The bay of the Columbia River that is adjacent to the property is classified as a Lacustrine Littoral Wetland with an unconsolidated bottom that is semi-permanently flooded due to river channel impoundment (L2UBFh, Figure 3). The dominant source of hydrology to the wetland is inundation from the Columbia River. Water was present in holes dug in the wetland within 8" of the surface (Indicator A2).



Figure 3. Cowardin Wetland Classes Identified on the Property on the NWI Mapper

4.2 Soils

Soils in the vicinity of the property consist of Malaga gravelly sandy loam along the river shoreline, transitioning to Malaga stony sandy loam, Sagehill-Timmerman complex, and Malaga cobbly sandy loam further upland (NRCS). Two soil pits were excavated and characterized one in the wetland and one in the upland area, the results are

provided in Table 1. The soils in the wetland had oxidized root channels, and are regularly inundated during the growing season by river level fluctuation due to changes in the water level from Wanapum Dam operations.

Table 1. Soil Pit Observations at the Huntzinger Rd. Property on April 18, 2019.

Depth (in)	Horizon	Matrix Color	Mottle Colors	Mottle Abundance, etc.	Texture
Wetland Pit					
0-6	O	2.5YR 3/3	7.5YR 6/8	Small depletions	Sandy Loam
6-18	A1	2.5YR 3/2	-	-	Gravelly Loam
Upland Pit					
0-18	A1	2.5 YR 3/3	-	-	Sandy Loam

4.3 Vegetation

More than 50 percent of the dominant plant species present were facultative (FAC) or wetter. Therefore, the wetland criteria for Washington State Wetland Rating System for Eastern Washington (2014) were met. The dominant shrubs in the wetland area were peach-leaf willow (*Salix amygdaloides*) with a visually estimated 10% cover. The dominant species found in the understory was reed canarygrass (*Phalaris arundinacea*) at 30% cover and knapweed (*Centaurea* spp.) at 30% cover. Other species identified in the wetland area are described in the Table 2. The dominant species in the upland area were tumble mustard (*Sisymbrium altissimum*) and cheat grass (*Bromus tectorum*); other upland plants identified on the property are shown in Table 3.

Table 2. Plant species found in the wetland area on the Huntzinger Rd. property

Scientific Name	Common Name	Indicator Status
<i>Phalaris arundinacea</i>	Reed Canarygrass*	FACW
<i>Salix amygdaloides</i>	Peach-leaf willow*	FACW
<i>Centaurea</i> spp.	Knapweed*	NI
<i>Typha latifolia</i>	Common cattail	OBL
<i>Plantago lanceolata</i>	English Plantain	FAC
<i>Rumex crispus</i>	Curly dock	FAC
<i>Juncus</i> spp.	Rush	Generally OBL or FACW
<i>Carex</i> spp.	Sedge	Generally OBL or FACW
<i>Rubus armeniacus</i>	Himalayan blackberry	FAC

Note: dominant species are denoted with an (*).

Table 3. Plant species found in the upland area on the Huntzinger Rd. property

Scientific Name	Common Name
<i>Sisymbrium altissimum</i>	Tumble mustard*
<i>Bromus tectorum</i>	Cheat grass*
<i>Chorispora tenella</i>	Blue mustard
<i>Erodium cicutarium</i>	Storksbill
<i>Draba verna</i>	Spring draba
<i>Holosteum umbellatum</i>	Jagged chickweed
<i>Ericameria nauseosa</i>	Gray rabbitbrush

Note: dominant species are denoted with an (*).

4.4 Geographic Extent of Waters of the U.S., Including Wetlands

The project area borders the Columbia River, and the river inundates a bay that creates the wetland that was characterized in this report. The wetland at the property was classified as a category III wetland according to the Washington State Wetlands Rating System for Eastern Washington (2014). The boundary of the wetland was recorded with a high-accuracy Trimble GeoXH GPS and then the data was corrected using post-processing prior to generating maps. The boundary of the wetland was also flagged in the field using green plastic ribbon. The boundary of the wetland that is adjacent to the property was delineated and is shown in Figure 4. A 100-foot buffer was also provided on the map in Figure 4, as described in the Buffers section (4.5). The boundary on the opposite shoreline was not delineated, as the associated buffer would not affect the subject property.

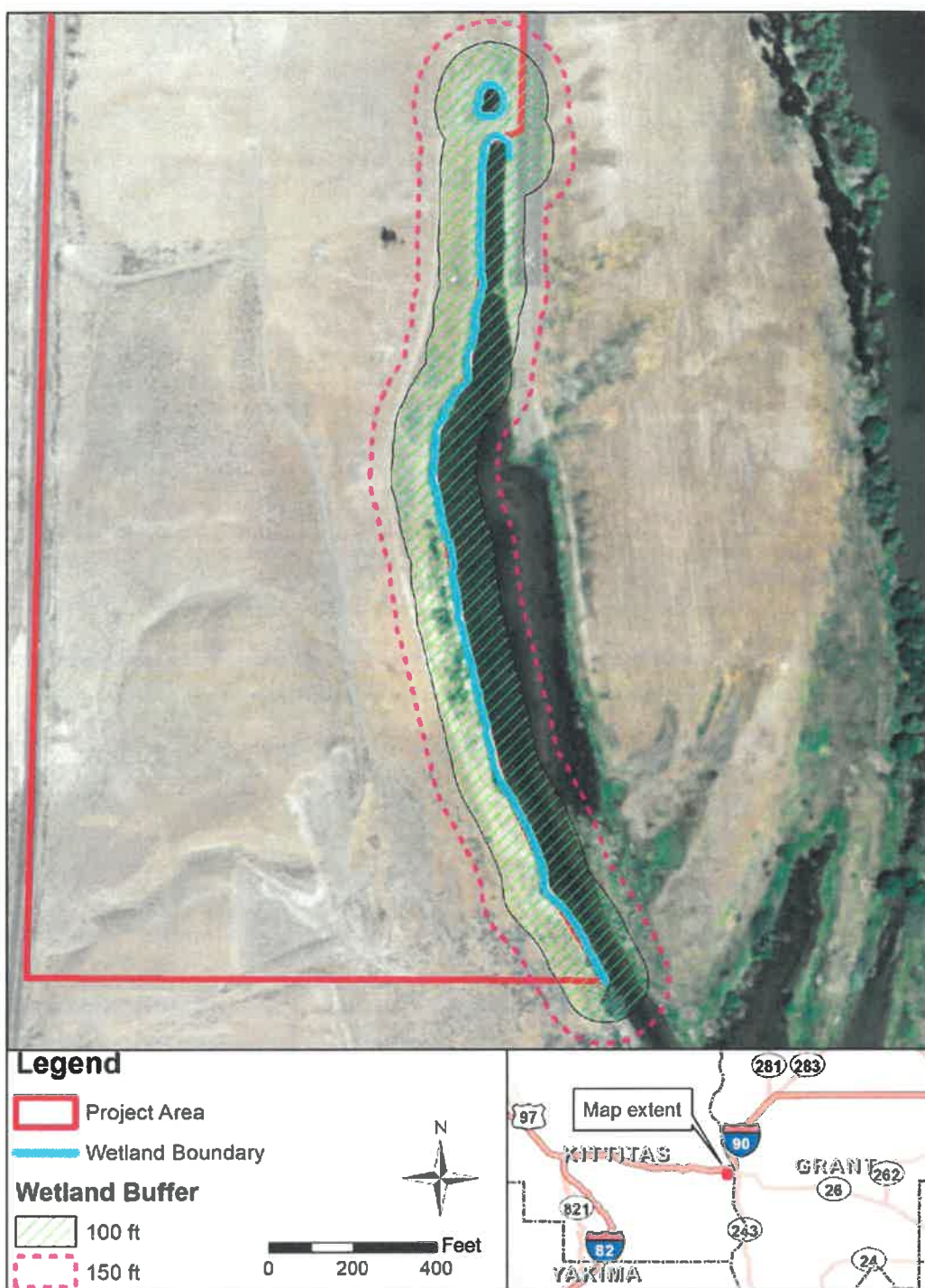


Figure 4. Wetland boundary and 100 and 150 foot buffers.

The waters near to the property (Wanapum Lake) are categorized on the 303(d) list of impaired waters under the Clean Water Act for Dissolved Oxygen, pH, Total Dissolved Gas (TDG), Temperature and Chlordane. (Figure 5). In addition, the waters adjacent to the property also have Total Maximum Daily Loads (TMDLs) for TDG and Dioxin (Figure 6).

View	Listing ID	Assessment Unit ID	Medium	Parameter	Current Category	Waterbody Name	WRIA	WQ Improvement Project	WQ Atlas Map Link
View	18183	17020010045_01_01	Water	Dissolved Oxygen	3	COLUMBIA RIVER (WANAPUM LAKE)	40 - Alkali-Squibbuck, 44 - Moses Coulee, 51 - Lower Crab		18183
View	16186	17020010049_01_01	Water	pH	2	COLUMBIA RIVER (WANAPUM LAKE)	41 - Lower Crab, 40 - Alkali-Squibbuck, 44 - Moses Coulee		16186
View	76387	17020010050_01_01	Water	Total Dissolved Gas	4A	COLUMBIA RIVER (WANAPUM LAKE)	40 - Alkali-Squibbuck, 43 - Lower Crab	Mid Columbia River and Lake Roosevelt TGG TMDL	76387
View	40946	17020010054_01_01	Water	Temperature	5	COLUMBIA RIVER (WANAPUM LAKE)	40 - Alkali-Squibbuck, 41 - Lower Crab		40946
View	77327	17020010057_01_01	Toxic	Chloride	1	COLUMBIA RIVER (WANAPUM LAKE)	40 - Alkali-Squibbuck, 41 - Lower Crab		77327

Figure 5. Screen Capture of 303(d) List for Wanapum Lake

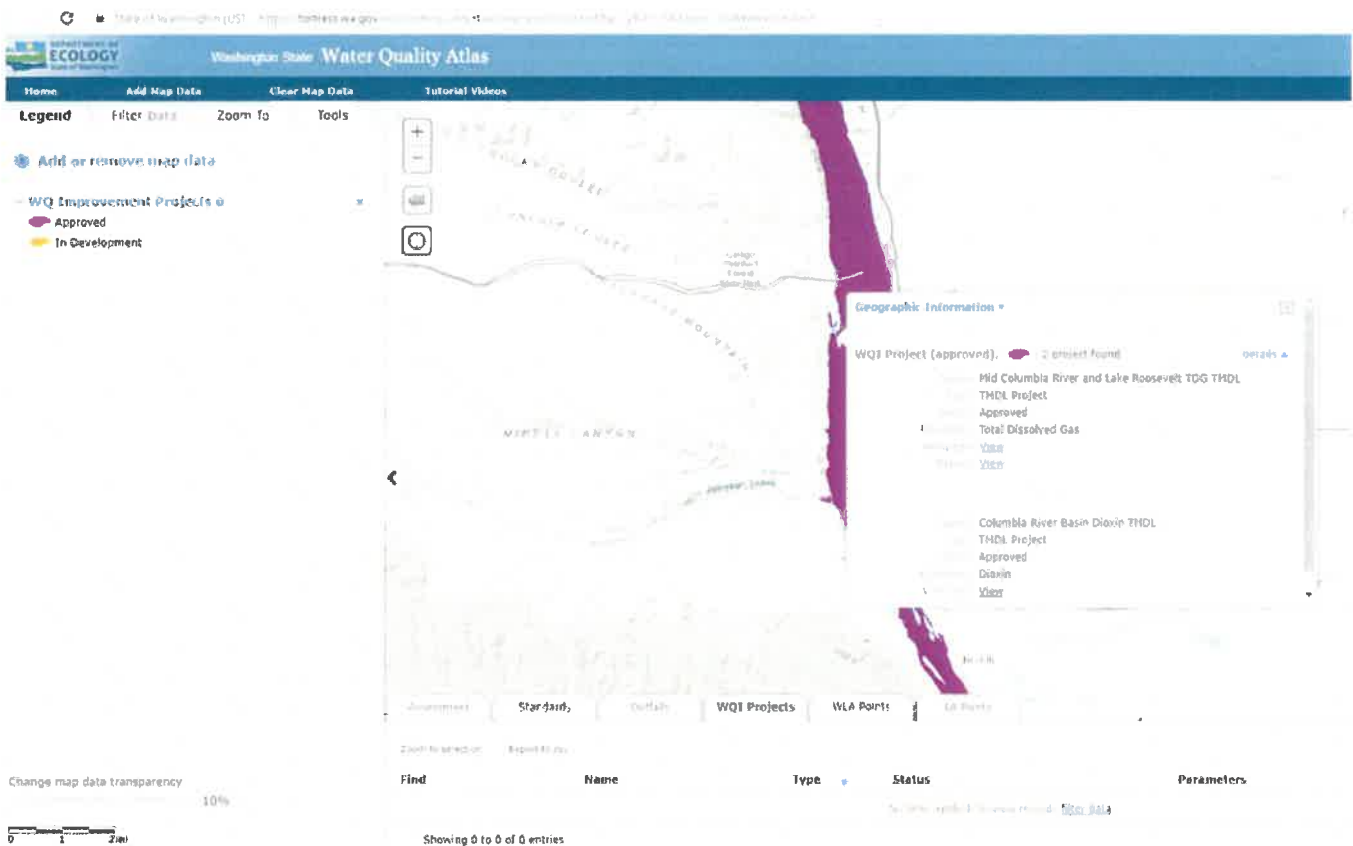


Figure 6. Water Quality Atlas TMDLs in Waters Adjacent to the Project Area

4.5 Buffers

The boundary of the wetland was delineated adjacent to the property area, in order to facilitate the designation of a buffer around the wetland. According to the Kittitas County Shoreline Master Program, the shoreline in the project area has Shoreline Environment Designation of Rural Conservancy, requiring a 100 foot buffer. This is more than the 20-80 foot buffer required for wetlands over 10,000 sq. ft. in the Kittitas County Critical Area Code (Section 17A.04.020). The Critical Area Code calls for buffer size to be determined by the director, and that buffer averaging may be applied under some circumstances, which are specified in section 17A.04.030 of the Code. A 100 foot buffer was applied to the wetland boundary, as shown in Figure 4; a 150 foot buffer was also provided, as required for the wetland rating.

5 Literature Cited

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NRCS Soil Map. Websoilsurvey.nrcs.usda.gov. Retrieved March 25, 2019.

Kittitas County Shoreline Master Program. 2016. Kittitas County Shoreline Master Program Update.

Lichvar, R.W., D.L. Banks, W.N. Kirchner, and N.C. Melvin. 2016. The National Wetland Plant List: 2016 ratings. U.S. Army Corps of Engineers. Phytoneuron 2016-30: 1-17.

Regional Supplement to the Corps of Engineers Wetland Delineation Manual: Arid West Regional (Version 2.0). 2008. U.S. Army Corps of Engineers. ERDC/EL TR-08-28

Washington State Wetland Rating System for Eastern Washington. 2014. State of Washington Department of Ecology. 14-06-303

Wetland Delineation Manual. 1987. U.S. Army Corps of Engineers. Technical Report Y-87-1



Appendix A: Wetland Rating

Wetland name or number Huntzinger Rd

RATING SUMMARY – Eastern Washington

Name of wetland (or ID #): Huntzinger Rd Date of site visit: 4-18-19

Rated by C. Lindsey and J. Nugent Trained by Ecology? Yes No Date of training _____

HGM Class used for rating Lake Fringe 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 ESRI ArcGIS, figures in delineation _____

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

18 Category III – Total score = 16-18

_____ Category IV – Total score = 9-15

FUNCTION	Improving Water Quality	Hydrologic	Habitat	
<i>Circle the appropriate ratings</i>				
Site Potential	H <input checked="" type="radio"/> M L	H M <input checked="" type="radio"/> L	H <input checked="" type="radio"/> M L	
Landscape Potential	H <input checked="" type="radio"/> M L	H <input checked="" type="radio"/> M L	<input checked="" type="radio"/> H M L	
Value	<input checked="" type="radio"/> H M L	H M <input checked="" type="radio"/> L	<input checked="" type="radio"/> H M L	TOTAL
Score Based on Ratings	7	4	7	18

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	
	<i>Circle the appropriate category</i>	
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 Huntzinger Rd

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	Figure 3
Plant cover of trees, shrubs, and herbaceous plants	L 1.2	Section 4.3
Boundary of area within 150 ft of the wetland (<i>can be added to another figure</i>)	L 2.2	Figure 4
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	Figure 2
Screen capture of map of 303(d) listed waters in basin (from Ecology website)	L 3.1, L 3.2	Figure 5
Screen capture of list of TMDLs for WRIA in which wetland is found (website)	L 3.3	Figure 6

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?

Yes 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 Huntzinger Rd

LAKE FRINGE WETLANDS		Points (only 1 score per box)
Water Quality Functions - Indicators that the site functions to improve water quality.		
L 1.0. Does the site have the potential to improve water quality?		
L 1.1. Average width of plants along the lakeshore (<i>use polygons of Cowardin classes</i>):		1
Plants are more than 33 ft (10 m) wide	points = 6	
Plants are more than 16 ft (5 m) and < 33 ft (10 m) wide	points = 3	
Plants are more than 6 ft (2 m) and < 16 ft (5 m) wide	points = 1	
L 1.2. Characteristics of the plants in the wetland: Choose the appropriate description that results in the highest points, and do not include any open water in your estimate of coverage. The herbaceous plants can be either the dominant form or as an understory in a shrub or forest community. <i>These are not Cowardin classes. Area of cover is total cover in the wetland, but it can be in patches. Herbaceous does not include aquatic bed.</i>		3
Cover of herbaceous plants is > 90% of the vegetated area	points = 6	
Cover of herbaceous plants is > ² / ₃ of the vegetated area	points = 4	
Cover of herbaceous plants is > ¹ / ₃ of the vegetated area	points = 3	
Other plants that are not aquatic bed > ² / ₃ wetland	points = 3	
Other plants that are not aquatic bed in > ¹ / ₃ vegetated area	points = 1	
Aquatic bed plants and open water cover > ² / ₃ of the wetland	points = 0	
Total for L 1	Add the points in the boxes above	4

Rating of Site Potential If score is: 8-12 = H 4-7 = M 0-3 = L

Record the rating on the first page

L 2.0. Does the landscape have the potential to support the water quality function of the site?		
L 2.1. Is the lake used by power boats?	Yes = 1 No = 0	1
L 2.2. Is > 10% of the area within 150 ft of wetland on the upland side in land uses that generate pollutants?	Yes = 1 No = 0	0
L 2.3. Does the lake have problems with algal blooms or excessive plants such as milfoil?	Yes = 1 No = 0	0
Total for L 2	Add the points in the boxes above	1

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

Record the rating on the first page

L 3.0. Is the water quality improvement provided by the site valuable to society?		
L 3.1. Is the lake on the 303(d) list of degraded aquatic resources?	Yes = 1 No = 0	1
L 3.2. Is the lake in a sub-basin where water quality is an issue (at least one aquatic resource in the basin is on the 303(d) list)?	Yes = 1 No = 0	1
L 3.3. Has the site been identified in a watershed or local plan as important for maintaining water quality? <i>Answer YES if there is a TMDL for the lake or basin in which wetland is found.</i>	Yes = 2 No = 0	2
Total for L 3	Add the points in the boxes above	4

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

Record the rating on the first page

Wetland name or number Huntzinger Rd

LAKE FRINGE WETLANDS		Points (only 1 score per box)
Hydrologic Functions - Indicators that the wetland unit functions to reduce shoreline erosion		
L 4.0. Does the site have the potential to reduce shoreline erosion?		
L 4.1. Distance along shore and average width of Cowardin classes along the lakeshore (do not include Aquatic Bed): <i>Choose the highest scoring description that matches conditions in the wetland.</i>		2
> ¾ of distance is Scrub-shrub or Forested at least 33 ft (10 m) wide	points = 6	
> ¾ of distance is Scrub-shrub or Forested at least 6 ft (2 m) wide	points = 4	
> ¼ distance is Scrub-shrub or Forested at least 33 ft (10 m) wide	points = 4	
Plants are at least 6 ft (2 m) wide (do not include Aquatic Bed)	points = 2	
Plants are less than 6 ft (2 m) wide (do not include Aquatic Bed)	points = 0	

Rating of Site Potential If score is: 6 = M 0-5 = L

Record the rating on the first page

L 5.0. Does the landscape have the potential to support hydrologic functions of the site?		
L 5.1. Is the lake used by power boats with more than 10 hp?	Yes = 1 No = 0	1
L 5.2. Is the fetch on the lake side of the wetland at least 1 mile in distance?	Yes = 1 No = 0	0
Total for L 5	Add the points in the boxes above	1

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

Record the rating on the first page

L 6.0. Are the hydrologic functions provided by the site valuable to society?		
L 6.1. Are there resources, both human and natural, along the shore that can be impacted by erosion? If more than one resource is present, choose the one with the highest score.		0
There are human structures or old growth/mature forests within 25 ft of OHWM of the shore in the wetland	points = 2	
There are nature trails or other paths and recreational activities within 25 ft of OHWM	points = 1	
Other resources that could be impacted by erosion	points = 1	
There are no resources that can be impacted by erosion along the shores of the wetland	points = 0	

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

Record the rating on the first page

NOTES and FIELD OBSERVATIONS:

Wetland name or number ___Huntzinger Rd_____

<p>H 1.6. <u>Special habitat features</u> <i>Check the habitat features that are present in the wetland. The number of checks is the number of points.</i> <input 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 checked="" type="checkbox"/> Emergent or shrub vegetation in areas that are permanently inundated/ponded. <input checked="" 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>)</p>	3
<p>Total for H 1</p>	8

Rating of Site Potential If score is: ___15-18 = H ___7-14 = M ___0-6 = L *Record the rating on the first page*

<p>H 2.0. Does the landscape have the potential to support habitat functions of the site?</p>	
<p>H 2.1. Accessible habitat (only area of habitat abutting wetland). If total accessible habitat is: <i>Calculate:</i> % undisturbed habitat <u>86</u> + [(% moderate and low intensity land uses)/2] <u>3.5</u> = <u>89.5</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</p>	3
<p>H 2.2. Undisturbed habitat in 1 km Polygon around wetland. <i>Calculate:</i> % undisturbed habitat <u>86</u> + [(% moderate and low intensity land uses)/2] <u>3.5</u> = <u>89.5</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</p>	3
<p>H 2.3. Land use intensity in 1 km Polygon: > 50% of Polygon is high intensity land use points = (- 2) Does not meet criterion above points = 0</p>	0
<p>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. <i>Generally, this means outside boundaries of reclamation areas, irrigation districts, or reservoirs</i> Yes = 3 No = 0</p>	0
<p>Total for H 2</p>	6

Rating of Landscape Potential If score is: ___4-9 = H ___1-3 = M ___< 1 = L *Record the rating on the first page*

<p>H 3.0. Is the habitat provided by the site valuable to society?</p>	
<p>H 3.1. Does the site provide habitat for species valued in laws, regulations, or policies? <i>Choose the highest score that applies to the wetland being rated</i> 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</p>	2

Rating of Value If score is: ___2 = H ___1 = M ___0 = L *Record the rating on the first page*