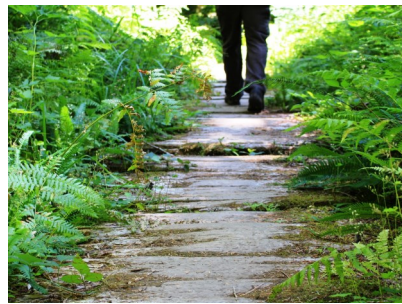




CRITICAL AREAS REPORT

October 9, 2020



Herb Johnson Delineation *Chehalis, Washington*

Prepared for

Herb Johnson

870 SW 21st Street

Chehalis, Washington 98532

(360) 748-1175

Prepared by

Ecological Land Services

1157 3rd Avenue, Suite 220A • Longview, WA 98632

(360) 578-1371 • Project Number 3286.01

SIGNATURE PAGE

The information and data in this report was compiled and prepared under the supervision and direction of the undersigned.

A handwritten signature in cursive script that reads "Kate'Lyn Wills". The signature is written in black ink and is positioned above a horizontal line.

Kate'Lyn (KT) Wills
Biologist/Environmental Scientist IV

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INTRODUCTION

Ecological Land Services, Inc. (ELS) has completed this critical areas report on behalf of the applicant, Herb Johnson. The site consists of Lewis County Parcel Number 005604183244, located at 870 SW 21st Street in Chehalis, Washington, within a portion of Section 4, Township 13 North, and Range 2 West of the Willamette Meridian (Figure 1). This report summarizes the findings of critical areas onsite in accordance with the *Chehalis Municipal Code (CMC), Chapter 17.21 Critical Areas* (2020).

SITE DESCRIPTION

The approximately 5.1-acre site is zoned as residential and is currently vacant except for a small gravel parking area in the southwestern corner of the property (Figure 2). The rest of the site has been mowed regularly for the past 10 years. The site is generally level with a low point in the northern corner. Access to the site is located just south of 870 SW 21st Street. The triangular shaped site is fenced on all three sides and surrounded by high intensity single-family homes with commercial uses just to the north.

METHODOLOGY

The wetland delineation followed the Routine Determination Method according to the *Corps of Engineers Wetland Delineation Manual* (Environmental Laboratory 1987) and the *Regional Supplement to the Corps of Engineers Wetland Delineation Manual: Western Mountains, Valleys, and Coast Region (Version 2.0)* (U.S. Army Corps of Engineers 2010).

The Routine Determination Method examines three parameters—vegetation, soils, and hydrology—to determine if wetlands exist in a given area. Hydrology is critical in determining what is wetland, but is often difficult to assess because hydrologic conditions can change periodically (hourly, daily, or seasonally). Consequently, it is necessary to determine if hydrophytic vegetation and hydric soils are present, which would indicate that water is present for long enough duration to support a wetland plant community. By definition, wetlands are those areas that are inundated or saturated by surface or ground water at a frequency and duration sufficient to support, and that under normal circumstances do support, a prevalence of vegetation typically adapted for life in saturated soil conditions. Wetlands are regulated as “Waters of the United States” by the U.S. Army Corps of Engineers (USACE), as “Waters of the State” by the Washington Department of Ecology (Ecology), and locally by the City of Chehalis (City).

ELS biologists conducted a reconnaissance of the property on August 27, 2020 to determine the presence or absence of any wetlands, streams, and other critical areas on the site and map their approximate locations. Prior to conducting the site visit, an ELS biologist reviewed current and historic aerial photographs dating back to 1990 and reviewed the Lewis County GIS database information regarding soils, topography, wetlands, and habitat conservation areas. One depressional wetland (Wetland A) was located within the northern corner of the site and (Figure 2). Vegetation, soil, and hydrology information was collected from eight test plots to determine the location and extent of the wetland onsite. Data sheets can be found in Appendix A. Test plot locations and the wetland boundary were flagged with consecutively numbered pink pin flags and GPS coordinates taken with a handheld GPS unit with sub meter accuracy. Additionally, the

location, approximate diameter at breast height (dbh), and approximate canopy area of three adjacent Oregon white oak (*Quercus garryana*) trees were recorded and mapped.

VEGETATION

Wetlands

Vegetation found in the wetland test plot consists primarily of **herbs**: reed canarygrass (*Phalaris arundinacea*, FACW), and creeping buttercup (*Ranunculus repens*, FACW).

Uplands

Vegetation found in the upland test plots is dominated by **herbs**: Fuller's teasel (*Dipsacus fullonum*, FAC), Queen Anne's lace (*Daucus carota*, FACU), hairy cat's ear (*Hypochaeris radicata*, FACU), red clover (*Trifolium pratense*, FACU) and reed canarygrass.

The indicator status, following the scientific names, indicates the likelihood of the species to be found in wetlands. Listed from most likely to least likely to be found in wetlands, the indicator status categories are:

- **OBL** (obligate wetland) - occur almost always under natural conditions in wetlands.
- **FACW** (facultative wetland) - usually occur in wetlands, but occasionally found in non-wetlands.
- **FAC** (facultative) - equally likely to occur in wetlands or non-wetlands.
- **FACU** (facultative upland) - usually occur in non-wetlands, but occasionally found in wetlands.
- **UPL** (obligate upland) - occur almost always under natural conditions in non-wetlands.
- **NI** (no indicator) - insufficient data to assign to an indicator category.

SOILS

Soils onsite are mapped as Lacamas silt loam, 0 to 3 percent slopes (118), as referenced on the Natural Resources Conservation Service (NRCS) Web Soil Survey website (NRCS 2020) (Figure 3). Lacamas silt loam is characterized as a poorly drained soil with an approximate depth to water table of about 12 to 18 inches below ground surface (BGS). This soil is generally found on floodplains and terraces. Soil within the wetland test plots consisted of silty clay loam with a depleted matrix and at least 5 percent redoximorphic concentrations found in pore linings meeting both or either of the hydric soil indicators; Depleted Matrix (F3) or Redox Dark Surface (F6). Specific soil information is recorded on the attached wetland determination data forms (Appendix A).

Lacamas silt loam is listed as a hydric soil (NRCS 2020). Mapped hydric soils do not necessarily mean that the area is a wetland—hydrology, wetland vegetation, and hydric soils must all be present to classify an area as a wetland. Conversely, wetlands may be found in areas where the soils are not mapped as hydric. ELS does not generally agree with NRCS mapped hydric soils, as wetlands were found in mapped non-hydric soil areas, and conversely, uplands were found in mapped hydric soil areas.

HYDROLOGY

Wetland A is located in a shallow depression within the northern corner of the site. Hydrology sources include a shallow groundwater table, runoff, and precipitation. The wetland has two hydroperiods; seasonally flooded and saturated only. It provides flood storage and delay, and groundwater recharge functions. No surface water or saturation was present in the wetland during the site visit; however, the primary hydrology indicator Oxidized Rhizospheres along Living Roots (C3) were present within the wetland test plots. The wetland test plots also met the following secondary indicators; Water Stained Leaves (B9), Geomorphic Position (D2), and a positive FAC-Neutral Test (D5). The upland test plots did not meet any hydrology indicators. Test plot data sheets can be found in Appendix A.

WETLAND INVENTORIES

The National Wetlands Inventory Map (NWI) indicated the presence of a Palustrine, emergent, persistent, scrub-shrub, and seasonally flooded wetland covering the site (Figure 4). ELS' findings differed from the NWI as only a 0.49-acre wetland was delineated in the northern corner of the site and the remainder of the site consisted of uplands. Maps from the NWI should be used with discretion as they are typically used to gather wetland information about a region and, because of the large scale necessary for regional mapping, are limited in accuracy for localized analyses.

CRITICAL AREAS SUMMARY

Wetland

One emergent and depressional wetland (Wetland A) was delineated in a shallow depression with no outlet in the northern corner of the site. The wetland boundary was bordered by an obvious change in elevation and vegetation. The wetland area is dominated by reed canarygrass and creeping buttercup. Hydrology sources include a shallow groundwater table, runoff, and precipitation. The wetland has two hydroperiods; seasonally flooded and saturated only. The wetland provides flood storage and delay, and groundwater recharge functions. According to the *Washington State Wetland Rating System for Western Washington: 2014 Update* (Rating System); Wetland A is a Category IV wetland scoring a total of 15 points, with 6 points for water quality functions, 5 points for hydrologic functions, and 4 points for habitat functions (Hruby 2014). The wetland rating form can be found in Appendix B. Standard wetland buffers are based on wetland category in conjunction with the habitat function score from the Rating Form. Wetland A is a Category IV wetland with a habitat score of 4 making the standard buffer width 50 feet according to *CMC 17.23.030(C) Buffers*. Table 2 below summarizes the wetland.

Table 2. Summary of Wetland Onsite.

Wetland Area	Area Onsite (acres)	Cowardin ¹ /HGM ²	Category ³	Standard Buffer Width ⁴ (feet)
Wetland A	0.49	Emergent/Depressional	Category IV	50

¹Cowardin et al. 1979

²NRCS 2008

³Hruby 2014

⁴CMC 17.23.030(C)

Oregon White Oak

In urban or urbanizing areas west of the Cascades, WDFW defines priority oak habitat as single oaks, or stands of pure oak, or oak/conifer associations, 1 acre or greater in size. WDFW may also consider individual Oregon white oak trees a priority habitat when found to be particularly valuable to wildlife (i.e., contains many cavities, has a large diameter at breast height (DBH), is used by priority species, or has a large canopy) (Larsen and Morgan 1998). The project site is within an urban growth boundary. WDFW recommendation is that in urban and urbanizing areas, single trees should be maintained if they are deemed important to species highly associated with Oregon white oak. Oaks and their associated floras comprise distinct woodland ecosystems with various plant communities providing valuable habitat that contributes to wildlife diversity; Oak woodlands provide a mix of feeding, resting, and breeding habitat for many wildlife species (Larsen and Morgan 1998).

Three Oregon white oak trees measuring approximately 24 to 36 inches DBH were mapped just offsite. Two are located south of the southcentral site boundary and one is located just northeast of Wetland A (Figure 2). If removal of oak trees cannot be avoided, a mitigation plan shall be written to address and mitigate all impacts.

LIMITATIONS

ELS bases the above listed determinations and conclusions on standard scientific methodology and best professional judgment. In our opinion, the conclusions should agree with local, state, and federal regulatory agencies. However, this should be considered a preliminary jurisdictional determination and should be used at your own risk until it has been reviewed and approved in writing by the appropriate regulatory agencies.

REFERENCES

- Cowardin, L.M., C. Carter, F.C. Golet, and E.T. LaRoe (Cowardin et. al.). 1979. *Classification of Wetlands and Deepwater Habitats of the United States*. FWS/OBS-78/31. U.S. Department of the Interior, Fish and Wildlife Service, Office of Biological Services, Washington D.C.
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FIGURES & PHOTOPLATES

WASHINGTON

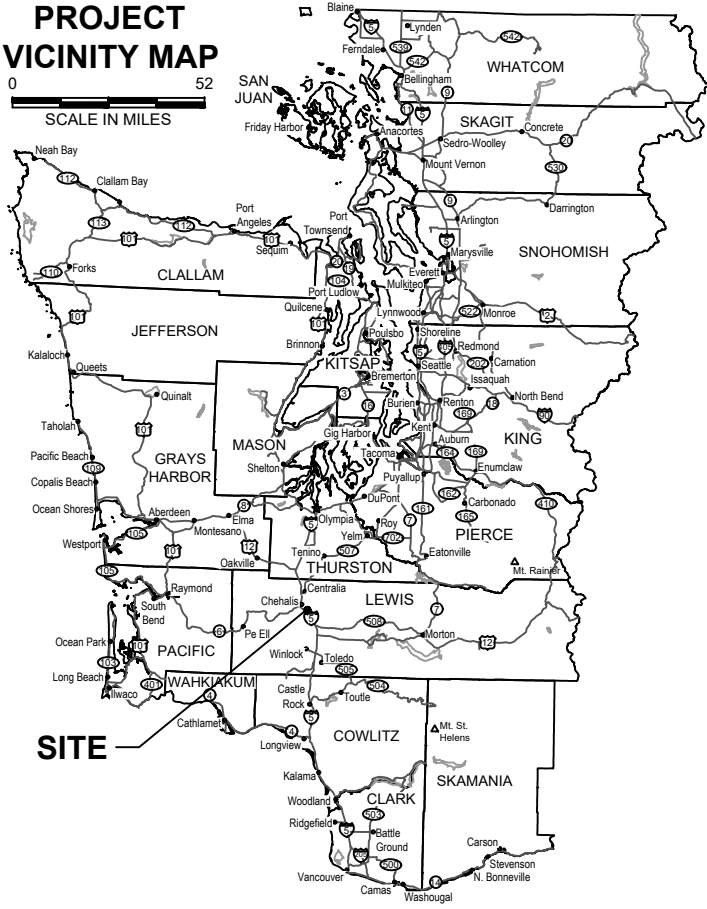


Latitude: 46.6445°
Longitude: -122.9369°

LOCATION MAP

R 2 W		
6	4	1
T 13 N		
31		36

PROJECT VICINITY MAP



SITE

NOTE:

Quadrangle topographic map from USGS.

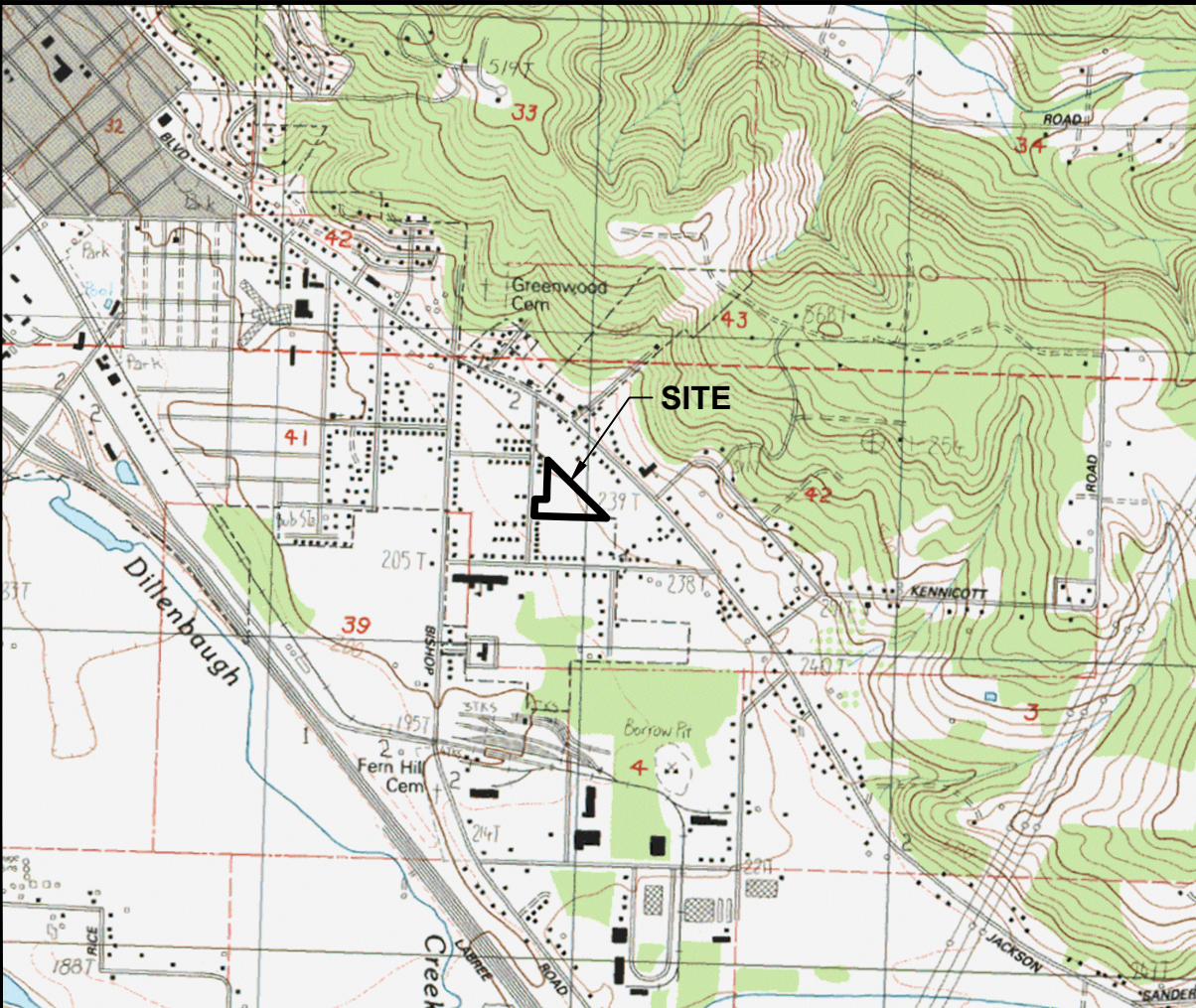
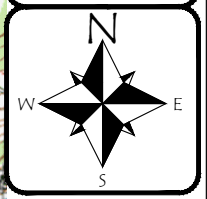


Figure 1
VICINITY MAP
HJ Delineation
Herb Johnson
City of Chehalis, Lewis County, Washington
Section 4, Township 13N, Range 2W, W.M.

DATE: 10/9/20
DWN: CDP
REQ. BY: SG
PRJ. MGR: KT
CHK:
PROJECT NO: 3286.01

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Ecological Land Services





Wetland A
Category IV
Depressional
Emergent
0.49 ac

LEGEND:

- Site Boundary
- Wetland
- Wetland Buffer
- TP-1 ● Test Plot Location
- Photo Point Location
- Oaks
- Dripline or Canopy
- Gravel
- Parcels
- Ditch with Flow Direction
- Culvert

NOTE(S):

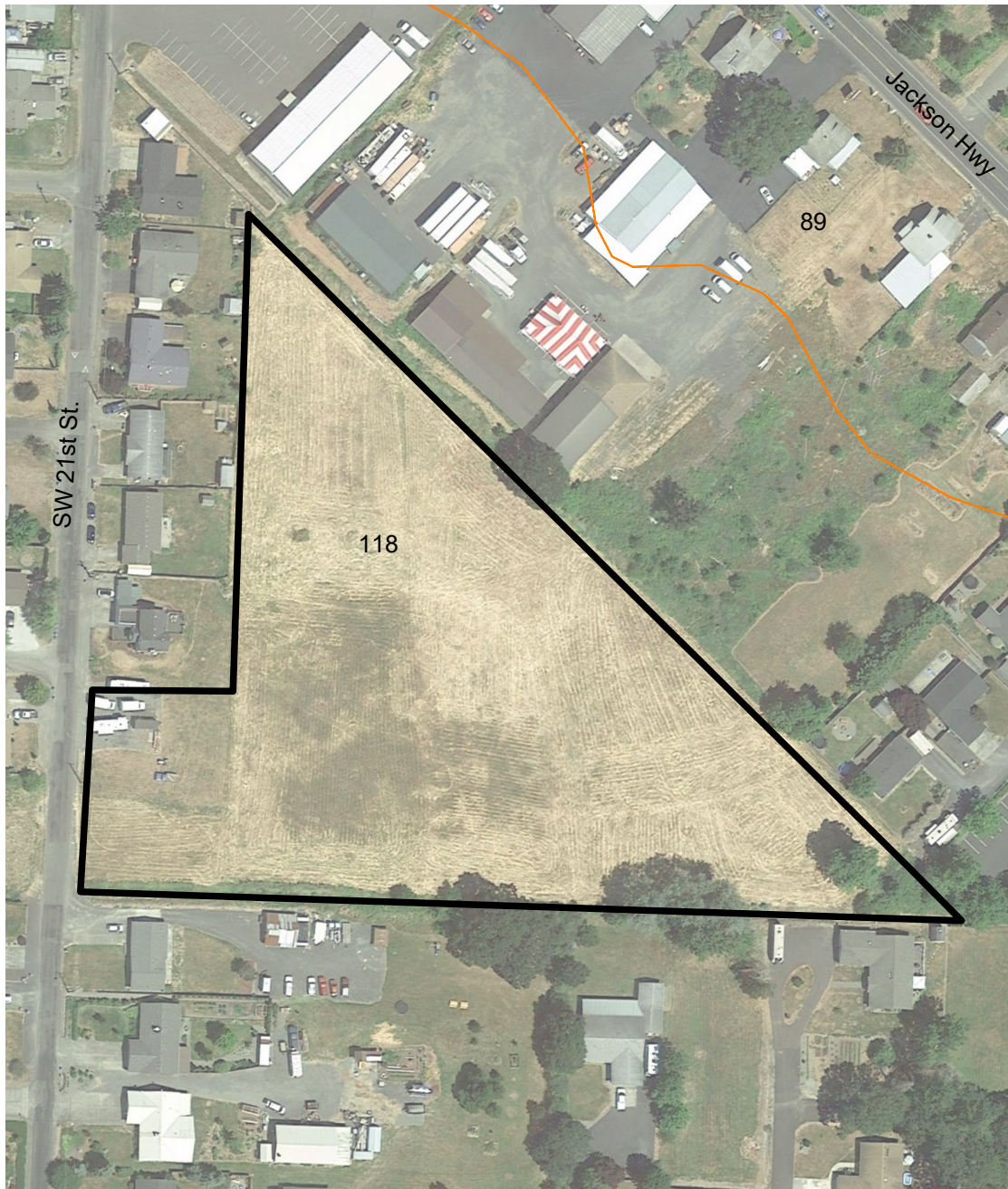
1. Aerial from Google Earth™.
2. Base map from
3. Wetlands, test plots, and OHWM were mapped by an ELS Biologist using a hand-held GPS unit with submeter accuracy.




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PROJECT NO:
3286.01

Figure 2
EXISTING CONDITIONS SITE MAP
HJ Delineation
Herb Johnson
City of Chehalis, Lewis County, Washington
Section 4, Township 13N, Range 2W, W.M.

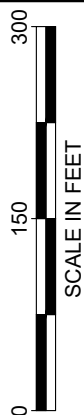


LEGEND:

-  Site Boundary
- 118** Lacamas silt loam, 0 to 3 percent slopes. Hydric.

NOTE(S):

1. Map provided online by NRCS at web address:
<https://websoilsurvey.sc.egov.usda.gov/App/WebSoilSurvey>



SCALE IN FEET



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Figure 3
 NRCS SOIL SURVEY MAP
 HJ Delineation
 Herb Johnson
 City of Chehalis, Lewis County, Washington
 Section 4, Township 13N, Range 2W, W.M.



Mapped wetlands indicated onsite by US Fish & Wildlife Service.

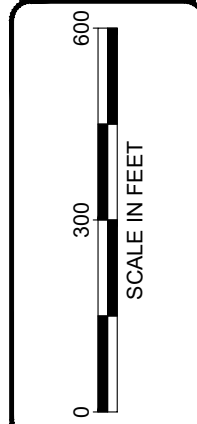
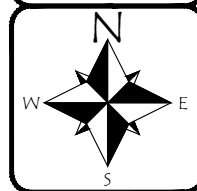
LEGEND:

-  Site Boundary
-  Freshwater Emergent Wetland
-  Freshwater Forested/Shrub Wetland
-  Riverine

- PEM1/SSC** Palustrine, emergent, persistent, scrub-shrub, seasonally flooded.
- R5UBH** Riverine, unknown perennial, unconsolidated bottom, permanently flooded.

NOTE(S):

1. Map provided online by US Fish & Wildlife Service at web address:
<https://www.fws.gov/wetlands/data/Mapper.html>




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3286.01

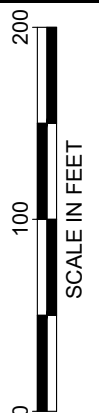
Figure 4
NATIONAL WETLANDS INVENTORY MAP
HJ Delineation
Herb Johnson
City of Chehalis, Lewis County, Washington
Section 4, Township 13N, Range 2W, W.M.



- LEGEND:**
- Site Boundary
 - Wetland Unit Boundary
 - Hydroperiod Division
 - 150' Wetland Offset
 - Pollutants/Runoff - 84.7%

- Hydroperiods:**
- SF** Seasonally flooded or inundated
 - SO** Saturated only

NOTE: Aerial photo provided by Google Earth™.

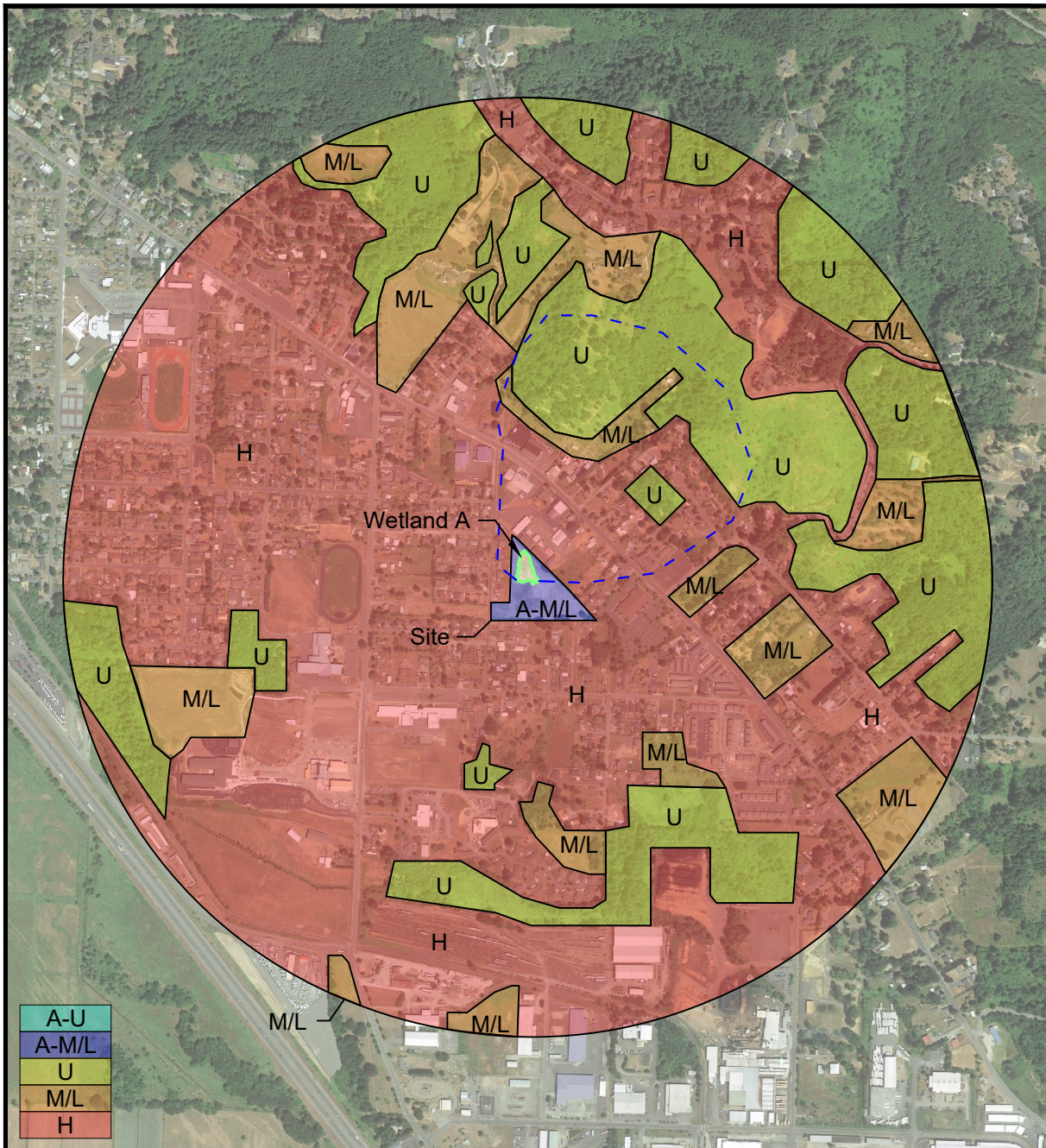


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 PROJECT NO:
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Figure 5
 150' OFFSET WETLAND RATING FIGURE
 HJ Delineation
 Herb Johnson
 City of Chehalis, Lewis County, Washington
 Section 4, Township 13N, Range 2W, W.M.



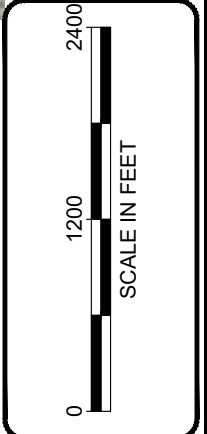
A-U
A-M/L
U
M/L
H

Figure 6
1 KM OFFSET WETLAND RATING FIGURE
 HJ Delineation
 Herb Johnson
 City of Chehalis, Lewis County, Washington
 Section 4, Township 13N, Range 2W, W.M.

DATE: 10/9/20
 DWN: CDP
 REQ. BY: SG
 PRJ. MGR: KT
 CHK:
 PROJECT NO:
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NOTE: Aerial photo provided by Google Earth™.



LEGEND:

- Wetland Unit Boundary
- - - Contributing Basin (100.0x area of wetland)

H2.1 Accessible Habitat

A-U	A-U (0.0%)
A-M/L	A-M/L (0.5%)

H2.2 Undisturbed Habitat

U	U (23.5%)
M/L	M/L (10.5%)

H2.3 Land Use Intensity

H	H (65.5%)
---	-----------

H 2.1. Accessible Habitat Equation

$$0.0\% \text{ A-U} \text{ habitat} + [(0.5\% \text{ A-M/L} \text{ intensity land uses})/2] \text{ } = 0.25\%$$

H 2.2. Total Undisturbed Habitat Equation

$$0.0\% \text{ A-U} + 23.5\% \text{ U} \text{ habitat} + [(0.5\% \text{ A-M/L} + 10.5\% \text{ M/L} \text{ land uses})/2] \text{ } = 29.0\%$$



Photo 1

Photo was taken from the southwestern property boundary facing north.



Photo 2

Photo was taken from Test Plot 2 facing north east across the wetland area.



Photo 3

Photo was taken from the same location as Photo 1 facing south.



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DATE: 10/2/20
DWN: KT
PRJ. MGR: KT
PROJ.#: 3286.01

Photoplate 1
Site Photos
HJ Delineation
Herb Johnson
Chehalis, Washington

APPENDIX A: WETLAND DETERMINATION DATA FORMS

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

Project/Site: HJ Delineation City/County: Chehalis/Lewis Sampling Date: 8/27/2020
 Applicant/Owner: Herb Johnson State: WA Sampling Point: TP-1
 Investigator(s): Wills, KT Section, Township, Range: 4, 13N, 2W
 Landform (hillslope, terrace, etc.): Terrace Local relief: Convex Slope (%): <3%
 Subregion (LRR): A2 Lat: 46.644825 Long: -122.937547 Datum: NAD83
 Soil Map Unit Name: Lacamas silt loam, 0 to 3 percent slopes NWI classification: PEM1/SSC

Are climatic / hydrologic conditions on the site typical for this time of year? Yes No (If no, explain Remarks.)
 Are Vegetation , Soil , or Hydrology significantly disturbed? Area "Normal Circumstances" present? Yes No
 Are Vegetation , Soil , or Hydrology naturally problematic? (If needed, explain any answers in Remarks.)

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

Hydrophytic Vegetation Present? Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> Hydric Soils Present? Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> Wetland Hydrology Present? Yes <input type="checkbox"/> No <input checked="" type="checkbox"/>	Is the Sampled Area within a Wetland? Yes <input type="checkbox"/> No <input checked="" type="checkbox"/>
Remarks: This test plot was located along the western site boundary, just southwest of Wetland A. The vegetation in this test plot consisted of herbaceous species only. This test plot met only one wetland indicator for vegetation with 100 percent of the dominant vegetation being hydrophytic; therefore it does not meet the criteria of being wetland. The majority of the site, wetlands and uplands, was vegetated by reed canarygrass (<i>Phalaris arundinacea</i>).	

VEGETATION (Use scientific names)

	Absolute % Cover	Dominant Species?	Indicator Status	Dominance Test Worksheet
Tree Stratum (Plot size: <u>30</u> ft radius)				
1. _____	%			Number of Dominant Species That Are OBL, FACW, or FAC: <u>1</u> (A) Total Number of Dominant Species Across All Strata: <u>1</u> (B) Percent of Dominant Species That Are OBL, FACW, or FAC: <u>100</u> (A/B)
2. _____	%			
3. _____	%			
4. _____	%			
Total Cover:	%			
Sapling/Shrub Stratum (Plot size: <u>5</u> ft. radius)				
1. _____	%			Prevalence Index worksheet Total % Cover of: _____ Multiply by: _____ OBL species _____ x 1= _____ FACW species _____ x 2= _____ FAC species _____ x 3= _____ FACU species _____ x 4= _____ UPL species _____ x 5= _____ Column Totals: _____ (A) _____ (B) Prevalence Index = B/A= _____
2. _____	%			
3. _____	%			
4. _____	%			
5. _____	%			
Total Cover:	%			
Herb Stratum (Plot size: <u>5</u> ft radius)				
1. <i>Phalaris arundinacea</i>	65%	yes	FACW	Hydrophytic Vegetation Indicators: <input type="checkbox"/> 1 – Rapid Test for Hydrophytic Vegetation <input checked="" type="checkbox"/> 2 – Dominance Test is >50% <input type="checkbox"/> 3 - Prevalence Index is ≤3.0 ¹ <input type="checkbox"/> 4 - Morphological Adaptations ¹ (Provide supporting data In Remarks or on a separate sheet) <input type="checkbox"/> Wetland Non-Vascular Plants ¹ <input type="checkbox"/> Problematic Hydrophytic Vegetation ¹ (Explain)
2. <i>Hypochaeris radicata</i>	15%	no	FACU	
3. <i>Dipsacus fullonum</i>	10%	no	FAC	
4. <i>Daucus carota</i>	5%	no	FACU	
5. <i>Trifolium pratense</i>	5%	no	FACU	
6. _____	%			
7. _____	%			
8. _____	%			
Total Cover:	100%			
Woody Vine Stratum (Plot size: <u>30</u> ft radius)				
1. _____	%			¹ Indicators of hydric soil and wetland hydrology Must be present, unless disturbed or problematic.
2. _____	%			
Total Cover:	%			
% Bare Ground in Herb Stratum <u>0%</u>				Hydrophytic Vegetation Present? Yes <input checked="" type="checkbox"/> No <input type="checkbox"/>

Remarks: The hydrophytic vegetation criterion is met due to 100% of the dominant vegetation within the test plot having either OBL, FACW, or FAC indicator statuses.

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

Project/Site: HJ Delineation City/County: Chehalis/Lewis Sampling Date: 8/27/2020
 Applicant/Owner: Herb Johnson State: WA Sampling Point: TP-2
 Investigator(s): 7Wills, KT Section, Township, Range: 4, 13N, 2W
 Landform (hillslope, terrace, etc.): Terrace Local relief: Concave Slope (%): <3%
 Subregion (LRR): A2 Lat: 46.644928 Long: -122.937431 Datum: NAD83

Soil Map Unit Name: Lacamas silt loam, 0 to 3 percent slopes NWI classification: PEM1/SSC

Are climatic / hydrologic conditions on the site typical for this time of year? Yes No (If no, explain Remarks.)
 Are Vegetation , Soil , or Hydrology significantly disturbed? Area "Normal Circumstances" present? Yes No
 Are Vegetation , Soil , or Hydrology naturally problematic? (If needed, explain any answers in Remarks.)

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

Hydrophytic Vegetation Present? Yes <input checked="" type="checkbox"/> No <input type="checkbox"/> Hydric Soils Present? Yes <input checked="" type="checkbox"/> No <input type="checkbox"/> Wetland Hydrology Present? Yes <input checked="" type="checkbox"/> No <input type="checkbox"/>	Is the Sampled Area within a Wetland? Yes <input checked="" type="checkbox"/> No <input type="checkbox"/>
Remarks: This test plot was located in the western portion of the site, within the southwestern portion of Wetland A. The vegetation in this test plot consisted of herbaceous species only. This test plot met all three wetland indicators with 100 percent hydrophytic vegetation, soils with a Depleted Matrix (F3), and the presence of hydrologic indicators; Water Stained Leaves (B9), Geomorphic Position (D2), and a positive FAC-Neutral Test (D5). The majority of the site, wetlands and uplands, was vegetated by reed canarygrass (<i>Phalaris arundinacea</i>).	

VEGETATION (Use scientific names)

	Absolute % Cover	Dominant Species?	Indicator Status	
Tree Stratum (Plot size: <u>30</u> ft radius)				Dominance Test Worksheet Number of Dominant Species That Are OBL, FACW, or FAC: <u>1</u> (A) Total Number of Dominant Species Across All Strata: <u>1</u> (B) Percent of Dominant Species That Are OBL, FACW, or FAC: <u>100</u> (A/B)
1. _____	%			
2. _____	%			
3. _____	%			
4. _____	%			
Total Cover:	%			
Sapling/Shrub Stratum (Plot size: <u>5</u> ft. radius)				Prevalence Index worksheet Total % Cover of: _____ Multiply by: _____ OBL species _____ x 1= _____ FACW species _____ x 2= _____ FAC species _____ x 3= _____ FACU species _____ x 4= _____ UPL species _____ x 5= _____ Column Totals: (A) _____ (B) _____ Prevalence Index = B/A= _____
1. _____	%			
2. _____	%			
3. _____	%			
4. _____	%			
Total Cover:	%			
Herb Stratum (Plot size: <u>5</u> ft radius)				Hydrophytic Vegetation Indicators: <input checked="" type="checkbox"/> 1 – Rapid Test for Hydrophytic Vegetation <input checked="" type="checkbox"/> 2 – Dominance Test is >50% <input type="checkbox"/> 3 - Prevalence Index is ≤3.0 ¹ <input type="checkbox"/> 4 - Morphological Adaptations ¹ (Provide supporting data In Remarks or on a separate sheet) <input type="checkbox"/> Wetland Non-Vascular Plants ¹ <input type="checkbox"/> Problematic Hydrophytic Vegetation ¹ (Explain)
1. <u><i>Phalaris arundinacea</i></u>	100%	yes	FACW	
2. _____	%			
3. _____	%			
4. _____	%			
5. _____	%			
6. _____	%			
7. _____	%			
Total Cover:	100%			
Woody Vine Stratum (Plot size: <u>30</u> ft radius)				¹ Indicators of hydric soil and wetland hydrology Must be present, unless disturbed or problematic.
1. _____	%			
2. _____	%			
Total Cover:	%			
% Bare Ground in Herb Stratum <u>0%</u>				Hydrophytic Vegetation Present? Yes <input checked="" type="checkbox"/> No <input type="checkbox"/>

Remarks: The hydrophytic vegetation criterion is met due to 100% of the vegetation within the test plot having FACW indicator statuses.

SOIL

Sampling Point: TP-2

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)							
Depth (inches)	Matrix		Redox Features			Texture	Remarks
	Color (moist)	%	Color (moist)	%	Type ¹		
0-2	10YR3/2	100%		%		loam	
2-16	10YR4/2	90%	10YR4/6	10%	C	loamy clay	
		%		%			
		%		%			
		%		%			
		%		%			
		%		%			
		%		%			

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

Hydric Soil Indicators: (Applicable to all LRRs, unless otherwise noted.)		Indicators for Problematic Hydric Soils	
<input type="checkbox"/> Histosol (A1)	<input type="checkbox"/> Sandy Redox (S5)	<input type="checkbox"/> 2 cm Muck (A10)	
<input type="checkbox"/> Histic Epipedon (A2)	<input type="checkbox"/> Stripped Matrix (S6)	<input type="checkbox"/> Red Parent Material (TF2)	
<input type="checkbox"/> Black Histic (A3)	<input type="checkbox"/> Loamy Mucky Mineral (F1) (except MLRA 1)	<input type="checkbox"/> Very Shallow Dark Surface (TF12)	
<input type="checkbox"/> Hydrogen Sulfide (A4)	<input type="checkbox"/> Loamy Gleyed Matrix (F2)	<input type="checkbox"/> Other (Explain in Remarks)	
<input type="checkbox"/> Depleted Below Dark Surface (A11)	<input checked="" type="checkbox"/> Depleted Matrix (F3)		
<input type="checkbox"/> Thick Dark Surface (A12)	<input type="checkbox"/> Redox Dark Surface (F6)		
<input type="checkbox"/> Sandy Mucky Minerals (S1)	<input type="checkbox"/> Depleted Dark Surface (F7)		
<input type="checkbox"/> Sandy Gleyed Matrix (S4)	<input type="checkbox"/> Redox Depressions (F8)		

³Indicators of hydrophytic vegetation and Wetland hydrology must be present

Restrictive Layer (if present):	Hydric Soil Present?
Type: _____	Yes <input checked="" type="checkbox"/> No <input type="checkbox"/>
Depth (inches): _____	

Remarks: The hydric soil indicator Depleted Matrix (F3) was met due to a matrix value of 4 and a chroma of 1 with more than 2 percent redox concentrations found in pore linings.

HYDROLOGY

Wetland Hydrology Indicators:	Secondary Indicators (2 or more required)
Primary Indicators (min. of one required; check all that apply)	
<input type="checkbox"/> Surface Water (A1)	<input checked="" type="checkbox"/> Water Stained Leaves (B9) (MLRA 1, 2, 4A, and 4B)
<input type="checkbox"/> High Water Table (A2)	<input type="checkbox"/> Salt Crust (B11)
<input type="checkbox"/> Saturation (A3)	<input type="checkbox"/> Aquatic Invertebrates (B13)
<input type="checkbox"/> Water Marks (B1)	<input type="checkbox"/> Hydrogen Sulfide Odor (C1)
<input type="checkbox"/> Sediment Deposits (B2)	<input type="checkbox"/> Oxidized Rhizospheres along Living Roots (C3)
<input type="checkbox"/> Drift Deposits (B3)	<input type="checkbox"/> Presence of Reduced Iron (C4)
<input type="checkbox"/> Algal Mat or crust (B4)	<input type="checkbox"/> Recent Iron Reduction in Tilled Soils (C6)
<input type="checkbox"/> Iron Deposits (B5)	<input type="checkbox"/> Stunted or Stressed Plants (D1) (LRR A)
<input type="checkbox"/> Surface Soil Cracks (B6)	<input type="checkbox"/> Other (Explain in Remarks)
<input type="checkbox"/> Inundation Visible on Aerial Imagery (B7)	<input type="checkbox"/> Drainage Patterns (B10)
	<input type="checkbox"/> Dry-Season Water Table (C2)
	<input type="checkbox"/> Saturation Visible on Aerial Imagery (C9)
	<input checked="" type="checkbox"/> Geomorphic Position (D2)
	<input type="checkbox"/> Shallow Aquitard (D3)
	<input checked="" type="checkbox"/> FAC-Neutral Test (D5)
	<input type="checkbox"/> Raised Ant Mounds (D6) (LRR A)
	<input type="checkbox"/> Frost-Heave Hummocks (D4)

Field Observations:	Wetland Hydrology Present?
Surface Water Present? Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> Depth (Inches): _____	Yes <input checked="" type="checkbox"/> No <input type="checkbox"/>
Water Table Present? Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> Depth (Inches): _____	
Saturation Present? Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> Depth (Inches): _____	

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

Remarks: The hydrology indicator, Water Stained Seaves (B9) were found on the surface of the ground within the test plot. Additionally, the test plot was located in a depression (Geomorphic Position D2) and had a positive FAC-Neutral Test (D5).

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

Project/Site: HJ Delineation City/County: Chehalis/Lewis Sampling Date: 8/27/2020
 Applicant/Owner: Herb Johnson State: WA Sampling Point: TP-3
 Investigator(s): 7Wills, KT Section, Township, Range: 4, 13N, 2W
 Landform (hillslope, terrace, etc.): Terrace Local relief: Concave Slope (%): <3%
 Subregion (LRR): A2 Lat: 46.644928 Long: -122.936961 Datum: NAD83
 Soil Map Unit Name: Lacamas silt loam, 0 to 3 percent slopes NWI classification: PEM1/SSC

Are climatic / hydrologic conditions on the site typical for this time of year? Yes No (If no, explain Remarks.)
 Are Vegetation , Soil , or Hydrology significantly disturbed? Area "Normal Circumstances" present? Yes No
 Are Vegetation , Soil , or Hydrology naturally problematic? (If needed, explain any answers in Remarks.)

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

Hydrophytic Vegetation Present? Yes <input checked="" type="checkbox"/> No <input type="checkbox"/> Hydric Soils Present? Yes <input checked="" type="checkbox"/> No <input type="checkbox"/> Wetland Hydrology Present? Yes <input checked="" type="checkbox"/> No <input type="checkbox"/>	Is the Sampled Area within a Wetland? Yes <input checked="" type="checkbox"/> No <input type="checkbox"/>
Remarks: This test plot was located in the central portion of the site, within the southeastern portion of Wetland A. The vegetation in this test plot consisted of herbaceous species only. This test plot met all three wetland indicators with 100 percent hydrophytic vegetation, soils with a Depleted Matrix (F3), and the presence of hydrologic indicators; Water Stained Leaves (B9), Geomorphic Position (D2), and a positive FAC-Neutral Test (D5). The majority of the site, wetlands and uplands, was vegetated by reed canarygrass (<i>Phalaris arundinacea</i>).	

VEGETATION (Use scientific names)

	Absolute % Cover	Dominant Species?	Indicator Status	
Tree Stratum (Plot size: <u>30</u> ft radius)				Dominance Test Worksheet
1. _____	%			Number of Dominant Species That Are OBL, FACW, or FAC: <u>2</u> (A)
2. _____	%			Total Number of Dominant Species Across All Strata: <u>2</u> (B)
3. _____	%			
4. _____	%			Percent of Dominant Species That Are OBL, FACW, or FAC: <u>100</u> (A/B)
Total Cover: _____	%			Prevalence Index worksheet
Sapling/Shrub Stratum (Plot size: <u>5</u> ft. radius)				Total % Cover of: _____ Multiply by: _____
1. _____	%			OBL species _____ x 1= _____
2. _____	%			FACW species _____ x 2= _____
3. _____	%			FAC species _____ x 3= _____
4. _____	%			FACU species _____ x 4= _____
5. _____	%			UPL species _____ x 5= _____
Total Cover: _____	%			Column Totals: _____ (A) _____ (B)
Herb Stratum (Plot size: <u>5</u> ft radius)				Prevalence Index = B/A = _____
1. <i>Phalaris arundinacea</i>	65%	yes	FACW	Hydrophytic Vegetation Indicators: <input type="checkbox"/> 1 – Rapid Test for Hydrophytic Vegetation <input checked="" type="checkbox"/> 2 – Dominance Test is >50% <input type="checkbox"/> 3 - Prevalence Index is ≤3.0 ¹ <input type="checkbox"/> 4 - Morphological Adaptations ¹ (Provide supporting data In Remarks or on a separate sheet) <input type="checkbox"/> Wetland Non-Vascular Plants ¹ <input type="checkbox"/> Problematic Hydrophytic Vegetation ¹ (Explain)
2. <i>Ranunculus repens</i>	35%	yes	FAC	
3. _____	%			
4. _____	%			
5. _____	%			
6. _____	%			
7. _____	%			
8. _____	%			
Total Cover: _____	100%			
Woody Vine Stratum (Plot size: <u>30</u> ft radius)				¹ Indicators of hydric soil and wetland hydrology Must be present, unless disturbed or problematic.
1. _____	%			Hydrophytic Vegetation Present? Yes <input checked="" type="checkbox"/> No <input type="checkbox"/>
2. _____	%			
Total Cover: _____	%			
% Bare Ground in Herb Stratum <u>0%</u>				

Remarks: The hydrophytic vegetation criterion is met due to 100% of the vegetation within the test plot having either OBL, FACW, or FAC indicator statuses.

SOIL

Sampling Point: TP-3

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)							
Depth (inches)	Matrix		Redox Features			Texture	Remarks
	Color (moist)	%	Color (moist)	%	Type ¹		
0-3	10YR3/2	100%		%		loam	
3-16	10YR4/2	90%	10YR4/6	10%	C	loamy clay	
		%		%			
		%		%			
		%		%			
		%		%			
		%		%			
		%		%			

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

Hydric Soil Indicators: (Applicable to all LRRs, unless otherwise noted.)		Indicators for Problematic Hydric Soils
<input type="checkbox"/> Histosol (A1)	<input type="checkbox"/> Sandy Redox (S5)	<input type="checkbox"/> 2 cm Muck (A10)
<input type="checkbox"/> Histic Epipedon (A2)	<input type="checkbox"/> Stripped Matrix (S6)	<input type="checkbox"/> Red Parent Material (TF2)
<input type="checkbox"/> Black Histic (A3)	<input type="checkbox"/> Loamy Mucky Mineral (F1) (except MLRA 1)	<input type="checkbox"/> Very Shallow Dark Surface (TF12)
<input type="checkbox"/> Hydrogen Sulfide (A4)	<input type="checkbox"/> Loamy Gleyed Matrix (F2)	<input type="checkbox"/> Other (Explain in Remarks)
<input type="checkbox"/> Depleted Below Dark Surface (A11)	<input checked="" type="checkbox"/> Depleted Matrix (F3)	
<input type="checkbox"/> Thick Dark Surface (A12)	<input type="checkbox"/> Redox Dark Surface (F6)	
<input type="checkbox"/> Sandy Mucky Minerals (S1)	<input type="checkbox"/> Depleted Dark Surface (F7)	
<input type="checkbox"/> Sandy Gleyed Matrix (S4)	<input type="checkbox"/> Redox Depressions (F8)	

³Indicators of hydrophytic vegetation and Wetland hydrology must be present

Restrictive Layer (if present):	Hydric Soil Present?
Type: _____	Yes <input checked="" type="checkbox"/> No <input type="checkbox"/>
Depth (inches): _____	

Remarks: The hydric soil indicator Depleted Matrix (F3) was met due to a matrix value of 4 and a chroma of 1 with more than 2 percent redox concentrations found in pore linings.

HYDROLOGY

Wetland Hydrology Indicators:	Secondary Indicators (2 or more required)
Primary Indicators (min. of one required; check all that apply)	
<input type="checkbox"/> Surface Water (A1)	<input checked="" type="checkbox"/> Water Stained Leaves (B9) (MLRA 1, 2, 4A, & 4B)
<input type="checkbox"/> High Water Table (A2)	<input type="checkbox"/> Salt Crust (B11)
<input type="checkbox"/> Saturation (A3)	<input type="checkbox"/> Aquatic Invertebrates (B13)
<input type="checkbox"/> Water Marks (B1)	<input type="checkbox"/> Hydrogen Sulfide Odor (C1)
<input type="checkbox"/> Sediment Deposits (B2)	<input type="checkbox"/> Oxidized Rhizospheres along Living Roots (C3)
<input type="checkbox"/> Drift Deposits (B3)	<input type="checkbox"/> Presence of Reduced Iron (C4)
<input type="checkbox"/> Algal Mat or crust (B4)	<input type="checkbox"/> Recent Iron Reduction in Tilled Soils (C6)
<input type="checkbox"/> Iron Deposits (B5)	<input type="checkbox"/> Stunted or Stressed Plants (D1) (LRR A)
<input type="checkbox"/> Surface Soil Cracks (B6)	<input type="checkbox"/> Other (Explain in Remarks)
<input type="checkbox"/> Inundation Visible on Aerial Imagery (B7)	<input type="checkbox"/> Drainage Patterns (B10)
	<input type="checkbox"/> Dry-Season Water Table (C2)
	<input type="checkbox"/> Saturation Visible on Aerial Imagery (C9)
	<input checked="" type="checkbox"/> Geomorphic Position (D2)
	<input type="checkbox"/> Shallow Aquitard (D3)
	<input checked="" type="checkbox"/> FAC-Neutral Test (D5)
	<input type="checkbox"/> Raised Ant Mounds (D6) (LRR A)
	<input type="checkbox"/> Frost-Heave Hummocks (D4)

Field Observations:	Wetland Hydrology Present?
Surface Water Present? Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> Depth (Inches): _____	Yes <input checked="" type="checkbox"/> No <input type="checkbox"/>
Water Table Present? Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> Depth (Inches): _____	
Saturation Present? Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> Depth (Inches): _____	

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

Remarks: The hydrology indicator, Water Stained Seaves (B9) were found on the surface of the ground within the test plot. Additionally, the test plot was located in a depression (Geomorphic Position D2) and had a positive FAC-Neutral Test (D5).

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

Project/Site: HJ Delineation City/County: Chehalis/Lewis Sampling Date: 8/27/2020
 Applicant/Owner: Herb Johnson State: WA Sampling Point: TP-4
 Investigator(s): 7Wills, KT Section, Township, Range: 4, 13N, 2W
 Landform (hillslope, terrace, etc.): Terrace Local relief: Convex Slope (%): <3%
 Subregion (LRR): A2 Lat: 46.644978 Long: -122.936975 Datum: NAD83

Soil Map Unit Name: Lacamas silt loam, 0 to 3 percent slopes NWI classification: PEM1/SSC

Are climatic / hydrologic conditions on the site typical for this time of year? Yes No (If no, explain Remarks.)
 Are Vegetation , Soil , or Hydrology significantly disturbed? Area "Normal Circumstances" present? Yes No
 Are Vegetation , Soil , or Hydrology naturally problematic? (If needed, explain any answers in Remarks.)

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

Hydrophytic Vegetation Present? Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> Hydric Soils Present? Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> Wetland Hydrology Present? Yes <input type="checkbox"/> No <input checked="" type="checkbox"/>	Is the Sampled Area within a Wetland? Yes <input type="checkbox"/> No <input checked="" type="checkbox"/>
Remarks: This test plot was located in the central portion of the site, just east of Wetland A. The vegetation in this test plot consisted of herbaceous species only. This test plot met only one wetland indicator for vegetation with 100 percent of the dominant vegetation being hydrophytic; therefore it does not meet the criteria of being wetland. The majority of the site, wetlands and uplands, was vegetated by reed canarygrass (<i>Phalaris arundinacea</i>).	

VEGETATION (Use scientific names)

	Absolute % Cover	Dominant Species?	Indicator Status	Dominance Test Worksheet
Tree Stratum (Plot size: <u>30</u> ft radius)				
1. _____	%			Number of Dominant Species That Are OBL, FACW, or FAC: <u>1</u> (A) Total Number of Dominant Species Across All Strata: <u>1</u> (B) Percent of Dominant Species That Are OBL, FACW, or FAC: <u>100</u> (A/B)
2. _____	%			
3. _____	%			
4. _____	%			
Total Cover:	%			
Sapling/Shrub Stratum (Plot size: <u>5</u> ft. radius)				
1. _____	%			Prevalence Index worksheet Total % Cover of: _____ Multiply by: _____ OBL species _____ x 1= _____ FACW species _____ x 2= _____ FAC species _____ x 3= _____ FACU species _____ x 4= _____ UPL species _____ x 5= _____ Column Totals: _____ (A) _____ (B) Prevalence Index = B/A= _____
2. _____	%			
3. _____	%			
4. _____	%			
5. _____	%			
Total Cover:	%			
Herb Stratum (Plot size: <u>5</u> ft radius)				
1. <i>Phalaris arundinacea</i>	55%	yes	FACW	Hydrophytic Vegetation Indicators: <input type="checkbox"/> 1 – Rapid Test for Hydrophytic Vegetation <input checked="" type="checkbox"/> 2 – Dominance Test is >50% <input type="checkbox"/> 3 - Prevalence Index is ≤3.0 ¹ 4 - Morphological Adaptations ¹ (Provide supporting data In Remarks or on a separate sheet) <input type="checkbox"/> Wetland Non-Vascular Plants ¹ <input type="checkbox"/> Problematic Hydrophytic Vegetation ¹ (Explain)
2. <i>Dipsacus fullonum</i>	15%	no	FAC	
3. <i>Daucus carota</i>	10%	no	FACU	
4. <i>Hypochaeris radicata</i>	10%	no	FACU	
5. <i>Trifolium pratense</i>	10%	no	FACU	
6. _____	%			
7. _____	%			
8. _____	%			
Total Cover:	100%			
Woody Vine Stratum (Plot size: <u>30</u> ft radius)				
1. _____	%			¹ Indicators of hydric soil and wetland hydrology Must be present, unless disturbed or problematic.
2. _____	%			
Total Cover:	%			
% Bare Ground in Herb Stratum <u>0%</u>				Hydrophytic Vegetation Present? Yes <input checked="" type="checkbox"/> No <input type="checkbox"/>
Remarks: The hydrophytic vegetation criterion is met due to 100% of the dominant vegetation within the test plot having either OBL, FACW, or FAC indicator statuses.				

SOIL

Sampling Point: TP-4

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)								
Depth (inches)	Matrix		Redox Features				Texture	Remarks
	Color (moist)	%	Color (moist)	%	Type ¹	Loc ²		
0-11	10YR3/3	100%					loam	
11-16	10YR4/2	98%	10YR4/6	2%	C	PL	loamy clay	
		%		%				
		%		%				
		%		%				
		%		%				
		%		%				
		%		%				
		%		%				

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

Hydric Soil Indicators: (Applicable to all LRRs, unless otherwise noted.)	Indicators for Problematic Hydric Soils
<input type="checkbox"/> Histosol (A1) <input type="checkbox"/> Sandy Redox (S5) <input type="checkbox"/> Histic Epipedon (A2) <input type="checkbox"/> Stripped Matrix (S6) <input type="checkbox"/> Black Histic (A3) <input type="checkbox"/> Loamy Mucky Mineral (F1) (except MLRA 1) <input type="checkbox"/> Hydrogen Sulfide (A4) <input type="checkbox"/> Loamy Gleyed Matrix (F2) <input type="checkbox"/> Depleted Below Dark Surface (A11) <input type="checkbox"/> Depleted Matrix (F3) <input type="checkbox"/> Thick Dark Surface (A12) <input type="checkbox"/> Redox Dark Surface (F6) <input type="checkbox"/> Sandy Mucky Minerals (S1) <input type="checkbox"/> Depleted Dark Surface (F7) <input type="checkbox"/> Sandy Gleyed Matrix (S4) <input type="checkbox"/> Redox Depressions (F8)	<input type="checkbox"/> 2 cm Muck (A10) <input type="checkbox"/> Red Parent Material (TF2) <input type="checkbox"/> Very Shallow Dark Surface (TF12) <input type="checkbox"/> Other (Explain in Remarks)

³Indicators of hydrophytic vegetation and Wetland hydrology must be present

Restrictive Layer (if present): Type: _____ Depth (inches): _____	Hydric Soil Present? Yes <input type="checkbox"/> No <input checked="" type="checkbox"/>
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Remarks: There was no evidence of hydric soils within this test plot.

HYDROLOGY

Wetland Hydrology Indicators:	Secondary Indicators (2 or more required)
Primary Indicators (min. of one required; check all that apply)	
<input type="checkbox"/> Surface Water (A1) <input type="checkbox"/> Water-Stained Leaves (B9) (except MLRA 1, 2, 4A, & 4B) <input type="checkbox"/> High Water Table (A2) <input type="checkbox"/> Salt Crust (B11) <input type="checkbox"/> Saturation (A3) <input type="checkbox"/> Aquatic Invertebrates (B13) <input type="checkbox"/> Water Marks (B1) <input type="checkbox"/> Hydrogen Sulfide Odor (C1) <input type="checkbox"/> Sediment Deposits (B2) <input type="checkbox"/> Oxidized Rhizospheres along Living Roots (C3) <input type="checkbox"/> Drift Deposits (B3) <input type="checkbox"/> Presence of Reduced Iron (C4) <input type="checkbox"/> Algal Mat or crust (B4) <input type="checkbox"/> Recent Iron Reduction in Tilled Soils (C6) <input type="checkbox"/> Iron Deposits (B5) <input type="checkbox"/> Stunted or Stressed Plants (D1) (LRR A) <input type="checkbox"/> Surface Soil Cracks (B6) <input type="checkbox"/> Other (Explain in Remarks)	<input type="checkbox"/> Water Stained Leaves (B9) (MLRA 1, 2, 4A, and 4B) <input type="checkbox"/> Drainage Patterns (B10) <input type="checkbox"/> Dry-Season Water Table (C2) <input type="checkbox"/> Saturation Visible on Aerial Imagery (C9) <input type="checkbox"/> Geomorphic Position (D2) <input type="checkbox"/> Shallow Aquitard (D3) <input type="checkbox"/> FAC-Neutral Test (D5) <input type="checkbox"/> Raised Ant Mounds (D6) (LRR A) <input type="checkbox"/> Frost-Heave Hummocks (D4)
Field Observations: Surface Water Present? Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> Depth (Inches): _____ Water Table Present? Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> Depth (Inches): _____ Saturation Present? Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> Depth (Inches): _____ (Includes Capillary fringe)	Wetland Hydrology Present? Yes <input type="checkbox"/> No <input checked="" type="checkbox"/>
Describe Recorded Data (Stream gauge, monitoring well, aerial photos, previous inspections), if available:	
Remarks: There was no evidence of hydrology within this test plot.	

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

Project/Site: HJ Delineation City/County: Chehalis/Lewis Sampling Date: 8/27/2020
 Applicant/Owner: Herb Johnson State: WA Sampling Point: TP-5
 Investigator(s): 7Wills, KT Section, Township, Range: 4, 13N, 2W
 Landform (hillslope, terrace, etc.): Terrace Local relief: Concave Slope (%): <3%
 Subregion (LRR): A2 Lat: 46.645353 Long: -122.937408 Datum: NAD83
 Soil Map Unit Name: Lacamas silt loam, 0 to 3 percent slopes NWI classification: PEM1/SSC

Are climatic / hydrologic conditions on the site typical for this time of year? Yes No (If no, explain Remarks.)
 Are Vegetation , Soil , or Hydrology significantly disturbed? Area "Normal Circumstances" present? Yes No
 Are Vegetation , Soil , or Hydrology naturally problematic? (If needed, explain any answers in Remarks.)

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

Hydrophytic Vegetation Present? Yes <input checked="" type="checkbox"/> No <input type="checkbox"/> Hydric Soils Present? Yes <input checked="" type="checkbox"/> No <input type="checkbox"/> Wetland Hydrology Present? Yes <input checked="" type="checkbox"/> No <input type="checkbox"/>	Is the Sampled Area within a Wetland? Yes <input checked="" type="checkbox"/> No <input type="checkbox"/>
Remarks: This test plot was located in the central portion of the site, within the southeastern portion of Wetland A. The vegetation in this test plot consisted of herbaceous species only. This test plot met all three wetland indicators with 100 percent hydrophytic vegetation, soils with a Depleted Matrix (F3), and the presence of hydrologic indicators; Water Stained Leaves (B9), Geomorphic Position (D2), and a positive FAC-Neutral Test (D5). The majority of the site, wetlands and uplands, was vegetated by reed canarygrass (<i>Phalaris arundinacea</i>).	

VEGETATION (Use scientific names)

	Absolute % Cover	Dominant Species?	Indicator Status	
Tree Stratum (Plot size: <u>30</u> ft radius)				Dominance Test Worksheet Number of Dominant Species That Are OBL, FACW, or FAC: <u>1</u> (A) Total Number of Dominant Species Across All Strata: <u>1</u> (B) Percent of Dominant Species That Are OBL, FACW, or FAC: <u>100</u> (A/B)
1. _____	%			
2. _____	%			
3. _____	%			
4. _____	%			
Total Cover:	%			
Sapling/Shrub Stratum (Plot size: <u>5</u> ft. radius)				Prevalence Index worksheet Total % Cover of: _____ Multiply by: _____ OBL species _____ x 1= _____ FACW species _____ x 2= _____ FAC species _____ x 3= _____ FACU species _____ x 4= _____ UPL species _____ x 5= _____ Column Totals: (A) _____ (B) _____ Prevalence Index = B/A= _____
1. _____	%			
2. _____	%			
3. _____	%			
4. _____	%			
5. _____	%			
Total Cover:	%			
Herb Stratum (Plot size: <u>5</u> ft radius)				Hydrophytic Vegetation Indicators: <input type="checkbox"/> 1 – Rapid Test for Hydrophytic Vegetation <input checked="" type="checkbox"/> 2 – Dominance Test is >50% <input type="checkbox"/> 3 - Prevalence Index is ≤3.0 ¹ <input type="checkbox"/> 4 - Morphological Adaptations ¹ (Provide supporting data In Remarks or on a separate sheet) <input type="checkbox"/> Wetland Non-Vascular Plants ¹ <input type="checkbox"/> Problematic Hydrophytic Vegetation ¹ (Explain)
1. <i>Phalaris arundinacea</i>	85%	yes	FACW	
2. <i>Ranunculus repens</i>	15%	no	FAC	
3. _____	%			
4. _____	%			
5. _____	%			
6. _____	%			
7. _____	%			
8. _____	%			
Total Cover:	100%			
Woody Vine Stratum (Plot size: <u>30</u> ft radius)				¹ Indicators of hydric soil and wetland hydrology Must be present, unless disturbed or problematic.
1. _____	%			
2. _____	%			
Total Cover:	%			
% Bare Ground in Herb Stratum <u>0%</u>				Hydrophytic Vegetation Present? Yes <input checked="" type="checkbox"/> No <input type="checkbox"/>

Remarks: The hydrophytic vegetation criterion is met due to 100% of the vegetation within the test plot having either OBL, FACW, or FAC indicator statuses.

SOIL

Sampling Point: TP-5

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)								
Depth (inches)	Matrix		Redox Features				Texture	Remarks
	Color (moist)	%	Color (moist)	%	Type ¹	Loc ²		
0-3	10YR3/2	100%		%			loam	
3-16	10YR4/2	90%	10YR4/6	10%	C	PL	loamy clay	
		%		%				
		%		%				
		%		%				
		%		%				
		%		%				
		%		%				

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

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

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

Indicators for Problematic Hydric Soils

- 2 cm Muck (A10)
- Red Parent Material (TF2)
- Very Shallow Dark Surface (TF12)
- Other (Explain in Remarks)

³Indicators of hydrophytic vegetation and Wetland hydrology must be present

Restrictive Layer (if present):

Type: _____

Depth (inches): _____

Hydric Soil Present?

Yes No

Remarks: The hydric soil indicator Depleted Matrix (F3) was met due to a matrix value of 4 and a chroma of 1 with more than 2 percent redox concentrations found in pore linings.

HYDROLOGY

Wetland Hydrology Indicators:

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

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

Secondary Indicators (2 or more required)

- Water Stained Leaves (B9) (MLRA 1, 2, 4A, and 4B)
- Drainage Patterns (B10)
- Dry-Season Water Table (C2)
- Saturation Visible on Aerial Imagery (C9)
- Geomorphic Position (D2)
- Shallow Aquitard (D3)
- FAC-Neutral Test (D5)
- Raised Ant Mounds (D6) (LRR A)
- Frost-Heave Hummocks (D4)

Field Observations:

Surface Water Present? Yes No Depth (Inches): _____
 Water Table Present? Yes No Depth (Inches): _____
 Saturation Present? Yes No Depth (Inches): _____
 (Includes Capillary fringe)

Wetland Hydrology Present?

Yes No

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

Remarks: The hydrology indicator, Water Stained Seaves (B9) were found on the surface of the ground within the test plot. Additionally, the test plot was located in a depression (Geomorphic Position D2) and had a positive FAC-Neutral Test (D5).

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

Project/Site: HJ Delineation City/County: Chehalis/Lewis Sampling Date: 8/27/2020
 Applicant/Owner: Herb Johnson State: WA Sampling Point: TP-6
 Investigator(s): 7Wills, KT Section, Township, Range: 4, 13N, 2W
 Landform (hillslope, terrace, etc.): Terrace Local relief: Convex Slope (%): <3%
 Subregion (LRR): A2 Lat: 46.645411 Long: -122.9375 Datum: NAD83
 Soil Map Unit Name: Lacamas silt loam, 0 to 3 percent slopes NWI classification: PEM1/SSC

Are climatic / hydrologic conditions on the site typical for this time of year? Yes No (If no, explain Remarks.)
 Are Vegetation , Soil , or Hydrology significantly disturbed? Area "Normal Circumstances" present? Yes No
 Are Vegetation , Soil , or Hydrology naturally problematic? (If needed, explain any answers in Remarks.)

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

Hydrophytic Vegetation Present? Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> Hydric Soils Present? Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> Wetland Hydrology Present? Yes <input type="checkbox"/> No <input checked="" type="checkbox"/>	Is the Sampled Area within a Wetland? Yes <input type="checkbox"/> No <input checked="" type="checkbox"/>
Remarks: This test plot was located in the northern portion of the site, just west of Wetland A. The vegetation in this test plot consisted of herbaceous species only. This test plot met only one wetland indicator for vegetation with 100 percent of the dominant vegetation being hydrophytic; therefore it does not meet the criteria of being wetland. The majority of the site, wetlands and uplands, was vegetated by reed canarygrass (<i>Phalaris arundinacea</i>).	

VEGETATION (Use scientific names)

	Absolute % Cover	Dominant Species?	Indicator Status	Dominance Test Worksheet
Tree Stratum (Plot size: <u>30</u> ft radius)				
1. _____	%			Number of Dominant Species That Are OBL, FACW, or FAC: <u>1</u> (A) Total Number of Dominant Species Across All Strata: <u>1</u> (B) Percent of Dominant Species That Are OBL, FACW, or FAC: <u>100</u> (A/B)
2. _____	%			
3. _____	%			
4. _____	%			
Total Cover:	%			
Sapling/Shrub Stratum (Plot size: <u>5</u> ft. radius)				
1. _____	%			Prevalence Index worksheet Total % Cover of: _____ Multiply by: _____ OBL species _____ x 1= _____ FACW species _____ x 2= _____ FAC species _____ x 3= _____ FACU species _____ x 4= _____ UPL species _____ x 5= _____ Column Totals: _____ (A) _____ (B) Prevalence Index = B/A= _____
2. _____	%			
3. _____	%			
4. _____	%			
5. _____	%			
Total Cover:	%			
Herb Stratum (Plot size: <u>5</u> ft radius)				
1. <i>Phalaris arundinacea</i>	65%	yes	FACW	Hydrophytic Vegetation Indicators: <input type="checkbox"/> 1 – Rapid Test for Hydrophytic Vegetation <input checked="" type="checkbox"/> 2 – Dominance Test is >50% <input type="checkbox"/> 3 - Prevalence Index is ≤3.0 ¹ <input type="checkbox"/> 4 - Morphological Adaptations ¹ (Provide supporting data In Remarks or on a separate sheet) <input type="checkbox"/> Wetland Non-Vascular Plants ¹ <input type="checkbox"/> Problematic Hydrophytic Vegetation ¹ (Explain)
2. <i>Dipsacus fullonum</i>	5%	no	FAC	
3. <i>Daucus carota</i>	10%	no	FACU	
4. <i>Hypochaeris radicata</i>	10%	no	FACU	
5. <i>Trifolium pratense</i>	10%	no	FACU	
6. _____	%			
7. _____	%			
8. _____	%			
Total Cover:	100%			
Woody Vine Stratum (Plot size: <u>30</u> ft radius)				
1. _____	%			¹ Indicators of hydric soil and wetland hydrology Must be present, unless disturbed or problematic.
2. _____	%			
Total Cover:	%			
% Bare Ground in Herb Stratum <u>0%</u>				Hydrophytic Vegetation Present? Yes <input checked="" type="checkbox"/> No <input type="checkbox"/>
Remarks: The hydrophytic vegetation criterion is met due to 100% of the dominant vegetation within the test plot having either OBL, FACW, or FAC indicator statuses.				

SOIL

Sampling Point: TP-6

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)								
Depth (inches)	Matrix		Redox Features				Texture	Remarks
	Color (moist)	%	Color (moist)	%	Type ¹	Loc ²		
0-11	10YR3/3	100%		%			loam	
11-16	10YR4/2	98%	10YR4/6	2%	C	PL	loamy clay	
		%		%				
		%		%				
		%		%				
		%		%				
		%		%				
		%		%				
		%		%				

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

Hydric Soil Indicators: (Applicable to all LRRs, unless otherwise noted.)			Indicators for Problematic Hydric Soils		
<input type="checkbox"/> Histosol (A1) <input type="checkbox"/> Histic Epipedon (A2) <input type="checkbox"/> Black Histic (A3) <input type="checkbox"/> Hydrogen Sulfide (A4) <input type="checkbox"/> Depleted Below Dark Surface (A11) <input type="checkbox"/> Thick Dark Surface (A12) <input type="checkbox"/> Sandy Mucky Minerals (S1) <input type="checkbox"/> Sandy Gleyed Matrix (S4)	<input type="checkbox"/> Sandy Redox (S5) <input type="checkbox"/> Stripped Matrix (S6) <input type="checkbox"/> Loamy Mucky Mineral (F1) (except MLRA 1) <input type="checkbox"/> Loamy Gleyed Matrix (F2) <input type="checkbox"/> Depleted Matrix (F3) <input type="checkbox"/> Redox Dark Surface (F6) <input type="checkbox"/> Depleted Dark Surface (F7) <input type="checkbox"/> Redox Depressions (F8)	<input type="checkbox"/> 2 cm Muck (A10) <input type="checkbox"/> Red Parent Material (TF2) <input type="checkbox"/> Very Shallow Dark Surface (TF12) <input type="checkbox"/> Other (Explain in Remarks)			

³Indicators of hydrophytic vegetation and Wetland hydrology must be present

Restrictive Layer (if present): Type: _____ Depth (inches): _____	Hydric Soil Present? Yes <input type="checkbox"/> No <input checked="" type="checkbox"/>
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Remarks: There was no evidence of hydric soils within this test plot.

HYDROLOGY

Wetland Hydrology Indicators:	Secondary Indicators (2 or more required)
Primary Indicators (min. of one required; check all that apply)	
<input type="checkbox"/> Surface Water (A1) <input type="checkbox"/> High Water Table (A2) <input type="checkbox"/> Saturation (A3) <input type="checkbox"/> Water Marks (B1) <input type="checkbox"/> Sediment Deposits (B2) <input type="checkbox"/> Drift Deposits (B3) <input type="checkbox"/> Algal Mat or crust (B4) <input type="checkbox"/> Iron Deposits (B5) <input type="checkbox"/> Surface Soil Cracks (B6) <input type="checkbox"/> Inundation Visible on Aerial Imagery (B7)	<input type="checkbox"/> Water Stained Leaves (B9) (MLRA 1, 2, 4A, and 4B) <input type="checkbox"/> Salt Crust (B11) <input type="checkbox"/> Aquatic Invertebrates (B13) <input type="checkbox"/> Hydrogen Sulfide Odor (C1) <input type="checkbox"/> Oxidized Rhizospheres along Living Roots (C3) <input type="checkbox"/> Presence of Reduced Iron (C4) <input type="checkbox"/> Recent Iron Reduction in Tilled Soils (C6) <input type="checkbox"/> Stunted or Stressed Plants (D1) (LRR A) <input type="checkbox"/> Other (Explain in Remarks)
<input type="checkbox"/> Water Stained Leaves (B9) (MLRA 1, 2, 4A, and 4B) <input type="checkbox"/> Drainage Patterns (B10) <input type="checkbox"/> Dry-Season Water Table (C2) <input type="checkbox"/> Saturation Visible on Aerial Imagery (C9) <input type="checkbox"/> Geomorphic Position (D2) <input type="checkbox"/> Shallow Aquitard (D3) <input type="checkbox"/> FAC-Neutral Test (D5) <input type="checkbox"/> Raised Ant Mounds (D6) (LRR A) <input type="checkbox"/> Frost-Heave Hummocks (D4)	

Field Observations: Surface Water Present? Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> Depth (Inches): _____ Water Table Present? Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> Depth (Inches): _____ Saturation Present? Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> Depth (Inches): _____ (Includes Capillary fringe)	Wetland Hydrology Present? Yes <input type="checkbox"/> No <input checked="" type="checkbox"/>
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Describe Recorded Data (Stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks: There was no evidence of hydrology within this test plot.

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

Project/Site: HJ Delineation City/County: Chehalis/Lewis Sampling Date: 8/27/2020
 Applicant/Owner: Herb Johnson State: WA Sampling Point: TP-7
 Investigator(s): 7Wills, KT Section, Township, Range: 4, 13N, 2W
 Landform (hillslope, terrace, etc.): Terrace Local relief: Convex Slope (%): <3%
 Subregion (LRR): A2 Lat: 46.644389 Long: -122.937322 Datum: NAD83

Soil Map Unit Name: Lacamas silt loam, 0 to 3 percent slopes NWI classification: PEM1/SSC

Are climatic / hydrologic conditions on the site typical for this time of year? Yes No (If no, explain Remarks.)
 Are Vegetation , Soil , or Hydrology significantly disturbed? Area "Normal Circumstances" present? Yes No
 Are Vegetation , Soil , or Hydrology naturally problematic? (If needed, explain any answers in Remarks.)

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

Hydrophytic Vegetation Present? Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> Hydric Soils Present? Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> Wetland Hydrology Present? Yes <input type="checkbox"/> No <input checked="" type="checkbox"/>	Is the Sampled Area within a Wetland? Yes <input type="checkbox"/> No <input checked="" type="checkbox"/>
Remarks: This test plot was located in the southwestern portion of the site, south of Wetland A. The vegetation in this test plot consisted of herbaceous species only. This test plot met only one wetland indicator for vegetation with 100 percent of the dominant vegetation being hydrophytic; therefore it does not meet the criteria of being wetland. The majority of the site, wetlands and uplands, was vegetated by reed canarygrass (<i>Phalaris arundinacea</i>).	

VEGETATION (Use scientific names)

	Absolute % Cover	Dominant Species?	Indicator Status	Dominance Test Worksheet
Tree Stratum (Plot size: <u>30</u> ft radius)				
1. _____	%			Number of Dominant Species That Are OBL, FACW, or FAC: <u>1</u> (A) Total Number of Dominant Species Across All Strata: <u>1</u> (B) Percent of Dominant Species That Are OBL, FACW, or FAC: <u>100</u> (A/B)
2. _____	%			
3. _____	%			
4. _____	%			
Total Cover:	%			
Sapling/Shrub Stratum (Plot size: <u>5</u> ft. radius)				
1. _____	%			Prevalence Index worksheet Total % Cover of: _____ Multiply by: _____ OBL species _____ x 1= _____ FACW species _____ x 2= _____ FAC species _____ x 3= _____ FACU species _____ x 4= _____ UPL species _____ x 5= _____ Column Totals: _____ (A) _____ (B) Prevalence Index = B/A= _____
2. _____	%			
3. _____	%			
4. _____	%			
5. _____	%			
Total Cover:	%			
Herb Stratum (Plot size: <u>5</u> ft radius)				
1. <i>Phalaris arundinacea</i>	65%	yes	FACW	Hydrophytic Vegetation Indicators: <input type="checkbox"/> 1 – Rapid Test for Hydrophytic Vegetation <input checked="" type="checkbox"/> 2 – Dominance Test is >50% <input type="checkbox"/> 3 - Prevalence Index is ≤3.0 ¹ <input type="checkbox"/> 4 - Morphological Adaptations ¹ (Provide supporting data In Remarks or on a separate sheet) <input type="checkbox"/> Wetland Non-Vascular Plants ¹ <input type="checkbox"/> Problematic Hydrophytic Vegetation ¹ (Explain)
2. <i>Dipsacus fullonum</i>	5%	no	FAC	
3. <i>Daucus carota</i>	10%	no	FACU	
4. <i>Hypochaeris radicata</i>	10%	no	FACU	
5. <i>Trifolium pratense</i>	10%	no	FACU	
6. _____	%			
7. _____	%			
8. _____	%			
Total Cover:	100%			
Woody Vine Stratum (Plot size: <u>30</u> ft radius)				
1. _____	%			¹ Indicators of hydric soil and wetland hydrology Must be present, unless disturbed or problematic.
2. _____	%			
Total Cover:	%			
% Bare Ground in Herb Stratum <u>0%</u>				Hydrophytic Vegetation Present? Yes <input checked="" type="checkbox"/> No <input type="checkbox"/>
Remarks: The hydrophytic vegetation criterion is met due to 100% of the dominant vegetation within the test plot having either OBL, FACW, or FAC indicator statuses.				

SOIL

Sampling Point: TP-7

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)								
Depth (inches)	Matrix		Redox Features				Texture	Remarks
	Color (moist)	%	Color (moist)	%	Type ¹	Loc ²		
0-5	10YR3/3	100%		%			gravelly loam	See Remarks Below
		%		%				
		%		%				
		%		%				
		%		%				
		%		%				
		%		%				
		%		%				
		%		%				
		%		%				

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

Hydric Soil Indicators: (Applicable to all LRRs, unless otherwise noted.)			Indicators for Problematic Hydric Soils		
<input type="checkbox"/> Histosol (A1)	<input type="checkbox"/> Sandy Redox (S5)	<input type="checkbox"/> 2 cm Muck (A10)			
<input type="checkbox"/> Histic Epipedon (A2)	<input type="checkbox"/> Stripped Matrix (S6)	<input type="checkbox"/> Red Parent Material (TF2)			
<input type="checkbox"/> Black Histic (A3)	<input type="checkbox"/> Loamy Mucky Mineral (F1) (except MLRA 1)	<input type="checkbox"/> Very Shallow Dark Surface (TF12)			
<input type="checkbox"/> Hydrogen Sulfide (A4)	<input type="checkbox"/> Loamy Gleyed Matrix (F2)	<input type="checkbox"/> Other (Explain in Remarks)			
<input type="checkbox"/> Depleted Below Dark Surface (A11)	<input type="checkbox"/> Depleted Matrix (F3)				
<input type="checkbox"/> Thick Dark Surface (A12)	<input type="checkbox"/> Redox Dark Surface (F6)				
<input type="checkbox"/> Sandy Mucky Minerals (S1)	<input type="checkbox"/> Depleted Dark Surface (F7)				
<input type="checkbox"/> Sandy Gleyed Matrix (S4)	<input type="checkbox"/> Redox Depressions (F8)				

³Indicators of hydrophytic vegetation and Wetland hydrology must be present

Restrictive Layer (if present):	Hydric Soil Present?
Type: <u>Hard pan</u>	Yes <input type="checkbox"/> No <input checked="" type="checkbox"/>
Depth (inches): <u>5</u>	

Remarks: The soil consisted of historic compacted fill material and gravel. There was no evidence of hydric soils within this test plot.

HYDROLOGY

Wetland Hydrology Indicators:	Secondary Indicators (2 or more required)
Primary Indicators (min. of one required; check all that apply)	
<input type="checkbox"/> Surface Water (A1) <input type="checkbox"/> Water-Stained Leaves (B9) (except MLRA 1, 2, 4A, & 4B)	<input type="checkbox"/> Water Stained Leaves (B9) (MLRA 1, 2, 4A, and 4B)
<input type="checkbox"/> High Water Table (A2)	<input type="checkbox"/> Drainage Patterns (B10)
<input type="checkbox"/> Saturation (A3)	<input type="checkbox"/> Dry-Season Water Table (C2)
<input type="checkbox"/> Water Marks (B1)	<input type="checkbox"/> Saturation Visible on Aerial Imagery (C9)
<input type="checkbox"/> Sediment Deposits (B2)	<input type="checkbox"/> Geomorphic Position (D2)
<input type="checkbox"/> Drift Deposits (B3)	<input type="checkbox"/> Shallow Aquitard (D3)
<input type="checkbox"/> Algal Mat or crust (B4)	<input type="checkbox"/> FAC-Neutral Test (D5)
<input type="checkbox"/> Iron Deposits (B5)	<input type="checkbox"/> Raised Ant Mounds (D6) (LRR A)
<input type="checkbox"/> Surface Soil Cracks (B6)	<input type="checkbox"/> Frost-Heave Hummocks (D4)
<input type="checkbox"/> Inundation Visible on Aerial Imagery (B7)	

Field Observations:	Wetland Hydrology Present?
Surface Water Present? Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> Depth (Inches):	Yes <input type="checkbox"/> No <input checked="" type="checkbox"/>
Water Table Present? Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> Depth (Inches):	
Saturation Present? Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> Depth (Inches):	
(Includes Capillary fringe)	

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

Remarks: There was no evidence of hydrology within this test plot.

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

Project/Site: HJ Delineation City/County: Chehalis/Lewis Sampling Date: 8/27/2020
 Applicant/Owner: Herb Johnson State: WA Sampling Point: TP-8
 Investigator(s): Wills, KT Section, Township, Range: 4, 13N, 2W
 Landform (hillslope, terrace, etc.): Terrace Local relief: Convex Slope (%): <3%
 Subregion (LRR): A2 Lat: 46.644369 Long: -122.936464 Datum: NAD83
 Soil Map Unit Name: Lacamas silt loam, 0 to 3 percent slopes NWI classification: PEM1/SSC

Are climatic / hydrologic conditions on the site typical for this time of year? Yes No (If no, explain Remarks.)
 Are Vegetation , Soil , or Hydrology significantly disturbed? Area "Normal Circumstances" present? Yes No
 Are Vegetation , Soil , or Hydrology naturally problematic? (If needed, explain any answers in Remarks.)

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

Hydrophytic Vegetation Present? Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> Hydric Soils Present? Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> Wetland Hydrology Present? Yes <input type="checkbox"/> No <input checked="" type="checkbox"/>	Is the Sampled Area within a Wetland? Yes <input type="checkbox"/> No <input checked="" type="checkbox"/>
Remarks: This test plot was located in the southeastern portion of the site, southeast of Wetland A. The vegetation in this test plot consisted of herbaceous species only. This test plot met only one wetland indicator for vegetation with 100 percent of the dominant vegetation being hydrophytic; therefore it does not meet the criteria of being wetland. The majority of the site, wetlands and uplands, was vegetated by reed canarygrass (<i>Phalaris arundinacea</i>).	

VEGETATION (Use scientific names)

	Absolute % Cover	Dominant Species?	Indicator Status	Dominance Test Worksheet
Tree Stratum (Plot size: <u>30</u> ft radius)				Number of Dominant Species That Are OBL, FACW, or FAC: <u>2</u> (A) Total Number of Dominant Species Across All Strata: <u>2</u> (B) Percent of Dominant Species That Are OBL, FACW, or FAC: <u>100</u> (A/B)
1. _____	%			
2. _____	%			
3. _____	%			
4. _____	%			
Total Cover:	%			
Sapling/Shrub Stratum (Plot size: <u>5</u> ft. radius)				Prevalence Index worksheet Total % Cover of: _____ Multiply by: _____ OBL species _____ x 1= _____ FACW species _____ x 2= _____ FAC species _____ x 3= _____ FACU species _____ x 4= _____ UPL species _____ x 5= _____ Column Totals: _____ (A) _____ (B) Prevalence Index = B/A= _____
1. _____	%			
2. _____	%			
3. _____	%			
4. _____	%			
5. _____	%			
Total Cover:	%			
Herb Stratum (Plot size: <u>5</u> ft radius)				Hydrophytic Vegetation Indicators: <input type="checkbox"/> 1 – Rapid Test for Hydrophytic Vegetation <input checked="" type="checkbox"/> 2 – Dominance Test is >50% <input type="checkbox"/> 3 - Prevalence Index is ≤3.0 ¹ 4 - Morphological Adaptations ¹ (Provide supporting data In Remarks or on a separate sheet) <input type="checkbox"/> Wetland Non-Vascular Plants ¹ <input type="checkbox"/> Problematic Hydrophytic Vegetation ¹ (Explain)
1. <i>Phalaris arundinacea</i>	50%	yes	FACW	
2. <i>Dipsacus fullonum</i>	25%	yes	FAC	
3. <i>Daucus carota</i>	15%	no	FACU	
4. <i>Hypochaeris radicata</i>	5%	no	FACU	
5. <i>Trifolium pratense</i>	5%	no	FACU	
6. _____	%			
7. _____	%			
8. _____	%			
Total Cover:	100%			
Woody Vine Stratum (Plot size: <u>30</u> ft radius)				¹ Indicators of hydric soil and wetland hydrology Must be present, unless disturbed or problematic.
1. _____	%			
2. _____	%			
Total Cover:	%			
% Bare Ground in Herb Stratum <u>0%</u>				Hydrophytic Vegetation Present? Yes <input checked="" type="checkbox"/> No <input type="checkbox"/>

Remarks: The hydrophytic vegetation criterion is met due to 100% of the dominant vegetation within the test plot having either OBL, FACW, or FAC indicator statuses.

APPENDIX B: WETLAND RATING FORM

Wetland name or number A

RATING SUMMARY – Western Washington

Name of wetland (or ID #): Wetland A Date of site visit: August 27, 2020

Rated by KT Wills Trained by Ecology? Yes Date of training 9/2016

HGM Class used for rating Depressional Wetland has multiple HGM classes? X Y N

NOTE: Form is not complete without the figures requested (figures can be combined).

Source of base aerial photo/map Google Earth

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

1. Category of wetland based on FUNCTIONS

 Category I – Total score = 23 – 27

 Category II – Total score = 20 – 22

 Category III – Total score = 16 – 19

X Category IV – Total score = 9 – 15

FUNCTION	Improving Water Quality			Hydrologic			Habitat			
<i>Circle the appropriate ratings</i>										
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	6			5			4			TOTAL 15

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
Estuarine	I II
Wetland of High Conservation Value	I
Bog	I
Mature Forest	I
Old Growth Forest	I
Coastal Lagoon	I II
Interdunal	I II III IV
None of the above	N/A

Wetland name or number A

Maps and figures required to answer questions correctly for Western Washington

Depressional Wetlands

Map of:	To answer questions:	Figure #
Cowardin plant classes	D 1.3, H 1.1, H 1.4	5
Hydroperiods	D 1.4, H 1.2	5
Location of outlet (<i>can be added to map of hydroperiods</i>)	D 1.1, D 4.1	5
Boundary of area within 150 ft of the wetland (<i>can be added to another figure</i>)	D 2.2, D 5.2	5
Map of the contributing basin	D 4.3, D 5.3	6
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	6
Screen capture of map of 303(d) listed waters in basin (from Ecology website)	D 3.1, D 3.2	7
Screen capture of list of TMDLs for WRIA in which unit is found (from web)	D 3.3	7

Riverine Wetlands

Map of:	To answer questions:	Figure #
Cowardin plant classes	H 1.1, H 1.4	
Hydroperiods	H 1.2	
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	
Plant cover of trees, shrubs, and herbaceous plants	R 1.2, R 4.2	
Width of unit vs. width of stream (<i>can be added to another figure</i>)	R 4.1	
Map of the contributing basin	R 2.2, R 2.3, R 5.2	
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)	R 3.1	
Screen capture of list of TMDLs for WRIA in which unit is found (from web)	R 3.2, R 3.3	

Lake Fringe Wetlands

Map of:	To answer questions:	Figure #
Cowardin plant classes	L 1.1, L 4.1, H 1.1, H 1.4	
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 unit is found (from web)	L 3.3	

Slope Wetlands

Map of:	To answer questions:	Figure #
Cowardin plant classes	H 1.1, H 1.4	
Hydroperiods	H 1.2	
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 150 ft buffer (<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 unit is found (from web)	S 3.3	

HGM Classification of Wetlands in Western Washington

For questions 1-7, 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 1-7 apply, and go to Question 8.

1. Are the water levels in the entire unit usually controlled by tides except during floods?

NO – go to 2

YES – the wetland class is **Tidal Fringe** – go to 1.1

- 1.1 Is the salinity of the water during periods of annual low flow below 0.5 ppt (parts per thousand)?

NO – Saltwater Tidal Fringe (Estuarine)

YES – Freshwater Tidal Fringe

*If your wetland can be classified as a Freshwater Tidal Fringe use the forms for **Riverine** wetlands. If it is Saltwater Tidal Fringe it is an **Estuarine** wetland and is not scored. This method **cannot** be used to score functions for estuarine wetlands.*

2. The entire wetland unit is flat and precipitation is the only source (>90%) of water to it. Groundwater and surface water runoff are NOT sources of water to the unit.

NO – go to 3

YES – The wetland class is **Flats**

*If your wetland can be classified as a Flats wetland, use the form for **Depressional** wetlands.*

3. Does the entire wetland unit **meet all** of the following criteria?

- The vegetated part of the wetland is on the shores of a body of permanent open water (without any plants on the surface at any time of the year) at least 20 ac (8 ha) in size;
 At least 30% of the open water area is deeper than 6.6 ft (2 m).

NO – go to 4

YES – The wetland class is **Lake Fringe** (Lacustrine Fringe)

4. 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 5

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 ft deep).

5. 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 2 years.

Wetland name or number A

NO – go to 6

YES – The wetland class is **Riverine**

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

6. 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 7

YES – The wetland class is **Depressional**

7. Is the entire wetland unit located in a very flat area with no obvious depression and no overbank flooding? The unit does not pond surface water more than a few inches. The unit seems to be maintained by high groundwater in the area. The wetland may be ditched, but has no obvious natural outlet.

NO – go to 8

YES – The wetland class is **Depressional**

8. 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 1-7 APPLY TO DIFFERENT AREAS IN THE UNIT** (make a rough sketch to help you decide). Use the following table to identify the appropriate class to use for the rating system if you have several HGM classes present within the wetland unit being scored.

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

HGM classes within the wetland unit being rated	HGM class to use in rating
Slope + Riverine	Riverine
Slope + Depressional	Depressional
Slope + Lake Fringe	Lake Fringe
Depressional + Riverine along stream within boundary of depression	Depressional
Depressional + Lake Fringe	Depressional
Riverine + Lake Fringe	Riverine
Salt Water Tidal Fringe and any other class of freshwater wetland	Treat as ESTUARINE

*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

DEPRESSIONAL AND FLATS WETLANDS		
Water Quality Functions - 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. <u>Characteristics of surface water outflows from the wetland:</u> Wetland is a depression or flat depression (QUESTION 7 on key) with no surface water leaving it (no outlet). points = 3 Wetland has an intermittently flowing stream or ditch, OR highly constricted permanently flowing outlet. points = 2 Wetland has an unconstricted, or slightly constricted, surface outlet that is permanently flowing points = 1 Wetland is a flat depression (QUESTION 7 on key), whose outlet is a permanently flowing ditch. points = 1	3	
D 1.2. <u>The soil 2 in below the surface (or duff layer) is true clay or true organic (use NRCS definitions).</u> Yes = 4 No = 0	0	
D 1.3. <u>Characteristics and distribution of persistent plants</u> (Emergent, Scrub-shrub, and/or Forested Cowardin classes): Wetland has persistent, ungrazed, plants > 95% of area points = 5 Wetland has persistent, ungrazed, plants > ½ of area points = 3 Wetland has persistent, ungrazed plants > 1/10 of area points = 1 Wetland has persistent, ungrazed plants < 1/10 of area points = 0	0	
D 1.4. <u>Characteristics of seasonal ponding or inundation:</u> <i>This is the area that is ponded for at least 2 months. See description in manual.</i> Area seasonally ponded is > ¾ total area of wetland points = 4 Area seasonally ponded is > ¼ total area of wetland points = 2 Area seasonally ponded is < ¼ total area of wetland points = 0	2	
Total for D 1	Add the points in the boxes above	5

Rating of Site Potential If score is: 12-16 = H 6-11 = M X 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 unit receive stormwater discharges? Yes = 1 No = 0	0	
D 2.2. Is > 10% of the area within 150 ft of the wetland in land uses that generate pollutants? Yes = 1 No = 0	1	
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 X 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, lake, or marine water 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 an aquatic resource is on the 303(d) list? Yes = 1 No = 0	1	
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 basin in which the unit is found)? Yes = 2 No = 0	2	
Total for D 3	Add the points in the boxes above	3

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

Wetland name or number A

DEPRESSIONAL AND FLATS WETLANDS

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

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 is a depression or flat depression with no surface water leaving it (no outlet) points = 4		4
Wetland has an intermittently flowing stream or ditch, OR highly constricted permanently flowing outlet points = 2		
Wetland is a flat depression (QUESTION 7 on key), whose outlet is a permanently flowing ditch points = 1		
Wetland has an unconstricted, or slightly constricted, surface outlet that is permanently flowing 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 if dry, the deepest part.		
Marks of ponding are 3 ft or more above the surface or bottom of outlet points = 7		0
Marks of ponding between 2 ft to < 3 ft from surface or bottom of outlet points = 5		
Marks are at least 0.5 ft to < 2 ft from surface or bottom of outlet points = 3		
The wetland is a "headwater" wetland points = 3		
Wetland is flat but has small depressions on the surface that trap water points = 1		
Marks of ponding less than 0.5 ft (6 in) points = 0		
D 4.3. Contribution of the wetland to storage in the watershed: Estimate the ratio of the area of upstream basin contributing surface water to the wetland to the area of the wetland unit itself.		
The area of the basin is less than 10 times the area of the unit points = 5		3
The area of the basin is 10 to 100 times the area of the unit points = 3		
The area of the basin is more than 100 times the area of the unit points = 0		
Entire wetland is in the Flats class points = 5		
Total for D 4	Add the points in the boxes above	7

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

D 5.0. Does the landscape have the potential to support hydrologic functions of the site?		
D 5.1. Does the wetland receive stormwater discharges?	Yes = 1 <u>No = 0</u>	0
D 5.2. Is >10% of the area within 150 ft of the wetland in land uses that generate excess runoff?	<u>Yes = 1</u> No = 0	1
D 5.3. Is more than 25% of the contributing basin of the wetland covered with intensive human land uses (residential at >1 residence/ac, urban, commercial, agriculture, etc.)?	<u>Yes = 1</u> No = 0	1
Total for D 5	Add the points in the boxes above	2

Rating of Landscape Potential If score is: 3 = H X 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 unit is in a landscape that has flooding problems. Choose the description that best matches conditions around the wetland unit 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):		0
• Flooding occurs in a sub-basin that is immediately down-gradient of unit. points = 2		
• Surface flooding problems are in a sub-basin farther down-gradient. points = 1		
Flooding from groundwater is an issue in the sub-basin. 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		
<u>There are no problems with flooding downstream of the wetland. points = 0</u>		
D 6.2. Has the site been identified as important for flood storage or flood conveyance in a regional flood control plan?	Yes = 2 <u>No = 0</u>	0
Total for D 6	Add the points in the boxes above	0

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

Wetland name or number A

These questions apply to wetlands of all HGM classes.

HABITAT FUNCTIONS - Indicators that site functions to provide important habitat

H 1.0. Does the site have the potential to provide habitat?

H 1.1. Structure of plant community: *Indicators are Cowardin classes and strata within the Forested class. Check the Cowardin plant classes in the wetland. Up to 10 patches may be combined for each class to meet the threshold of ¼ ac or more than 10% of the unit if it is smaller than 2.5 ac. Add the number of structures checked.*

- Aquatic bed 4 structures or more: points = 4
 - Emergent 3 structures: points = 2
 - Scrub-shrub (areas where shrubs have > 30% cover) 2 structures: points = 1
 - Forested (areas where trees have > 30% cover) 1 structure: points = 0
- If the unit has a Forested class, check if:*
- The Forested class has 3 out of 5 strata (canopy, sub-canopy, shrubs, herbaceous, moss/ground-cover) that each cover 20% within the Forested polygon

0

H 1.2. Hydroperiods

Check the types of water regimes (hydroperiods) present within the wetland. The water regime has to cover more than 10% of the wetland or ¼ ac to count (*see text for descriptions of hydroperiods*).

- Permanently flooded or inundated 4 or more types present: points = 3
- Seasonally flooded or inundated 3 types present: points = 2
- Occasionally flooded or inundated 2 types present: points = 1
- Saturated only 1 type present: points = 0
- Permanently flowing stream or river in, or adjacent to, the wetland
- Seasonally flowing stream in, or adjacent to, the wetland
- Lake Fringe wetland** 2 points
- Freshwater tidal wetland** 2 points

1

H 1.3. Richness of plant species

Count the number of plant species in the wetland that cover at least 10 ft².

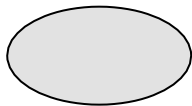
Different patches of the same species can be combined to meet the size threshold and you do not have to name the species. Do not include Eurasian milfoil, reed canarygrass, purple loosestrife, Canadian thistle

- If you counted: > 19 species points = 2
- 5 - 19 species points = 1
- < 5 species points = 0

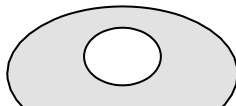
1

H 1.4. Interspersion of habitats

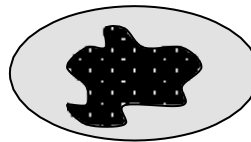
Decide from the diagrams below whether interspersions among Cowardin plants classes (described in H 1.1), or the classes and unvegetated areas (can include open water or mudflats) is high, moderate, low, or none. *If you have four or more plant classes or three classes and open water, the rating is always high.*



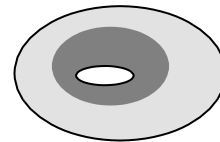
None = 0 points



Low = 1 point

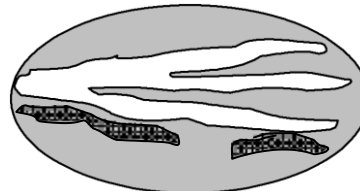
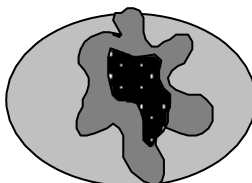
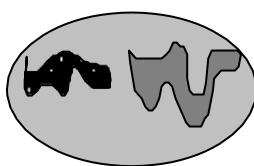


Moderate = 2 points



0

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



Wetland name or number A

<p>H 1.5. Special habitat features:</p> <p>Check the habitat features that are present in the wetland. <i>The number of checks is the number of points.</i></p> <p><input type="checkbox"/> Large, downed, woody debris within the wetland (> 4 in diameter and 6 ft long).</p> <p><input type="checkbox"/> Standing snags (dbh > 4 in) within the wetland</p> <p><input type="checkbox"/> Undercut banks are present for at least 6.6 ft (2 m) and/or overhanging plants extends at least 3.3 ft (1 m) over a stream (or ditch) in, or contiguous with the wetland, for at least 33 ft (10 m)</p> <p><input type="checkbox"/> Stable steep banks of fine material that might be used by beaver or muskrat for denning (> 30 degree slope) OR signs of recent beaver activity are present (<i>cut shrubs or trees that have not yet weathered where wood is exposed</i>)</p> <p><input type="checkbox"/> At least ¼ ac of thin-stemmed persistent plants or woody branches are present in areas that are permanently or seasonally inundated (<i>structures for egg-laying by amphibians</i>)</p> <p><input type="checkbox"/> Invasive plants cover less than 25% of the wetland area in every stratum of plants (<i>see H 1.1 for list of strata</i>)</p>	<p>0</p>
<p>Total for H 1</p>	<p>Add the points in the boxes above</p> <p style="text-align: center;">2</p>

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

<p>H 2.0. Does the landscape have the potential to support the habitat functions of the site?</p>	
<p>H 2.1. Accessible habitat (include <i>only habitat that directly abuts wetland unit</i>).</p> <p><i>Calculate:</i> % undisturbed habitat $0 + [(\% \text{ moderate and low intensity land uses})0.5/2]$ $0.25 = 0.25\%$</p> <p>If total accessible habitat is:</p> <p>> $\frac{1}{3}$ (33.3%) of 1 km Polygon points = 3</p> <p>20-33% of 1 km Polygon points = 2</p> <p>10-19% of 1 km Polygon points = 1</p> <p>< 10% of 1 km Polygon points = 0</p>	<p>0</p>
<p>H 2.2. Undisturbed habitat in 1 km Polygon around the wetland.</p> <p><i>Calculate:</i> % undisturbed habitat $23.5 + [(\% \text{ moderate and low intensity land uses})11/2]$ $5.5 = 29\%$</p> <p>Undisturbed habitat > 50% of Polygon points = 3</p> <p>Undisturbed habitat 10-50% and in 1-3 patches points = 2</p> <p>Undisturbed habitat 10-50% and > 3 patches points = 1</p> <p>Undisturbed habitat < 10% of 1 km Polygon points = 0</p>	<p>1</p>
<p>H 2.3. Land use intensity in 1 km Polygon: If</p> <p>> 50% of 1 km Polygon is high intensity land use points = (- 2)</p> <p>≤ 50% of 1 km Polygon is high intensity points = 0</p>	<p>-2</p>
<p>Total for H 2</p>	<p>Add the points in the boxes above</p> <p style="text-align: center;">-1</p>

Rating of Landscape Potential If score is: X 4-6 = H 1-3 = M X < 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 only the highest score that applies to the wetland being rated.</i></p> <p>Site meets ANY of the following criteria: points = 2</p> <p>— It has 3 or more priority habitats within 100 m (see next page)</p> <p>— It provides habitat for Threatened or Endangered species (any plant or animal on the state or federal lists)</p> <p>— It is mapped as a location for an individual WDFW priority species</p> <p>— It is a Wetland of High Conservation Value as determined by the Department of Natural Resources</p> <p>— 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</p> <p>Site has 1 or 2 priority habitats (listed on next page) within 100 m points = 1</p> <p>Site does not meet any of the criteria above points = 0</p>	<p>1</p>

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

Wetland name or number A

WDFW Priority Habitats

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

Count how many of the following priority habitats are within 330 ft (100 m) of the wetland unit: **NOTE:** *This question is independent of the land use between the wetland unit and the priority habitat.*

___ **Aspen Stands:** Pure or mixed stands of aspen greater than 1 ac (0.4 ha).

___ **Biodiversity Areas and Corridors:** Areas of habitat that are relatively important to various species of native fish and wildlife (*full descriptions in WDFW PHS report*).

___ **Herbaceous Balds:** Variable size patches of grass and forbs on shallow soils over bedrock.

___ **Old-growth/Mature forests:** Old-growth west of Cascade crest – Stands of at least 2 tree species, forming a multi-layered canopy with occasional small openings; with at least 8 trees/ac (20 trees/ha) > 32 in (81 cm) dbh or > 200 years of age. 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 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.

___ **Westside Prairies:** Herbaceous, non-forested plant communities that can either take the form of a dry prairie or a wet prairie (*full descriptions in WDFW PHS report p. 161 – see web link above*).

___ **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.

___ **Nearshore:** Relatively undisturbed nearshore habitats. These include Coastal Nearshore, Open Coast Nearshore, and Puget Sound Nearshore. (*full descriptions of habitats and the definition of relatively undisturbed are in WDFW report – see web link on previous page*).

___ **Caves:** A naturally occurring cavity, recess, void, or system of interconnected passages under the earth in soils, rock, ice, or other geological formations and is large enough to contain a human.

___ **Cliffs:** Greater than 25 ft (7.6 m) high and occurring below 5000 ft elevation.

___ **Talus:** Homogenous areas of rock rubble ranging in average size 0.5 - 6.5 ft (0.15 - 2.0 m), composed of basalt, andesite, and/or sedimentary rock, including riprap slides and mine tailings. May be associated with cliffs.

___ **Snags and Logs:** Trees are considered snags if they are dead or dying and exhibit sufficient decay characteristics to enable cavity excavation/use by wildlife. Priority snags have a diameter at breast height of > 20 in (51 cm) in western Washington and are > 6.5 ft (2 m) in height. Priority logs are > 12 in (30 cm) in diameter at the largest end, and > 20 ft (6 m) long.

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 A

CATEGORIZATION BASED ON SPECIAL CHARACTERISTICS

Wetland Type	Category
<i>Check off any criteria that apply to the wetland. Circle the category when the appropriate criteria are met.</i>	
<p>SC 1.0. Estuarine wetlands</p> <p>Does the wetland meet the following criteria for Estuarine wetlands?</p> <ul style="list-style-type: none"> — The dominant water regime is tidal, — Vegetated, and — With a salinity greater than 0.5 ppt <p style="text-align: right;">Yes – Go to SC 1.1 No = Not an estuarine wetland</p>	
<p>SC 1.1. Is the wetland within a National Wildlife Refuge, National Park, National Estuary Reserve, Natural Area Preserve, State Park or Educational, Environmental, or Scientific Reserve designated under WAC 332-30-151?</p> <p style="text-align: right;">Yes = Category I No - Go to SC 1.2</p>	Cat. I
<p>SC 1.2. Is the wetland unit at least 1 ac in size and meets at least two of the following three conditions?</p> <ul style="list-style-type: none"> — The wetland is relatively undisturbed (has no diking, ditching, filling, cultivation, grazing, and has less than 10% cover of non-native plant species. (If non-native species are <i>Spartina</i>, see page 25) — At least ¾ of the landward edge of the wetland has a 100 ft buffer of shrub, forest, or un-grazed or unmowed grassland. — The wetland has at least two of the following features: tidal channels, depressions with open water, or contiguous freshwater wetlands. <p style="text-align: right;">Yes = Category I No = Category II</p>	Cat. I Cat. II
<p>SC 2.0. Wetlands of High Conservation Value (WHCV)</p> <p>SC 2.1. Has the WA Department of Natural Resources updated their website to include the list of Wetlands of High Conservation Value?</p> <p style="text-align: right;">Yes – Go to SC 2.2 No – Go to SC 2.3</p> <p>SC 2.2. Is the wetland listed on the WDNR database as a Wetland of High Conservation Value?</p> <p style="text-align: right;">Yes = Category I No = Not a WHCV</p> <p>SC 2.3. Is the wetland in a Section/Township/Range that contains a Natural Heritage wetland?</p> <p style="text-align: center;">http://www1.dnr.wa.gov/nhp/refdesk/datasearch/wnhpwetlands.pdf</p> <p style="text-align: right;">Yes – Contact WNHP/WDNR and go to SC 2.4 No = Not a WHCV</p> <p>SC 2.4. Has WDNR identified the wetland within the S/T/R as a Wetland of High Conservation Value and listed it on their website?</p> <p style="text-align: right;">Yes = Category I No = Not a WHCV</p>	Cat. I
<p>SC 3.0. Bogs</p> <p>Does the wetland (or any part of the unit) meet both the criteria for soils and vegetation in bogs? <i>Use the key below. If you answer YES you will still need to rate the wetland based on its functions.</i></p> <p>SC 3.1. Does an area within the wetland unit have organic soil horizons, either peats or mucks, that compose 16 in or more of the first 32 in of the soil profile?</p> <p style="text-align: right;">Yes – Go to SC 3.3 No – Go to SC 3.2</p> <p>SC 3.2. Does an area within the wetland unit 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?</p> <p style="text-align: right;">Yes – Go to SC 3.3 No = Is not a bog</p> <p>SC 3.3. Does an area with peats or mucks have more than 70% cover of mosses at ground level, AND at least a 30% cover of plant species listed in Table 4?</p> <p style="text-align: right;">Yes = Is a Category I bog No – Go to SC 3.4</p> <p>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 4 are present, the wetland is a bog.</p> <p>SC 3.4. Is an area with peats or mucks forested (> 30% cover) with Sitka spruce, 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 4 provide more than 30% of the cover under the canopy?</p> <p style="text-align: right;">Yes = Is a Category I bog No = Is not a bog</p>	Cat. I

Wetland name or number A

<p>SC 4.0. Forested Wetlands</p> <p>Does the wetland have at least <u>1 contiguous acre</u> of forest that meets one of these criteria for the WA Department of Fish and Wildlife's forests as priority habitats? <i>If you answer YES you will still need to rate the wetland based on its functions.</i></p> <ul style="list-style-type: none"> — Old-growth forests (west of Cascade crest): Stands of at least two tree species, forming a multi-layered canopy with occasional small openings; with at least 8 trees/ac (20 trees/ha) that are at least 200 years of age OR have a diameter at breast height (dbh) of 32 in (81 cm) or more. — Mature forests (west of the Cascade Crest): Stands where the largest trees are 80- 200 years old OR the species that make up the canopy have an average diameter (dbh) exceeding 21 in (53 cm). <p style="text-align: right;">Yes = Category I No = Not a forested wetland for this section</p>	<p>Cat. I</p>
<p>SC 5.0. Wetlands in Coastal Lagoons</p> <p>Does the wetland meet all of the following criteria of a wetland in a coastal lagoon?</p> <ul style="list-style-type: none"> — The wetland lies in a depression adjacent to marine waters that is wholly or partially separated from marine waters by sandbanks, gravel banks, shingle, or, less frequently, rocks — The lagoon in which the wetland is located contains ponded water that is saline or brackish (> 0.5 ppt) during most of the year in at least a portion of the lagoon (<i>needs to be measured near the bottom</i>) <p style="text-align: right;">Yes – Go to SC 5.1 No = Not a wetland in a coastal lagoon</p> <p>SC 5.1. Does the wetland meet all of the following three conditions?</p> <ul style="list-style-type: none"> — The wetland is relatively undisturbed (has no diking, ditching, filling, cultivation, grazing), and has less than 20% cover of aggressive, opportunistic plant species (see list of species on p. 100). — At least ¾ of the landward edge of the wetland has a 100 ft buffer of shrub, forest, or un-grazed or unmowed grassland. — The wetland is larger than 1/10 ac (4350 ft²) <p style="text-align: right;">Yes = Category I No = Category II</p>	<p>Cat. I</p> <p>Cat. II</p>
<p>SC 6.0. Interdunal Wetlands</p> <p>Is the wetland west of the 1889 line (also called the Western Boundary of Upland Ownership or WBUO)? <i>If you answer yes you will still need to rate the wetland based on its habitat functions.</i></p> <p>In practical terms that means the following geographic areas:</p> <ul style="list-style-type: none"> — Long Beach Peninsula: Lands west of SR 103 — Grayland-Westport: Lands west of SR 105 — Ocean Shores-Copalis: Lands west of SR 115 and SR 109 <p style="text-align: right;">Yes – Go to SC 6.1 No = not an interdunal wetland for rating</p> <p>SC 6.1. Is the wetland 1 ac or larger and scores an 8 or 9 for the habitat functions on the form (rates H,H,H or H,H,M for the three aspects of function)? Yes = Category I No – Go to SC 6.2</p> <p>SC 6.2. Is the wetland 1 ac or larger, or is it in a mosaic of wetlands that is 1 ac or larger? Yes = Category II No – Go to SC 6.3</p> <p>SC 6.3. Is the unit between 0.1 and 1 ac, or is it in a mosaic of wetlands that is between 0.1 and 1 ac? Yes = Category III No = Category IV</p>	<p>Cat I</p> <p>Cat. II</p> <p>Cat. III</p> <p>Cat. IV</p>
<p>Category of wetland based on Special Characteristics</p> <p>If you answered No for all types, enter "Not Applicable" on Summary Form</p>	<p>N/A</p>

Wetland name or number A

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