

# **REVISED CRITICAL AREAS REPORT**

June 5, 2019



**Highland Terrace** La Center, Washington

Prepared for

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Prepared by Ecological Land Services

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## SIGNATURE PAGE

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

Kate Lyn Wills

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

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## **INTRODUCTION**

Ecological Land Services, Inc. (ELS) has completed this critical areas report including wetland delineation on behalf of the applicant, Evergreen Homes NW. The study area consists of Clark County Tax Parcels 258636-000, 258704-000, 258702-000, 258727-000, 258644-000, and 258763-000 located south of NW Bolen Street and north of NW Pacific Highway in La Center, Washington, within in a portion of Section 33, Township 5 North, Range 1 East, of the Willamette Meridian (Figure 1). The applicant is proposing to subdivide six adjacent parcels totaling approximately 26.06 acres, zoned as MDR-16, into lots to be used for single-family dwellings with associated shared driveways, stormwater facilities, utility installation, and road improvements. ELS conducted a site visit on March 23, 2016 to inventory site conditions within the study area for the preparation of this critical areas report as required under *La Center Municipal Code (LCMC) Chapter 18.300.040*.

#### **Project History**

A first version of this critical areas report and a bank use plan was submitted to the appropriate regulatory agencies on May 30, 2016. On July 28, 2016, Jim Carsner from the U.S. Army Corps of Engineers (Corps), Seattle District visited the site as part of his review of the applicants Nationwide Permit (NWP) 29 application. At this time, Jim requested further delineation of a dry stream channel and revision of the existing wetland boundaries. ELS conducted a second site visit on September 28, 2016 to investigate and map the additional areas in question in preparation of this revised critical areas report. It was determined that a redesign of the site plans was necessary to reduce proposed impacts to the greatest extent practicable. On November 11, 2018 this project was put on hold with the Corps as the developers needed more time complete the redesign. See the *Bank Use Plan for the Highland Terrace Subdivision* for project details.

## SITE DESCRIPTION

The topography of the site slopes from north to south dropping approximately 100 feet in elevation from NW Bolen Street to NW Pacific Highway. The study area consists of Clark County Tax Parcels 258636-000, 258704-000, 258702-000, 258727-000, 258644-000, and 258763-000. The two northern parcels (258704000 and 258636000) are bordered to the north by NW Bolen Street. These northern parcels share a gravel driveway which divides the parcels east to west. Both parcels contain single-family dwellings with numerous outbuildings and pastureland. The three southern parcels (258702000, 258727000, and 258644000) are bordered to the south by NW Pacific Highway. Both the southwestern (258702000) and southeastern parcel (258644000) contain no structures and consist of pastureland. The southcentral parcel (258727000) contains a single-family dwelling with various outbuildings in the northeastern corner with pastureland and a small barn on the southern portion of the parcel. The eastern parcel (258763000) contains two single-family dwellings with numerous outbuildings and consists primarily of pastureland with a forested area containing a scrub/shrub understory along the southern boundary. Property surrounding the study area consists of single-family residences and pastureland (Figure 2, Photoplate 1).

## METHODS

The wetland delineation followed the Routine Determination Method according to the U.S. Army 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 Engineer Research and Development Center 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 (Corps) and as "Waters of the State" by the Washington Department of Ecology (Ecology), and locally by *LCMC 19.15.120*.

ELS evaluated the property for the presence of critical areas and located six wetlands and one seasonal steam within the study area. Fieldwork was conducted on March 23, and September 7, 2016. Vegetation, soil, and hydrology information was collected from 13 test plots to determine the location and extent of wetlands onsite. Wetland boundaries were delineated mainly by changes in vegetation, and evidence of hydrology. Wetlands boundaries, test plot locations, and the stream centerline were mapped with a hand-held GPS unit with sub-meter accuracy. Test Plot data sheets can be found in Appendix A.

## VEGETATION

Dominant vegetation in the wetlands consisted mainly of; **Trees:** Oregon ash (*Fraxinus latifolia*, FACW), mature Pacific crabapple (*Malus fusca*, FACW); **Saplings/Shrubs:** Oregon ash, Pacific crabapple, evergreen blackberry (*Rubus laciniatus*, FACU); **Herbs:** reed canarygrass (*Phalaris arundinacea*, FACW), creeping buttercup (*Ranunculus repens*, FACW), orchardgrass (*Dactylis glomerata*, FACU), velvetgrass (*Holcus lanatus*, FAC), soft rush (*Juncus effusus*, FACW); and **Woody vines:** Himalayan blackberry (*Rubus armeniacus*, FAC).

Dominant vegetation in the upland areas consisted mainly of; **Trees:** Oregon ash, mature Pacific crabapple; **Saplings/Shrubs:** common snowberry (*Symphoricarpos albus*, FACU), Oregon ash, Pacific crabapple, evergreen blackberry; **Herbs:** Canada thistle (*Cirsium arvense*, FAC), colonial bentgrass (*Agrostis capillaris*, FAC), bluegrass (*Poa spp.*, FAC), meadow foxtail (*Alopecurus pratensis*, FAC), swordfern (*Polystichum munitum*, FACU), creeping buttercup, orchardgrass, velvetgrass; and **Woody vines:** Himalayan blackberry.

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

The U.S.D.A. National Resources Conservation Service (NRCS) map depicts seven soil units within the study area: (CwA) Cove silty clay loam, thin solum, 0 to 3 percent slopes; (GeB) Gee silt loam, 0 to 9 percent slopes; (GeD) Gee silt loam, 8 to 20 percent slopes; (GeE) Gee silt loam, 20 to 30 percent slopes; (HcB) Hesson clay loam, 0 to 8 percent slopes; (HoG) Hillsboro silt loam, 30 to 65 percent slopes; (OdB) Odne silt loam, 0 to 5 percent slopes (NRCS 2016)(Figure 4). Cove silty clay loam, thin solum, consists of very deep, poorly drained soils found on flood plains from alluvial deposits. Gee silt loam consists of very deep, moderately well drained soil found on terraces from alluvial deposits. Hillsboro silt loam consists of very deep, well drained soil found on terraces from alluvial deposits. Odne silt loam consists of very deep, well drained soil found on terraces from alluvial deposits. Odne silt loam consists of very deep, well drained soil found on terraces from alluvial deposits. Odne silt loam consists of very deep, well drained soil found on terraces from alluvial deposits. Odne silt loam consists of very deep, poorly drained soil found on terraces from alluvial deposits. Odne silt loam consists of very deep, poorly drained soil found on terraces and in drainageways from alluvial deposits. Cove silty clay loam, thin solum and Odne silt loam are both mapped as hydric on the NRCS Hydric Soil List for Washington (2015).

The evaluated soil within wetland Test Plots 2, 3, 5, 7, and 9, consisted primarily of very dark brown (10YR2/2) silty loam in the upper profile (~ 0 to 8 inches below ground surface (BGS)) and dark gray (10YR4/1) silty clay loam with dark yellowish brown (10YR4/6) redox concentrations in the lower profile (~ 8 to 16 inches BGS). Test Plot 11 consisted of dark brown (10YR3/3) silty loam in the upper profile (0 to 5 inches BGS) and dark grayish brown (10YR4/2) silty loam in the lower profile (5 to 16 inches BGS) with 10 percent yellowish red (5YR4/6) redox concentrations found in as concentrations in root channels. Test Plots 2, 3, 5, 9, and 11 meet the hydric soil indicator F3 Depleted Matrix while Test Plot 7 meets the hydric soil indicator F6 Redox Dark Surface.

The evaluated soil within upland Test Plots 1, 4, 6, 8, 10, 12 and 13 consisted of dark brown (10YR3/3) silty loam from 0 to 16 inches BGS. Appendix A contains the test plot data sheets. Table 1 below summarizes the soil units mapped onsite by NRCS.

Soil Series	Unit Symbol	Percent Slope	Drainage Class	Hydric Soil?
Cove silty clay loam, thin solum	CwA	0 to 3	Poorly drained	Yes
Gee silt loam	GeB	0 to 8	Moderately well drained	No
Gee silt loam	GeD	8 to 20	Moderately well drained	No
Gee silt loam	GeE	20 to 30	Moderately well drained	No
Hesson clay loam	HcB	0 to 8	Well drained	No
Hillsboro silt loam	HoG	30 to 65	Well drained	No
Odne silt loam	OdB	0 to 5	Poorly drained	Yes

#### Table 1: Summary of NRCS Soil Survey Data

# HYDROLOGY

The topography of the site slopes from north to south dropping approximately 100 feet in elevation from NW Bolen Street to NW Pacific Highway. Wetlands B and F are small seeps where groundwater reaches the surface along the bottom of the slope. Wetland A is located directly upslope of, and drains into, a roadside ditch that flows southeast along NW Pacific Highway. Just southeast of Wetland A, a berm approximately 3-feet tall divides Wetland E from the road and roadside ditch. A 12-inch culvert forms the outlet of Wetland E which conveys water to the east side of an adjacent driveway and into a Type Ns stream which directs flow southeast offsite. Wetland hydrology likely comes from precipitation, hillside runoff, and a shallow groundwater table. Hydroperiods of the wetlands include seasonally flooded, occasionally flooded, and saturated only. All of the wetland test plots met primary hydrology indicators including Surface Water (A1), High Water Table (A2), Saturation (A3), Surface Soil Cracks (B6), Water-Stained Leaves (B9) Oxidized Rhizospheres along Living Roots (C3) and Stunted or Stressed Plants (D1) and some test plots met secondary hydrology indicators as well such as Drainage Patterns (B10), Geomorphic Position (D2), and FAC-Neutral Test (D5).

## NATIONAL WETLANDS INVENTORY

The National Wetlands Inventory (NWI) map does not indicate wetlands within the study area (Figure 5). ELS observations were inconsistent with the NWI map in that there were six wetlands found onsite. NWI maps are typically used to gather general wetland information about a region and due to the large scale necessary for regional mapping, are limited in accuracy for localized analyses.

## CRITICAL AREAS SUMMARY

#### Wetland A

Wetland A is a Category III emergent, slope wetland totaling 0.681 acres (29,645 sq. ft.) and is in the southern portion of the site within parcels 258644-000 and 258727-000. The wetland area onsite is dominated by orchardgrass (*Dactylis glomerata*), velvetgrass (*Holcus lanatus*), and soft rush (*Juncus effusus*) which experiences annual mowing. Wetland A receives most of its hydrology from a seasonally high groundwater table, precipitation, and surface runoff from surrounding uplands. Hydroperiods of Wetland A consist of saturated only. The wetland functions to slow surface flow and to recharge groundwater. According to the *Washington State Wetland Rating System for Western Washington: 2014 Update* (rating system); Wetland A is a Category III wetland scoring 6 points for water quality functions, 4 points for hydrologic functions, and 6 points for habitat functions for a total of 16 points. The designated buffer width for a Category III wetland is 150-feet as listed in LCMC *Table 18.300.090(6)(h)(i)-2*.

#### Wetland B

Wetland B is a Category IV emergent, slope wetland totaling 0.007 acres (298 sq. ft.) and was delineated in the southern portion of Parcel # 258702-000. The wetland area onsite is dominated by velvetgrass, and reed canarygrass (*Phalaris arundinacea*). Wetland B receives the majority of its hydrology from a seasonally high groundwater table, precipitation, and surface runoff from surrounding uplands. Wetland B acts like a seep during periods of supersaturation. Hydroperiods of Wetland B consist of saturated only. The wetland functions to slow surface flow and to recharge groundwater. According to the rating system, Wetland B is a Category IV wetland scoring 6 points for water quality functions, 4 points for hydrologic functions, and 4 points for

habitat functions for a total of 14 points. LCMC states that isolated wetlands less than one-tenth of an acre and scoring less than 20 points for function on the 2004 rating system are exempt from buffer regulations *Chapter 18.300.090(6)(c)(i)*. Wetland B is isolated, less than one-tenth of an acre and scored 4 points for habitat function using the 2014 rating system which converts to 19 points using the 2004 rating system making Wetland B exempt from City buffer regulations.

#### Wetland C

Wetland C is a Category IV emergent, scrub-shrub, slope wetland totaling 0.022 acres (961 sq. ft.) and was delineated in the southwestern portion of the eastern parcel, #258763-000. The wetland area onsite is dominated by evergreen blackberry (*Rubus laciniatus*), orchardgrass, reed canarygrass, creeping buttercup (*Ranunculus repens*), soft rush and Himalayan blackberry (*Rubus armeniacus*). Wetland C receives the majority of its hydrology from a seasonally high groundwater table, precipitation, and surface runoff from surrounding uplands. Hydroperiods of Wetland C consist of saturated only. The wetland functions to slow surface flow and to recharge groundwater. According to the rating system, Wetland C is a Category IV wetland scoring 6 points for water quality functions, 3 points for hydrologic functions, and 5 points for habitat functions for a total of 14 points. LCMC states that isolated wetlands less than one-tenth of an acre and scoring less than 20 points for function on the 2004 rating system are exempt from buffer regulations *Chapter 18.300.090(6)(c)(i)*. Wetland C is isolated, less than one-tenth of an acre and scored 5 points for habitat function using the 2014 rating system which converts to 19 points using the 2004 rating system making Wetland C exempt from City buffer regulations.

#### Wetland D

Wetland D is a Category IV emergent, depressional wetland totaling 0.027 acres (1,156 sq. ft.) and was delineated south of Wetland C in the southern portion of Parcel #258702-000. The wetland area onsite is dominated by soft rush, and reed canarygrass. There is a small portion of scrub-shrub vegetation containing Pacific crabapple (Malus fusca) and evergreen blackberry but it comprised less than 10 percent of the total area of the wetland so it is not included as a Cowardin class. Wetland D receives the majority of its hydrology from a seasonally high groundwater table, precipitation, and surface runoff from surrounding uplands. Hydroperiods of Wetland D consist of saturated only. The wetland provides flood storage and delay and groundwater recharge functions. According to the rating system, Wetland D is a Category IV wetland scoring 6 points for water quality functions, 3 points for hydrologic functions, and 5 points for habitat functions for a total of 14 points. LCMC states that isolated wetlands less than one-tenth of an acre and scoring less than 20 points for function on the 2004 rating system are exempt from buffer regulations Chapter 18.300.090(6)(c)(i). Wetland D is isolated, less than one-tenth of an acre and scored 5 points for habitat function using the 2014 rating system which 19 points using the 2004 rating system making Wetland D exempt from City buffer converts to regulations.

#### Wetland E

Wetland E is a Category IV scrub-shrub, forested, and depressional wetland totaling 0.016 acres (683 sq. ft.) and was delineated in the southeast corner of Parcel #258644-000 and the southwest corner of Parcel #258763-000. The wetland area onsite is dominated by Oregon ash (*Fraxinus latifolia*), Pacific crabapple, and Himalayan blackberry. Wetland E receives most of its hydrology from a seasonally high groundwater table, precipitation, and surface runoff from surrounding uplands. Hydroperiods of Wetland E consist of seasonally flooded and saturated

only. The wetland provides flood storage and delay and groundwater recharge functions. According to the rating system, Wetland E is a Category IV wetland scoring 6 points for water quality functions, 3 points for hydrologic functions, and 6 points for habitat functions for a total of 15 points. The designated buffer width for a Category IV wetland is 50-feet as listed in LCMC *Table 18.300.090(6)(h)(i)-2*.

#### Wetland F

Wetland F is a Category IV emergent, slope wetland totaling 0.007 acres (312 sq. ft.) and was delineated north of Wetland A in the southern portion of Parcel # 258727-000. The wetland area onsite is dominated by creeping buttercup and reed canarygrass. Wetland F receives the majority of its hydrology from a seasonally high groundwater table, precipitation, and surface runoff from surrounding uplands. Wetland F acts like a seep during periods of supersaturation. Hydroperiods of Wetland F consist of saturated only. The wetland functions to slow surface flow and to recharge groundwater. According to the rating system, Wetland F is a Category IV wetland scoring 6 points for water quality functions, 4 points for hydrologic functions, and 4 points for habitat functions for a total of 14 points. LCMC states that isolated wetlands less than one-tenth of an acre and scoring less than 20 points for function on the 2004 rating system are exempt from buffer regulations *Chapter 18.300.090(6)(c)(i)*. Wetland F is isolated, less than one-tenth of an acre and scored 4 points for habitat function using the 2014 rating system which converts to 19 points using the 2004 rating system making Wetland F exempt from City buffer regulations.

#### Stream 1

Stream 1 is a non-fish bearing, seasonal stream that originates at the eastern (downslope) end of Wetland E and flows southeast where it connects with a larger unnamed tributary and then is conveyed south for approximately 1,700 feet where it connects with the East Fork Lewis River. At the time of the site visit the stream channel was approximately 6 to 12 inches wide and was dry. According to LCMC, a Type Ns stream has a designated buffer width of 75 feet *Table 18.300.090(2)(f)*. Table 2 below summarizes the critical areas onsite.

Critical Area	Category <sup>1</sup> /Cowardin Class <sup>2</sup> /HGM Class <sup>3</sup>	Size Onsite	Buffer Width <sup>4, 5</sup>
Wetland A	III/emergent/slope	0.681 acres 29,645 sq. ft.	150 feet
Wetland B	IV/emergent/slope	0.007 acres 298 sq. ft.	Exempt
Wetland C	IV/emergent, scrub-shrub/slope	0.022 acres 961 sq. ft.	Exempt
Wetland D	IV/emergent/slope	0.027 acres 1,156 sq. ft.	Exempt
Wetland E	IV/scrub-shrub, forested/depressional	0.016 acres 683 sq. ft.	50 feet
Wetland F	IV/emergent/slope	0.007 acres 312 sq. ft.	Exempt
Stream 1	Type Ns Stream	N/A	75 feet

Table 2.	<b>Summarv</b>	of Critica	l Areas.
		01 0110100	

<sup>1</sup>Hruby 2004

<sup>2</sup>Cowardin et al. 1979 <sup>3</sup>NRCS 2008 <sup>4</sup>LCMC 18.300.090(6)(h)(i)-1 & -2 <sup>5</sup>LCMC18.300.090(2)(f)

## **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**

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FIGURES & PHOTOPLATES





Wetland C Category IV Emergent/ Scrub-shrub Slope 961 so ft	PROPOSED:Wetland Fill	IN Wetlands NEAR: La Center	COUNTY: Clark STATE: WA	DATE: 6/5/19
Exempt Stream 1 Type Ns 7 TP-3 Type Ns 7 Wetland D Category IV Emergent Depressional 1,156 sq.ft. Exempt Wetland E Category IV	EXISTING CONDITIONS APPLICANT: Evergreen Homes NW	<b>PROJECT NAME:</b> Highland Terrace Subdivision <b>REFERENCE #:</b> NWS-2016-540	SITE LOCATION ADDRESS: NW Pacific Huvy	La Center, WA 98629
Vetland A Category III Emergent Slope 29,645 sq.ft. NW Larsen Drive	<b>PURPOSE:</b> Construction of 97 lot subdivision	DATUM: NAD83	ADJACENT PROPERTY OWNERS:	SEE JARPA
	150 300	SCALE IN FEET	1157 3rd Ave., Suite 220A	Longview, WA 98632 Phone: (360) 578–1371
p from SGA Engineering. Aerial ovided by Google Earth™. s, streams, and wetlands es mapped by ELS.				Land Services





#### NOTE(S): 1.

















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Photo 1: Taken from just north of Wetland A facing south towards NW Pacific Hwy across the wetland.

Photo 2: Taken from east of the driveway currently aligned north from Larson Road, facing east across Wetland B.

Photo 3: Taken from within Wetland C facing north across the emergent portion of the wetland.



157 3rd Ave., Suite 2207 Longview, WA 98632 Phone: (360) 578-1371 Fax: (360) 414-9305 DATE: 6/5/19 DWN: KT PRJ. MGR: KT PROJ.#: 2378.01

Photoplate 1 Site Photos Critical Areas Report Highland Terrace La Center, Washington

# APPENDIX A: WETLAND DETERMINATION DATA FORMS

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

Project/Site: <u>Highland Terrace Subdivision</u> Applicant/Owner: Evergreen Homes NW		City/Co	unty: <u>La Cen</u> State: <u>W</u>	ter/Clark Sampling Date: A Sampling	4/6/16 Point: <u>TP1</u>	
Investigator(s): Wills, Kate'Lyn		Sectio	on, Township	, Range: <u>33, 5N, 1E</u>		
Landform (hillslope, terrace, etc.): hillslope		Local relief: co	nvex		Slope (%): <u>5</u>	%
Subregion (LRR): A	Lat: 45.521	107	Long:-122.	410450 Datum:	NAD83	
Soil Map Unit Name: Gee silt loam, 20-30 percent slop	es		N	WI classification: None		
Are climatic / hydrologic conditions on the site typical for	or this time of	year? Yes⊠	No (If	no, explain Remarks.)	_	
Are Vegetation, Soil, or Hydrology significantly	/ disturbed?	Ar	ea "Normal (	Circumstances" present? Yes 🖂 🛛	No	
Are Vegetation, Soil, or Hydrology naturally pr	oblematic?	(If need	led, explain a	any answers in Remarks.)		
SUMMARY OF FINDINGS – Attach site map	showing s	ampling po	int locatio	ons, transects, important fea	atures, etc.	
Hydrophytic Vegetation Present? Yes Veg	3					
Hydric Soils Present? Yes Ves Ves	สี	Is the Sa	mpled Area			
Wetland Hydrology Present? Yes Ves	สี	within a V	Wetland?	Yes∐ No⊠		
Remarks: The vegetation in this test plot consisted of	trees, scrub/s	shrub and herb	aceous spe	cies. This test plot met one wetland	d indicator for hyd	Irophytic
vegetation therefore it does not meet the criteria of beir	na wetland.					
	9					
VEGETATION (Use scientific names)						
	Absolute	Dominant	Indicator	Dominance Test Worksheet		
Tree Stratum (Plot size:30 ft radius)	% Cover	Species?	Status			
1. Malus fusca	50%	yes	FACW	Number of Dominant Species	4	(A)
2. <i>Fraxinus latifolia</i>	20%	yes	FACW	That Are OBL, FACW, or FAC:		
3.	%					
4	%			Total Number of Dominant	6	(B)
Total Cover:	70%			Species Across All Strata:		
				Dereent of Deminent Species	66	(A/B)
Sanling/Shrub Stratum (Plot size: 15 ft, radius)				That Are OBL EACW or EAC		
1 Malus fusca	10%	VOC		Browalonco Index workshoot		
2 Symphoricarpos albus	<u>40 %</u>	yes	FACIU	Total % Cover of:	Multiply by:	
	<u> </u>	10	FACU			_
3	<u> </u>				<u> </u>	_
4	<u> </u>				x 2=	
D	70				_ x 3=	
Horb Strotum (Dict size: 5 ft radius)	43%				X 4=	
$\frac{\Pi \Theta \Theta \Theta}{\Omega \Theta} = \frac{1}{2} \frac{1}{\Omega \Theta} \frac{1}{\Omega \Theta$	E0/	200	EACU		(A)	(P)
1. Daciyiis giomerata	5%	yes	FACU	Column Totals.	(A)	(D)
	5%	yes	FACU	Prevalence index =	- B/A=	
3.	%			Hydropnytic vegetation indica	ATORS:	
4.	%			1 – Rapid Test for Hydrop	nytic vegetation	
	0/					
5	70			3 - Prevalence index is ≥3	iona <sup>1</sup> (Dravida	
0.	%					to choot)
7	0/_	·			to of off a separat	le sheel)
0	<u> </u>				onto <sup>1</sup>	
0	109/				/ogotation <sup>1</sup> (Evalu	in)
Woody Vine Stratum (Plot size: 15 ft radius)	1076				regetation (Expla	urr <i>)</i>
1 Pubus armoniacus	10%	VOC	FAC	<sup>1</sup> Indicators of bydric soil and wo	tland hydrology	
	40 /8	yes	140	Must be present, upless disturbe	ad or problematic	
Z	/0%					•
Total Cover:	40 %					
				Hydrophytic Vegetation Preser	ıt?	
% Bare Ground in Herb Stratum <u>95%</u>					Yes	No⊠
Remarks: The hydrophytic vegetation criterion is met	due to 66% o	of the dominant	t vegetation v	within the test plot having either O	BL, FACW, or FA	С
indicator statuses.				-		

#### SOIL

Depth Matrix		Redox Feat	ures			
(inches) Color (moist) %	Color (moist)	%	Type <sup>1</sup>	Loc <sup>2</sup>	Texture	Remarks
<u>0-16</u> <u>10YR3/3</u> <u>100%</u>		<u>%</u>			silty loam	
		%				
<u></u>		<u> </u>				
		%				
<u>%</u>		%				
<u> </u>		%				
<u> </u>		<u>%</u>				
<sup>1</sup> Type: C=Concentration, D=Depletion,	RM=Reduced Matrix, (	CS=Covered	or Coated Sa	nd Grain	is. <sup>2</sup> Location: PL=Pore Lining,	, M=Matrix
Histosal ( $\Delta 1$ )	Sandy Redox (	wise noted.	)		Indicators for Problematic $\Box$ 2 cm Muck (A10)	nyaric Solis
Histic Epipedon (A2)	Stripped Matrix	(S6)			Red Parent Material (TF2)	
		()			Very Shallow Dark Surface	e (TF12)
Black Histic (A3)	🗌 Loamy Mucky N	/lineral (F1)	except MLR	A 1)	Other (Explain in Remarks	)
Hydrogen Sulfide (A4)	Loamy Gleyed	Matrix (F2)				
Depleted Below Dark Surface (A11)	Depleted Matrix	(F3)				
Thick Dark Surface (A12)	Redox Dark Su	rface (F6)				
Sandy Mucky Minerals (S1)	Depleted Dark	Surface (F7)			<sup>3</sup> Indicators of hydrophytic veg	etation and
Sandy Gleyed Matrix (S4)	Redox Depress	ions (F8)			Wetland hydrology must b	e present
Restrictive Layer (if present):						
Type:				Hv	dric Soil Present?	
				,		Yes⊡ No⊠
Depth (inches):						
Remarks: There was no evidence of hydr	ic soils within this test	plot.				
Wetland Hydrology Indicators:					Secondary Indicators	
Wetland Hydrology Indicators:					Secondary Indicators (2 or more required)	
Wetland Hydrology Indicators:           Primary Indicators (min. of one required; of the second seco	check all that apply)				Secondary Indicators (2 or more required)	
Wetland Hydrology Indicators: Primary Indicators (min. of one required;	check all that apply)				Secondary Indicators (2 or more required)	ves (B9)
Wetland Hydrology Indicators:         Primary Indicators (min. of one required; of a surface Water (A1)	check all that apply)	Leaves (B9)	(except MLR/	A 1, 2, 4	Secondary Indicators (2 or more required) Water Stained Lea A, & 4B)	ives (B9) nd 4B)
Wetland Hydrology Indicators:         Primary Indicators (min. of one required; of a surface Water (A1)         □ Surface Water Table (A2)         □ Optimation (A2)	check all that apply)	Leaves (B9) )	(except MLR	A 1, 2, 4	Secondary Indicators (2 or more required) U Water Stained Lea A, & 4B) (MLRA 1, 2, 4A, an Drainage Patterns	ves (B9) <b>nd 4B)</b> (B10)
Wetland Hydrology Indicators:         Primary Indicators (min. of one required; of a surface Water (A1)         □ Surface Water Table (A2)         □ Saturation (A3)         □ Water Mater (A1)	check all that apply)	Leaves (B9) ) prates (B13)	(except MLR	A 1, 2, 4,	Secondary Indicators (2 or more required) U Water Stained Lea (MLRA 1, 2, 4A, at Drainage Patterns Dry-Season Water	ives (B9) <b>nd 4B)</b> (B10) • Table (C2)
Wetland Hydrology Indicators:         Primary Indicators (min. of one required; of a surface Water (A1)         □ Surface Water (A1)         □ High Water Table (A2)         □ Saturation (A3)         □ Water Marks (B1)         □ Satimart Densation (B2)	check all that apply)	Leaves (B9) ) prates (B13) de Odor (C1)	(except MLR	A 1, 2, 4	Secondary Indicators (2 or more required) U Water Stained Lea (MLRA 1, 2, 4A, an Drainage Patterns Dry-Season Water Saturation Visible of Commercia Depiti	ives (B9) <b>nd 4B)</b> (B10) Table (C2) on Aerial Imagery (C9)
Wetland Hydrology Indicators:         Primary Indicators (min. of one required; of a surface Water (A1)         High Water Table (A2)         Saturation (A3)         Water Marks (B1)         Sediment Deposits (B2)	check all that apply) Uter-Stained Salt Crust (B11 Aquatic Inverte Hydrogen Sulfic Oxidized Rhizo	Leaves (B9) ) brates (B13) de Odor (C1) spheres alor	(except MLR	<b>A 1, 2, 4</b> / s (C3)	Secondary Indicators (2 or more required) Water Stained Lea A, & 4B) (MLRA 1, 2, 4A, an Drainage Patterns Dry-Season Water Saturation Visible of Geomorphic Positi	ives (B9) <b>nd 4B)</b> (B10) Table (C2) on Aerial Imagery (C9) on (D2)
Wetland Hydrology Indicators:         Primary Indicators (min. of one required; of         Surface Water (A1)         High Water Table (A2)         Saturation (A3)         Water Marks (B1)         Sediment Deposits (B2)         Drift Deposits (B3)         Aland Mat or or unit (B4)	check all that apply) U Water-Stained Salt Crust (B11 Aquatic Inverte Hydrogen Sulfic Oxidized Rhizo	Leaves (B9) ) brates (B13) de Odor (C1) spheres alor duced Iron (	( <b>except MLR</b> g Living Root: C4)	<b>A 1, 2, 4</b> s (C3)	Secondary Indicators (2 or more required) Water Stained Lea (MLRA 1, 2, 4A, an Drainage Patterns Dry-Season Water Saturation Visible of Geomorphic Positi Shallow Aquitard (1)	ives (B9) <b>nd 4B)</b> (B10) Table (C2) on Aerial Imagery (C9) on (D2) D3)
Wetland Hydrology Indicators:         Primary Indicators (min. of one required; of a surface Water (A1)         □       High Water Table (A2)         □       Saturation (A3)         □       Water Marks (B1)         □       Sediment Deposits (B2)         □       Drift Deposits (B3)         □       Algal Mat or crust (B4)	check all that apply) Uater-Stained Salt Crust (B11 Aquatic Inverte Hydrogen Sulfid Oxidized Rhizo Presence of Re Recent Iron Re	Leaves (B9) ) brates (B13) de Odor (C1) spheres alor duced Iron ( duction in Til	(except MLR, g Living Roots C4) led Soils (C6)	<b>A 1, 2, 4</b> , s (C3)	Secondary Indicators (2 or more required) Water Stained Lea (MLRA 1, 2, 4A, an Drainage Patterns Dry-Season Water Saturation Visible of Geomorphic Positi Shallow Aquitard ( FAC-Neutral Test of Reised Art Mound	ives (B9) <b>nd 4B)</b> (B10) · Table (C2) on Aerial Imagery (C9) on (D2) D3) (D5) (D5)
Wetland Hydrology Indicators:         Primary Indicators (min. of one required; of a 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 Scil Crasks (P6)	check all that apply) Uater-Stained Salt Crust (B11 Aquatic Inverte Hydrogen Sulfid Oxidized Rhizo Presence of Re Recent Iron Re Stunted or Stre	Leaves (B9) ) brates (B13) de Odor (C1) spheres alor duced Iron ( duction in Til ssed Plants	( <b>except MLR</b> g Living Roots C4) led Soils (C6) (D1) ( <b>LRR A</b> )	<b>A 1, 2, 4</b> / s (C3)	Secondary Indicators (2 or more required) Water Stained Lea (MLRA 1, 2, 4A, at Drainage Patterns Dry-Season Water Saturation Visible of Geomorphic Positi Shallow Aquitard (1 FAC-Neutral Test (1) Raised Ant Mound	ves (B9) <b>nd 4B)</b> (B10) • Table (C2) on Aerial Imagery (C9) on (D2) D3) (D5) s (D6) ( <b>LRR A</b> ) moder (D4)
Wetland Hydrology Indicators:         Primary Indicators (min. of one required; of         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)	check all that apply) Uater-Stained Salt Crust (B11 Aquatic Inverte Hydrogen Sulfid Oxidized Rhizo Presence of Re Recent Iron Re Stunted or Stre	Leaves (B9) ) brates (B13) de Odor (C1) spheres alor duced Iron ( duction in Til ssed Plants n Remarks)	( <b>except MLR</b> / g Living Roots C4) led Soils (C6) (D1) ( <b>LRR A</b> )	<b>A 1, 2, 4</b> / s (C3)	Secondary Indicators (2 or more required) Water Stained Lea (MLRA 1, 2, 4A, ar Drainage Patterns Dry-Season Water Saturation Visible of Geomorphic Positi Shallow Aquitard (1 FAC-Neutral Test of Raised Ant Mound Frost-Heave Humr	ives (B9) <b>nd 4B)</b> (B10) Table (C2) on Aerial Imagery (C9) on (D2) D3) (D5) Is (D6) ( <b>LRR A</b> ) nocks (D4)
Wetland Hydrology Indicators:         Primary Indicators (min. of one required; of a 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 (Ferrication of the surface statement of the surfac	check all that apply) Uter-Stained Salt Crust (B11 Aquatic Inverte Hydrogen Sulfid Oxidized Rhizo Presence of Re Recent Iron Re Stunted or Stre Other (Explain in 37)	Leaves (B9) ) brates (B13) de Odor (C1) spheres alor duced Iron ( duction in Til ssed Plants n Remarks)	( <b>except MLR</b> / g Living Roots C4) led Soils (C6) (D1) ( <b>LRR A</b> )	<b>A 1, 2, 4</b> / s (C3)	Secondary Indicators (2 or more required) Water Stained Lea (MLRA 1, 2, 4A, an Drainage Patterns Dry-Season Water Saturation Visible of Geomorphic Positi Shallow Aquitard (1 FAC-Neutral Test (1) Raised Ant Mound Frost-Heave Humr	ives (B9) <b>nd 4B)</b> (B10) Table (C2) on Aerial Imagery (C9) on (D2) D3) (D5) s (D6) ( <b>LRR A</b> ) mocks (D4)
Wetland Hydrology Indicators:         Primary Indicators (min. of one required; of a 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 (Berled Observations:	check all that apply) Uter-Stained Salt Crust (B11 Aquatic Inverte Hydrogen Sulfid Oxidized Rhizo Presence of Re Recent Iron Re Stunted or Stre Other (Explain in 37)	Leaves (B9) ) brates (B13) de Odor (C1) spheres alon duced Iron ( duction in Til ssed Plants n Remarks)	( <b>except MLR</b> / g Living Roots C4) led Soils (C6) (D1) ( <b>LRR A</b> )	<b>A 1, 2, 4</b> / s (C3)	Secondary Indicators (2 or more required) Water Stained Lea (MLRA 1, 2, 4A, an Drainage Patterns Dry-Season Water Saturation Visible of Geomorphic Positi Shallow Aquitard (1) FAC-Neutral Test ( Raised Ant Mound Frost-Heave Humr	ives (B9) <b>nd 4B)</b> (B10) Table (C2) on Aerial Imagery (C9) on (D2) D3) (D5) s (D6) ( <b>LRR A</b> ) nocks (D4)
Wetland Hydrology Indicators:         Primary Indicators (min. of one required; of a 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 (Berled Observations:         Surface Water Present?	check all that apply)  U Water-Stained Salt Crust (B11 Aquatic Inverte Hydrogen Sulfid Oxidized Rhizo Presence of Re Recent Iron Re Stunted or Stre Other (Explain in 37) No Dep	Leaves (B9) ) brates (B13) de Odor (C1) spheres alor duced Iron ( duction in Til ssed Plants n Remarks) th (Inches):	( <b>except MLR</b> g Living Roots C4) led Soils (C6) (D1) ( <b>LRR A</b> )	<b>A 1, 2, 4</b> s (C3)	Secondary Indicators (2 or more required) Water Stained Lea (MLRA 1, 2, 4A, an Drainage Patterns Dry-Season Water Saturation Visible of Geomorphic Positi Shallow Aquitard (1 FAC-Neutral Test of Raised Ant Mound Frost-Heave Humr	ives (B9) <b>nd 4B)</b> (B10) Table (C2) on Aerial Imagery (C9) on (D2) D3) (D5) s (D6) ( <b>LRR A</b> ) nocks (D4)
Wetland Hydrology Indicators:         Primary Indicators (min. of one required; of         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 (feed to be the present? Yes water Table Present?	check all that apply) Uater-Stained Salt Crust (B11 Aquatic Inverte Hydrogen Sulfid Oxidized Rhizo Presence of Re Recent Iron Re Stunted or Stre Other (Explain in 37) No Dep No Dep	Leaves (B9) ) brates (B13) de Odor (C1) spheres alor duced Iron ( duction in Til ssed Plants n Remarks) th (Inches): th (Inches):	( <b>except MLR</b> , g Living Roots C4) led Soils (C6) (D1) ( <b>LRR A</b> )	A 1, 2, 4, s (C3) Wet	Secondary Indicators (2 or more required) Water Stained Lea A, & 4B) (MLRA 1, 2, 4A, an Drainage Patterns Dry-Season Water Saturation Visible of Geomorphic Positi Shallow Aquitard (1 FAC-Neutral Test of Raised Ant Mound Frost-Heave Humr	vves (B9) <b>nd 4B)</b> (B10) Table (C2) on Aerial Imagery (C9) on (D2) D3) (D5) s (D6) ( <b>LRR A</b> ) nocks (D4)
Wetland Hydrology Indicators:         Primary Indicators (min. of one required; of         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 (B         Field Observations:         Surface Water Present?         Yes         Saturation Present?         Yes	check all that apply)         Water-Stained         Salt Crust (B11         Aquatic Inverte         Hydrogen Sulfid         Oxidized Rhizo         Presence of Re         Recent Iron Re         Stunted or Stre         Other (Explain in         37)         No X       Dep	Leaves (B9) ) brates (B13) de Odor (C1) spheres alor duced Iron ( duction in Til ssed Plants n Remarks) th (Inches): th (Inches): th (Inches):	( <b>except MLR</b> ) g Living Roots C4) led Soils (C6) (D1) ( <b>LRR A</b> )	A 1, 2, 4	Secondary Indicators (2 or more required) Water Stained Lea (MLRA 1, 2, 4A, an Drainage Patterns Dry-Season Water Saturation Visible of Geomorphic Positi Shallow Aquitard (1 FAC-Neutral Test of Raised Ant Mound Frost-Heave Humr	vves (B9) <b>nd 4B)</b> (B10) <sup>•</sup> Table (C2) on Aerial Imagery (C9) on (D2) D3) (D5) (D5) (D5) (LRR A) nocks (D4) Yes □ No ⊠
Wetland Hydrology Indicators:         Primary Indicators (min. of one required; of a 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 (for the surface Water Present? Yes water Table Present? Yes saturation Present? Yes (Includes Capillary fringe)         Describe Recorded Data (Stream gauge)	Check all that apply)         Water-Stained         Salt Crust (B11)         Aquatic Inverte         Hydrogen Sulfid         Oxidized Rhizo         Presence of Re         Recent Iron Re         Stunted or Stre         Other (Explain in         37)         No X       Dep	Leaves (B9) ) brates (B13) de Odor (C1) spheres alor duced Iron ( duction in Til ssed Plants n Remarks) th (Inches): th (Inches): th (Inches):	(except MLR/ g Living Roots C4) led Soils (C6) (D1) (LRR A)	A 1, 2, 4, s (C3) Wet	Secondary Indicators (2 or more required) Water Stained Lea A, & 4B) (MLRA 1, 2, 4A, an Drainage Patterns Dry-Season Water Saturation Visible of Geomorphic Positi Shallow Aquitard (1 FAC-Neutral Test (1) Raised Ant Mound Frost-Heave Humr Iand Hydrology Present?	ves (B9) <b>nd 4B)</b> (B10) <sup>•</sup> Table (C2) on Aerial Imagery (C9) on (D2) D3) (D5) s (D6) ( <b>LRR A</b> ) nocks (D4) Yes □ No ⊠
Wetland Hydrology Indicators:         Primary Indicators (min. of one required; of a 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 (B         Field Observations:         Surface Water Present?         Yes         Saturation Present?         Yes         (Includes Capillary fringe)         Describe Recorded Data (Stream gauge,	check all that apply)         Water-Stained         Salt Crust (B11         Aquatic Inverte         Hydrogen Sulfid         Oxidized Rhizo         Presence of Re         Recent Iron Re         Stunted or Stre         Other (Explain in         37)         No X       Dep	Leaves (B9) ) brates (B13) de Odor (C1) spheres alor duced Iron ( duction in Til ssed Plants n Remarks) th (Inches): th (Inches): th (Inches): th (Inches):	(except MLR/ g Living Roots C4) led Soils (C6) (D1) (LRR A)	A 1, 2, 4, s (C3) Wet	Secondary Indicators (2 or more required) Water Stained Lea A, & 4B) (MLRA 1, 2, 4A, and Drainage Patterns Dry-Season Water Saturation Visible ( Geomorphic Positi Shallow Aquitard (1 FAC-Neutral Test ( Raised Ant Mound Frost-Heave Humr Iand Hydrology Present? vailable:	ves (B9) nd 4B) (B10) Table (C2) on Aerial Imagery (C9) on (D2) D3) (D5) s (D6) (LRR A) nocks (D4) Yes □ No ⊠
Wetland Hydrology Indicators:         Primary Indicators (min. of one required; of a 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 (Berlet Observations:         Surface Water Present?         Yes         Saturation Present?         Yes         Includes Capillary fringe)         Describe Recorded Data (Stream gauge,	check all that apply)         Water-Stained         Salt Crust (B11         Aquatic Inverte         Hydrogen Sulfid         Oxidized Rhizo         Presence of Re         Recent Iron Re         Stunted or Stre         Other (Explain in         37)         No X       Dep	Leaves (B9) ) brates (B13) de Odor (C1) spheres alor duced Iron ( duction in Til ssed Plants n Remarks) th (Inches): th (Inches): th (Inches): th (Inches):	(except MLR/ g Living Roots C4) led Soils (C6) (D1) (LRR A)	<b>A 1, 2, 4</b> s (C3) <b>Wet</b> ons), if av	Secondary Indicators (2 or more required) Water Stained Lea A, & 4B) (MLRA 1, 2, 4A, an Drainage Patterns Dry-Season Water Saturation Visible of Geomorphic Positi Shallow Aquitard (1 FAC-Neutral Test of Raised Ant Mound Frost-Heave Humr Iand Hydrology Present? vailable:	ves (B9) <b>nd 4B)</b> (B10) <sup>.</sup> Table (C2) on Aerial Imagery (C9) on (D2) D3) (D5) s (D6) ( <b>LRR A</b> ) nocks (D4) Yes □ No ⊠
Wetland Hydrology Indicators:         Primary Indicators (min. of one required; of         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 (feedbace         Field Observations:         Surface Water Present?         Yes         Saturation Present?         Yes         Includes Capillary fringe)         Describe Recorded Data (Stream gauge,         Remarks:There was no evidence of hydro	check all that apply)         Water-Stained         Salt Crust (B11         Aquatic Inverte         Hydrogen Sulfid         Oxidized Rhizo         Presence of Re         Recent Iron Re         Stunted or Stre         Other (Explain in         37)         No X       Dep         No X       Dep<	Leaves (B9) ) brates (B13) de Odor (C1) spheres alor duced Iron ( duction in Til ssed Plants n Remarks) th (Inches): th (Inches): th (Inches): th (Inches): photos, prev	(except MLR, g Living Roots C4) led Soils (C6) (D1) (LRR A)	<b>A 1, 2, 4</b> s (C3) <b>Wet</b> ons), if av	Secondary Indicators (2 or more required) Water Stained Lea A, & 4B) (MLRA 1, 2, 4A, an Drainage Patterns Dry-Season Water Saturation Visible of Geomorphic Positi Shallow Aquitard (1 FAC-Neutral Test of Raised Ant Mound Frost-Heave Humr land Hydrology Present? vailable:	ves (B9) <b>nd 4B)</b> (B10) ∵ Table (C2) on Aerial Imagery (C9) on (D2) D3) (D5) Is (D6) (LRR A) nocks (D4) Yes □ No ⊠
Wetland Hydrology Indicators:         Primary Indicators (min. of one required; of a 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 (Field Observations:         Surface Water Present?         Yes         Saturation Present?         Yes         Includes Capillary fringe)         Describe Recorded Data (Stream gauge,         Remarks:There was no evidence of hydro	check all that apply)         Water-Stained         Salt Crust (B11         Aquatic Inverte         Hydrogen Sulfid         Oxidized Rhizo         Presence of Re         Recent Iron Re         Stunted or Stre         Other (Explain in         37)         No Imply         No Imply         No Imply         No Imply         Month         Dep         No Imply         Dep         Dep         Doggy within this test play	Leaves (B9) ) brates (B13) de Odor (C1) spheres alor duced Iron ( duction in Til ssed Plants in Remarks) th (Inches): th (Inches): th (Inches): th (Inches): photos, prev	(except MLR, g Living Root: C4) led Soils (C6) (D1) (LRR A)	<b>A 1, 2, 4</b> s (C3) <b>Wet</b> ons), if av	Secondary Indicators (2 or more required) Water Stained Lea A, & 4B) (MLRA 1, 2, 4A, an Drainage Patterns Dry-Season Water Saturation Visible of Geomorphic Positi Shallow Aquitard (1 FAC-Neutral Test of Raised Ant Mound Frost-Heave Humr land Hydrology Present? vailable:	vves (B9) <b>nd 4B)</b> (B10) Table (C2) on Aerial Imagery (C9) on (D2) D3) (D5) Is (D6) (LRR A) nocks (D4) Yes □ No ⊠
Wetland Hydrology Indicators:         Primary Indicators (min. of one required; of a 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 (Field Observations:         Surface Water Present?         Yes         Saturation Present?         Yes         Includes Capillary fringe)         Describe Recorded Data (Stream gauge,         Remarks:There was no evidence of hydro	Check all that apply)         Water-Stained         Salt Crust (B11         Aquatic Inverte         Hydrogen Sulfid         Oxidized Rhizo         Presence of Re         Recent Iron Re         Stunted or Stre         Other (Explain in         37)         No Implement         No Implement         Dep         Month         Dep         Dep         No Implement         Dep         No Implement         Dep         Holdstrain         Dology within this test place	Leaves (B9) ) brates (B13) de Odor (C1) spheres alor duced Iron ( duction in Til ssed Plants in Remarks) th (Inches): th (Inches): th (Inches): photos, prev	(except MLR/ g Living Roots C4) led Soils (C6) (D1) (LRR A)	A 1, 2, 4, s (C3) Wet	Secondary Indicators (2 or more required) Water Stained Lea A, & 4B) (MLRA 1, 2, 4A, an Drainage Patterns Dry-Season Water Saturation Visible of Geomorphic Positi Shallow Aquitard (1 FAC-Neutral Test (1) Raised Ant Mound Frost-Heave Humr land Hydrology Present? vailable:	ves (B9) <b>nd 4B)</b> (B10) <sup>•</sup> Table (C2) on Aerial Imagery (C9) on (D2) D3) (D5) s (D6) (LRR A) mocks (D4) Yes □ No ⊠
Wetland Hydrology Indicators:         Primary Indicators (min. of one required; of a 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 (B         Field Observations:         Surface Water Present? Yes         Saturation Present? Yes         Includes Capillary fringe)         Describe Recorded Data (Stream gauge,         Remarks:There was no evidence of hydro	Check all that apply)         Water-Stained         Salt Crust (B11         Aquatic Inverte         Hydrogen Sulfic         Oxidized Rhizo         Presence of Re         Recent Iron Re         Stunted or Stre         Other (Explain in         37)         No Imply         No Imply         No Imply         No Imply         No Imply         No Imply         Dep         No Imply         Imply         Imply         No Imply	Leaves (B9) ) brates (B13) de Odor (C1) spheres alor duced Iron ( duction in Til ssed Plants in Remarks) th (Inches): th (Inches): th (Inches): th (Inches): photos, prev	(except MLR/ g Living Roots C4) led Soils (C6) (D1) (LRR A)	A 1, 2, 4, s (C3) Wet	Secondary Indicators (2 or more required) Water Stained Lea A, & 4B) (MLRA 1, 2, 4A, and Drainage Patterns Dry-Season Water Saturation Visible ( Geomorphic Positi Shallow Aquitard (1 FAC-Neutral Test ( Raised Ant Mound Frost-Heave Humr land Hydrology Present? vailable:	ves (B9) nd 4B) (B10) Table (C2) on Aerial Imagery (C9) on (D2) D3) (D5) s (D6) (LRR A) mocks (D4) Yes □ No ⊠
Wetland Hydrology Indicators:         Primary Indicators (min. of one required; or         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 (B         Field Observations:         Sutration Present?         Yes         Saturation Present?         Yes         (Includes Capillary fringe)         Describe Recorded Data (Stream gauge,         Remarks:There was no evidence of hydro	Check all that apply)         Water-Stained         Salt Crust (B11         Aquatic Inverte         Hydrogen Sulfid         Oxidized Rhizo         Presence of Re         Stunted or Stre         Other (Explain in         37)         No X       Dep         Monitoring well, aerial       Dology within this test pl	Leaves (B9) ) brates (B13) de Odor (C1) spheres alor duced Iron ( duction in Til ssed Plants th (Inches) th (Inches): th (Inches): th (Inches): th (Inches): photos, prev	(except MLR/ g Living Roots C4) led Soils (C6) (D1) (LRR A)	A 1, 2, 4, s (C3) Wet	Secondary Indicators (2 or more required) Water Stained Lea A, & 4B) (MLRA 1, 2, 4A, and Drainage Patterns Dry-Season Water Saturation Visible of Geomorphic Positi Shallow Aquitard (1) FAC-Neutral Test of Raised Ant Mound Frost-Heave Humr land Hydrology Present? vailable:	ves (B9) nd 4B) (B10) Table (C2) on Aerial Imagery (C9) on (D2) D3) (D5) s (D6) (LRR A) nocks (D4) Yes □ No ⊠

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

Project/Site: ighland Terrace Subdivision		City/Co	unty: <u>La Cen</u>	ter/Clark Sampling	Date: 4/6/16	
Applicant/Owner: Evergreen Homes NW			State: W	<u>A</u> Sam	npling Point: TP2	
Investigator(s): Wills, Kate'Lyn		Sectio	on, Township	o, Range: <u>33, 5N, 1E</u>	01	40/
Landform (hillslope, terrace, etc.): depression	L at: 45 521	Local relief: co	bncave	110150	Slope (%):	<1%
Soil Man Unit Name: Gee silt loam 20-30 percent slop	Lat. <u>45.52 1</u>	107	_ LONG. <u>-122.</u> N	WI classification: None	alum. NADOS	
Are climatic / hydrologic conditions on the site typical for	or this time of	vear? Yes⊠		no explain Remarks )		
Are Vegetation Soil or Hydrology significantly	v disturbed?	Ar	ea "Normal (	Circumstances" present? Ye	s⊠ No□	
Are Vegetation, Soil, or Hydrology naturally pr	oblematic?	(If need	led, explain a	any answers in Remarks.)		
SUMMARY OF FINDINGS – Attach site man	showing s	ampling po	int locatio	ons transects importa	nt features etc	
Hydrophytic Vagetation Present? Vas M No	רופית אוויש פ ר					
Hydric Soils Present? Yes $\square$ No $\square$	4	Is the Sa	mpled Area			
Wetland Hydrology Present? Yes X No	=	within a	Wetland?	Yes⊠ No⊡		
Remarks: The vegetation in this test plot consisted of	trees. and sc	rub/shrub spe	cies. This tes	st plot met all three wetland i	ndicators with 100%h	vdrophytic
vegetation, soils with a Depleted Matrix, and the prese	nce of hydrolo	ogic indicators	; High Water	Table (A2), Saturation (A3),	Surface Soil Cracks	(B6),
Water Stained Leaves (B9), and Stunted or stressed P	lants (D1) we	re found on th	e surface of	the ground within the test plo	ot. Additionally, the tes	st plot was
located in a depression (Geomorphic Position D2) and	had a positive	e FAC-Neutral	l Test (D5).	-	•	
VEGETATION (Use scientific names)						
	Absolute	Dominant	Indicator	Dominance Test Worksh	neet	
Tree Stratum (Plot size:30 ft radius)	% Cover	Species?	Status			
1. Fraxinus latifolia	40%	yes	FACW	Number of Dominant Spec	cies <u>5</u>	(A)
2. Malus fusca	30%	yes	FACW	I hat Are OBL, FACW, or I	FAC:	
3	%			Total Number of Dominan	+	
4	%			Species Across All Strata	5	(B)
Total Cover:	70%				100	
				Percent of Dominant Spec	cies <u>100</u>	(A/B)
Sapling/Shrub Stratum (Plot size: <u>15 ft.</u> radius)				That Are OBL, FACW, or I	FAC	
1. Fraxinus latifolia	30%	yes	FACW	Prevalence Index works	heet	
2. Malus fusca	30%	yes	FACW	Total % Cover of:	Multiply by	:
3. Crataegus douglasii	10%	no	FAC	OBL species	x 1=	
4. Symphoricarpos albus	5%	no	FACU	FACW species	x 2=	
5. Oemleria cerasiformis	5%	no	FACU	FAC species	x 3=	
Total Cover:	80%			FACU species	x 4=	
Herb Stratum (Plot size: 5 ft radius)	0/				x 5=	(D)
1	<u>%</u>			Column Lotals:	(A)	(B)
2	<u>%</u>			Prevalence Ir	10ex = B/A=	
3	%			□ 1 Papid Tast for H	Indicators:	
4.	%				t is \$50%	I
5	%			$\square$ $\square$ $\square$ $\square$ $\square$ $\square$ $\square$ $\square$ $\square$	$x = \sqrt{3} 0^{1}$	
6	70			4 - Morphological Ac	dantations <sup>1</sup> (Provide	
	%			supporting data In R	temarks or on a separ	ate sheet)
7.	%					,
8.	%			Wetland Non-Vascu	Ilar Plants <sup>1</sup>	
Total Cover:	%			Problematic Hydrop	hytic Vegetation <sup>1</sup> (Exp	olain)
Woody Vine Stratum (Plot size: 15 ft radius)						
1. Rubus armeniacus	20%	yes	FAC	<sup>1</sup> Indicators of hydric soil a	nd wetland hydrology	
2	%			Must be present, unless d	isturbed or problemati	ic.
Total Cover:	20%					
				Hydrophytic Vegetation P	resent?	
% Bare Ground in Herb Stratum 100%					Yes⊠	No
Remarks: The hydrophytic vegetation criterion is met	due to 100%	of the domina	nt vegetatior	n within the test plot having e	ither OBL, FACW, or	FAC
indicator statuses.				-		

#### SOIL

Profile Description: (Describe to the de	pth needed to docu	ment the ind	icator or con	firm the a	absence of indicators.)	
Depth Matrix		Redox Feat	ures			
(inches) Color (moist) %	Color (moist)	%	Type <sup>1</sup>	Loc <sup>2</sup>	Texture	Remarks
0-6 2.5YR3/2 100%		%			silty loam	
<u>6-16</u> <u>10YR4/1</u> <u>70%</u>	10YR4/6	30%	C	Μ	silty clay loam	
		%				
		<u> </u>				
		<u> </u>				
<u> </u>		%			·	
%		%				
Hydric Soil Indicators: (Applicable to al Histosal (A1) Black Histic (A3)	II LRRs, unless othe Sandy Redox ( Stripped Matrix)	CS=Covered rwise noted. (S5) < (S6) Mineral (F1) (	except MLRA	nd Grains	Indicators for Problematic     2 cm Muck (A10)     Red Parent Material (TF2)     Very Shallow Dark Surface     Other (Explain in Remarks)	M=Matrix Hydric Soils (TF12)
Hydrogen Sulfide (A4)	Loamy Gleyed	Matrix (F2)				
Depleted Below Dark Surface (A11)	Depleted Matri	x (F3)				
Thick Dark Surface (A12)	Redox Dark Su	urface (F6)				
Sandy Mucky Minerals (S1)	Depleted Dark	Surface (F7)		3	<sup>3</sup> Indicators of hydrophytic vege	etation and
Sandy Gleyed Matrix (S4)	Redox Depres	sions (F8)			Wetland hydrology must b	e present
Restrictive Layer (if present):						
Туре:				Hyd	Iric Soil Present?	
				1		Yes⊠ No⊡
Depth (inches):						
concentrations found in the matrix.	eu Matrix (F3) was m			Fanu a cr	froma of 1 with more than 5 pe	ercent redux
HYDROLOGY						
Wetland Hydrology Indicators:					Secondary Indicators (2 or more required)	
Primary Indicators (min. of one required; of	heck all that apply)					
<ul> <li>Surface Water (A1)</li> <li>High Water Table (A2)</li> <li>Saturation (A3)</li> <li>Water Marks (B1)</li> <li>Sediment Deposits (B2)</li> <li>Drift Deposits (B3)</li> <li>Algal Mat or crust (B4)</li> <li>Iron Deposits (B5)</li> <li>Surface Soil Cracks (B6)</li> <li>Inundation Visible on Aerial Imagery (E</li> </ul>	<ul> <li>Water-Stained</li> <li>Salt Crust (B1<sup>-</sup></li> <li>Aquatic Inverte</li> <li>Hydrogen Sulf</li> <li>Oxidized Rhize</li> <li>Presence of R</li> <li>Recent Iron Re</li> <li>Stunted or Stre</li> <li>Other (Explain</li> </ul>	Leaves (B9) 1) bebrates (B13) ide Odor (C1) bepheres alon educed Iron ( eduction in Til essed Plants ( in Remarks)	(except MLR/ g Living Roots C4) led Soils (C6) (D1) (LRR A)	<b>A 1, 2, 4A</b> s (C3)	<ul> <li>□ Water Stained Lea</li> <li>A, &amp; 4B)</li> <li>(MLRA 1, 2, 4A, ar</li> <li>□ Drainage Patterns</li> <li>□ Dry-Season Water</li> <li>□ Saturation Visible of</li> <li>□ Geomorphic Positio</li> <li>□ Shallow Aquitard (I</li> <li>□ FAC-Neutral Test (</li> <li>□ Raised Ant Mounds</li> <li>□ Frost-Heave Humn</li> </ul>	ves (B9) <b>nd 4B)</b> (B10) Table (C2) on Aerial Imagery (C9) on (D2) O3) D5) s (D6) ( <b>LRR A</b> ) nocks (D4)
Surface Water Present? Yes	No 🛛 🛛 Dep	oth (Inches):				
Water Table Present? Yes X		oth (Inches):	9 6	Wetl	and Hydrology Present?	
(Includes Capillary fringe)		stir (menes).	<u>o</u>			
Describe Recorded Data (Stream gauge,	monitoring well, aeria	I photos, prev	vious inspectio	ons), if ava	ailable:	
Remarks:The hydrology indicators, High V sTressed Plants (D1) were found on the s Position D2) and had a positve FAC-Neut	Vater Table (A2), Sat urface of the ground ral Test (D5).	uration (A3), within the tes	Surface Soil C t plot. Addtion	Fracks (B6	6), Water Stained Leaves (B9) est plot was located in a depre	, and Stunted or ession (Geomorphic

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

roject/Site: Highland Terrace Subdivision		City/Co	unty: <u>La Cen</u>	ter/Clark Sampling Da	ate: 4/6/16				
pplicant/Owner: Evergreen Homes NW			State: W	/A Sampli	ng Point: TP3				
nvestigator(s): Wills, Kate'Lyn	or(s): Wills, Kate'Lyn Sec		on, Township	o, Range: <u>33, 5N, 1E</u>					
andform (hillslope, terrace, etc.): terrace		Local relief: slo	оре		Slope (%):	1%			
ubregion (LRR): <u>A</u>	Lat: 45.521	1107	Long:-122.	.410450 Datu	m: NAD83				
oil Map Unit Name: Gee silt loam, 20-30 percent slop	es		N	IWI classification: None					
re climatic / hydrologic conditions on the site typical for	or this time of	year? Yes⊠	No∐ (If	no, explain Remarks.)	<b>a C</b>				
re Vegetation , Soil , or Hydrology significantly	y disturbed?	Ar	ea "Normal (	Circumstances" present? Yes⊠	] No				
re Vegetation∐, Soil∐, or Hydrology∐ naturally pr	oblematic?	(If need	led, explain a	any answers in Remarks.)					
UMMARY OF FINDINGS – Attach site map	showing s	ampling po	int locatio	ons, transects, important	features, etc.				
Hydrophytic Vegetation Present? Yes X No		Is the Sa	mpled Area						
Wetland Undrelage Present? Yes X No		within a V	Wetland?	Yes⊠ No⊡					
Permarke: The vegetation in this test plat consisted of	 .corub/chrub /	and horhagoa		This tast plat mat all three watter	ad indicators with				
5% hydrophytic vogetation, soils with a Dopleted Matri	iv and the pr	and herbaceou	ologic indice	this test plot met all tillee wettal	Surface Water (A1)	\			
sturation (A3) Water Stained Leaves (B9) and Stunt	od or strosso	d Plants (D1) v		n the surface of the ground with	bin the test plot Ar	, ditionally			
test plot was located in a depression (Geomorphic	Position D2)	and had a nosi		autral Test (D5)		anionany,			
le test plot was located in a depression (Geomorphic	r osition Dz)	and had a posi							
<b>FGETATION</b> (Use scientific names)									
	Abcoluto	Dominant	Indicator	Dominanco Tost Workshoo					
Tree Stratum (Plot size:30 ft radius)	% Cover	Species?	Status	Dominance rest workshee	L Contraction of the second se				
<u></u>	%		014140	Number of Dominant Species	s 3	(A)			
2	%			That Are OBL, FACW, or FAC	C:	_ (/ ()			
3	<u> </u>			_					
4	<u> </u>			Total Number of Dominant	4	(B)			
Total Cover:	%			Species Across All Strata:		_ (=)			
	/0				75	(A/B)			
				Percent of Dominant Species	3	(,,,,,,)			
Sapling/Shrub Stratum (Plot size: 15 ft. radius)				That Are OBL, FACW, or FAC	<u> </u>				
1. Rubus laciniatus	5%	yes	FACU	Prevalence Index workshee	et en				
2. Malus fusca	5%	yes	FACW	Total % Cover of:	Multiply by:				
3	%			OBL species	x 1=				
4	%			FACW species	x 2=				
5	%			FAC species	x 3=				
I otal Cover:	10%				x 4=				
Herb Stratum (Plot size: 5 ft radius)	000/			UPL species	x 5=	(5)			
1. Phalaris arundinacea	80%	yes	FACW	Column Totals:	(A)	(B)			
2. Juncus ettusus	40%	yes	FACW	Prevalence Inde	x = B/A=				
3. Ranunculus repens	20%	no	FAC	Hydrophytic Vegetation Ind	licators:				
<sup>4.</sup> Trifolium repens	20%	no	FAC	1 – Rapid Test for Hydr	rophytic Vegetation				
	100/			2 – Dominance Test is	>50%				
b. <u>Equisetum arvense</u>	10%	no	FAC	3 - Prevalence Index is	≤3.0'				
õ.	%			4 - Morphological Adap	tations' (Provide	ata abaat)			
7	0/				larks of on a separa	ale sneel)			
/					Dianta <sup>1</sup>				
0	<u> </u>				Plants <sup>®</sup>				
Maadu Vina Stratum (Diat size: 45 ft radius)	170%				ic vegetation (Exp	iain)			
	0/			Indicators of hydric soil and					
۱	<u> </u>			Must be present upless dist	welland nydrology	•			
Z	/0				inted of problemation	6.			
Total Cover:	70								
				Hydrophytic Vegetation Pres	sent?	_			
% Bare Ground in Herb Stratum 0%					Yes⊠	No			
Remarks: The hydrophytic vegetation criterion is met	due to 75% c	of the dominant	t vegetation	within the test plot having either	OBL, FACW, or F	AC			
dicator statuses.									
Donth	N /~+			-	Podov Fact	Iroc			
---	---	---	---	---	---	--	--	--	--
(inches)	Color (moist)	%	Color (mo	bist)	Neuux reatt	Type <sup>1</sup>	Loc <sup>2</sup>	Texture	Remarks
0-8	10YR2/2	100%			%			silty loam	
8-16	10YR4/1	80%	10YR4/	6	20%			silty clay loam	
		<u>%</u>			%				
		<u>%</u>			<u>%</u>				
		<u> </u>		; <u> </u>	<u> </u>				
		%			%				
		%			%				
Hype: C Hydric S Histos Histos Black Hydrog Deplet Thick Sandy Restriction	C=Concentration, <b>pil Indicators: (A</b> al (A1) Epipedon (A2) Histic (A3) gen Sulfide (A4) red Below Dark Suf Dark Surface (A12 Mucky Minerals ( Gleyed Matrix (S <b>ve Layer (if prese</b>	D=Depletion, F pplicable to a urface (A11) 2) S1) 4) ent):	M=Reduced II LRRs, unles Sandy Strippe Loamy Loamy Deplete Redox Redox	Matrix, C3 ss otherv Redox (S4 d Matrix ( Mucky Mi Gleyed M ed Matrix ( Dark Suff ed Dark Sc Depression	S=Covered vise noted. 5) S6) ineral (F1) ( latrix (F2) (F3) face (F6) urface (F7) ons (F8)	except ML	RA 1)	ns. <sup>2</sup> Location: PL=Pore Lin Indicators for Problema 2 cm Muck (A10) Red Parent Material (TH Very Shallow Dark Surf Other (Explain in Rema <sup>3</sup> Indicators of hydrophytic w Wetland hydrology mus	ring, M=Matrix tic Hydric Soils F2) ace (TF12) rks) regetation and st be present
Type:							Н	/dric Soil Present?	
Type									Yes⊠ No⊡
Depth (in	ches):								
HYDRO									
HYDRO	LOGY	itors:						Secondary Indicate	nre
HYDRO Wetland	LOGY Hydrology Indica	itors:						Secondary Indicate	ors d)
HYDRO Wetland Primary In	LOGY Hydrology Indica ndicators (min. of	itors: one required; o	check all that a	apply)				Secondary Indicate	ors J)
HYDRO Wetland Primary II	LOGY Hydrology Indica ndicators (min. of	ntors: one required; c	check all that a	apply)				Secondary Indicate (2 or more required	ors d) Leaves (B9)
HYDRO Wetland Primary II	LOGY Hydrology Indica ndicators (min. of the Water (A1)	<b>itors:</b> one required; c	check all that a ⊠ Water-t	apply) Stained Le	eaves (B9)	(except ML	RA 1, 2, 4	Secondary Indicato (2 or more required Water Stained I (MLRA 1, 2, 4A)	brs d) Leaves (B9) a, <b>and 4B)</b>
HYDRO Wetland Primary II Surfac High V	LOGY Hydrology Indica ndicators (min. of the Water (A1) Vater Table (A2) tion (A3)	itors: one required; c	check all that a ⊠ Water-t □ Salt Cri □ Aquatic	apply) Stained Le ust (B11)	eaves (B9)	(except ML	RA 1, 2, 4	Secondary Indicato (2 or more required Water Stained I 4A, & 4B) (MLRA 1, 2, 4A Drainage Patter	Drs d) Leaves (B9) a, <b>and 4B)</b> rns (B10) ater Table (C2)
HYDRO Wetland Primary In Surfac High V Satura Water	LOGY Hydrology Indica ndicators (min. of e Water (A1) Vater Table (A2) tion (A3) Marks (B1)	ntors: one required; o	check all that a	apply) Stained Le ust (B11) c Invertebr	eaves (B9) rates (B13)	(except ML	RA 1, 2, 4	Secondary Indicato (2 or more required Water Stained I A, & 4B) (MLRA 1, 2, 4A Drainage Patter Dry-Season Wa Saturation Visit	Leaves (B9) Leaves (B9) A, <b>and 4B)</b> rns (B10) ater Table (C2)
HYDRO Wetland Primary II Surfac High V Satura Water Sedim	LOGY Hydrology Indica ndicators (min. of the Water (A1) Vater Table (A2) tition (A3) Marks (B1) ent Deposits (B2)	ntors: one required; o	check all that a ⊠ Water-5 □ Salt Cru □ Aquatic □ Hydrog □ Oxidize	apply) Stained Le ust (B11) c Invertebr jen Sulfide ed Rhizosp	eaves (B9) rates (B13) e Odor (C1) pheres alon	( <b>except ML</b> a Living Ro	<b>RA 1, 2,</b> 4	Secondary Indicate (2 or more required Water Stained I (MLRA 1, 2, 4A) Drainage Patter Dry-Season Wa Saturation Visite Geomorphic Po	crs d) Leaves (B9) Later Table (C2) ole on Aerial Imagery (C9) sition (D2)
HYDRO Wetland Primary II Surfac High V Satura Water Sedim Drift D	LOGY Hydrology Indica ndicators (min. of the Water (A1) Vater Table (A2) tition (A3) Marks (B1) ent Deposits (B2) eposits (B3)	ntors:	check all that a Water- Salt Cri Aquatic Hydrog Oxidize	apply) Stained Le ust (B11) c Invertebr jen Sulfide ed Rhizosj ice of Red	eaves (B9) rates (B13) e Odor (C1) pheres alon luced Iron (	( <b>except ML</b> g Living Ro C4)	<b>RA 1, 2, 4</b> ots (C3)	Secondary Indicato (2 or more required Water Stained I (MLRA 1, 2, 4A) Drainage Patter Dry-Season Wa Saturation Visit Geomorphic Po Shallow Aquitar	Drs d) Leaves (B9) a, <b>and 4B)</b> rns (B10) ater Table (C2) ble on Aerial Imagery (C9) isition (D2) rd (D3)
HYDRO Wetland Primary II Surfac High V Satura Water Sedim Drift D Algal I	LOGY Hydrology Indica ndicators (min. of the Water (A1) Vater Table (A2) tition (A3) Marks (B1) ent Deposits (B2) eposits (B3) Mat or crust (B4)	itors: one required; c	check all that a Water- Salt Cri Aquatic Hydrog Oxidize Presen Recent	apply) Stained Le ust (B11) c Invertebr gen Sulfide ed Rhizosp ice of Red c Iron Red	eaves (B9) rates (B13) e Odor (C1) pheres alon luced Iron ( uccion in Til	( <b>except ML</b> g Living Ro C4) led Soils (C	<b>RA 1, 2, 4</b> ots (C3) 6)	Secondary Indicato (2 or more required Water Stained I Vater Stained I (MLRA 1, 2, 4A Drainage Patter Dry-Season Wa Saturation Visit Geomorphic Po Shallow Aquitar K FAC-Neutral Te	Drs d) Leaves (B9) a, and 4B) rns (B10) ater Table (C2) ble on Aerial Imagery (C9) isition (D2) rd (D3) est (D5)
HYDRO Wetland Primary II Surfac High V Satura Vater Sedim Drift D Algal 1 Iron D	LOGY Hydrology Indica ndicators (min. of the Water (A1) Vater Table (A2) tition (A3) Marks (B1) ent Deposits (B2) eposits (B3) Mat or crust (B4) eposits (B5)	itors: one required; o	check all that a Water-S Salt Cru Aquatic Hydrog Oxidize Presen Recent Stunted	apply) Stained Le ust (B11) c Invertebr jen Sulfide ed Rhizosp ice of Red i Iron Red d or Stress	eaves (B9) rates (B13) e Odor (C1) pheres alon luced Iron (i uction in Til sed Plants (	( <b>except ML</b> g Living Ro C4) led Soils (C (D1) ( <b>LRR 4</b>	<b>RA 1, 2, 4</b> ots (C3) 6)	Secondary Indicato (2 or more required Water Stained I Water Stained I (MLRA 1, 2, 4A) Drainage Patter Dry-Season Wa Saturation Visit Geomorphic Po Shallow Aquitar FAC-Neutral Te Raised Ant Mod	Drs d) Leaves (B9) a, and 4B) rns (B10) ater Table (C2) ble on Aerial Imagery (C9) usition (D2) rd (D3) ust (D5) unds (D6) (LRR A)
HYDRO Wetland Primary II Surfac High V Satura Vater Sedim Drift D Algal I Inron D Surfac	LOGY Hydrology Indica ndicators (min. of e Water (A1) Vater Table (A2) tition (A3) Marks (B1) ent Deposits (B2) eposits (B3) Mat or crust (B4) eposits (B5) re Soil Cracks (B6)	ntors: one required; o	check all that a Water-S Salt Cru Aquatic Hydrog Oxidize Presen Recent Stunted Other (E	apply) Stained Le ust (B11) c Invertebr gen Sulfide ed Rhizosp ice of Red ice of Red d or Stress Explain in	eaves (B9) rates (B13) e Odor (C1) pheres alon luced Iron ( uction in Til sed Plants ( Remarks)	( <b>except ML</b> g Living Ro C4) led Soils (C (D1) ( <b>LRR 4</b>	<b>RA 1, 2, 4</b> ots (C3) 6)	Secondary Indicato (2 or more required Water Stained I Water Stained I (MLRA 1, 2, 4A) Drainage Patter Dry-Season Wa Saturation Visite Geomorphic Po Shallow Aquitar FAC-Neutral Te Raised Ant Mou	Drs d) Leaves (B9) <b>and 4B)</b> rns (B10) ater Table (C2) ble on Aerial Imagery (C9) sition (D2) rd (D3) est (D5) unds (D6) ( <b>LRR A</b> ) ummocks (D4)
HYDRO Wetland Primary II Surfac High V Satura Vater Sedim Drift D Algal I Iron D Surfac Surfac	LOGY Hydrology Indica ndicators (min. of the Water (A1) Vater Table (A2) tition (A3) Marks (B1) ent Deposits (B2) eposits (B3) Mat or crust (B4) eposits (B5) the Soil Cracks (B6 ation Visible on Ae	ntors: one required; c ) erial Imagery (E	check all that a Water-3 Salt Cri Aquatic Hydrog Oxidize Presen Recent Stuntec Other (E 37)	apply) Stained Le ust (B11) c Invertebr jen Sulfide ed Rhizosp ice of Red c Iron Red d or Stress Explain in	eaves (B9) rates (B13) e Odor (C1) pheres alon luced Iron ( uction in Til sed Plants ( Remarks)	( <b>except ML</b> g Living Ro C4) led Soils (C (D1) ( <b>LRR 4</b>	<b>RA 1, 2, 4</b> ots (C3) 6)	Secondary Indicato (2 or more required Water Stained I (MLRA 1, 2, 4A) Drainage Patter Dry-Season Wa Saturation Visite Geomorphic Po Shallow Aquitar FAC-Neutral Te Raised Ant Mou	Drs d) Leaves (B9) A, and 4B) rns (B10) ater Table (C2) ble on Aerial Imagery (C9) sition (D2) rd (D3) st (D5) unds (D6) (LRR A) ummocks (D4)
HYDRO Wetland Primary II Surfac High V Satura Water Sedim Drift D Algal I I Iron D Surfac I Inunda	LOGY Hydrology Indica Indicators (min. of the Water (A1) Vater Table (A2) tition (A3) Marks (B1) ent Deposits (B2) eposits (B3) Mat or crust (B4) eposits (B5) the Soil Cracks (B6 ation Visible on Action States (B6 ation States (B6)	ntors: one required; c ) prial Imagery (E	check all that a Water-5 Salt Cru Aquatic Hydrog Oxidize Presen Recent Stuntec Other (E 37)	apply) Stained Le ust (B11) c Invertebr jen Sulfide ed Rhizosp ice of Red i Iron Redu d or Stress Explain in	eaves (B9) rates (B13) e Odor (C1) pheres alon luced Iron ( uction in Til sed Plants ( Remarks)	( <b>except ML</b> g Living Ro C4) led Soils (C (D1) ( <b>LRR 4</b>	<b>RA 1, 2, 4</b> ots (C3) 6) ()	Secondary Indicate (2 or more required Water Stained I Water Stained I (MLRA 1, 2, 4A) Drainage Patter Dry-Season Wa Saturation Visite Geomorphic Po Shallow Aquitar FAC-Neutral Te Raised Ant Mou Frost-Heave Hu	Drs d) Leaves (B9) a, and 4B) rns (B10) ater Table (C2) ble on Aerial Imagery (C9) isition (D2) rd (D3) est (D5) unds (D6) (LRR A) immocks (D4)
HYDRO Wetland Primary II Surfac High V Satura Uater Sedim Drift D Algal I Inunda Field Obs Surface V	LOGY Hydrology Indica Indicators (min. of the Water (A1) Vater Table (A2) Ition (A3) Marks (B1) ent Deposits (B2) eposits (B3) Mat or crust (B4) eposits (B5) the Soil Cracks (B6) ation Visible on Action Servations: Vater Present?	ntors: one required; o ) erial Imagery (E	check all that a Water-S Salt Cru Aquatic Hydrog Oxidize Presen Recent Stunted Other (E 37)	apply) Stained Le ust (B11) c Invertebr jen Sulfide ed Rhizosp ice of Red i Iron Red d or Stress Explain in	eaves (B9) rates (B13) e Odor (C1) pheres alon luced Iron (i uction in Til sed Plants ( Remarks)	( <b>except ML</b> g Living Ro C4) led Soils (C (D1) ( <b>LRR 4</b>	<b>RA 1, 2, 4</b> ots (C3) 6)	Secondary Indicate (2 or more required Water Stained I Vater Stained I (MLRA 1, 2, 4A Drainage Patter Dry-Season Wa Saturation Visite Geomorphic Po Shallow Aquitar FAC-Neutral Te Raised Ant Mou Frost-Heave Hu	Drs d) Leaves (B9) a, and 4B) rns (B10) ater Table (C2) ble on Aerial Imagery (C9) isition (D2) rd (D3) ist (D5) unds (D6) (LRR A) ummocks (D4)
HYDRO Wetland Primary In Surfac High V Satura Water Sedim Drift D Algal N Iron D Surfac Surface V Water Ta	LOGY Hydrology Indica ndicators (min. of e Water (A1) Vater Table (A2) tition (A3) Marks (B1) ent Deposits (B2) eposits (B3) Mat or crust (B4) eposits (B5) te Soil Cracks (B6 ation Visible on Ae servations: Vater Present?	one required; o one required; o ) erial Imagery (E Yes ⊠ Yes □	check all that a Water-S Salt Cru Aquatic Hydrog Oxidize Presen Recent Stunted Other (E 37)	apply) Stained Le ust (B11) c Invertebr gen Sulfide ed Rhizosp ice of Red d or Stress Explain in Depth Depth	eaves (B9) rates (B13) e Odor (C1) pheres alon luced Iron ( uction in Til sed Plants ( Remarks) n (Inches): n (Inches):	( <b>except ML</b> g Living Ro C4) led Soils (C (D1) ( <b>LRR</b> 4	RA 1, 2, 4 ots (C3) 6) 4) We	Secondary Indicato (2 or more required Water Stained I (MLRA 1, 2, 4A) Drainage Patter Dry-Season Wa Saturation Visite Shallow Aquitar Shallow Aquitar FAC-Neutral Te Raised Ant Mou Frost-Heave Hu	Drs d) Leaves (B9) and 4B) rns (B10) ater Table (C2) ble on Aerial Imagery (C9) sition (D2) rd (D3) est (D5) unds (D6) (LRR A) ummocks (D4)
HYDRO Wetland Primary II Surfac High V Satura Water Sedim Drift D Algal I Inunda Field Obs Surface V Water Tal Saturation	LOGY Hydrology Indica ndicators (min. of the Water (A1) Vater Table (A2) tition (A3) Marks (B1) ent Deposits (B2) eposits (B3) Mat or crust (B4) eposits (B5) the Soil Cracks (B6 attion Visible on Ae servations: Vater Present? ble Present?	ntors: one required; o one required; o ) rial Imagery (E Yes ⊠ Yes ⊠ Yes ⊠ Yes ⊠	check all that a Water-S Salt Cru Aquatic Hydrog Oxidize Presen Recent Stunted Other (E 37)	apply) Stained Le ust (B11) c Invertebr gen Sulfide ed Rhizosp ice of Red d or Stress Explain in Depth Depth Depth	eaves (B9) rates (B13) e Odor (C1) pheres alon luced Iron ( uction in Til sed Plants ( Remarks) n (Inches): n (Inches): n (Inches):	(except ML g Living Ro C4) led Soils (C (D1) (LRR 4 1 1	RA 1, 2, 4 ots (C3) 6) .) We	Secondary Indicate (2 or more required Water Stained I (MLRA 1, 2, 4A) Drainage Patter Dry-Season Wa Saturation Visite Geomorphic Po Shallow Aquitar FAC-Neutral Te Raised Ant Mot Frost-Heave Hu	Prs d) Leaves (B9) A, and 4B) rns (B10) ater Table (C2) ble on Aerial Imagery (C9) sistion (D2) rd (D3) est (D5) unds (D6) (LRR A) ummocks (D4) Yes ⊠ No □
HYDRO Wetland Primary II Surfac High V Satura Vater Sedim Drift D Algal I Inunda Field Obs Surface V Water Ta Saturation (Includes) Describe	LOGY Hydrology Indica Indicators (min. of the Water (A1) Vater Table (A2) Ition (A3) Marks (B1) ent Deposits (B2) eposits (B3) Mat or crust (B4) eposits (B5) the Soil Cracks (B6 ation Visible on Action Servations: Vater Present? In Present? Capillary fringe) Recorded Data (Second	) one required; c one required; c ) rial Imagery (E Yes ⊠ Yes ⊠ Yes ⊠	check all that a Sheck	apply) Stained Le ust (B11) c Invertebr jen Sulfide ed Rhizosp ice of Red i Iron Red d or Stress Explain in Depth Depth	eaves (B9) rates (B13) e Odor (C1) pheres alon luced Iron (i uction in Til sed Plants ( Remarks) n (Inches): n (Inches):	(except ML g Living Ro C4) led Soils (C (D1) (LRR A 1 2	RA 1, 2, 4 ots (C3) 6) 3) We	Secondary Indicato (2 or more required Water Stained I Water Stained I (MLRA 1, 2, 4A) Drainage Patter Dry-Season Wa Saturation Visit Geomorphic Po Shallow Aquitar Shallow Aquitar FAC-Neutral Te Raised Ant Mou Frost-Heave Hu	Prs (b) Leaves (B9) (c), and 4B) rns (B10) ater Table (C2) ble on Aerial Imagery (C9) isition (D2) rd (D3) est (D5) unds (D6) (LRR A) ummocks (D4) Yes ⊠ No □
HYDRO Wetland Primary II Surfac High V Satura Vater Sedim Drift D Sedim Iron D Surfac Inunda Field Obs Surface V Water Ta Saturation (Includes Describe	LOGY Hydrology Indica ndicators (min. of the Water (A1) Vater Table (A2) tition (A3) Marks (B1) ent Deposits (B2) eposits (B3) Mat or crust (B4) eposits (B5) the Soil Cracks (B6 ation Visible on Action Servations: Vater Present? ble Present? to Present? Capillary fringe) Recorded Data (S	tors: one required; o one required; o ) erial Imagery (E Yes ⊠ Yes ⊠ Yes ⊠ Yes ⊠	check all that a Water-S Salt Cru Aquatic Hydrog Oxidize Presen Recent Stunted Other (E 37) No No No Mo Mo Mo Mo Mo Mo Mo M	apply) Stained Le ust (B11) c Invertebr gen Sulfide ed Rhizosg ice of Red d or Stress Explain in Depth Depth Depth	eaves (B9) rates (B13) e Odor (C1) pheres alon luced Iron ( uction in Til sed Plants ( Remarks) n (Inches): n (Inches): n (Inches):	(except ML g Living Ro C4) led Soils (C (D1) (LRR 4 1 2 rious inspec	RA 1, 2, 4 ots (C3) 6) () We tions), if a	Secondary Indicato (2 or more required Water Stained I (MLRA 1, 2, 4A) Drainage Patter Dry-Season Wa Saturation Visite Saturation Visite Shallow Aquitar FAC-Neutral Te Raised Ant Mou Frost-Heave Hu	Prs d) Leaves (B9) <b>and 4B)</b> rns (B10) ater Table (C2) ole on Aerial Imagery (C9) sition (D2) rd (D3) est (D5) unds (D6) (LRR A) ummocks (D4) Yes ⊠ No □
HYDRO Wetland Primary II Surfac High V Satura Water Sedim Drift D Algal I Inunda Field Obs Surface V Water Ta Saturation (Includes Describe Remarks: (B9), and	LOGY Hydrology Indica ndicators (min. of e Water (A1) Vater Table (A2) tition (A3) Marks (B1) ent Deposits (B2) eposits (B3) Mat or crust (B4) eposits (B5) re Soil Cracks (B6 ation Visible on Ac servations: Vater Present? ble Present? capillary fringe) Recorded Data (S Perched water tal Stunted or stress	etors: one required; o one required; o ) erial Imagery (E Yes ⊠ Yes ⊠ Yes ⊠ Stream gauge, ole. Surface w ed Plants (D1)	check all that a Water-3 Salt Cru Aquatic Hydrog Oxidize Presen Recent Stunted Other (E 37) No No No monitoring we rater filled the were found o	apply) Stained Le ust (B11) c Invertebr gen Sulfide ed Rhizosg ince of Red d or Stress Explain in Depth Depth Depth Depth deft, aerial p	eaves (B9) rates (B13) e Odor (C1) pheres alon luced Iron ( uction in Til sed Plants ( Remarks) n (Inches): n (Inches): n (Inches): n (Inches): n (Inches): n (Inches): n (Inches):	(except ML g Living Ro C4) led Soils (C (D1) (LRR 4 1 2 rious inspec round withing	RA 1, 2, 4 ots (C3) 6) () we tions), if a	Secondary Indicato (2 or more required Water Stained I (MLRA 1, 2, 4A) Drainage Patter Dry-Season Wa Saturation Visib Geomorphic Po Shallow Aquitar Shallow Aquitar FAC-Neutral Te Raised Ant Mo Frost-Heave Hu tland Hydrology Present?	Drs d) Leaves (B9) <b>and 4B)</b> rns (B10) ater Table (C2) ble on Aerial Imagery (C9) sition (D2) rd (D3) set (D5) unds (D6) (LRR A) ummocks (D4) Yes ⊠ No □ Water Stained Leaves bt was located in a
HYDRO Wetland Primary III Surfac High V Satura Water Sedim Drift D Algal I Surfac Uncludes Surface V Water Ta Saturation (Includes Describe Remarks: (B9), and depression	LOGY Hydrology Indica ndicators (min. of the Water (A1) Vater Table (A2) tition (A3) Marks (B1) ent Deposits (B2) eposits (B3) Mat or crust (B4) eposits (B5) the Soil Cracks (B6 attion Visible on Action Servations: Vater Present? to Present? De Present? Capillary fringe) Recorded Data (Servation Stress in (Geomorphic P	tors: one required; o one required; o ) erial Imagery (E Yes ⊠ Yes ⊠ Yes ⊠ Stream gauge, ole. Surface w ed Plants (D1) osition D2) and	check all that a Water-S Salt Cru Aquatic Hydrog Oxidize Presen Recent Stunted Other (E 37) No No No monitoring we ater filled the were found out	apply) Stained Le ust (B11) c Invertebr gen Sulfide ed Rhizosp ice of Red d or Stress Explain in Depth Depth Depth Depth Depth Depth dell, aerial p	eaves (B9) rates (B13) e Odor (C1) pheres alon luced Iron ( uction in Til sed Plants ( Remarks) n (Inches): n (Inches): n (Inches): n (Inches): n (Inches): n (Inches): n (Inches): n (Inches): n (Inches):	(except ML g Living Ro C4) led Soils (C (D1) (LRR 4 1 2 rious inspective round within D5).	RA 1, 2, 4 ots (C3) 6) 1) We tions), if a 1, Surface 1 the test	Secondary Indicate (2 or more required Water Stained I Water Stained I Water Stained I Water Stained I Water At 1, 2, 4A Drainage Patter Dry-Season Wa Saturation Visite Saturation Visite Shallow Aquitar FAC-Neutral Te Raised Ant Mou Frost-Heave Hu Hu Hu Water (A1), Saturation (A3), plot. Addtionally, the test plote	Drs d) Leaves (B9) A, and 4B) rns (B10) ater Table (C2) ble on Aerial Imagery (C9) sition (D2) rd (D3) est (D5) unds (D6) (LRR A) ummocks (D4) Yes ⊠ No □ Water Stained Leaves of was located in a
HYDRO Wetland Primary II Surface High V Satura Usedim Sedim Drift D Algal I Iron D Surface V Water Tal Saturation (Includes) Describe Remarks: (B9), and depression	LOGY Hydrology Indica ndicators (min. of the Water (A1) Vater Table (A2) tition (A3) Marks (B1) ent Deposits (B2) eposits (B3) Mat or crust (B4) eposits (B5) the Soil Cracks (B6 ation Visible on Action Servations: Vater Present? to Present? Capillary fringe) Recorded Data (S Perched water tal Stunted or stress on (Geomorphic Present)	tors: one required; o one required; o erial Imagery (E Yes ⊠ Yes ⊠ Yes ⊠ Stream gauge, ole. Surface w ed Plants (D1) osition D2) and	check all that a Water-S Salt Cri Aquatic Hydrog Oxidize Presen Recent Stunted Other (E 37) No No No Mo Mo Mo Mo Cater filled the were found oo I had a positive	apply) Stained Le ust (B11) c Invertebr jen Sulfide ed Rhizosp ice of Red d or Stress Explain in Depth Depth Depth Depth deft, aerial p test pit. Th n the surfa e FAC-Ne	eaves (B9) rates (B13) e Odor (C1) pheres alon luced Iron ( uction in Til sed Plants ( Remarks) n (Inches): n (Inches): n (Inches): n (Inches): n (Inches): n he hydrolog ace of the g utral Test (I	(except ML g Living Ro C4) led Soils (C (D1) (LRR 4 1 2 rious inspective round within D5).	<b>RA 1, 2, 4</b> ots (C3) 6) (N) <b>We</b> tions), if a	Secondary Indicate (2 or more required Water Stained I Water Stained I (MLRA 1, 2, 4A Drainage Patter Dry-Season Wa Saturation Visite Saturation Visite Shallow Aquitar FAC-Neutral Te Raised Ant More Frost-Heave Hu tland Hydrology Present? Water (A1), Saturation (A3), plot. Addtionally, the test plot	Drs d) Leaves (B9) A, and 4B) rns (B10) ater Table (C2) ble on Aerial Imagery (C9) isition (D2) rd (D3) ist (D5) unds (D6) (LRR A) ummocks (D4) Yes ⊠ No □ Water Stained Leaves bt was located in a
HYDRO Wetland Primary II Surfac High V Satura Uater Sedim Drift D Algal N Inunda Field Obs Surface V Water Ta Saturation (Includes Describe Remarks: (B9), and depressic	LOGY Hydrology Indica Indicators (min. of the Water (A1) Vater Table (A2) Ition (A3) Marks (B1) ent Deposits (B2) eposits (B3) Mat or crust (B4) eposits (B5) the Soil Cracks (B6 ation Visible on Action Servations: Vater Present? In Present? Capillary fringe) Recorded Data (S Perched water tal Stunted or stress in (Geomorphic P	) erial Imagery (E Yes ⊠ Yes ⊠ Yes ⊠ Stream gauge, ble. Surface w ed Plants (D1) position D2) and	check all that a Water-S Salt Cru Aquatic Hydrog Oxidize Presen Recent Stunted Other (E 37) No No No monitoring we ater filled the were found o had a positive	apply) Stained Le ust (B11) c Invertebr gen Sulfide ed Rhizosg ice of Red d or Stress Explain in Depth Depth Depth Depth definition of the sufficient e FAC-Ne	eaves (B9) rates (B13) e Odor (C1) pheres alon luced Iron ( uction in Til sed Plants ( Remarks) n (Inches): n (Inches): n (Inches): n (Inches): n (Inches): n (Inches): n (Inches): n (Inches): n (Inches):	(except ML g Living Ro C4) led Soils (C (D1) (LRR 4 1 2 rious inspect rious inspect y indicators pround within D5).	RA 1, 2, 4 ots (C3) 6) (Ve tions), if a , Surface	Secondary Indicate (2 or more required Water Stained I (MLRA 1, 2, 4A) Drainage Patter Dry-Season Wa Saturation Visite Saturation Visite Shallow Aquitar Shallow Aquitar FAC-Neutral Te Raised Ant Mou Frost-Heave Hu	Drs d) Leaves (B9) ,, and 4B) rns (B10) ater Table (C2) ble on Aerial Imagery (C9) isition (D2) rd (D3) est (D5) unds (D6) (LRR A) immocks (D4) Yes ⊠ No □ Water Stained Leaves of was located in a

Project/Site: Highland Terrace Subdivsion		City/Co	unty: <u>La Cent</u>	ter/Clark Sampling Date:	4/6/16	
Applicant/Owner: Evergreen Homes NW			State: W	A Sampling	Point: TP4	
Investigator(s): Wills, Kate'Lyn		Sectio	on, Township	, Range: <u>33, 5N, 1E</u>		
Landform (hillslope, terrace, etc.): hillslope		Local relief: co	onvex		Slope (%): <u>5</u> %	0
Subregion (LRR):A	Lat: 45.521	107	Long:-122.	410450 Datum:	NAD83	
Soil Map Unit Name: Hillsboro silt loam, 30 to 65 perce	nt slopes		N	WI classification: None		
Are climatic / hydrologic conditions on the site typical for	or this time of	year? Yes⊠	No∐ (Ifr	no, explain Remarks.)	. —	
Are Vegetation, Soil, or Hydrology significantly	/ disturbed?	Ar	ea "Normal C	Circumstances" present? Yes	No	
Are Vegetation, Soil, or Hydrology naturally pr	oblematic?	(If need	led, explain a	any answers in Remarks.)		
SUMMARY OF FINDINGS – Attach site map	showing s	ampling po	int locatio	ns, transects, important fea	atures, etc.	
Hydrophytic Vegetation Present? Yes Vegetation Present?		Is the Sa	mpled Area			
Hydric Solis Present? Yes I No 2	1	within a V	Wetland?	Yes⊡ No⊠		
Vetiand Hydrology Present? Yes I No 2	aorub/obrub o	nd horbooou		his tost plat did not most any water	and indiactors that	oforo it
does not meet the criteria of being wetland		ind herbaceou	is species. I	This test plot did not meet any wella		elore it
does not meet the chiena of being wetland.						
	Abcoluto	Dominant	Indicator	Dominanco Tost Workshoot		
Troo Stratum (Plot size:30 ft radius)	% Covor	Species?	Statue	Dominance rest worksheet		
1	<u>% COVEI</u>	Species :	Status	Number of Dominant Species	2	(A)
1.	/0			That Are OBL FACW, or FAC:	Z	(A)
2	/0					
3	<u> </u>			Total Number of Dominant	5	(B)
Total Covor:	/0 0/_	·		Species Across All Strata:		(D)
	/0				40	$(\Delta / B)$
				Percent of Dominant Species	40	(АО)
Sapling/Shrub Stratum (Plot size: 15 ft. radius)				That Are OBL, FACW, or FAC		
1. Malus fusca	35%	yes	FACW	Prevalence Index worksheet		
2. Rubus laciniatus	10%	yes	FACU	Total % Cover of:	Multiply by:	_
3. Quercus garryana	5%	no	FACU	OBL species	x 1=	_
4.	%			FACW species	x 2=	_
5.	%	. <u></u>		FAC species	x 3=	_
Total Cover:	50%			FACU species	x 4=	_
Herb Stratum (Plot size: 5 ft radius)				UPL species	x 5=	
1. Dactylis glomerata	15%	yes	FACU	Column Totals:	(A)	(B)
2. Polystichum munitum	10%	yes	FACU	Prevalence Index =	B/A=	
3.	%			Hydrophytic vegetation indica	itors:	
4.	%			1 – Rapid Test for Hydropi	nytic vegetation	
	0/				J%	
D	%			3 - Prevalence Index is ≤3	.U <sup>1</sup> opol (Drovido	
0.	%			4 - Morphological Adaptati	ons' (Provide	o shoot)
7	%					c sheety
8	<u> </u>			Wetland Non-Vascular Pla	nts <sup>1</sup>	
Total Cover:	25%				/egetation <sup>1</sup> (Expla	in)
Woody Vine Stratum (Plot size: 15 ft radius)	2070					,
1. Rubus armeniacus	10%	Ves	FAC	<sup>1</sup> Indicators of hydric soil and wet	land hydrology	
2	<u> </u>			Must be present unless disturbe	ad or problematic	
	10%					
I otal Cover:				Hydrophytic Verstation Brees	+2	ł
0/ Pore Cround in Llork Strature 700/				nyurophytic vegetation Presen		
70 Date Ground in Herd Stratum <u>70%</u>	The head and				res r	
Remarks: Bare ground is partially covered with moss.	ine nydrophy	ytic vegetation	n criterion is l	NUT met due to only 40% of the do	ominant vegetatio	n within

Remarks:Bare ground is partially covered with moss. The hydrophytic vegetation criterion is NOT met due to only 40% of the dominant vegetation within the test plot having either OBL, FACW, or FAC indicator statuses.

Depth	Matri	(		Redox Feat	tures			
inches)	Color (moist)	%	Color (moist)	%	Type <sup>1</sup>	Loc <sup>2</sup>	Texture	Remarks
0-16	10YR3/3	100%		%				
		<u>%</u>		%_	<u> </u>			
		<u>%</u>		%				
		<u> </u>		%				
		<u> </u>		%				
		%		%				
Type:       C=         Hydric Soil       Histosal         Histic Ep       Black His         Hydrogen       Depleted         Thick Da       Sandy M         Sandy G       Restrictive         Type:	Concentration, I Indicators: (A) (A1) bipedon (A2) stic (A3) en Sulfide (A4) d Below Dark Su ark Surface (A12 Aucky Minerals ( Bleyed Matrix (S Layer (if prese	D=Depletion, F pplicable to a urface (A11) 2) S1) 4) nt):	ILRRs, unless otf Sandy Redox Stripped Mat Loamy Muck Loamy Gleye Depleted Mat Redox Dark Depleted Dar Redox Depre	k, CS=Covered <b>herwise noted</b> (S5) y Mineral (F1) d Matrix (F2) drix (F3) Surface (F6) k Surface (F7) ssions (F8)	(except MLR	A 1)	<ul> <li><sup>2</sup>Location: PL=Pore Linin ndicators for Problemation</li> <li>2 cm Muck (A10)</li> <li>Red Parent Material (TF2</li> <li>Very Shallow Dark Surface</li> <li>Other (Explain in Remark</li> <li>ndicators of hydrophytic ve Wetland hydrology must</li> <li>c Soil Present?</li> </ul>	Ig, M=Matrix c Hydric Soils 2) ce (TF12) (S) egetation and be present Yes□ No[2
Depth (inche Remarks: TI	es): There was no evi	dence of hydri	c soils within this te	st plot.				
Depth (inche Remarks: Ti HYDROL( Wetland Hy	es): 'here was no evi OGY ydrology Indica	dence of hydri tors:	c soils within this te	st plot.			Secondary Indicator (2 or more required)	S
Depth (inche Remarks: Ti HYDROL( Wetland Hy Primary Indi	es): There was no evi OGY ydrology Indica	dence of hydri tors:	c soils within this te	st plot.			Secondary Indicator (2 or more required)	S
Depth (inche Remarks: TI HYDROLO Wetland Hy Primary Indi Surface N High Wa Saturatio Water Ma Saturatio Usedimen Drift Dep Algal Ma Iron Dep Surface S Inundatio	es): There was no eving OGY ydrology Indication icators (min. of of Water (A1) ater Table (A2) on (A3) larks (B1) nt Deposits (B2) posits (B3) at or crust (B4) posits (B5) Soil Cracks (B6 on Visible on Ae	dence of hydri tors: one required; c ne required; c	c soils within this te check all that apply) Water-Staine Salt Crust (B Aquatic Inver Hydrogen Su Oxidized Rhi: Presence of Recent Iron F Stunted or St Other (Explain 37)	d Leaves (B9) 11) tebrates (B13) lfide Odor (C1 zospheres alor Reduced Iron ( Reduced Iron ( Reduction in Ti ressed Plants n in Remarks)	(except MLF ) ng Living Roo (C4) illed Soils (C6 (D1) (LRR A)	ts (C3)	Secondary Indicator (2 or more required) Water Stained Lec <b>&amp; 4B</b> ) (MLRA 1, 2, 4A, Drainage Pattern Dry-Season Wate Saturation Visible Geomorphic Pos Shallow Aquitard FAC-Neutral Tes Raised Ant Mour Frost-Heave Hun	rs eaves (B9) <b>and 4B)</b> is (B10) er Table (C2) e on Aerial Imagery (C9) ition (D2) i (D3) it (D5) nds (D6) ( <b>LRR A</b> ) nmocks (D4)
Depth (inche Remarks: TI HYDROLO Wetland Hy Primary Indi Surface V High Wa' Saturatio Saturatio Saturatio Sedimen Drift Dep Algal Ma Drift Dep Algal Ma Iron Dep Surface S Inundatio Field Obser Surface Wa' Water Table Saturation Ca Departies Ca	es): There was no evi- There was no evi- Present? Present? apillary fringe) Desting fringe)	dence of hydri	c soils within this te check all that apply) Water-Staine Salt Crust (B Aquatic Inver Hydrogen Su Oxidized Rhi: Presence of I Recent Iron F Stunted or St Other (Explain 37) No X Di No X Di No X Di No X Di No X Di No X Di	st plot. d Leaves (B9) 11) tebrates (B13) lfide Odor (C1 zospheres alor Reduced Iron ( Reduced Iron ( Reduction in Ti ressed Plants n in Remarks) epth (Inches): epth (Inches):	(except MLR ) ng Living Roo (C4) illed Soils (C6 (D1) (LRR A)	<b>XA 1, 2, 4A,</b> ts (C3)	Secondary Indicator (2 or more required) Water Stained Lee (MLRA 1, 2, 4A, Drainage Pattern Dry-Season Wate Saturation Visible Geomorphic Pos Shallow Aquitard FAC-Neutral Tes Raised Ant Mour Frost-Heave Hun	eaves (B9) and 4B) ss (B10) er Table (C2) e on Aerial Imagery (C9) ition (D2) I (D3) tt (D5) nds (D6) (LRR A) nmocks (D4) Yes □ No ⊠

Project/Site: Highland Terrace Subdivision		City/County: La Center/Clark	Sampling Date: 4/6/16
Applicant/Owner: Evergreen Homes NW		State: WA	Sampling Point: TP5
Investigator(s): Wills, Kate'Lyn		Section, Township, Range:	33, 5N, 1E
Landform (hillslope, terrace, etc.): hillslope	Loca	I relief: concave	Slope (%): 3%
Subregion (LRR): <u>A</u>	Lat: 45.521107	Long: <u>-122.410450</u>	Datum: NAD83
Soil Map Unit Name: <u>Hillsboro silt loam, 30 to 65</u>	percent slopes	NWI classif	ication:None
Are climatic / hydrologic conditions on the site typ Are Vegetation⊠, Soil□, or Hydrology□ signifi Are Vegetation□, Soil□, or Hydrology□ natura	ical for this time of year' cantly disturbed? ally problematic?	Yes⊠ No⊡ (If no, explain Area "Normal Circumsta (If needed, explain any answe	n Remarks.) nces" present? Yes⊠ No⊟ ers in Remarks.)
SUMMARY OF FINDINGS – Attach site	map showing samp	oling point locations, tran	sects, important features, etc.
Hydrophytic Vegetation Present?       Yes □         Hydric Soils Present?       Yes ⊠         Wetland Hydrology Present?       Yes ⊠	No ⊠ I No □ V No □ V	s the Sampled Area within a Wetland?	Yes⊠ No⊡
Remarks: The vegetation in this test plot consist 60%hydrophytic vegetation, soils with a Depleted within this test plot.	ed of scrub/shrub and h Matrix, and the presenc	erbaceous species. This test pl e of hydrologic indicators; High	ot met all three wetland indicators with Water Table (A2), Saturation (A3) were present

#### **VEGETATION** (Use scientific names)

Tre	e Stratum (Plot size:30 ft radius)	Absolute % Cover	Dominant Species?	Indicator Status	Dominance Test Wo	orksheet	· · ·		
1.	<u> </u>	%			Number of Dominant	Species		3	(A)
2.		%			That Are OBL, FACV	/, or FAC:			(,
3.		%							
4.		%			Total Number of Don	ninant		5	(B)
	Total Cover:	%			Species Across All S	trata:			. ,
Sap	- ling/Shrub Stratum (Plot size: <u>15</u> ft. radius)				Percent of Dominant That Are OBL, FACW	Species /, or FAC	_	60	(A/B)
1.	Rubus laciniatus	40%	yes	FACU	Prevalence Index w	orksheet			
2.		%			Total % Cover	of:	Μι	ultiply by:	
3.		%			OBL species		x 1=		_
4.		%			FACW species	35	x 2=	70	_
5.		%			FAC species	25	x 3=	75	_
	Total Cover:	40%			FACU species	80	x 4=	320	_
Her	<u>b Stratum</u> (Plot size: <u>5</u> ft radius)				UPL species		x 5=		_
1.	Dactylis glomerata	30%	yes	FACU	Column Totals:	140	(A)	465	(B)
2.	Ranunculus repens	20%	yes	FAC	Preval	ence Index	= B/A=	<u>3.3</u>	
3.	Juncus effusus	20%	yes	FACW	Hydrophytic Vegeta	tion Indica	tors:		
4.	Phalaris arundinacea	15%	no	FACW	□ 1 – Rapid Test □ 2 – Dominance	for Hydropl Test is >50	nytic Ve )%	egetation	
5.	Cirsium arvense	5%	no	FAC	3 - Prevalence	Index is ≤3	.0 <sup>1</sup>		
6.		%			4 - Morphologic	cal Adaptati a In Remark	ons <sup>1</sup> (F s or on	Provide	e sheet)
7.		%							
8.		%			Wetland Non-V	'ascular Pla	ints <sup>1</sup>		
	Total Cover:	90%			Problematic Hy	/drophytic \	'egetati	ion <sup>1</sup> (Explai	n)
Wo	ody Vine Stratum (Plot size: <u>15</u> ft radius)								
1.	Rubus armeniacus	10%	yes	FAC	<sup>1</sup> Indicators of hydric s	soil and wet	land hy	/drology	
2.		%			Must be present, unle	ess disturbe	ed or pr	oblematic.	
	Total Cover:	10%							
% B	are Ground in Herb Stratum 0%				Hydrophytic Vegetat	ion Presen	t?	Yes 🕅 🛚	lo 🗌
Rem	arks: The hydrophytic vegetation criterion is met	due to 60% o	of the dominant	vegetation v	within the test plot havir	na either Of	BL. FAC		)
indica	tor statuses.			regetation			.,.,.	, 01 1 7 10	-

Depth Matrix	x		Redox Featu	ires			
(inches) Color (moist)	%	Color (moist)	%	Type <sup>1</sup>	Loc <sup>2</sup>	Texture	Remarks
0-10 10YR2/2	100%		%			silty clay loam	
<u>10-16</u> 10YR4/1	80%	10YR4/6	20%	С	М	clay loam	
			%				
	%		%	·			
	%		<u> </u>				
· ·							
	%		<u>%</u>	·			
<sup>1</sup> Type: C=Concentration,	D=Depletion, F	RM=Reduced Ma	trix, CS=Covered	or Coated S	and Grair	ns. <sup>2</sup> Location: PL=Pore Lini	ng, M=Matrix
Hydric Soil Indicators: (A	pplicable to al	I LRRs, unless	otherwise noted.	)		Indicators for Problemat	ic Hydric Soils
Histosal (A1)		Sandy Red	dox (S5)			2 cm Muck (A10)	
Histic Epipedon (A2)		Stripped N	latrix (S6)			Red Parent Material (TF     Vory Shallow Dark Surf	·2) 200 (TE12)
Black Histic (A3)			cky Mineral (F1) (	excent MI R	Δ 1)	Other (Explain in Remar	dce(1F1Z)
$\square$ Hydrogon Sulfido (A4)			wod Motrix (E2)	except MEN	~ ')		K3)
	$rfood(\Lambda 11)$		Approx $(E2)$				
			viallik (FS)				
	<u>(</u> )		N SUITACE (F6)			21 11 1 1 1 1	
	(51)					"Indicators of hydrophytic v	egetation and
Sandy Gleyed Matrix (S	4)		pressions (F8)			Wetland hydrology mus	t be present
Restrictive Layer (if prese	ent):						
					Hv	dric Soil Present?	
туре					iiy		Yes⊠ No□
Depth (inches):							
Remarks: The hydric soil in	dicator Deplete	d Matrix (E3) wa	s met due to a ma	atrix value of	4 and a c	proma of 1 with more than 5	5 percent redox
concentrations found in the	matrix				i ana a c		porodin redex
concentrations found in the	maun.						
HYDROLOGY							
Wetland Hydrology Indica	ators:						
						Secondary Indicato	Ins
						Secondary Indicato (2 or more required	ors I)
Primary Indicators (min. of	one required; c	heck all that app	ly)			Secondary Indicato (2 or more required	ors I)
Primary Indicators (min. of	one required; c	heck all that app	ly)			Secondary Indicato (2 or more required	ors I) Leaves (B9)
Primary Indicators (min. of	one required; c	heck all that app	ly) ined Leaves (B9)	except MLF	RA 1, 2, 4	Secondary Indicato (2 or more required Water Stained L A, & 4B) (MLRA 1, 2, 4A	ors l) .eaves (B9) , <b>and 4B)</b>
Primary Indicators (min. of Surface Water (A1) High Water Table (A2)	one required; c	heck all that app ☐ Water-Sta ☐ Salt Crust	ly) ined Leaves (B9) (B11)	except MLF	RA 1, 2, 4	Secondary Indicato (2 or more required) Water Stained L A, & 4B) (MLRA 1, 2, 4A Drainage Patter	ors I) .eaves (B9) , <b>and 4B)</b> ns (B10)
Primary Indicators (min. of ☐ Surface Water (A1) ⊠ High Water Table (A2) ⊠ Saturation (A3)	one required; c	heck all that app Water-Sta Salt Crust	ly) ined Leaves (B9) (B11) vertebrates (B13)	except MLF	RA 1, 2, 4	Secondary Indicato (2 or more required Water Stained L A, & 4B) (MLRA 1, 2, 4A, Drainage Patter Dry-Season Wa	eaves (B9) , <b>and 4B)</b> ns (B10) ter Table (C2)
Primary Indicators (min. of Surface Water (A1) High Water Table (A2) Saturation (A3) Water Marks (B1)	one required; c	heck all that app Water-Sta Salt Crust Aquatic In Hydrogen	ly) ined Leaves (B9) (B11) vertebrates (B13) Sulfide Odor (C1)	except MLF	RA 1, 2, 4	Secondary Indicato (2 or more required Water Stained L (MLRA 1, 2, 4A, Drainage Patter Dry-Season Wa	eaves (B9) , <b>and 4B)</b> ns (B10) ter Table (C2) le on Aerial Imagery (C9)
Primary Indicators (min. of Surface Water (A1) High Water Table (A2) Saturation (A3) Water Marks (B1)	one required; c	heck all that app Water-Sta Salt Crust Aquatic In Hydrogen	ly) ined Leaves (B9) (B11) vertebrates (B13) Sulfide Odor (C1) Rhizospheres alon	( <b>except MLF</b> a Living Roo	<b>XA 1, 2, 4</b> ts (C3)	Secondary Indicato (2 or more required Water Stained L A, & 4B) (MLRA 1, 2, 4A, Drainage Patter Dry-Season Wa Saturation Visibl	eaves (B9) , <b>and 4B)</b> ns (B10) ter Table (C2) le on Aerial Imagery (C9) sition (D2)
Primary Indicators (min. of a Surface Water (A1) High Water Table (A2) Saturation (A3) Water Marks (B1) Sediment Deposits (B2)	one required; c	heck all that app U Water-Sta Salt Crust Aquatic In Hydrogen Oxidized F	ly) (B11) vertebrates (B13) Sulfide Odor (C1) Rhizospheres alon of Reduced Iron ((	( <b>except MLF</b> g Living Roo (24)	<b>ts</b> (C3)	Secondary Indicato (2 or more required Water Stained L A, & 4B) (MLRA 1, 2, 4A, Drainage Patter Dry-Season Wa Saturation Visibl Geomorphic Pos	eaves (B9) , <b>and 4B)</b> ns (B10) ter Table (C2) le on Aerial Imagery (C9) sition (D2) d (D3)
Primary Indicators (min. of Surface Water (A1) High Water Table (A2) Saturation (A3) Water Marks (B1) Sediment Deposits (B2) Drift Deposits (B3)	one required; c	heck all that app Water-Sta Salt Crust Aquatic Im Hydrogen Oxidized F Presence	ly) (B11) vertebrates (B13) Sulfide Odor (C1) Rhizospheres alon of Reduced Iron (C n Reduction in Til	( <b>except MLF</b> g Living Roo C4) ed Soils (C6	<b>RA 1, 2, 4</b> ts (C3)	Secondary Indicato (2 or more required Water Stained L A, & 4B) (MLRA 1, 2, 4A, Drainage Patter Dry-Season Wa Saturation Visibl Geomorphic Pos Shallow Aquitar	eaves (B9) , and 4B) ns (B10) ter Table (C2) le on Aerial Imagery (C9) sition (D2) d (D3) st (D5)
Primary Indicators (min. of Surface Water (A1) High Water Table (A2) Saturation (A3) Water Marks (B1) Sediment Deposits (B2) Drift Deposits (B3) Algal Mat or crust (B4)	one required; c	heck all that app Water-Sta Salt Crust Aquatic In Hydrogen Oxidized F Presence Recent Iro	ly) (B11) vertebrates (B13) Sulfide Odor (C1) Rhizospheres alon of Reduced Iron (C n Reduction in Till Stressed Plants (	(except MLF g Living Roo C4) ed Soils (C6	<b>XA 1, 2, 4</b> ts (C3)	Secondary Indicato (2 or more required Water Stained L A, & 4B) (MLRA 1, 2, 4A, Drainage Patter Dry-Season Wa Saturation Visibl Geomorphic Pos Shallow Aquitar FAC-Neutral Te: Raised Art Mou	eaves (B9) , and 4B) ns (B10) ter Table (C2) le on Aerial Imagery (C9) sition (D2) d (D3) st (D5) inds (D6) (LRP A)
Primary Indicators (min. of 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)	one required; c	heck all that app Water-Sta Salt Crust Aquatic In Hydrogen Oxidized F Presence Recent Iro Stunted or	ly) (B11) vertebrates (B13) Sulfide Odor (C1) Rhizospheres alon of Reduced Iron (C n Reduction in Till Stressed Plants (	( <b>except MLF</b> g Living Roo C4) ed Soils (C6 D1) ( <b>LRR A</b> )	<b>XA 1, 2, 4</b> ts (C3)	Secondary Indicato (2 or more required Water Stained L A, & 4B) (MLRA 1, 2, 4A, Drainage Patteri Dry-Season Wa Saturation Visib Geomorphic Pos Shallow Aquitaro FAC-Neutral Ter Raised Ant Mou	eaves (B9) , and 4B) ns (B10) ter Table (C2) le on Aerial Imagery (C9) sition (D2) d (D3) st (D5) inds (D6) (LRR A) mmocks (D4)
Primary Indicators (min. of a 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 Ae	one required; c	heck all that app Water-Sta Salt Crust Aquatic Im Hydrogen Oxidized F Presence Recent Iro Stunted or Other (Exp 37)	ly) (B11) vertebrates (B13) Sulfide Odor (C1) Rhizospheres alon of Reduced Iron (C n Reduction in Till Stressed Plants ( lain in Remarks)	( <b>except MLF</b> g Living Roo C4) ed Soils (C6 D1) ( <b>LRR A</b> )	ts (C3)	Secondary Indicato (2 or more required Water Stained L (MLRA 1, 2, 4A, Drainage Patter Dry-Season Wa Saturation Visib Geomorphic Pos Shallow Aquitare FAC-Neutral Ter Raised Ant Mou	eaves (B9) , and 4B) ns (B10) ter Table (C2) le on Aerial Imagery (C9) sition (D2) d (D3) st (D5) nds (D6) (LRR A) mmocks (D4)
Primary Indicators (min. of a 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 Ae	one required; c	heck all that app Water-Sta Salt Crust Aquatic In Hydrogen Oxidized F Presence Recent Iro Stunted or Other (Exp 37)	ly) (B11) vertebrates (B13) Sulfide Odor (C1) Rhizospheres alon of Reduced Iron (C n Reduction in Till Stressed Plants ( lain in Remarks)	( <b>except MLF</b> g Living Roo C4) ed Soils (C6 D1) ( <b>LRR A</b> )	<b>XA 1, 2, 4</b> ts (C3)	Secondary Indicato (2 or more required Water Stained L A, & 4B) (MLRA 1, 2, 4A, Drainage Patter Dry-Season Wa Saturation Visib Geomorphic Pos Shallow Aquitar FAC-Neutral Tes Raised Ant Mou	eaves (B9) , and 4B) ns (B10) ter Table (C2) le on Aerial Imagery (C9) sition (D2) d (D3) st (D5) nds (D6) (LRR A) mmocks (D4)
Primary Indicators (min. of a 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 Ae Field Observations:	one required; c	heck all that app Water-Sta Salt Crust Aquatic In Hydrogen Oxidized F Presence Recent Iro Stunted or Other (Exp 7)	ly) (B11) vertebrates (B13) Sulfide Odor (C1) Rhizospheres alon of Reduced Iron (C n Reduction in Till Stressed Plants ( lain in Remarks)	( <b>except MLF</b> g Living Roo C4) ed Soils (C6 D1) ( <b>LRR A</b> )	<b>XA 1, 2, 4</b> ts (C3)	Secondary Indicato (2 or more required Water Stained L A, & 4B) (MLRA 1, 2, 4A, Drainage Patter Dry-Season Wa Saturation Visib Geomorphic Pos Shallow Aquitare FAC-Neutral Tes Raised Ant Mou Frost-Heave Hu	eaves (B9) , and 4B) ns (B10) ter Table (C2) le on Aerial Imagery (C9) sition (D2) d (D3) st (D5) nds (D6) (LRR A) mmocks (D4)
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Project/Site: Highland Terrace Subdivision		City/Co	ounty: <u>La Cen</u>	ter/Clark Sampling Date	e: <u>4/6/16</u>	
Applicant/Owner: Evergreen Homes NW			State: W	Sampling	g Point: TP6	
Investigator(s): Wills, Kate'Lyn		Sectio	on, Township	o, Range: <u>33, 5N, 1E</u>		(0/) =
Landform (hillslope, terrace, etc.): hillslope		Local relief: co	onvex		Slope	(%): <u>5%</u>
Subregion (LRR): A	Lat: 45.521	107	Long:-122.	<u>410450</u> Datum	1: NAD83	
Soil Map Unit Name: Hillsboro silt loam, 30 to 65 perce	ent slopes			IVVI classification: None		
Are climatic / nydrologic conditions on the site typical to	or this time of	year? Yes	NO∐ (If	no, explain Remarks.)		
Are Vegetation X, Soll, or Hydrology significantly	y disturbed?	Ar (If poor	rea "Normal o			
	oblematic?	(ii need	ieu, explain a	any answers in Remarks.)	4	
SUMMARY OF FINDINGS – Attach site map	showing s	sampling po	oint locatio	ons, transects, important f	eatures, et	tc.
Hydrophytic Vegetation Present? Yes 🗌 No 🛛	2	Is the Sa	mnled Area			
Hydric Soils Present? Yes 🗌 No 🛛	$\triangleleft$	within a	Wetland?	Yes□ No⊠		
Wetland Hydrology Present? Yes Ves No D	⊴					
Remarks: Area has been cleared in past years and or	nly herbaceou	is and shrub v	egetation are	e starting to grow back. Evidence	of a burn pil	le, large pieces
of charcoal. The vegetation in this test plot consisted of	r scrud/snrud	and nerbaceo	ous species.	This test plot did not meet any we	stiand indicat	tors therefore it
does not meet the criteria of being wetland.						
L						
VEGETATION (Use scientific names)						
Tree Stratum (Plot size:30 ft radius)	Absolute % Cover	Dominant Species?	Indicator Status	Dominance Test Worksheet		
1	%			Number of Dominant Species		2 (A)
2.	%			That Are OBL, FACW, or FAC	:	
3	%					
4	%					4 (B)
Total Cover:	%			Species Across All Strata.		
				Percent of Dominant Species	5	50 (A/B)
Sapling/Shrub Stratum (Plot size: 15 ft, radius)				That Are OBL, FACW, or FAC		
1. Rubus laciniatus	40%	ves	FACU	Prevalence Index worksheet		
2. Rosa nutkana	5%	no	FAC	Total % Cover of:	Multip	lv bv:
3.	%			OBL species	x 1=	
4.	%			FACW species	x 2=	
5.	%			FAC species	x 3=	
Total Cover:	45%			FACU species	x 4=	
Herb Stratum (Plot size: 5 ft radius)				UPL species	x 5=	
1. Ranunculus repens	15%	yes	FAC	Column Totals:	(A)	(B)
2. Dactylis glomerata	15%	yes	FACU	Prevalence Index	= B/A=	
3. Cirsium arvense	5%	no	FAC	Hydrophytic Vegetation Indi	cators:	
4. Tolmios monziosii	5%	no	FAC	1 – Rapid Test for Hydro	phytic Veget	tation
	576			2 – Dominance Test is >	50%	
5. Taraxacum officinale	5%	no	FACU	3 - Prevalence Index is ≤	≤3.0¹	
6. Tanacetum vulgare	5%	no	FACU	4 - Morphological Adapta	ations <sup>1</sup> (Prov	ide
	0,0			Supporting data In Rema	irks or on a s	separate sheet)
7	%					
8	%			Wetland Non-Vascular F	'lants'	<i>—</i>
I otal Cover:	50%			Problematic Hydrophytic	Vegetation	(Explain)
Woody Vine Stratum (Plot size: <u>15</u> ft radius)	100/		540			L
1. Rubus armeniacus	10%	yes	FAC	Indicators of hydric soil and w	etiand nydro	logy
2	<u> </u>			Must be present, unless distur	bed or proble	ematic.
Total Cover:	10%					
				Hydrophytic Vegetation Prese	ent?	
% Bare Ground in Herb Stratum 30%					Y	es∏ No⊠
Remarks: The hydrophytic vegetation criterion is NOT	met due to o	nly 50% of the	dominant ve	egetation within the test plot havin	ng either OB	L, FACW, or
FAC indicator statuses.						

Profile De	escription: (Desc	ribe to the dep	oth needed to d	locument the ind	icator or conf	irm the a	absence of indicators.)	
Depth	Matri	x		Redox Feat	ures			
(inches)	Color (moist)	%	Color (moist)	) %	Type <sup>1</sup>	Loc <sup>2</sup>	Texture	Remarks
0-16	10YR3/3	99%	7.5YR3/4	1%	С	М	silty loam	
		%		%				
		%		%				
		%		<u> </u>				
				<u></u>	· ·			
		%		<u>%</u>	·			
		%		%				
<sup>1</sup> Type: 0	C=Concentration,	D=Depletion, R	M=Reduced Ma	atrix, CS=Covered	or Coated Sar	nd Grains	s. <sup>2</sup> Location: PL=Pore Linir	ng, M=Matrix
Hydric So	oil Indicators: (A	pplicable to all	LRRs, unless	otherwise noted	.)		Indicators for Problemati	c Hydric Soils
	al (A1) Eninadan (A2)		Sandy Re	dox (S5) Actrix (S6)			2 CM MUCK (A10)     Red Derent Meterial (TE)	2)
	Epipedon (AZ)			naurix (30)			Very Shallow Dark Surfa	2) ce (TF12)
Black I	Histic (A3)		🗆 Loamv Mu	uckv Mineral (F1)	except MLRA	.1)	Other (Explain in Remark	(s)
	nen Sulfide (A4)			eved Matrix (F2)	( <b> </b>	,		
	ed Below Dark Su	urface (A11)		Matrix (F3)				
	Dark Surface (A12	2)	Redox Da	rk Surface (F6)				
☐ Sandy	Mucky Minerals (	(S1)	Depleted I	Dark Surface (F7)			<sup>3</sup> Indicators of hydrophytic ve	enetation and
Sandy	Gleved Matrix (S	4)	Redox De	pressions (F8)			Wetland hydrology must	be present
Restrictiv	ve Layer (if prese	ent):					notialia nyarology maa	
Type:						Hyd	dric Soil Present?	
Dopth (inc	shoe).							Yes No
Deptil (int	Thore wee no ov	idanaa of budric	a a a ila within this	toot plot				
Remarks.	mere was no ev	idence of hydric	Sons within the	s test plot.				
HYDRO	LOGY							
Wetland	Hydrology Indica	ators:					Secondary Indicator	S
Drimon/ Ir	diastors (min. of	ono roquirod: ol	hook all that and	55.0			(2 or more required)	
Filliary II	idicators (min. or	one required, ci	neck all that app	лу)				(B0)
□ Surfac	e Water (A1)		□ Water-Sta	ined Leaves (B9)	(except MI RA	1 2 44		and 4 <b>B</b> )
	Vater Table (A2)		Salt Crust	(B11)		· ., <u>-</u> , .,	Drainage Pattern	is (B10)
☐ Satura	tion (A3)		Aquatic In	vertebrates (B13)			Dry-Season Wat	er Table (C2)
☐ Water	Marks (B1)		Hvdrogen	Sulfide Odor (C1)	1		Saturation Visible	e on Aerial Imagery (C9)
☐ Sedim	ent Deposits (B2)			Rhizospheres alor	a Livina Roots	(C3)	Geomorphic Pos	ition (D2)
Drift D	eposits (B3)		Presence	of Reduced Iron (	C4)	( )	 ☐ Shallow Aquitard	I (D3)
Algal N	Mat or crust (B4)		Recent Irc	on Reduction in Ti	led Soils (C6)		FAC-Neutral Tes	it (D5)
Iron De	eposits (B5)		Stunted o	Stressed Plants	(D1) ( <b>LRR A</b> )		Raised Ant Mour	nds (D6) ( <b>LRR A</b> )
Surfac	e Soil Cracks (B6	)	Other (Exp	lain in Remarks)	,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,		Frost-Heave Hur	nmocks (D4)
🗌 Inunda	ation Visible on Ae	erial Imagery (B	7)					
Field Obs	Servations:			Dopth (Inchas):				
Mator Tak	blo Prosont?			Depth (Inches).		Wot	and Hydrology Procent?	
Saturation	Present?			Depth (Inches):		wei	and hydrology Fresent?	Yes 🗆 No 🕅
(Includes	Capillary fringe)					ł		
Describe	Recorded Data (S	Stream gauge, r	nonitoring well,	aerial photos, pre	vious inspection	ns), if av	ailable:	
	, ,			•				
Domester	Thoro was a s	donoo of burder 1		ant plat				
Remarks:	mere was no evi	uence of hydrol	ogy within this te	est plot.				
L								

Project/Site: Highland Terrace Subdivision		City/Co	unty: La Cen	ter/Clark Sampling Date: 4/6/16	
Applicant/Owner: Evergreen Homes NW	State: WA			A Sampling Point: TP7	
nvestigator(s): Wills, Kate'Lyn		Sectio	on, Township	o, Range: <u>33, 5N, 1E</u>	
Landform (hillslope, terrace, etc.): <u>hillslope</u>		Local relief: co	oncave	Slope (%): <u>1%</u>	
Subregion (LRR): A	Lat: 45.521	107	_ Long: <u>-122</u> .	.410450 Datum: NAD83	
Soil Map Unit Name: Odne silt loam, 0 to 5 percent slo	pes			WVI classification: None	
	or this time of	year? Yes	NO∐ (If	no, explain Remarks.)	
Are Vegetation , Soil , or Hydrology significanti	y disturbed?	Ar Ar	ea "Normal i		
	robiematic?	(ii need	ied, explain a	any answers in Remarks.)	
SUMMARY OF FINDINGS – Attach site map	snowing s	sampling po	int locatio	ons, transects, important features, etc.	
Hydrophytic Vegetation Present?       Yes □       No □         Hydric Soils Present?       Yes ⊠       No □         Watland Hydrology Present?       Yes ⊠       No □		Is the Sa within a	mpled Area Wetland?	Yes⊠ No□	
Remarks: This test plot is located in a pasture that rec	L Coivos rogular	r mowing The	vegetation i	n this test plot consisted of berbaceous species. This test	
olot met two out of three wetland indicators with soils w Saturation (A3), and Oxidized Rhizospheres along Livi was located in a depression (Geomorphic Position D2)	vith a Redox I ng Roots (C3)	Dark Surface, a ) were found o	and the pres n the surfac	ence of hydrologic indicators; High Water Table (A2), e of the ground within the test plot. Additionally, the test plot	
VEGETATION (Use scientific names)	Absolute	Dominant	Indicator	Dominance Test Worksheet	
Tree Stratum (Plot size:30 ft radius)	% Cover	Species?	Status		
1. <u> </u>	%			Number of Dominant Species 1 (A)	
2.	%			That Are OBL, FACW, or FAC:	
3.	%				
4.	%			Total Number of Dominant <u>2</u> (B)	
Total Cover:	%			Species Across All Strata:	
Sapling/Shrub Stratum (Plot size: <u>15</u> ft. radius)				Percent of Dominant Species (A/B) That Are OBL, FACW, or FAC	
1.	%			Prevalence Index worksheet	
2	%			Total % Cover of: Multiply by:	
3	%			OBL species x 1=	
4	%			FACW species 10 x 2= 20	
5	%			FAC species         30         x 3=         90	
Total Cover:	%			FACU species <u>60</u> x 4= <u>240</u>	
Herb Stratum (Plot size: 5 ft radius)	000/		54.011	UPL species x 5= (D)	
1. <u>Dactylis glomerata</u>	60%	yes	FACU	Column Lotals: 100 (A) 350 (B)	
2. Holcus lanatus	30%	yes	FAC	Prevalence index = $B/A=3.5$	
	10%	no	FACW	Hydrophytic vegetation indicators:	
4.	%			$\square$ 1 – Rapid Test for Hydrophylic Vegetation	
5				$\square$ 2 - Dominiance results >50%	
5	/0			4 - Morphological Adaptations <sup>1</sup> (Provide	
0.	%			supporting data in Remarks or on a separate sheet)	
7.	%				
8.	%			Wetland Non-Vascular Plants <sup>1</sup>	
Total Cover:	100%			Problematic Hydrophytic Vegetation <sup>1</sup> (Explain)	
Woody Vine Stratum (Plot size: <u>15</u> ft radius)					
1.	%			<sup>1</sup> Indicators of hydric soil and wetland hydrology	
2.	%			Must be present, unless disturbed or problematic.	
Total Cover:	%				
% Bare Ground in Herb Stratum 0%				Hydrophytic Vegetation Present? Yes⊡ No⊠	
Remarks: this test plot is located in a pasture that rece	eives regular i	mowing The	hydrophytic	vegetation criterion is NOT met due to only 50% of the	
dominant vegetation within the test nlot having either C	BL FACW C	or FAC indicate	or statuses		
commant vegetation within the test plot having either C	$\mathcal{D}_{L}, T \mathcal{A} O V V, C$		JI 31010353.		

Profile Description: (Describe to the dep	th needed to docu	ment the ind	icator or cor	nfirm the a	bsence of indicators.)	
Depth Matrix		Redox Featu	ures			
(inches) Color (moist) %	Color (moist)	%	Type <sup>1</sup>	Loc <sup>2</sup>	Texture	Remarks
$\begin{array}{c c} 0-8 \\ \hline 8-16 \\ \hline 10YR2/2 \\ \hline 70\% \\ \hline 70\% \\ \hline \end{array}$	7 5YR3/4	30%	·	М	silty clay loam	
<u> </u>	7.511(3/4	<u> </u>		IVI	Silly Clay IDam	
<u> </u>		%				
<u>%</u>		<u>%</u>				
·  ·		<u>%</u>				
<u> </u>		%			·	
<sup>1</sup> Type:       C=Concentration, D=Depletion, RI         Hydric Soil Indicators: (Applicable to all         Histosal (A1)         Histic Epipedon (A2)         Black Histic (A3)         Hydrogen Sulfide (A4)         Depleted Below Dark Surface (A11)         Thick Dark Surface (A12)         Sandy Mucky Minerals (S1)         Sandy Gleved Matrix (S4)	M=Reduced Matrix, LRRs, unless othe Sandy Redox ( Stripped Matrix) Loamy Mucky Loamy Gleyed Depleted Matrix Redox Dark Su Depleted Dark	CS=Covered rwise noted. (S5) (S6) Mineral (F1) ( Matrix (F2) x (F3) urface (F6) Surface (F7) sions (F8)	or Coated Sa	and Grains.	<sup>2</sup> Location: PL=Pore Lining, I Indicators for Problematic H 2 cm Muck (A10) Red Parent Material (TF2) Very Shallow Dark Surface Other (Explain in Remarks)	M=Matrix ydric Soils (TF12)
Restrictive Laver (if present):		SIUNS (FO)			Wetland hydrology must be	present
Type:				Hydr	ic Soil Present?	
Depth (inches):						
concentrations found in the matrix.						
HYDROLOGY						
Wetland Hydrology Indicators:					Secondary Indicators	
Primary Indicators (min_of one required: ch	eck all that apply)				(2 or more required)	
<ul> <li>Surface Water (A1)</li> <li>High Water Table (A2)</li> <li>Saturation (A3)</li> <li>Water Marks (B1)</li> <li>Sediment Deposits (B2)</li> <li>Drift Deposits (B3)</li> <li>Algal Mat or crust (B4)</li> <li>Iron Deposits (B5)</li> <li>Surface Soil Cracks (B6)</li> <li>Inundation Visible on Aerial Imagery (B7</li> </ul>	<ul> <li>Water-Stained</li> <li>Salt Crust (B11</li> <li>Aquatic Invertee</li> <li>Hydrogen Sulfie</li> <li>Oxidized Rhized</li> <li>Presence of Re</li> <li>Recent Iron Re</li> <li>Stunted or Stree</li> <li>Other (Explain in 7)</li> </ul>	Leaves (B9) 1) ebrates (B13) ide Odor (C1) ospheres alon educed Iron (i eduction in Til essed Plants ( in Remarks)	( <b>except MLR</b> g Living Roo C4) led Soils (C6 D1) ( <b>LRR A</b> )	ts (C3)	□       Water Stained Leav         & 4B)       (MLRA 1, 2, 4A, and         □       Drainage Patterns (I         □       Dry-Season Water 1         □       Saturation Visible or         □       Geomorphic Positio         □       Shallow Aquitard (D         □       FAC-Neutral Test (I         □       Raised Ant Mounds         □       Frost-Heave Hummer	es (B9) d <b>4B)</b> 310) Table (C2) n Aerial Imagery (C9) n (D2) 3) 35) (D6) ( <b>LRR A</b> ) ocks (D4)
Field Observations:         Surface Water Present?       Yes □         Water Table Present?       Yes ⊠         Saturation Present?       Yes ⊠         (Includes Capillary fringe)       Describe Recorded Data (Stream gauge, m         Remarks:The hydrology indicators, High W         surface of the ground within the test plot. A	No Dep No Dep No Dep nonitoring well, aeria ater Table (A2), Sat dditionally, the test p	oth (Inches): oth (Inches): oth (Inches): Il photos, prev uration (A3), a plot was locat	8 <u>4</u> rious inspecti and Oxidized ed in a depre	Wetla ons), if ava Rhizosphe ssion (Geo	nd Hydrology Present? ilable: res along Living Roots (C3) w morphic Position D2).	Yes 🛛 No 🗌

Project/Site: <u>Highland Terrace Subdivision</u> Applicant/Owner: Evergreen Homes NW Investigator(s): Wills, Kate'Lyn		City/Co	ounty: <u>La Cen</u> State: <u>W</u> on, Township	ter/Clark Sampling Date: 4/6/1 A Sampling Point A Range: 33, 5N, 1E	6 : TP8	
Landform (hillslope, terrace, etc.): hillslope		Local relief: co	onvex	,	Slope (%): 29	%
Subregion (LRR):A	Lat: 45.521	1107	Long:-122.	410450 Datum: NAD	)83 `´ <u></u>	
Soil Map Unit Name: Odne silt loam, 0 to 5 percent slo	pes	-	N	WI classification: None		
Are climatic / hydrologic conditions on the site typical for	or this time of	vear? Yes⊠	No∏ (If	no, explain Remarks.)		
Are Vegetation S. Soil or Hydrology significantly	v disturbed?	Ar	rea "Normal (	Circumstances" present? Yes No		
Are Vegetation Soil or Hydrology naturally of	oblematic?	(If need	led explain a	any answers in Remarks )		
SUMMARY OF FINDINGS – Attach site map	snowing s	sampling po	bint locatio	ons, transects, important feature	es, etc.	
Hydrophytic Vegetation Present? Yes 🗌 No 🛛	$\triangleleft$	ls the Sa	mplad Araa			
Hydric Soils Present? Yes 🗌 No 🛛	$\triangleleft$	is the Sa	Motiond?			
Wetland Hydrology Present? Yes 🗌 No 🛛	$\triangleleft$	within a	wellanu			
Remarks: This test plot is located in a pasture that red	ceives regular	r mowing. The	vegetation in	n this test plot consisted of herbaceous	species. Thi	s test
olot did not meet any wetland indicators therefore it do	es not meet t	he criteria of h	eing wetland			
VEGETATION (Use scientific names)						
Tree Stratum (Plot size:30 ft radius)	Absolute % Cover	Dominant Species?	Indicator Status	Dominance Test Worksheet		
1	<u>%</u>	000000	Olalas	Number of Dominant Species	0	(Δ)
2				That Are OBL. FACW. or FAC:	0	(~)
2.	<u> </u>		·			
S	70			Total Number of Dominant	4	
4	<u>%</u>			Species Across All Strata:	I	(B)
l otal Cover:	%				0	(A/B)
Sapling/Shrub Stratum (Plot size: 15 ft. radius)				Percent of Dominant Species That Are OBL, FACW, or FAC	0	(770)
1.	%			Prevalence Index worksheet		
2.	%			Total % Cover of:	Multiply by:	
3.	%			OBL species x 1=	:	
4	%			FACW species x 2=		_
5	<u> </u>		·	FAC species x 3=		
Total Cover:	<u> </u>		·	FACU species x 4=		
Herb Stratum (Plot size: 5 ft radius)	70					
1 Dectylis glomorata	70%	VOE	EACU	Column Totals:		(B)
1. Daciyiis gioinerata	10%	yes		Drevelence Index D/A		(D)
	15%			Prevalence Index = B/A=		
3. trifolium repens	10%	no	FACU	Hydrophytic Vegetation Indicators:		
4. Taraxacum officinale	5%	no	FACU	1 – Rapid Test for Hydrophytic	Vegetation	
				2 – Dominance Test is >50%		
5	%			$3$ - Prevalence Index is $\leq 3.0^{\circ}$		
6.	%			4 - Morphological Adaptations <sup>1</sup>	(Provide	
	70			supporting data In Remarks or	on a separa	te sheet)
7	%		·			
8	%			Wetland Non-Vascular Plants <sup>1</sup>		
Total Cover:	100%			Problematic Hydrophytic Vegeta	ation <sup>1</sup> (Expla	uin)
Woody Vine Stratum (Plot size: 15 ft radius)						
1.	%			<sup>1</sup> Indicators of hydric soil and wetland	hydrology	
2.	%			Must be present, unless disturbed or	problematic	
Tatal Cavar	%					
I otal Cover:	,,,			Understandig Venetation Present?		
				Hydrophytic vegetation Present?		
% Bare Ground in Herb Stratum 0%					Yes	No⊠
Remarks: This test plot is located in a pasture that rec	eives regular	mowing. The	hydrophytic	vegetation criterion is NOT met due to o	nly 0% of th	е
dominant vegetation within the test plot having either C	BL, FAČW. o	or FAC indicate	or statuses.	-	-	
5						

						e absence of indicators.)	
Depth Matri	x		Redox Feat	ures			
(inches) Color (moist)	%	Color (moist)	%	Type <sup>1</sup>	Loc <sup>2</sup>	Texture	Remarks
0-16 10YR3/3	100%		%			silty loam	
· ·	%		%				
· · · · · · · · · · _			%				
	%		%				
·	<u> </u>		<u> </u>				
			<u> </u>				
· · · · · · · · · · · _ / _ · _ / _ · _ / _ /	%		<u>%</u>				
Hydric Soil Indicators: (A         Histosal (A1)         Histic Epipedon (A2)         Black Histic (A3)         Hydrogen Sulfide (A4)	D=Depletion, R	ILRRs, unless Sandy Rec Stripped M	trix, CS=Covered otherwise noted. dox (S5) latrix (S6) cky Mineral (F1) ( eyed Matrix (F2)	except MLI	RA 1)	Ins. <sup>2</sup> Location: PL=Pore Linir Indicators for Problemati 2 cm Muck (A10) Red Parent Material (TF: Very Shallow Dark Surfa Other (Explain in Remark	ig, M=Matrix c Hydric Soils 2) ce (TF12) ks)
Depleted Below Dark S	urface (A11)		Aatrix (F3)				
Thick Dark Surface (A1	2)	Redox Dai	k Surface (F6)				
Sandy Mucky Minerals	(S1)	Depleted [	Dark Surface (F7)			<sup>3</sup> Indicators of hydrophytic ve	egetation and
Sandy Gleyed Matrix (S	54)	🗌 Redox De	pressions (F8)			Wetland hydrology must	be present
Restrictive Layer (if pres	ent):						
Туре:					H	ydric Soil Present?	
Depth (inches):							
Pomarka: Thora was no ou	idonoo of hydrig	a coile within this	tost plot				
HYDROLOGY							
Wetland Hydrology Indic	ators:					Secondary Indicator	ſS
Primary Indicators (min. of	one required; c	heck all that app	ly)				<u> </u>
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 Ad Field Observations:	) )) erial Imagery (B	☐ Water-Stai ☐ Salt Crust ☐ Aquatic Inv ☐ Hydrogen ☐ Oxidized F ☐ Presence 0 ☐ Recent Iro ☐ Stunted or ☐ Other (Exp 7)	ned Leaves (B9) (B11) vertebrates (B13) Sulfide Odor (C1) thizospheres alon of Reduced Iron ( n Reduction in Til Stressed Plants ain in Remarks)	( <b>except ML</b> g Living Ro C4) led Soils (C (D1) ( <b>LRR A</b>	RA 1, 2, 4 ots (C3) ô) .)	□ Water Stained Le         4A, & 4B)       (MLRA 1, 2, 4A,         □ Drainage Patterr         □ Dry-Season Wat         □ Saturation Visible         □ Geomorphic Pos         □ Shallow Aquitard         □ FAC-Neutral Tes         □ Raised Ant Mour         □ Frost-Heave Hur	eaves (B9) and 4B) ns (B10) er Table (C2) e on Aerial Imagery (C9) sition (D2) d (D3) st (D5) nds (D6) (LRR A) nmocks (D4)
Surface Water Present? Water Table Present? Saturation Present? (Includes Capillary fringe)	Yes 🗌 Yes 🗍 Yes 🗍	No ⊠ No ⊠ No ⊠	Depth (Inches): Depth (Inches): Depth (Inches):		We	etland Hydrology Present?	Yes 🗌 No 🛛
Describe Recorded Data (	Stream gauge, r	monitoring well, a	erial photos, prev	vious inspec	tions), if a	available:	
Remarks:There was no evi	dence of hydro	ogy within this te	est plot.				

Project/Site: Highland Terrace Subdivision			unty: <u>La Cen</u>	ter/Clark S	r/Clark Sampling Date: 4/6/16		
Applicant/Owner: Evergreen Homes NVV		O a atia	State: W	A Deserve 22 EN	Sampling Poin	it: 1P9	
Investigator(s): wills, Kate Lyn		Sectio	on, Townsnip	o, Range: <u>33, 5N, 1</u>	IE	Olara (0/): 40/	
Landform (nilisiope, terrace, etc.): <u>nilisiope</u>	L - tr. 45 504	Local relief: co	ncave	440450	Deturn NA	Siope (%): <u>1%</u>	
Subregion (LRR): <u>A</u>	Lat: 45.521	107	_ Long: <u>-122</u>	.410450	Datum: NA	D83	
Soil Map Unit Name: Odne silt loam, 0 to 5 percent sio	pes	Vaar2 Vaa		WI Classification: N			
Are climatic / hydrologic conditions on the site typical in	or this time of	year? res		no, explain Remark	.S.) aant2 Vaa⊡ Na⊠	7	
Are vegetation , Soil , or Hydrology significantly	y disturbed?	Ar Ar	ea "Normai	Circumstances pre	sent? res NOKA		
Are vegetation, Soli, or Hydrology naturally pi	roblematic?	(It need	ied, explain a	any answers in Ren	narks.)		
SUMMARY OF FINDINGS – Attach site map	showing s	ampling po	int locatio	ons, transects, i	mportant featur	es, etc.	
Hydrophytic Vegetation Present? Yes 🗌 No 🛛	$\triangleleft$	la tha Sa	mplad Araa				
Hydric Soils Present? Yes 🛛 No [		is the Sal	Motland?	Vac	No		
Wetland Hydrology Present? Yes 🗌 No 🛛	$\triangleleft$	within a v	welland?	res			
Remarks: This test plot is located in a pasture that red	ceives regular	mowing. The	vegetation i	n this test plot consi	isted of herbaceous	species. This test	
plot meet one wetland indicator with soils with a Deplet	ted Matrix, the	erefore it does	not meet the	e criteria of being w	etland.		
VEGETATION (Use scientific names)							
	Absoluto	Dominant	Indicator	Dominanco Tos	t Workshoot		
Tree Stratum (Plat size:20 ft radius)		Dominant Species2	Statua	Dominance res	I WOIKSHEEL		
		Species?	Status	Number of Domin	ant Spacios	4 (A)	
1.	<u> </u>			That Are OBL F	ACW or FAC:	(A)	
2.	<u>    %                                </u>						
3.	<u>%</u>			Total Number of	Dominant	0 (D)	
4. Tatal Osuar	<u>    %                                </u>			Species Across A	All Strata:	<u> </u>	
I otal Cover:	%						
				Percent of Domir	nant Species	(A/B)	
Sapling/Shrub Stratum (Plot size: 15 ft. radius)				That Are OBL, F	ACW, or FAC		
1.	%			Prevalence Inde	x worksheet		
2.	%			Total % Co	over of:	Multiply by:	
3.	%			OBL species	x 1	=	
4.	%			FACW species	x 2	=	
5.	%			FAC species	70 x 3	= 210	
Total Cover:	%			FACU species	30 x 4	= 120	
Herb Stratum (Plot size: <u>5</u> ft radius)				UPL species	x 5	=	
1. Holcus lanatus	60%	yes	FAC	Column Totals:	100 (A)	330 (B)	
2. Dactylis glomerata	30%	yes	FACU	Pr	evalence Index = B/	/A=3.3	
3. Alopecurus pratensis	10%	no	FAC	Hydrophytic Ve	getation Indicators	s:	
4.				1 – Rapid 1	Cest for Hydrophytic	Vegetation	
	%			2 – Domina	ance Test is >50%	- 3	
5.	%			3 - Prevale	nce Index is ≤3.0 <sup>1</sup>		
6.				4 - Morpho	logical Adaptations	<sup>1</sup> (Provide	
	%			supporting	data In Remarks or	on a separate sheet)	
7.	%					. ,	
8.	%			Wetland No	on-Vascular Plants <sup>1</sup>		
Total Cover:	100%			Problemati	c Hydrophytic Vege	tation <sup>1</sup> (Explain)	
Woody Vine Stratum (Plot size: <u>15</u> ft radius)							
1.	%			<sup>1</sup> Indicators of hyd	fric soil and wetland	l hydrology	
2.	%			Must be present,	unless disturbed or	r problematic.	
Total Cover	%						
				Hydrophytic Veg	etation Present?		
% Para Ground in Harb Stratum 0%					clation resents		
Pomarke: This tost plot is leasted in a pasture that rea		mowing This	tost plat is !	acatod in a pacture	that receives receive		
Remarks: This test plot is located in a pasture that fec	erves regular	nowing. This	totion within	the test plot hours	aithor OPL EACIN	ar mowing. The	
nydropnytic vegetation criterion is NOT met due to only	/ 50% of the c	iominant veger	tation within	the test plot having	either OBL, FACW	, or FAC indicator	
statuses.							

FIONE Des												
Denth	Matrix	(		Redox Feat	Ires							
(inches)	Color (moist)	%	Color (moist	t) %	Type <sup>1</sup>	Loc <sup>2</sup>	Texture	Remarks				
0-6	10YR3/2	100%	X	%			silty loam					
6-16	10YR4/2	85%	10YR4/6	15%	С	М	silty clay loam					
		%		%								
		<u>%</u>		%								
				%								
				<u> </u>								
		<u> </u>		<u> </u>								
<sup>1</sup> Type: C=	-Concentration	D=Depletion F	M-Reduced M	atrix CS=Covered	or Coated Sa	and Grain	$\frac{2}{2}$ ocation: PI = Pore Linin	a M–Matrix				
Hydric Soil	I Indicators: (Ap	oplicable to al	I LRRs, unless	otherwise noted.	)		Indicators for Problematic	: Hydric Soils				
Histosal	l (A1)		🗌 Sandy Re	edox (S5)			🗌 2 cm Muck (A10)					
🗌 Histic Ep	pipedon (A2)		Stripped I	Matrix (S6)			Red Parent Material (TF2	:) 				
						• •	Very Shallow Dark Surfac	ce (TF12)				
	ISTIC (A3)			UCKY Mineral (F1)	except MLR	A 1)	U Other (Explain in Remark	S)				
	en Sulfide (A4)		Loamy G	eyed Matrix (F2)								
	d Below Dark Su	irface (A11)	Depleted	Matrix (F3)								
Thick Da	ark Surface (A12	2)	Redox Da	ark Surface (F6)								
Sandy M	Mucky Minerals (	S1)	Depleted	Dark Surface (F7)			<sup>3</sup> Indicators of hydrophytic ve	getation and				
Sandy G	Gleyed Matrix (S4	4)	🗌 Redox De	epressions (F8)			Wetland hydrology must	be present				
Restrictive	e Layer (if prese	nt):										
<b>T</b>												
Type:	_					Ну	dric Soil Present?					
Depth (inch	nes).											
Deptil (inch	The hydric cellin	diaatar Daplata		aa mat dua ta a m	atrive value of	4 0 0 0 0 0	brome of Q with more than 5	noreant raday				
Remarks: I	ne nyaric soli in ana faund in tha	dicator Deplete	ed Matrix (F3) W	as met due to a ma	atrix value of	4 and a c	chroma of 2 with more than 5	percent redox				
concentratio		maunx.										
	002											
HIDKOL	001											
Wetland Hy	ydrology Indica	tors:					Secondary Indicator	S				
							(2 or more required)					
Primary Ind	dicators (min. of o	one required; c	heck all that ap	oly)				( <b>-</b> - )				
				(D0)			Water Stained Le	aves (B9)				
	Water (A1)		Water-Sta	ained Leaves (B9)	(except MLR	A 1, 2, 4	A, & 4B) (MLRA 1, 2, 4A,	and 4B)				
	ater Table (AZ)			(B11)				s (B10)				
	on (A3)			vertebrates (B13)			Dry-Season Wate	er Table (C2)				
U Water M	/arks (B1)		Hydrogen	Sulfide Odor (C1)				e on Aerial Imagery (C9)				
Sedimer	nt Deposits (B2)			Rhizospheres alor	g Living Root	ts (C3)	Geomorphic Posi	tion (D2)				
Drift Dep	posits (B3)		Presence	of Reduced Iron (	C4)		Shallow Aquitard	(D3)				
🗌 Algal Ma	at or crust (B4)		Recent Ir	on Reduction in Til	led Soils (C6)	)	FAC-Neutral Tes					
🗌 Iron Dep	posits (B5)			r Stressed Plants								
Surface Soil Cracks (B6) Other (Explain in Remarks) Frost-Heave Hummocks (D4)												
Surface	Soil Cracks (B6) ion Visible on Ae	) rial Imagery (E	⊡ Other (Exp ⊡Other (Exp 57)	plain in Remarks)	(D1) ( <b>LRR A</b> )		Frost-Heave Hun	t (D5) ds (D6) ( <b>LRR A</b> ) nmocks (D4)				
Surface	Soil Cracks (B6) ion Visible on Ae	) rial Imagery (B	☐ Other (Exp ☐Other (Exp 57)	blain in Remarks)	(D1) ( <b>LRR A</b> )		Raised Ant Moun Frost-Heave Hun	t (D5) ds (D6) ( <b>LRR A</b> ) nmocks (D4)				
Surface Inundation Field Obse	Soil Cracks (B6) ion Visible on Ae	) rial Imagery (B	Other (Exp	plain in Remarks)	D1) (LRR A)		Raised Ant Moun Frost-Heave Hun	t (D5) ds (D6) ( <b>LRR A</b> ) nmocks (D4)				
Surface Field Obse Surface Wa	Soil Cracks (B6) ion Visible on Ae ervations: ater Present?	) rial Imagery (B Yes 🗌	Other (Exp ☐Other (Exp 17)	Depth (Inches):	( <b>LRR A</b> )		Raised Ant Moun     Frost-Heave Hun	t (D5) ds (D6) ( <b>LRR A</b> ) nmocks (D4)				
Surface Field Obse Surface Wa Water Table	Soil Cracks (B6) ion Visible on Ae ervations: ater Present? e Present?	) rial Imagery (B Yes Yes Ves Ves Ves Ves Ves Ves Ves V	Other (Exp ☐Other (Exp 77) No ⊠ No ⊠	Depth (Inches): Depth (Inches):	D1) (LRR A)	Wet	☐ Raised Ant Moun ☐ Frost-Heave Hun 	t (D5) ds (D6) ( <b>LRR A</b> ) nmocks (D4)				
Surface Inundation Field Obse Surface Wa Water Table Saturation F (Includes C	Soil Cracks (B6) ion Visible on Ae ervations: ater Present? e Present? Present?	) rial Imagery (B Yes Yes Yes Yes	Other (Exp ☐Other (Exp 17) No ⊠ No ⊠ No ⊠	Depth (Inches): Depth (Inches): Depth (Inches): Depth (Inches):	D1) (LRR A)	Wet	Iand Hydrology Present?	t (D5) ds (D6) ( <b>LRR A</b> ) nmocks (D4) <b>Yes □ No ⊠</b>				
Surface	Soil Cracks (B6) ion Visible on Ae ervations: ater Present? e Present? Present? capillary fringe) occorded Data (S	) rial Imagery (B Yes Yes Yes Yes	Other (Exp ☐Other (Exp 17)	Depth (Inches): Depth (Inches): Depth (Inches): Depth (Inches):		Wet	☐ Raised Ant Moun ☐ Frost-Heave Hun land Hydrology Present?	t (D5) ds (D6) ( <b>LRR A</b> ) nmocks (D4) <b>Yes □ No ⊠</b>				
Surface	Soil Cracks (B6) ion Visible on Ae ervations: ater Present? e Present? Present? Capillary fringe) ecorded Data (S	) rial Imagery (B Yes Yes Yes tream gauge, I	Other (Exp ☐Other (Exp 17) No ⊠ No ⊠ No ⊠ monitoring well,	Depth (Inches): Depth (Inches): Depth (Inches): Depth (Inches): aerial photos, prev	vious inspectio	Wet	☐ Raised Ant Moun ☐ Frost-Heave Hun Iand Hydrology Present?	t (D5) ds (D6) ( <b>LRR A</b> ) nmocks (D4) <b>Yes □ No ⊠</b>				
Surface	Soil Cracks (B6) ion Visible on Ae ervations: ater Present? e Present? Present? Capillary fringe) ecorded Data (S	) rial Imagery (B Yes Yes Yes Yes tream gauge, r	Other (Exp ☐Other (Exp 17) No ⊠ No ⊠ No ⊠ monitoring well,	Depth (Inches): Depth (Inches): Depth (Inches): Depth (Inches): aerial photos, prev	vious inspectio	Wet	☐ Raised Ant Moun ☐ Frost-Heave Hun 	t (D5) ds (D6) ( <b>LRR A</b> ) nmocks (D4) <b>Yes □ No ⊠</b>				
Surface	Soil Cracks (B6) ion Visible on Ae ervations: ater Present? e Present? Present? Capillary fringe) ecorded Data (S here was no evic	) rial Imagery (E Yes Yes Yes tream gauge, n	Other (Exp ☐Other (Exp 77) No ⊠ No ⊠ monitoring well, logy within this t	Depth (Inches): Depth (Inches): Depth (Inches): Depth (Inches): aerial photos, prev	vious inspectio	Wet	☐ Raised Ant Moun ☐ Frost-Heave Hun 	t (D5) ds (D6) ( <b>LRR A</b> ) nmocks (D4) Yes □ No ⊠				
Surface	Soil Cracks (B6) ion Visible on Ae ervations: ater Present? e Present? Present? <u>Capillary fringe</u> ) ecorded Data (S here was no evic	) rial Imagery (E Yes Yes Yes tream gauge, I	☐ Other (Exp ☐Other (Exp 37) No ⊠ No ⊠ No ⊠ monitoring well, logy within this t	Depth (Inches): Depth (Inches): Depth (Inches): Depth (Inches): aerial photos, prev	vious inspectio	Wet	☐ Raised Ant Moun ☐ Frost-Heave Hun 	t (D5) ds (D6) ( <b>LRR A</b> ) nmocks (D4) Yes □ No ⊠				
Surface	Soil Cracks (B6) ion Visible on Ae ervations: ater Present? e Present? Present? Capillary fringe) ecorded Data (S here was no evic	) rial Imagery (E Yes Yes Yes tream gauge, I	☐ Other (Exp ☐Other (Exp 37) No ⊠ No ⊠ No ⊠ monitoring well, logy within this t	Depth (Inches): Depth (Inches): Depth (Inches): Depth (Inches): aerial photos, prev est plot.	vious inspectio	Wet	☐ Raised Ant Moun ☐ Frost-Heave Hun 	t (D5) ds (D6) ( <b>LRR A</b> ) nmocks (D4) Yes □ No ⊠				
Surface	Soil Cracks (B6) ion Visible on Ae ervations: ater Present? e Present? Present? capillary fringe) ecorded Data (S here was no evic	) rial Imagery (E Yes Yes Yes tream gauge, i	☐ Other (Exp ☐Other (Exp 37) No ⊠ No ⊠ monitoring well, logy within this f	Depth (Inches): Depth (Inches): Depth (Inches): Depth (Inches): aerial photos, prev est plot.	/ious inspection	Wet	☐ Raised Ant Moun ☐ Frost-Heave Hun 	t (D5) ds (D6) ( <b>LRR A</b> ) nmocks (D4) Yes □ No ⊠				
Surface	Soil Cracks (B6) ion Visible on Ae ervations: ater Present? eresent? Present? capillary fringe) ecorded Data (S here was no evic	) rial Imagery (E Yes Yes Yes tream gauge, i	☐ Other (Exp ☐Other (Exp 37) No ⊠ No ⊠ monitoring well, logy within this t	Depth (Inches): Depth (Inches): Depth (Inches): Depth (Inches): aerial photos, prev	vious inspectio	Wet	☐ Raised Ant Moun ☐ Frost-Heave Hun /ailable:	t (D5) ds (D6) ( <b>LRR A</b> ) nmocks (D4) Yes □ No ⊠				
Surface	Soil Cracks (B6) ion Visible on Ae ervations: ater Present? eresent? Present? ecorded Data (S here was no evic	) rial Imagery (E Yes Yes Yes tream gauge, i	☐ Other (Exp ☐Other (Exp 37) No ⊠ No ⊠ monitoring well, logy within this t	Depth (Inches): Depth (Inches): Depth (Inches): Depth (Inches): aerial photos, prev	vious inspecti	Wet	☐ Raised Ant Moun ☐ Frost-Heave Hun /ailable:	t (D5) ds (D6) ( <b>LRR A</b> ) nmocks (D4) Yes □ No ⊠				

Project/Site: Highland Terrace Subdivision		City/Co	unty: <u>La Cen</u>	ter/Clark Sam	pling Date: <u>4/6/1</u>	6	
Applicant/Owner: Evergreen Homes NW         State: WA         Sampling Point: TP10							
Investigator(s): Wills, Kate'Lyn		Sectio	on, Township	, Range: <u>33, 5N, 1E</u>			
Landform (hillslope, terrace, etc.): hillslope		Local relief: co	onvex			3lope (%): <u>{</u>	5%
Subregion (LRR):A	Lat: 45.521	107	Long: <u>-122.</u>	410450	Datum:NAD	183	
Soil Map Unit Name: Odne silt loam, 0 to 5 percent slop	Des		N	IWI classification: None			
Are climatic / hydrologic conditions on the site typical fo	or this time of	year?Yes🖂		no, explain Remarks.)			
Are Vegetation , Soil , or Hydrology significantly	/ disturbed?	Ar	ea "Normal (	Circumstances" present			
Are Vegetation, Soil, or Hydrology naturally pr	oblematic?	(If need	led, explain a	any answers in Remarks	š.)		
SUMMARY OF FINDINGS – Attach site map	showing s	ampling po	oint locatio	ons, transects, impo	ortant feature	etc.	
Hydrophytic Vegetation Present? Yes 🛛 No	]	la tha Sa	maled Aree				
Hydric Soils Present? Yes 🗌 No 🛛	3	is the Sa	Wotland?	Voc N			
Wetland Hydrology Present? Yes 🗌 No 🛛	3	within a					
Remarks: This test plot is located in a pasture that rec	eives regular	mowing. The	vegetation ir	n this test plot consisted	of herbaceous	species. Tł	nis test
	nopriytic vege				ing wettand.		
VEGETATION (Use scientific names)							]
	Absolute	Dominant	Indicator	Dominance Test Wo	orksheet		
Tree Stratum (Plot size:30 ft radius)	% Cover	Species?	Status				
1.	%			Number of Dominant	Species	2	(A)
2.	%			That Are OBL, FACW	, or FAC:		_ ` '
3.	%			_			
4.	%			Total Number of Dom	inant	3	(B)
Total Cover:	%			Species Across All St	rata:		
				Dereent of Deminant	Creater	66	(A/B)
Sopling/Shrub Stratum (Plat size: 15 ft, radius)				That Are ORL EACIN	Species		
<u>Sapiing/Shirub Stratum</u> (Piot size. <u>15</u> it. radius)	0/			Provalence Index w	, OI FAC		
1	<u> </u>				of I	Multiply by:	
2. 3	<u> </u>				<u>v 1-</u>	-	
<i>a</i>	<u> </u>			FACW species	× 1=	-	
5	%			FAC species	× 2= × 3=		
Total Cover:	%			FACU species	x 4=		
Herb Stratum (Plot size: 5 ft radius)				UPL species	x 5=		
1. Dactylis glomerata	45%	yes	FACU	Column Totals:	(A)		(B)
2. Holcus lanatus	30%	yes	FAC	Prevaler	nce Index = B/Á=	=	( )
3. Alopecurus pratensis	20%	yes	FAC	Hydrophytic Vegeta	tion Indicators:		
4.	50/	no	FAC	1 – Rapid Test	for Hydrophytic	Vegetation	
Festuca arundinacea	5%			2 – Dominance	Test is >50%	U	
5.	%			3 - Prevalence	Index is ≤3.0¹		
6.	0/			4 - Morphologic	al Adaptations <sup>1</sup>	(Provide	
	70			supporting data	In Remarks or	on a separ	ate sheet)
7	%						
8	%			Wetland Non-V	ascular Plants <sup>1</sup>		
Total Cover:	100%			Problematic Hy	drophytic Veget	ation <sup>1</sup> (Exp	lain)
Woody Vine Stratum (Plot size: <u>15</u> ft radius)							
1	%			<sup>1</sup> Indicators of hydric s	oil and wetland	hydrology	
2	%			Must be present, unle	ss disturbed or	problemati	С.
Total Cover:	%						
-				Hydrophytic Vegetati	on Present?		
% Bare Ground in Herb Stratum 0%						Yes⊠	No
Remarks: The hydrophytic vegetation criterion is met	due to 66% of	f the dominant	t vegetation v	within the test plot havin	g either OBL, F	ACW, or F	AC
indicator statuses.			5		5 /		

	•	· · · · · · · · · · · · · · · · · · ·										
Depth Matrix	Redox Features											
(inches) Color (moist) %	Color (moist) % Type <sup>1</sup>	Loc <sup>2</sup> Texture	Remarks									
0-16 10YR3/3 100%	<u>%</u>	silty loam										
%	<u>%</u>											
%	%											
%	%											
<u> </u>												
<u>%</u>												
<sup>1</sup> Type: C=Concentration D=Depletion	n RM=Reduced Matrix CS=Covered or Coated S	and Grains <sup>2</sup> Location: PL=Pore Lini	na M=Matrix									
Hydric Soil Indicators: (Applicable to	all I RRs, unless otherwise noted.)	Indicators for Problemat										
Histosal (A1)	Sandy Redox (S5)	$\Box$ 2 cm Muck (A10)										
Histic Epipedon (A2)	Stripped Matrix (S6)	Red Parent Material (TF	2)									
		Very Shallow Dark Surfa	ace (TF12)									
Black Histic (A3)	Loamy Mucky Mineral (F1) (except MLR	RA 1) 🛛 Other (Explain in Remar	ˈks)									
Hydrogen Sulfide (A4)	Loamy Gleyed Matrix (F2)											
Depleted Below Dark Surface (A11)	Depleted Matrix (F3)											
Thick Dark Surface (A12)	Redox Dark Surface (F6)											
Sandy Mucky Minerals (S1)	Depleted Dark Surface (F7)	<sup>3</sup> Indicators of hydrophytic ve	egetation and									
Sandy Gleved Matrix (S4)	Redox Depressions (F8)	Wetland bydrology mus	t be present									
Restrictive Laver (if present):												
Туре:		Hydric Soil Present?										
			Yes⊡ No⊠									
Depth (inches):												
Remarks: There was no evidence of hy	dric soils within this test plot.											
HYDROLOGY												
Wetland Hydrology Indicators:		Secondary Indicato										
Weitana Hyarology maloatoro.			Wetland Hydrology Indicators: Secondary Indicators									
Primary Indicators (min. of one required		(2 or more required	ors I)									
	l; check all that apply)	(2 or more required	ns  )									
	d; check all that apply)	(2 or more required	nrs I) eaves (B9)									
Surface Water (A1)	d; check all that apply) ☐ Water-Stained Leaves (B9) ( <b>except MLR</b>	(2 or more required) Water Stained L RA 1, 2, 4A, & 4B) (MLRA 1, 2, 4A,	ors )) eaves (B9) , <b>and 4B)</b>									
☐ Surface Water (A1) ☐ High Water Table (A2)	d; check all that apply) ☐ Water-Stained Leaves (B9) ( <b>except MLR</b> ☐ Salt Crust (B11)	(2 or more required) Water Stained L RA 1, 2, 4A, & 4B) (MLRA 1, 2, 4A, Drainage Pattern	rs ) eaves (B9) , <b>and 4B)</b> ns (B10)									
Surface Water (A1) High Water Table (A2) Saturation (A3)	d; check all that apply) Uater-Stained Leaves (B9) ( <b>except MLR</b> Salt Crust (B11) Aquatic Invertebrates (B13)	(2 or more required) Water Stained L RA 1, 2, 4A, & 4B) (MLRA 1, 2, 4A, Drainage Pattern Dry-Season Wa	nrs )) .eaves (B9) , <b>and 4B)</b> ns (B10) ter Table (C2)									
<ul> <li>Surface Water (A1)</li> <li>High Water Table (A2)</li> <li>Saturation (A3)</li> <li>Water Marks (B1)</li> </ul>	d; check all that apply) Uater-Stained Leaves (B9) ( <b>except MLF</b> Salt Crust (B11) Aquatic Invertebrates (B13) Hydrogen Sulfide Odor (C1)	(2 or more required Water Stained L RA 1, 2, 4A, & 4B) (MLRA 1, 2, 4A, Drainage Pattern Dry-Season Wa Saturation Visibl	nrs ) eaves (B9) , <b>and 4B)</b> ns (B10) ter Table (C2) le on Aerial Imagery (C9)									
<ul> <li>Surface Water (A1)</li> <li>High Water Table (A2)</li> <li>Saturation (A3)</li> <li>Water Marks (B1)</li> <li>Sediment Deposits (B2)</li> </ul>	d; check all that apply) Uater-Stained Leaves (B9) ( <b>except MLF</b> Salt Crust (B11) Aquatic Invertebrates (B13) Hydrogen Sulfide Odor (C1) Oxidized Rhizospheres along Living Roo	(2 or more required Water Stained L (MLRA 1, 2, 4A, & 4B) Drainage Pattern Dry-Season Wa Saturation Visible ots (C3) Geomorphic Pos	nrs eaves (B9) , <b>and 4B)</b> ns (B10) ter Table (C2) le on Aerial Imagery (C9) sition (D2)									
<ul> <li>Surface Water (A1)</li> <li>High Water Table (A2)</li> <li>Saturation (A3)</li> <li>Water Marks (B1)</li> <li>Sediment Deposits (B2)</li> <li>Drift Deposits (B3)</li> </ul>	d; check all that apply) Uater-Stained Leaves (B9) ( <b>except MLF</b> Salt Crust (B11) Aquatic Invertebrates (B13) Hydrogen Sulfide Odor (C1) Oxidized Rhizospheres along Living Roo Presence of Reduced Iron (C4)	(2 or more required Water Stained L (MLRA 1, 2, 4A, & 4B) Drainage Pattern Dry-Season Wa Saturation Visibl ots (C3) Geomorphic Pos Shallow Aquitard	nrs eaves (B9) <b>, and 4B)</b> ns (B10) ter Table (C2) le on Aerial Imagery (C9) sition (D2) d (D3)									
<ul> <li>Surface Water (A1)</li> <li>High Water Table (A2)</li> <li>Saturation (A3)</li> <li>Water Marks (B1)</li> <li>Sediment Deposits (B2)</li> <li>Drift Deposits (B3)</li> <li>Algal Mat or crust (B4)</li> </ul>	d; check all that apply) Uater-Stained Leaves (B9) (except MLF Salt Crust (B11) Aquatic Invertebrates (B13) Hydrogen Sulfide Odor (C1) Oxidized Rhizospheres along Living Roo Presence of Reduced Iron (C4) Recent Iron Reduction in Tilled Soils (C6)	(2 or more required Water Stained L (MLRA 1, 2, 4A, & 4B) Drainage Pattern Dry-Season Wa Saturation Visible ots (C3) Geomorphic Pos Shallow Aquitard Shallow Aquitard (2 or more required Water Stained L (MLRA 1, 2, 4A, Brainage Pattern Staturation Visible (C3) (	nrs ) eaves (B9) , and 4B) ns (B10) ter Table (C2) le on Aerial Imagery (C9) sition (D2) d (D3) st (D5)									
<ul> <li>Surface Water (A1)</li> <li>High Water Table (A2)</li> <li>Saturation (A3)</li> <li>Water Marks (B1)</li> <li>Sediment Deposits (B2)</li> <li>Drift Deposits (B3)</li> <li>Algal Mat or crust (B4)</li> <li>Iron Deposits (B5)</li> </ul>	d; check all that apply) Uter-Stained Leaves (B9) (except MLF Salt Crust (B11) Aquatic Invertebrates (B13) Hydrogen Sulfide Odor (C1) Oxidized Rhizospheres along Living Roo Presence of Reduced Iron (C4) Recent Iron Reduction in Tilled Soils (C6) Stunted or Stressed Plants (D1) (LRR A)	(2 or more required Water Stained L (MLRA 1, 2, 4A, & 4B) Drainage Pattern Dry-Season Wat Saturation Visible (C3) Geomorphic Pos Shallow Aquitard Shallow Aquitard (C3) C3) C4 C4 C4 C4 C4 C4 C4 C4 C4 C4	eaves (B9) , <b>and 4B)</b> ns (B10) ter Table (C2) le on Aerial Imagery (C9) sition (D2) d (D3) st (D5) nds (D6) (L <b>RR A</b> )									
<ul> <li>Surface Water (A1)</li> <li>High Water Table (A2)</li> <li>Saturation (A3)</li> <li>Water Marks (B1)</li> <li>Sediment Deposits (B2)</li> <li>Drift Deposits (B3)</li> <li>Algal Mat or crust (B4)</li> <li>Iron Deposits (B5)</li> <li>Surface Soil Cracks (B6)</li> </ul>	d; check all that apply) Uter-Stained Leaves (B9) (except MLF Salt Crust (B11) Aquatic Invertebrates (B13) Hydrogen Sulfide Odor (C1) Oxidized Rhizospheres along Living Roo Presence of Reduced Iron (C4) Recent Iron Reduction in Tilled Soils (C6 Stunted or Stressed Plants (D1) (LRR A) Other (Explain in Remarks)	(2 or more required Water Stained L (MLRA 1, 2, 4A, & 4B) Drainage Pattern Dry-Season War Saturation Visible Ots (C3) Geomorphic Pos Shallow Aquitard Shallow Aquitard FAC-Neutral Tes Calculation Factor for the second Calculation Calculati	eaves (B9) , <b>and 4B)</b> ns (B10) ter Table (C2) le on Aerial Imagery (C9) sition (D2) d (D3) st (D5) nds (D6) ( <b>LRR A</b> ) mmocks (D4)									
<ul> <li>Surface Water (A1)</li> <li>High Water Table (A2)</li> <li>Saturation (A3)</li> <li>Water Marks (B1)</li> <li>Sediment Deposits (B2)</li> <li>Drift Deposits (B3)</li> <li>Algal Mat or crust (B4)</li> <li>Iron Deposits (B5)</li> <li>Surface Soil Cracks (B6)</li> <li>Inundation Visible on Aerial Imagen</li> </ul>	d; check all that apply) Uter Stained Leaves (B9) (except MLF Salt Crust (B11) Aquatic Invertebrates (B13) Hydrogen Sulfide Odor (C1) Oxidized Rhizospheres along Living Roo Presence of Reduced Iron (C4) Recent Iron Reduction in Tilled Soils (C6 Stunted or Stressed Plants (D1) (LRR A) Other (Explain in Remarks)	(2 or more required Water Stained L (MLRA 1, 2, 4A, & 4B) Drainage Pattern Dry-Season Wa Saturation Visible Ots (C3) Geomorphic Pos Shallow Aquitard Si FAC-Neutral Tes Raised Ant Mou Frost-Heave Hu	eaves (B9) , <b>and 4B)</b> ns (B10) ter Table (C2) le on Aerial Imagery (C9) sition (D2) d (D3) st (D5) nds (D6) ( <b>LRR A</b> ) mmocks (D4)									
<ul> <li>Surface Water (A1)</li> <li>High Water Table (A2)</li> <li>Saturation (A3)</li> <li>Water Marks (B1)</li> <li>Sediment Deposits (B2)</li> <li>Drift Deposits (B3)</li> <li>Algal Mat or crust (B4)</li> <li>Iron Deposits (B5)</li> <li>Surface Soil Cracks (B6)</li> <li>Inundation Visible on Aerial Imagery</li> </ul>	d; check all that apply) Uter Stained Leaves (B9) (except MLF Salt Crust (B11) Aquatic Invertebrates (B13) Hydrogen Sulfide Odor (C1) Oxidized Rhizospheres along Living Roo Presence of Reduced Iron (C4) Recent Iron Reduction in Tilled Soils (C6) Stunted or Stressed Plants (D1) (LRR A) Other (Explain in Remarks)	(2 or more required Water Stained L (MLRA 1, 2, 4A, & 4B) Drainage Pattern Dry-Season Wa Saturation Visibl Ots (C3) Shallow Aquitard Shallow Aquitard (C3) FAC-Neutral Tes (C3) Fac-Neutral Tes (C3) Frost-Heave Hu	Ars Ars Ars Ars Ars Ars Ars Ars									
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Project/Site: Highland Terrace Subdivision		City/Co	unty: <u>La Cen</u>	ter/Clark Sampling Date	: <u>9/7/16</u>	
Applicant/Owner: Evergreen Homes NW	State: W	: WA Sampling Point: TP11				
Investigator(s): Wills, Kate'Lyn		Sectio	n, Township	o, Range: <u>33, 5N, 1E</u>		
Landform (hillslope, terrace, etc.): hillslope		Local relief: co	nvex		Slope (%):	5%
Subregion (LRR):A	Lat: 45.521	107	Long:-122.	410450 Datum	: NAD83	
Soil Map Unit Name: Odne silt loam, 0 to 5 percent slo	pes		N	IWI classification: None		
Are climatic / hydrologic conditions on the site typical for	or this time of	year? Yes⊠	No∐ (If	no, explain Remarks.)		
Are Vegetation , Soil , or Hydrology significant	y disturbed?	Ar	ea "Normal (	Circumstances" present? Yes	No	
Are Vegetation∐, Soil∐, or Hydrology∐ naturally p	roblematic?	(If need	ed, explain a	any answers in Remarks.)		
SUMMARY OF FINDINGS – Attach site map	showing s	ampling po	int locatio	ons, transects, important fe	atures, etc.	
Hydrophytic Vegetation Present? Yes 🛛 No [		la tha Car				
Hydric Soils Present? Yes X No [		Is the Sal	mpled Area			
Wetland Hydrology Present? Yes 🛛 No [		within a v	wettand?			
Remarks: This test plot is located in a pasture that rea	ceives regular	r mowing but a	t the time of	the site visit grasses were approx	imately 10 inche	es tall. Test
Plot was located in a small patch of velvetgrass that wa	as distinctly d	ifferent than ot	her vegetatio	on in this field. This area is likely a	a small seep. The	Э
vegetation in this test plot consisted of herbaceous spe	ecies. This tes	st plot met all th	nree wetland	I indicators with 100%hydrophytic	vegetation, soils	with a
Depleted Matrix, and the presence of hydrologic indica	tors; Oxidized	d Rhizospheres	s along Livin	g Roots (C3), and a positive FAC	-Neutral Test (D	5).
VEGETATION (Use scientific names)						
	Absolute	Dominant	Indicator	Dominance Test Worksheet		
Tree Stratum (Plot size:30 ft radius)	% Cover	Species?	Status			
1.	%	· · ·		Number of Dominant Species	1	(A)
2.	%			That Are OBL, FACW, or FAC:		_ ( /
3.	%			_		
4.	%			Total Number of Dominant	1	(B)
Total Cover:	%			Species Across All Strata:		_ ` '
					100	(A/B)
				Percent of Dominant Species		_ ( )
Sapling/Shrub Stratum (Plot size: 15 ft. radius)	0/			That Are OBL, FACW, or FAC		
1				Prevalence Index worksheet		
2	<u>     %                               </u>			Total % Cover of:		<u> </u>
3.	<u>     %                               </u>				_ x 1=	
4.	<u>     %                               </u>				_ x 2=	
5	<u>     %                               </u>				_ X 3=	
I OTAL COVER:	%				_ X 4=	
<u>Herb Stratum</u> (Piot Size: <u>5</u> it radius)	E0/	20		Column Totolo:	_ X S=	(D)
	<u></u>	110		Column Totals.	(A) D/A	(D)
	95%	yes	FAC	Prevalence index	= D/A=	
3.	<u>%</u>			Hydrophytic vegetation indic	ators:	
4.	%			I – Rapid Test for Hydro	phytic vegetation	1
	0/				20%	
5	%			3 - Prevalence Index Is ≤	3.0" tionol (Drovido	
0.	%				rks or on a senar	ato shoot)
7						ale sheel)
8	<u> </u>				lante <sup>1</sup>	
Total Cover:	100%				Vegetation <sup>1</sup> (Exc	lain)
Woody Vine Stratum (Plot size: 15 ft radius)	10070					nain)
1	%			<sup>1</sup> Indicators of hydric soil and we	atland hydrology	
2	%			Must be present unless disturk	ed or problemat	ic
Z				Must be present, unless distur		0.
Total Cover:	/0					
				Hydrophytic Vegetation Prese	nt?	
% Bare Ground in Herb Stratum 0%	;				Yes⊠	No
Remarks: This test plot is located in a pasture that rec	eives regular	mowing. The	hydrophytic	vegetation criterion is met due to	100% of the don	ninant
vegetation within the test plot having either OBL, FACV	N, or FAC ind	icator statuses	i.			

Depth Matrix			Redox Featu	res			
(inches) Color (moist)	%	Color (moist)	%	Type <sup>1</sup>	Loc <sup>2</sup>	Texture	Remarks
0-5 10YR3/3	100%	( / /	%			silty loam	
5-16 10Y/R4/2	90%	5YR4/6	10%	С	RC	silty loam	
	%		%				
	%		%				
	%		%				
	%		%				
	%		%				
	%		%				
<sup>1</sup> Type: C=Concentration, D=D	Depletion, RI	M=Reduced Matrix	, CS=Covered of	or Coated Sa	and Gra	ains. <sup>2</sup> Location: PL=Pore Linir	ng, M=Matrix
Hydric Soil Indicators: (Appli	cable to all	LRRs, unless oth	erwise noted.)			Indicators for Problemati	c Hydric Soils
		Sandy Redox	(S5)			2 cm Muck (A10)	2)
Histic Epipedon (A2)		Stripped Matri	ix (S6)			Red Parent Material (1F)	2)
$\Box$ Block Histic (A2)			Minaral (E1) (		A 1)	Very Shallow Dark Suna	
					A 1)		KS)
Hydrogen Sulfide (A4)	<i></i>		d Matrix (F2)				
Depleted Below Dark Surfac	ce (A11)	Depleted Mati	rix (F3)				
☐ Thick Dark Surface (A12)		Redox Dark S	Surface (F6)				
Sandy Mucky Minerals (S1)		Depleted Dark	< Surface (F7)			<sup>3</sup> Indicators of hydrophytic ve	egetation and
Sandy Gleyed Matrix (S4)		Redox Depres	ssions (F8)			Wetland hydrology must	t be present
Restrictive Layer (if present):							
					_		
Туре:					F	lydric Soil Present?	
Depth (inches):							Yes⊠ No
					<u> </u>		
Remarks: The hydric soil indica	tor Depleted	d Matrix (F3) was m	net due to a ma	trix value of	4 and a	a chroma of 2 with more than 5	percent redox
concentrations found in the mat	trix.						
Wetland Hydrology Indiastory							
						Socondary Indicato	r0
wettand Hydrology indicators	s:					Secondary Indicato	rs
Primary Indicators (min. of one	s: required: ch	neck all that apply)				Secondary Indicator (2 or more required)	rs )
Primary Indicators (min. of one	<b>s:</b> required; ch	neck all that apply)				Secondary Indicator	rs )
Primary Indicators (min. of one	s: required; ch	neck all that apply)	1 Leaves (B9) (	excent MI R	2412	Secondary Indicator (2 or more required)	rs ) eaves (B9) and <b>4</b> B)
Primary Indicators (min. of one	<b>s:</b> required; ch	neck all that apply) □ Water-Stained □ Salt Crust (B1	d Leaves (B9) (	except MLR	RA 1, 2,	Secondary Indicator (2 or more required) Water Stained Lu 4A, & 4B) (MLRA 1, 2, 4A,	rs ) eaves (B9) <b>and 4B)</b> os (B10)
Primary Indicators (min. of one Surface Water (A1) High Water Table (A2)	<b>s:</b> required; ch	heck all that apply)	d Leaves (B9) ( 1) ebrates (B13)	except MLR	2A 1, 2,	Secondary Indicato (2 or more required) Water Stained Lu 4A, & 4B) (MLRA 1, 2, 4A, Drainage Patterr	rs ) eaves (B9) <b>and 4B)</b> is (B10) er Table (C2)
Primary Indicators (min. of one Surface Water (A1) High Water Table (A2) Saturation (A3) Water Marks (B1)	s: required; ch	eck all that apply) ☐ Water-Stained ☐ Salt Crust (B1 ☐ Aquatic Invert	d Leaves (B9) ( 1) ebrates (B13) fide Oder (C1)	except MLR	2A 1, 2,	Secondary Indicato (2 or more required) Water Stained Lu 4A, & 4B) (MLRA 1, 2, 4A, Drainage Patterr Dry-Season Wat	rs ) eaves (B9) and 4B) ns (B10) er Table (C2) o on Aorial Imagony (C0)
Primary Indicators (min. of one Surface Water (A1) High Water Table (A2) Saturation (A3) Water Marks (B1)	s: required; ch	eck all that apply)	d Leaves (B9) ( 1) ebrates (B13) fide Odor (C1)	except MLR	A 1, 2,	Secondary Indicato (2 or more required) Water Stained Lu 4A, & 4B) (MLRA 1, 2, 4A, Drainage Patterr Dry-Season Wat Saturation Visibl	rs ) eaves (B9) and 4B) ns (B10) er Table (C2) e on Aerial Imagery (C9)
Primary Indicators (min. of one Surface Water (A1) High Water Table (A2) Saturation (A3) Water Marks (B1) Sediment Deposits (B2)	s: required; ch	eck all that apply) Uater-Stained Salt Crust (B1 Aquatic Invert Hydrogen Sul	d Leaves (B9) ( 1) ebrates (B13) fide Odor (C1)	except MLR	ts (C3)	Secondary Indicato (2 or more required) Water Stained Lu 4A, & 4B) (MLRA 1, 2, 4A, Drainage Patterr Dry-Season Wat Saturation Visibl Geomorphic Pos	rs ) eaves (B9) and 4B) ns (B10) er Table (C2) e on Aerial Imagery (C9) sition (D2)
Primary Indicators (min. of one Surface Water (A1) High Water Table (A2) Saturation (A3) Water Marks (B1) Sediment Deposits (B2) Drift Deposits (B3)	s: required; ch	eck all that apply) Uater-Stained Salt Crust (B1 Aquatic Invert Hydrogen Sul Oxidized Rhiz Presence of R	d Leaves (B9) ( 1) ebrates (B13) fide Odor (C1) cospheres along Reduced Iron (C	except MLR g Living Root	<b>A 1, 2,</b> ts (C3)	Secondary Indicato (2 or more required) Water Stained L 4A, & 4B) (MLRA 1, 2, 4A, Drainage Patterr Dry-Season Wat Saturation Visibl Geomorphic Pos Shallow Aquitarc	rs eaves (B9) <b>and 4B)</b> ns (B10) rer Table (C2) e on Aerial Imagery (C9) sition (D2) d (D3)
Primary Indicators (min. of one Surface Water (A1) High Water Table (A2) Saturation (A3) Water Marks (B1) Sediment Deposits (B2) Drift Deposits (B3) Algal Mat or crust (B4)	s: required; ch	eck all that apply) Uater-Stained Salt Crust (B1 Aquatic Invert Hydrogen Sul Oxidized Rhiz Presence of F Recent Iron R	d Leaves (B9) ( 1) ebrates (B13) fide Odor (C1) cospheres along Reduced Iron (C eduction in Till	except MLR g Living Root (4) ed Soils (C6)	ts (C3)	Secondary Indicatoo (2 or more required) Water Stained Li 4A, & 4B) (MLRA 1, 2, 4A, Drainage Patterr Dry-Season Wat Saturation Visibl Geomorphic Pos Shallow Aquitard FAC-Neutral Tes	rs eaves (B9) <b>and 4B)</b> hs (B10) ter Table (C2) e on Aerial Imagery (C9) sition (D2) d (D3) st (D5)
Primary Indicators (min. of one 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)	s: required; ch	eck all that apply) Uater-Stained Salt Crust (B1 Aquatic Invert Hydrogen Sul Oxidized Rhiz Presence of F Recent Iron R Stunted or Str	d Leaves (B9) ( 1) ebrates (B13) fide Odor (C1) cospheres along Reduced Iron (C eduction in Tille ressed Plants (I	except MLR g Living Root (4) ed Soils (C6) D1) (LRR A)	ts (C3)	Secondary Indicatoo (2 or more required) Water Stained Li 4A, & 4B) (MLRA 1, 2, 4A, Drainage Patterr Dry-Season Wat Saturation Visibl Geomorphic Pos Shallow Aquitaro FAC-Neutral Tes Raised Ant Mou	rs eaves (B9) <b>and 4B)</b> ns (B10) rer Table (C2) e on Aerial Imagery (C9) sition (D2) d (D3) st (D5) nds (D6) (LRR A)
Primary Indicators (min. of one 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)	s: required; ch	eck all that apply) U Water-Stained Salt Crust (B1 Aquatic Invert Hydrogen Sul Oxidized Rhiz Presence of R Recent Iron R Stunted or Str Other (Explain	d Leaves (B9) ( 1) ebrates (B13) fide Odor (C1) cospheres along Reduced Iron (C eduction in Tille ressed Plants (I in Remarks)	except MLR J Living Root 4) ed Soils (C6) D1) (LRR A)	ts (C3)	Secondary Indicatoo (2 or more required) Water Stained Li 4A, & 4B) (MLRA 1, 2, 4A, Drainage Patterr Dry-Season Wat Saturation Visibl Geomorphic Pos Shallow Aquitaro FAC-Neutral Tes Raised Ant Mour Frost-Heave Hur	rs eaves (B9) <b>and 4B)</b> ns (B10) ter Table (C2) e on Aerial Imagery (C9) sition (D2) d (D3) st (D5) nds (D6) (LRR A) nmocks (D4)
Primary Indicators (min. of one 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	s: required; ch Imagery (B7	eck all that apply) ☐ Water-Stained ☐ Salt Crust (B1 ☐ Aquatic Invert ☐ Hydrogen Sul ☑ Oxidized Rhiz ☐ Presence of R ☐ Recent Iron R ☐ Stunted or Str ☐ Other (Explain 7)	d Leaves (B9) ( 1) ebrates (B13) fide Odor (C1) cospheres along Reduced Iron (C eduction in Tille ressed Plants (I in Remarks)	except MLR 9 Living Root 24) 24 Soils (C6) 21) (LRR A)	ts (C3)	Secondary Indicatoo (2 or more required) Water Stained Li (MLRA 1, 2, 4A, Drainage Patterr Dry-Season Wat Saturation Visibl Geomorphic Pos Shallow Aquitaro FAC-Neutral Tes Raised Ant Moun Frost-Heave Hur	rs eaves (B9) <b>and 4B)</b> hs (B10) ter Table (C2) e on Aerial Imagery (C9) sition (D2) d (D3) st (D5) hds (D6) ( <b>LRR A</b> ) hmmocks (D4)
Primary Indicators (min. of one 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	s: required; ch Imagery (B7	Neck all that apply)	d Leaves (B9) ( 1) ebrates (B13) fide Odor (C1) cospheres along Reduced Iron (C eduction in Tille ressed Plants (I in Remarks)	except MLR 9 Living Roof 24) ed Soils (C6) D1) (LRR A)	ts (C3)	Secondary Indicatoo (2 or more required) Water Stained Lu (4A, & 4B) (MLRA 1, 2, 4A, Drainage Patterr Dry-Season Wat Saturation Visibl Geomorphic Pos Shallow Aquitaro FAC-Neutral Tes Raised Ant Moun Frost-Heave Hur	rs eaves (B9) and 4B) ns (B10) ter Table (C2) e on Aerial Imagery (C9) sition (D2) d (D3) st (D5) nds (D6) (LRR A) mmocks (D4)
Primary Indicators (min. of one 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 Field Observations:	s: required; ch Imagery (B7	eck all that apply) □ Water-Stained □ Salt Crust (B1 □ Aquatic Invert □ Hydrogen Sul ○ Oxidized Rhiz □ Presence of F □ Recent Iron R □ Stunted or Str □ Other (Explain 7)	d Leaves (B9) ( 1) ebrates (B13) fide Odor (C1) cospheres along Reduced Iron (C eduction in Tille ressed Plants (I in Remarks)	except MLR g Living Root 34) ed Soils (C6) D1) (LRR A)	ts (C3)	Secondary Indicato (2 or more required) 4A, & 4B) (MLRA 1, 2, 4A, Drainage Patterr Dry-Season Wat Saturation Visibl Geomorphic Pos Shallow Aquitaro Shallow Aquitaro FAC-Neutral Tes Raised Ant Mour Frost-Heave Hur	rs eaves (B9) <b>and 4B)</b> hs (B10) ter Table (C2) e on Aerial Imagery (C9) sition (D2) d (D3) st (D5) hds (D6) ( <b>LRR A</b> ) mmocks (D4)
Primary Indicators (min. of one 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 Field Observations: Surface Water Present? Ye	s: required; ch Imagery (B7	No X Deck	d Leaves (B9) ( 1) ebrates (B13) fide Odor (C1) cospheres along Reduced Iron (C eduction in Tille ressed Plants (I in Remarks) epth (Inches):	except MLR g Living Root 34) ed Soils (C6) D1) (LRR A)	2 <b>A 1, 2,</b> ts (C3)	Secondary Indicato (2 or more required) Water Stained Lu (MLRA 1, 2, 4A, Drainage Patterr Dry-Season Wat Saturation Visibl Geomorphic Pos Shallow Aquitard Shallow Aquitard FAC-Neutral Tes Raised Ant Mour Frost-Heave Hur	rs eaves (B9) <b>and 4B)</b> hs (B10) eer Table (C2) e on Aerial Imagery (C9) sition (D2) d (D3) st (D5) hds (D6) ( <b>LRR A</b> ) mmocks (D4)
Primary Indicators (min. of one 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 Field Observations: Surface Water Present? Yew Water Table Present?	s: required; ch Imagery (B7	No X De No X De	d Leaves (B9) ( 1) ebrates (B13) fide Odor (C1) cospheres along Reduced Iron (C eduction in Tille ressed Plants (I in Remarks) epth (Inches): pth (Inches):	except MLR g Living Root (4) ed Soils (C6) D1) (LRR A)	<b>A 1, 2,</b> ts (C3)	Secondary Indicato (2 or more required 4A, & 4B) (MLRA 1, 2, 4A, Drainage Patterr Dry-Season Wat Saturation Visibl Geomorphic Pos Shallow Aquitard Shallow Aquitard Raised Ant Mour Frost-Heave Hur	rs eaves (B9) <b>and 4B)</b> hs (B10) ter Table (C2) e on Aerial Imagery (C9) bition (D2) d (D3) bit (D5) hds (D6) (LRR A) mmocks (D4)
Primary Indicators (min. of one         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         Field Observations:         Surface Water Present?         Yee         Water Table Present?         Yee         Saturation Present?         Yee	s: required; ch Imagery (B7 es es es es es es es	Neck all that apply)  Water-Stained Salt Crust (B1 Aquatic Invert Hydrogen Sul Oxidized Rhiz Presence of R Recent Iron R Stunted or Str Other (Explain No De No De No De No De	d Leaves (B9) ( 1) ebrates (B13) fide Odor (C1) cospheres along Reduced Iron (C eduction in Tille ressed Plants (I in Remarks) epth (Inches): epth (Inches): pth (Inches):	except MLR g Living Root (4) ed Soils (C6) D1) (LRR A)	<b>A 1, 2,</b> ts (C3)	Secondary Indicato (2 or more required) Water Stained Lu 4A, & 4B) (MLRA 1, 2, 4A, Drainage Patterr Dry-Season Wat Saturation Visibl Geomorphic Pos Shallow Aquitard FAC-Neutral Tes Raised Ant Mour Frost-Heave Hur	rs eaves (B9) and 4B) ns (B10) ter Table (C2) e on Aerial Imagery (C9) sition (D2) d (D3) st (D5) nds (D6) (LRR A) nmocks (D4) Yes 🛛 No 🗌
Primary Indicators (min. of one         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         Field Observations:         Surface Water Present?         Yee         Saturation Present?         Yee         Data Capillary fringe)	s: required; ch Imagery (B7 es es es es es es es es es es	No X       Deck         No X	d Leaves (B9) ( 1) ebrates (B13) fide Odor (C1) cospheres along Reduced Iron (C eduction in Tille ressed Plants (I in Remarks) epth (Inches): epth (Inches): epth (Inches): al photos, provi	except MLR g Living Root (4) ed Soils (C6) D1) (LRR A)	<b>A 1, 2,</b> ts (C3)	Secondary Indicato (2 or more required) Water Stained Lu 4A, & 4B) (MLRA 1, 2, 4A, Drainage Patterr Dry-Season Wat Saturation Visibl Geomorphic Pos Shallow Aquitard FAC-Neutral Tes Raised Ant Mour Frost-Heave Hur Wetland Hydrology Present?	rs eaves (B9) and 4B) ns (B10) ter Table (C2) e on Aerial Imagery (C9) sition (D2) d (D3) st (D5) nds (D6) (LRR A) mmocks (D4) Yes ⊠ No □
Primary Indicators (min. of one         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         Field Observations:         Surface Water Present?         Yee         Saturation Present?         Yee         Describe Recorded Data (Streat	s: required; ch Imagery (B7 es es es am gauge, m	Deck all that apply)         Water-Stained         Salt Crust (B1         Aquatic Invert         Hydrogen Sul         Oxidized Rhiz         Presence of R         Recent Iron R         Stunted or Str         Other (Explain         No Implementation Decomposition         No Implementation         No Implementation         Decomposition         No Implementation         No Implementation         Decomposition         Dec	d Leaves (B9) ( 1) ebrates (B13) fide Odor (C1) cospheres along Reduced Iron (C eduction in Tille ressed Plants (I in Remarks) epth (Inches): epth (Inches): pth (Inches): al photos, previ	except MLR g Living Root (4) ed Soils (C6) D1) (LRR A)	<b>XA 1, 2,</b> ts (C3) ) w ons), if	Secondary Indicato (2 or more required) 4A, & 4B) (MLRA 1, 2, 4A, Drainage Patterr Dry-Season Wat Saturation Visibl Geomorphic Pos Shallow Aquitard FAC-Neutral Tes Raised Ant Mour Frost-Heave Hur etland Hydrology Present?	rs eaves (B9) and 4B) ns (B10) ter Table (C2) e on Aerial Imagery (C9) sition (D2) d (D3) st (D5) nds (D6) (LRR A) nmocks (D4) Yes ⊠ No □
Primary Indicators (min. of one         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         Field Observations:         Surface Water Present?         Ye         Saturation Present?         Ye         Includes Capillary fringe)         Describe Recorded Data (Streat	s: required; ch Imagery (B7 es es es am gauge, m	Deck all that apply)         Water-Stained         Salt Crust (B1         Aquatic Invert         Hydrogen Sult         Oxidized Rhiz         Presence of R         Recent Iron R         Stunted or Str         Other (Explain         7)         No X       Dee         No X       De         No       De	d Leaves (B9) ( 1) ebrates (B13) fide Odor (C1) cospheres along Reduced Iron (C eduction in Tille ressed Plants (I in Remarks) epth (Inches): epth (Inches): epth (Inches): al photos, previ	except MLR g Living Root (4) ed Soils (C6) D1) (LRR A)	<b>XA 1, 2,</b> ts (C3) ) w ons), if	Secondary Indicato (2 or more required) 4A, & 4B) (MLRA 1, 2, 4A, Drainage Patterr Dry-Season Wat Saturation Visibl Geomorphic Pos Shallow Aquitard FAC-Neutral Tes Raised Ant Mour Frost-Heave Hur etland Hydrology Present? available:	rs eaves (B9) and 4B) ns (B10) ter Table (C2) e on Aerial Imagery (C9) sition (D2) d (D3) st (D5) nds (D6) (LRR A) mmocks (D4) Yes 🛛 No 🗌
Primary Indicators (min. of one         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         Field Observations:         Surface Water Present?         Yee         Vater Table Present?         Yee         Includes Capillary fringe)         Describe Recorded Data (Streat	s: required; ch Imagery (B7 es es es am gauge, m ors, Oxidize	No Image: Apply of the presence of F         Image: Apply of	d Leaves (B9) ( 1) ebrates (B13) fide Odor (C1) cospheres along Reduced Iron (C eduction in Tille ressed Plants (I in Remarks) epth (Inches): epth (Inches): epth (Inches): al photos, previ	except MLR (Living Root (4) ed Soils (C6) D1) (LRR A) ous inspection s (C3), and (2)	<b>XA 1, 2,</b> ts (C3) ) w ons), if	Secondary Indicator (2 or more required) Water Stained Li 4A, & 4B) (MLRA 1, 2, 4A, Drainage Patterr Dry-Season Wat Saturation Visibl Geomorphic Pos Shallow Aquitard Shallow Aquitard FAC-Neutral Tes Raised Ant Mour Frost-Heave Hur etland Hydrology Present?	rs eaves (B9) and 4B) ns (B10) ter Table (C2) e on Aerial Imagery (C9) sition (D2) d (D3) st (D5) nds (D6) (LRR A) mmocks (D4) Yes 🛛 No 🗌
Primary Indicators (min. of one         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         Field Observations:         Surface Water Present?         Yee         Mater Table Present?         Yee         Includes Capillary fringe)         Describe Recorded Data (Streat         Remarks:The hydrology indicate	s: required; ch Imagery (B7 es es es am gauge, m cors, Oxidize	No Image       No Image         No Image       No Image         No Image       Definition         No Image	d Leaves (B9) ( 1) ebrates (B13) fide Odor (C1) cospheres along Reduced Iron (C eduction in Tille ressed Plants (I in Remarks) epth (Inches): pth (Inches): pth (Inches): pth (Inches): ong Living Root	except MLR (Living Root (4) ed Soils (C6) D1) (LRR A) ous inspection s (C3), and a	<b>XA 1, 2,</b> ts (C3) ) w ons), if a positiv	Secondary Indicato (2 or more required) Water Stained Li 4A, & 4B) (MLRA 1, 2, 4A, Drainage Patterr Dry-Season Wat Saturation Visibl Geomorphic Pos Shallow Aquitaro FAC-Neutral Test Raised Ant Mour Frost-Heave Hur etland Hydrology Present? available: ve FAC-Neutral Test (D5).	rs eaves (B9) and 4B) ns (B10) ter Table (C2) e on Aerial Imagery (C9) sition (D2) d (D3) st (D5) nds (D6) (LRR A) mmocks (D4) Yes 🛛 No 🗌
Primary Indicators (min. of one         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         Field Observations:         Surface Water Present?         Yee         Vater Table Present?         Yee         Includes Capillary fringe)         Describe Recorded Data (Streat         Remarks:The hydrology indicate	s: required; ch Imagery (B7 es es es am gauge, m cors, Oxidize	No Image       No Image         No Image       No Image         No Image       Definition         No Image	d Leaves (B9) ( 1) ebrates (B13) fide Odor (C1) cospheres along Reduced Iron (C eduction in Tille ressed Plants (I in Remarks) epth (Inches): pth (Inches): pth (Inches): pth (Inches): pth (Inches): ong Living Root	except MLR (Living Root (4) ed Soils (C6) D1) (LRR A) ous inspection s (C3), and a	<b>XA 1, 2,</b> ts (C3) ) w ons), if a positiv	Secondary Indicator (2 or more required) Water Stained Li 4A, & 4B) (MLRA 1, 2, 4A, Drainage Patterr Dry-Season Wat Saturation Visibl Geomorphic Pos Shallow Aquitaro Shallow Aquitaro Raised Ant Mour Frost-Heave Hur etland Hydrology Present? available:	rs eaves (B9) and 4B) ns (B10) ter Table (C2) e on Aerial Imagery (C9) sition (D2) d (D3) st (D5) nds (D6) (LRR A) nmocks (D4) Yes 🛛 No 🗌
Primary Indicators (min. of one         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         Field Observations:         Surface Water Present?         Yee         Vater Table Present?         Yee         Includes Capillary fringe)         Describe Recorded Data (Streat         Remarks:The hydrology indicat	s: required; ch Imagery (B7 es es es am gauge, m cors, Oxidize	No Image       No Image         No Image       No Image         No Image       Detect	d Leaves (B9) ( 1) ebrates (B13) fide Odor (C1) cospheres along Reduced Iron (C eduction in Tille ressed Plants (I in Remarks) epth (Inches): epth (Inches): pth (Inches): al photos, previous ong Living Root	except MLR (Living Root (4) ed Soils (C6) D1) (LRR A) ous inspection s (C3), and a	<b>XA 1, 2,</b> ts (C3) ) w ons), if a positiv	Secondary Indicator (2 or more required) Water Stained Li 4A, & 4B) (MLRA 1, 2, 4A, Drainage Patterr Dry-Season Wat Saturation Visibl Geomorphic Pos Shallow Aquitaro Shallow Aquitaro Raised Ant Mour Frost-Heave Hur etland Hydrology Present? available:	rs eaves (B9) and 4B) ns (B10) ter Table (C2) e on Aerial Imagery (C9) sition (D2) d (D3) st (D5) nds (D6) (LRR A) mmocks (D4) Yes ⊠ No □
Primary Indicators (min. of one         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         Field Observations:         Surface Water Present?         Yee         Vater Table Present?         Yee         Includes Capillary fringe)         Describe Recorded Data (Streat         Remarks:The hydrology indicat	s: required; ch Imagery (B7 es es es am gauge, m fors, Oxidize	No Image       No Image         No Image       No Image         No Image       Definition         No Image	d Leaves (B9) ( 1) ebrates (B13) fide Odor (C1) cospheres along Reduced Iron (C eduction in Tille ressed Plants (I in Remarks) epth (Inches): epth (Inches): epth (Inches): al photos, previ ong Living Root	except MLR (Living Root (4) ed Soils (C6) D1) (LRR A) ous inspection s (C3), and a	<b>XA 1, 2,</b> ts (C3) ) w ons), if a positiv	Secondary Indicator (2 or more required) Water Stained Li (MLRA 1, 2, 4A, Drainage Patterr Dry-Season Wat Saturation Visibl Geomorphic Pos Shallow Aquitaro FAC-Neutral Tess Raised Ant Mour Frost-Heave Hur etland Hydrology Present? available:	rs eaves (B9) and 4B) ns (B10) ter Table (C2) e on Aerial Imagery (C9) sition (D2) d (D3) st (D5) nds (D6) (LRR A) mmocks (D4) Yes ⊠ No □
Primary Indicators (min. of one         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         Field Observations:         Surface Water Present?         Yet         Saturation Present?         Yet         Includes Capillary fringe)         Describe Recorded Data (Streat         Remarks:The hydrology indicate	s: required; ch Imagery (B7 es es es am gauge, m fors, Oxidize	No Image       Deck         Water-Stained         Salt Crust (B1         Aquatic Invert         Hydrogen Sult         Oxidized Rhiz         Presence of F         Recent Iron R         Stunted or Str         Other (Explain         No Image         Image         No Image         Image         Image         No Image         Image <td>d Leaves (B9) ( 1) ebrates (B13) fide Odor (C1) cospheres along Reduced Iron (C eduction in Tille ressed Plants (I in Remarks) epth (Inches): epth (Inches): pth (Inches): pth (Inches): pth (Inches): pth (Inches): pth (Inches): pth (Inches): pth (Inches):</td> <td>except MLR g Living Roof (4) ed Soils (C6) D1) (LRR A) ous inspection s (C3), and a</td> <td><b>XA 1, 2,</b> ts (C3) ) w ons), if a positiv</td> <td>Secondary Indicato (2 or more required) Water Stained Li (MLRA 1, 2, 4A, Drainage Patterr Dry-Season Wat Saturation Visibl Geomorphic Pos Shallow Aquitaro FAC-Neutral Tess Raised Ant Mour Frost-Heave Hur etland Hydrology Present? available: ve FAC-Neutral Test (D5).</td> <td>rs eaves (B9) and 4B) ns (B10) ter Table (C2) e on Aerial Imagery (C9) sition (D2) d (D3) st (D5) nds (D6) (LRR A) nmocks (D4) Yes ⊠ No □</td>	d Leaves (B9) ( 1) ebrates (B13) fide Odor (C1) cospheres along Reduced Iron (C eduction in Tille ressed Plants (I in Remarks) epth (Inches): epth (Inches): pth (Inches): pth (Inches): pth (Inches): pth (Inches): pth (Inches): pth (Inches): pth (Inches):	except MLR g Living Roof (4) ed Soils (C6) D1) (LRR A) ous inspection s (C3), and a	<b>XA 1, 2,</b> ts (C3) ) w ons), if a positiv	Secondary Indicato (2 or more required) Water Stained Li (MLRA 1, 2, 4A, Drainage Patterr Dry-Season Wat Saturation Visibl Geomorphic Pos Shallow Aquitaro FAC-Neutral Tess Raised Ant Mour Frost-Heave Hur etland Hydrology Present? available: ve FAC-Neutral Test (D5).	rs eaves (B9) and 4B) ns (B10) ter Table (C2) e on Aerial Imagery (C9) sition (D2) d (D3) st (D5) nds (D6) (LRR A) nmocks (D4) Yes ⊠ No □

Project/Site: Highland Terrace Subdivision	City/County: La Center/Clark	Sampling Date: 9/7/16						
Applicant/Owner: Evergreen Homes NW	State: WA	Sampling Point: TP12						
Investigator(s): Wills, Kate'Lyn	Section, Township, Range: 33	3, 5N, 1E						
Landform (hillslope, terrace, etc.): hillslope	Local relief: convex	Slope (%): <u>5%</u>						
Subregion (LRR):A	Lat: 45.521107 Long:-122.410450	Datum: NAD83						
Soil Map Unit Name: Odne silt loam, 0 to 5 percent s	ppes NWI classifica	ation: None						
Are climatic / hydrologic conditions on the site typical	or this time of year? Yes 🛛 No 🗌 (If no, explain R	Remarks.)						
Are Vegetation, Soil, or Hydrology significantly disturbed? Area "Normal Circumstances" present? Yes No								
Are Vegetation, Soil, or Hydrology naturally	oroblematic? (If needed, explain any answers	in Remarks.)						
SUMMARY OF FINDINGS – Attach site ma	showing sampling point locations, transe	ects, important features, etc.						
Hydrophytic Vegetation Present?       Yes ⊠       No         Hydric Soils Present?       Yes □       No         Wetland Hydrology Present?       Yes □       No	Is the Sampled Area       ⋈       ⋈       ⋈	Yes⊡ No⊠						
Remarks: This test plot is located in a pasture that receives regular mowing but at the time of the site visit herbaceous vegetations was approximately 10 inches tall. Test Plot was located in a small patch of green vegetation that was distinctly different than other vegetation in this field. The vegetation in this								
test plot consisted of herbaceous species. This test p	ot met one wetland indicator with 100%hydrophytic ve	egetation, therefore it does not meet the criteria						

#### **VEGETATION** (Use scientific names)

		Absolute	Dominant	Indicator	Dominance Test Worksheet	
<u>Tr</u>	ee Stratum (Plot size: <u>30</u> ft radius)	% Cover	Species?	Status		
1.		%			Number of Dominant Species 3	(A)
2.		%			That Are OBL, FACW, or FAC:	
3.		%				
4.		%			I otal Number of Dominant <u>3</u>	(B)
	Total Cover:	%			Species Across All Strata:	
					Dereent of Dominant Species 100	(A/B)
\$	poling/Shrub Stratum (Plot size: 15 ft, radius)				That Are OBLEACW/ or EAC	
1	iping/Shirub Stratum (Flot Size. 15 It. Tadius)	0/_			Provalence Index workshoot	
ו. כ		<u> </u>			Total % Covor of: Multiply by:	
2. 3	· · _	<u> </u>				
J. ⊿		<u> </u>				
4. 5		<u> </u>				
5.	Total Covor:	<u> </u>				
Н	arb Stratum (Plot size: 5 ft radius)	70				
1	Circium arvonso	35%	VOC	FAC	Column Totals: (A)	(B)
2	Aarostis canillaris	35%	yes	FAC	$\frac{1}{2} = \frac{1}{2} = \frac{1}$	(D)
2.		200/	yes	EAC	Hydrophytic Vogetation Indicators:	
J. ⊿	- τθα δρ.	20%	yes	EACU	1 Popid Test for Hydrophytic Vegetation	
4.	Plantago lanceolata	15%	no	TACO	$\square$ 1 = Rapid Test for Tydrophytic Vegetation $\square$ 2 Dominance Test is > 50%	
Б	Hupochaoris radicata	10%		EACU	$\square$ 2 - Dominance results >00%	
ວ. ເ		1076		FACU	$\square$ 3 - Flevalence index is $\leq 3.0$	
0.	Rumex crispus	5%	no	FAC	- supporting data in Remarks or on a senara	to shoot)
7		%				
7. 8		<u> </u>			Wetland Non-Vascular Plants <sup>1</sup>	
0.	Total Cover:	120%			Problematic Hydrophytic Vegetation <sup>1</sup> (Expla	ain)
w	oody Vine Stratum (Plot size: 15 ft radius)	12070				
1	<u>(11000120.10</u> (11000120.	%			<sup>1</sup> Indicators of hydric soil and wetland hydrology	·
2		<u> </u>			Must be present unless disturbed or problematic	
		<u> </u>				•
	lotal Cover:	70				
					Hydropnytic vegetation Present?	. –
%	Bare Ground in Herb Stratum 0%				Yes⊠	No
Re	marks:*Assumed FAC indicator status. This test plo	ot is located i	n a pasture tha	at receives re	egular mowing. The hydrophytic vegetation criterior	n is met
aue	to 100% of the dominant vegetation within the test	plot having e	ITTURE OBL, FAC	JVV. OF FAC I	Indicator statuses.	

Profile Description: (Describe to the de	pth needed to docu	ument the indicator or co	nfirm	the absence of indicators.)	Camping Camping -	
Depth Matrix		Redox Features				
(inches) Color (moist) %	Color (moist)	% Type <sup>1</sup>	Lo	Texture	Remarks	
0-5 10YR3/3 100%		%	-	silty loam		
<u>%</u>		%				
%		%				
<u> </u>		<u>%</u>				
<u>%</u> _						
· ·						
<sup>1</sup> Type:       C=Concentration, D=Depletion, F         Hydric Soil Indicators:       (Applicable to al         □       Histosal (A1)         □       Histic Epipedon (A2)         □       Black Histic (A3)	RM=Reduced Matrix I LRRs, unless oth Sandy Redox Stripped Matr	and Grains. <sup>2</sup> Location: PL=Pore Lining, M=Matrix Indicators for Problematic Hydric Soils 2 cm Muck (A10) Red Parent Material (TF2) Very Shallow Dark Surface (TF12) (A 1)				
Hydrogen Sulfide (A4)	Loamy Gleye	d Matrix (F2)				
Depleted Below Dark Surface (A11)	Depleted Mat	rix (F3)				
Thick Dark Surface (A12)	Redox Dark S	Surface (F6)				
Sandy Mucky Minerals (S1)	Depleted Darl	k Surface (F7)		<sup>3</sup> Indicators of hydrophytic ve	getation and	
Sandy Gleyed Matrix (S4)	Redox Depres	ssions (F8)		Wetland hydrology must	be present	
Restrictive Layer (if present):						
Туре:				Hydric Soil Present?		
				-	Yes⊡ No⊠	
Depth (inches):						
HIDROLOGI						
Wetland Hydrology Indicators:				Secondary Indicator (2 or more required)	S	
Primary Indicators (min. of one required; c	heck all that apply)			<u>(_ 0,</u>		
<ul> <li>Surface Water (A1)</li> <li>High Water Table (A2)</li> <li>Saturation (A3)</li> <li>Water Marks (B1)</li> <li>Sediment Deposits (B2)</li> <li>Drift Deposits (B3)</li> <li>Algal Mat or crust (B4)</li> <li>Iron Deposits (B5)</li> <li>Surface Soil Cracks (B6)</li> <li>Inundation Visible on Aerial Imagery (B</li> </ul>	<ul> <li>Water-Stained</li> <li>Salt Crust (B1</li> <li>Aquatic Invert</li> <li>Hydrogen Sul</li> <li>Oxidized Rhiz</li> <li>Presence of F</li> <li>Recent Iron R</li> <li>Stunted or Str</li> <li>Other (Explain</li> </ul>	d Leaves (B9) ( <b>except MLI</b> 1) ebrates (B13) fide Odor (C1) cospheres along Living Roc Reduced Iron (C4) reduction in Tilled Soils (C6 ressed Plants (D1) ( <b>LRR A</b> in Remarks)	RA 1, ots (C3 6) )	□       Water Stained Letter         2, 4A, & 4B)       (MLRA 1, 2, 4A,         □       Drainage Pattern         □       Dry-Season Water         □       Saturation Visible         3)       □         □       Geomorphic Pos         □       Shallow Aquitard         □       FAC-Neutral Tes         □       Raised Ant Mour         □       Frost-Heave Hun	eaves (B9) and 4B) s (B10) er Table (C2) e on Aerial Imagery (C9) ition (D2) (D3) t (D5) nds (D6) (LRR A) nmocks (D4)	
Surface Water Present? Yes Water Table Present? Yes Saturation Present? Yes (Includes Capillary fringe)	No ⊠ De No ⊠ De No ⊠ De	epth (Inches): epth (Inches): epth (Inches):	ions)	Wetland Hydrology Present?	Yes 🗌 No 🛛	
Remarks:There was no evidence of hydro	logy within this test	olot.	, ons),			

Project/Site: Highland Terrace Subdivision		City/Co	unty: La Cen	ter/Clark Sampling Date: 9/7/16			
Applicant/Owner: Evergreen Homes NW		Castie	State: VV	A Sampling	Point: TP13		
Investigator(s): while, Nate Lyn			on, Township	, Range: <u>33, 5N, TE</u>	$Slope (9/) \cdot 59$	)/	
Subrogion (LPP): A	L at: 15 521	107		410450 Datum:		/0	
Soil Man Unit Name: Odne silt loam. 0 to 5 percent slo	Lat. <u>40.02 i</u>	107	_ LONG. <u>-122.</u> N	WI classification: None	INAD05		
Are climatic / hydrologic conditions on the site typical for	or this time of	voar2 Vos		no explain Remarks )			
Are Vegetation Soil or Hydrology significantly	/ disturbed?		ea "Normal (	Circumstances" present? Yes	No		
Are Vegetation Soil Soil or Hydrology naturally pr	oblematic?	(If need	led explain a	any answers in Remarks )			
SUMMARY OF FINDINGS - Attach site man	showing s	ampling po	int locatio	ne transacte important fo	aturas ata		
	showing s	amping po		ins, transects, important le	aluies, elc.		
Hydrophytic Vegetation Present? Yes 🖾 No		Is the Sa	mpled Area				
Hydric Solis Present? Yes No 2		within a	Wetland?	Yes⊟ No⊠			
Weiland Hydrology Present? No 2	<u>arvaraes</u> Th	is tost plot is k	ocated in a n	asturo that receives regular mowin	a but at the time	of tho	
site visit herbaceous vegetations was approximately 10 wetland indicator with 100% hydrophytic vegetation, the	inches tall.	The vegetation on not meet the	in this test p criteria of be	olot consisted of herbaceous speci ing wetland.	es. This test plot	met one	
VEGETATION (Use scientific names)						J	
	Absolute	Dominant	Indicator	Dominance Test Worksheet			
Tree Stratum (Plot size:30 ft radius)	% Cover	Species?	Status				
<u> </u>	%			Number of Dominant Species	2	(A)	
2.	%			That Are OBL, FACW, or FAC:		(, ,	
3.	%						
4.	%			Total Number of Dominant	3	(B)	
Total Cover:	%			Species Across All Strata:		( )	
					66	(A/B)	
Carlie a (Charle Otrature (Dist size: 45 ft. as dive)				Percent of Dominant Species		``'	
Sapling/Shrub Stratum (Plot size: 15 ft. radius)	200/		FACU	Inat Are OBL, FACW, or FAC			
	30%	yes	FACU	Prevalence Index worksneet	Multiply by		
2	<u> </u>					_	
S:	<u> </u>				_ X I =	_	
۲ ۲	<u> </u>			FAC species	_ X 2		
5	30%				_ × 0=	_	
Herb Stratum (Plot size: 5 ft radius)	0070				_ x 5=	_	
1 Phalaris arundinacea	80%	ves	FACW	Column Totals:	(A)	(B)	
2. Chamerion angustifolium	15%	no	FACU	Prevalence Index =	= B/A=	(2)	
3 Cirsium arvense	10%	 	FAC	Hydrophytic Vegetation Indic	ators:		
4	1070	no	FACU	$\Box$ 1 – Rapid Test for Hydron	hytic Vegetation		
Hypochaeris radicata	5%			$\boxed{12}$ 2 – Dominance Test is >5	0%		
5.	%			☐ 3 - Prevalence Index is ≤3	3.0 <sup>1</sup>		
6.				4 - Morphological Adaptat	ions <sup>1</sup> (Provide		
	%			supporting data In Remar	ks or on a separa	te sheet)	
7.	%					,	
8.	%			Wetland Non-Vascular Pla	ants <sup>1</sup>		
Total Cover:	110%			Problematic Hydrophytic V	Vegetation <sup>1</sup> (Expla	uin)	
Woody Vine Stratum (Plot size: <u>15</u> ft radius)							
1. Rubus armeniacus	20%	yes	FAC	<sup>1</sup> Indicators of hydric soil and we	tland hydrology		
2	%			Must be present, unless disturb	ed or problematic		
Total Cover:	20%						
				Hydrophytic Vegetation Preser	nt?		
% Bare Ground in Herb Stratum 0%				,	Yes⊠	No	
Remarks:*Assumed FAC indicator status. This test pla	ot is located i	n a pasture the	at receives re	eqular mowing. The hydrophytic v	egetation criterior	n is met	
due to 66% of the dominant vegetation within the test p	lot having eit	her OBL, FAC	W, or FAC ir	dicator statuses.			
5	5.00	,					

Profile Description: (Describe to the de	epth needed to docu	ment the indicato	r or confiri	m the	absence of indicators.)	
Depth Matrix		Redox Features				
(inches) Color (moist) %	Color (moist)	<u>%</u> Typ		_0C <sup>2</sup>	Texture	Remarks
<u> </u>		<u>%</u>			Silty loam	
		<u> </u>				
<u> </u>		%				
<u>%</u>		%				
%		%				
<u>%</u>		<u>%</u>				
************************************	RM=Reduced Matrix, II LRRs, unless othe Sandy Redox Compositive Stripped Matrix Loamy Mucky Loamy Gleyed Depleted Matrix Redox Dark S Depleted Dark Redox Depression Redox Depression	% CS=Covered or Co erwise noted.) (S5) x (S6) Mineral (F1) (exce I Matrix (F2) ix (F3) urface (F6) : Surface (F7) sions (F8)	pated Sand	Grain	s. <sup>2</sup> Location: PL=Pore Linir Indicators for Problemati 2 cm Muck (A10) Red Parent Material (TF: Very Shallow Dark Surfa Other (Explain in Remark) <sup>3</sup> Indicators of hydrophytic ve Wetland hydrology must dric Soil Present?	ng, M=Matrix <b>c Hydric Soils</b> 2) ce (TF12) ks) egetation and t be present Yes No
HYDROLOGY						
Wetland Hydrology Indicators:					Secondary Indicato (2 or more required)	rs )
Primary Indicators (min. of one required;	check all that apply)					
<ul> <li>Surface Water (A1)</li> <li>High Water Table (A2)</li> <li>Saturation (A3)</li> <li>Water Marks (B1)</li> <li>Sediment Deposits (B2)</li> <li>Drift Deposits (B3)</li> <li>Algal Mat or crust (B4)</li> <li>Iron Deposits (B5)</li> <li>Surface Soil Cracks (B6)</li> <li>Inundation Visible on Aerial Imagery (Interpret times)</li> </ul>	☐ Water-Stained ☐ Salt Crust (B1 ☐ Aquatic Inverted ☐ Hydrogen Sulted ☐ Oxidized Rhized ☐ Presence of R ☐ Recent Iron R ☐ Stunted or Str ☐ Other (Explain 37)	Leaves (B9) ( <b>exce</b> 1) ebrates (B13) ide Odor (C1) ospheres along Livi educed Iron (C4) eduction in Tilled Se essed Plants (D1) ( in Remarks)	ppt MLRA 1 ing Roots (( ing (C6) LRR A)	C3)	Water Stained Lu (MLRA 1, 2, 4A, Drainage Patterr Dry-Season Wat Saturation Visibl Geomorphic Pos Shallow Aquitard FAC-Neutral Tes Raised Ant Mour Frost-Heave Hur	eaves (B9) and 4B) ns (B10) eer Table (C2) e on Aerial Imagery (C9) sition (D2) d (D3) st (D5) nds (D6) (LRR A) mmocks (D4)
Surface Water Present? Yes Water Table Present? Yes Saturation Present? Yes (Includes Capillary fringe) Describe Recorded Data (Stream gauge,	No ⊠ De No ⊠ De No ⊠ De monitoring well, aeria	pth (Inches): pth (Inches): pth (Inches): al photos, previous	- inspections	Wet	land Hydrology Present?	Yes 🗌 No 🛛
Remarks:There was no evidence of hydro	ology within this test p	lot.				

APPENDIX B: WETLAND RATING FORM

# **RATING SUMMARY – Western Washington**

Name of wetland (or ID #):Wetland ADate of site visit:3/3/2016, 9/7/16Rated byKT WillsTrained by Ecology?YesNo Date of training 9/2016HGM Class used for ratingSlopeWetland has multiple HGM classes?YX

**NOTE**: Form is not complete without the figures requested (figures can be combined). Source of base aerial photo/map <u>Google Earth</u>

**OVERALL WETLAND CATEGORY III** (based on functions <u>X</u> or special characteristics )

# 1. Category of wetland based on FUNCTIONS

**Category I** – Total score = 23 – 27

Category II – Total score = 20 – 22

X Category III – Total score = 16 – 19

**Category IV** – Total score = 9 – 15

FUNCTION	Improving Water Quality		Hydrologic			Habitat				
Circle the appropriate ratings										
Site Potential	Н	Μ	$\bigcirc$	Н	М	0	Н	Μ	$\bigcirc$	
Landscape Potential	Н	$\mathbf{M}$	Ĺ	Н		L	Θ	Μ	L	
Value	$\Theta$	М	L	Н	Μ	0	Н	$\bigcirc$	L	TOTAL
Score Based on Ratings		6			4			6		16

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	Ι	II
Wetland of High Conservation Value		Ι
Bog		Ι
Mature Forest		Ι
Old Growth Forest		Ι
Coastal Lagoon	Ι	II
Interdunal	I II	III IV
None of the above	Not A	pplicable

# 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	
Hydroperiods	D 1.4, H 1.2	
Location of outlet (can be added to map of hydroperiods)	D 1.1, D 4.1	
Boundary of area within 150 ft of the wetland (can be added to another figure)	D 2.2, D 5.2	
Map of the contributing basin	D 4.3, D 5.3	
1 km Polygon: Area that extends 1 km from entire wetland edge - including	H 2.1, H 2.2, H 2.3	
polygons for accessible habitat and undisturbed habitat		
Screen capture of map of 303(d) listed waters in basin (from Ecology website)	D 3.1, D 3.2	
Screen capture of list of TMDLs for WRIA in which unit is found (from web)	D 3.3	

## **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 (can be added to another figure)	R 2.4	
Plant cover of trees, shrubs, and herbaceous plants	R 1.2, R 4.2	
Width of unit vs. width of stream (can be added to another figure)	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	H 2.1, H 2.2, H 2.3	
polygons for accessible habitat and undisturbed habitat		
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 (can be added to another figure)	L 2.2	
1 km Polygon: Area that extends 1 km from entire wetland edge - including	Н 2.1, Н 2.2, Н 2.3	
polygons for accessible habitat and undisturbed habitat		
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	Н 1.1, Н 1.4	5
Hydroperiods	H 1.2	5
Plant cover of <b>dense</b> trees, shrubs, and herbaceous plants	S 1.3	5
Plant cover of dense, rigid trees, shrubs, and herbaceous plants	S 4.1	5
(can be added to figure above)		
Boundary of 150 ft buffer (can be added to another figure)	S 2.1, S 5.1	5
1 km Polygon: Area that extends 1 km from entire wetland edge - including	H 2.1, H 2.2, H 2.3	6
polygons for accessible habitat and undisturbed habitat		
Screen capture of map of 303(d) listed waters in basin (from Ecology website)	S 3.1, S 3.2	17
Screen capture of list of TMDLs for WRIA in which unit is found (from web)	S 3.3	17

# 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?

**W** - 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)** *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.

YES – The wetland class is **Flats** If your wetland can be classified as a Flats wetland, use the form for **Depressional** wetlands.

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).

🚺 – go to 4

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

- 4. Does the entire wetland unit **meet all** of the following criteria?
  - <u>\_\_\_\_\_</u>The wetland is on a slope (*slope can be very gradual*),
  - <u>x</u> 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,

<u>x</u>The water leaves the wetland **without being impounded**.

NO – go to 5

• 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 <u>A</u>

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

SLOPE WETLANDS	
Water Quality Functions - Indicators that the site functions to improve water quality	
S 1.0. Does the site have the potential to improve water quality?	
S 1.1. Characteristics of the average slope of the wetland: (a 1% slope has a 1 ft vertical drop in elevation for every 100 ft of horizontal distance)	1
Slope is 1% or less points = 3	
Slope is > 1%-2% points = 2	
Slope is > 2%-5% points = 1	
Slope is greater than 5% points = 0	
S 1.2. The soil 2 in below the surface (or duff layer) is true clay or true organic (use NRCS definitions): Yes = 3 No = 0	0
S 1.3. Characteristics of the plants in the wetland that trap sediments and pollutants:	1
Choose the points appropriate for the description that best fits the plants in the wetland. <i>Dense means you have trouble seeing the soil surface (&gt;75% cover), and uncut means not grazed or mowed and plants are higher than 6 in.</i>	
Dense, uncut, herbaceous plants > 90% of the wetland area points = 6	
Dense, uncut, herbaceous plants > 1/2 of area points = 3	
Dense, woody, plants > ½ of area points = 2	
Dense, uncut, herbaceous plants > ¼ of area points = 1	
Does not meet any of the criteria above for plants points = 0	
Total for S 1Add the points in the boxes above	2
Rating of Site Potential If score is: 12 = H 6-11 = M X 0-5 = L Record the rating on	the first page

S 2 0. Does the landscape have the potential to support the water	quality function of the site?	
5 2.0. Does the landscape have the potential to support the water		
S 2.1. Is > 10% of the area within 150 ft on the uphill side of the wetland	in land uses that generate pollutants?	1
Yes = 1 No = 0		
S 2.2. Are there other sources of pollutants coming into the wetland that	are not listed in question S 2.1?	0
Other sources	Yes = 1 No = 0	
Total for S 2	Add the points in the boxes above	1
Rating of Landscape Potential If score is: X 1-2 = M 0 = L	Record the rating on	the first pag

S 3.0. Is the water quality improvement provided by the site valuable to society?	
S 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	1
S 3.2. Is the wetland in a basin or sub-basin where water quality is an issue? At least one aquatic resource in the basin is on the 303(d) list. Yes = 1 No = 0	1
S 3.3. Has the site been identified in a watershed or local plan as important for maintaining water quality? Answer YES if there is a TMDL for the basin in which unit is found. Yes = 2 No = 0	2
Total for S 3Add the points in the boxes above	4
Rating of Value       If score is: X 2-4 = H 1 = M 0 = L       Record the rating on	the first page

SLOPE WETLANDS		
<b>Hydrologic Functions</b> - Indicators that the site functions to reduce flooding	and stream eros	sion
S 4.0. Does the site have the potential to reduce flooding and stream erosion?		
S 4.1. Characteristics of plants that reduce the velocity of surface flows during storms: Choose the po- for the description that best fits conditions in the wetland. <i>Stems of plants should be thick end</i>	oints appropriate ough (usually > <sup>1</sup> / 8	0
in), or dense enough, to remain erect during surface flows.	Ŭ	
Dense, uncut, <b>rigid</b> plants cover > 90% of the area of the wetland	points = 1	
Rating of Site Potential If score is:     1 = M     X 0 = L     R	Record the rating on	the first page
S 5.0. Does the landscape have the potential to support the hydrologic functions of the site	?	
S 5.1. Is more than 25% of the area within 150 ft upslope of wetland in land uses or cover that gener surface runoff?	ate excess Yes = 1 No = 0	1
Rating of Landscape Potential If score is: X 1 = M 0 = L	Record the rating on	the first page

S 6.0. Are the hydrologic functions provided by the site valuable to society?		
S 6.1. Distance to the nearest areas downstream that have flooding problems: The sub-basin immediately down-gradient of site has flooding problems that result in damage to human or		0
natural resources (e.g., houses or salmon redds)	points = 2	
Surface flooding problems are in a sub-basin farther down-gradient	points = 1	
No flooding problems anywhere downstream	points = 0	
S 6.2. Has the site been identified as important for flood storage or flood conveyance in a region	onal flood control plan?	0
	Yes = 2 No = 0	
Total for S 6Add the point	nts 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

NOTES and FIELD OBSERVATIONS:

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        X 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)	0
that each cover 20% within the Forested polygon	
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        X Saturated only       1 type present: points = 0        Permanently flowing stream or river in, or adjacent to, the wetland       2 points        Seasonally flowing stream in, or adjacent to, the wetland       2 points	0
H 1.3. Richness of plant species	1
Count the number of plant species in the wetland that cover at least 10 ft <sup>2</sup> .         Different patches of the same species can be combined to meet the size threshold 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	
H 1.4. Interspersion of habitats	0
Decide from the diagrams below whether interspersion 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. <i>If you</i> <i>have four or more plant classes or three classes and open water, the rating is always high.</i> None = 0 points All three diagrams in this row are <b>HIGH</b> = 3points	

#### Wetland name or number A

< 10% of 1 km Polygon

Calculate:

Total for H 2

H 1.5. Special habitat features:	0	
Check the habitat features that are present in the wetland. The number of checks is the number of points.		
Large, downed, woody debris within the wetland (> 4 in diameter and 6 ft long).		
Standing snags (dbh > 4 in) within the wetland		
Undercut banks are present for at least 6.6 ft (2 m) <b>and/or</b> 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)		
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 (cut shrubs or trees that have not yet weathered where wood is exposed)		
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> Invasive plants cover less than 25% of the wetland area in every stratum of plants ( <i>see H 1.1 for list of</i>		
strata)		
Total for H 1Add the points in the boxes above	1	
Rating of Site Potential If score is:       15-18 = H       7-14 = M       X_0-6 = L       Record the rating or	the first page	
H 2.0. Does the landscape have the potential to support the habitat functions of the site?		
H 2.1. Accessible habitat (include only habitat that directly abuts wetland unit).	2	
Calculate: % undisturbed habitat <u>11</u> + [(% moderate and low intensity land uses) <u>20</u> /2] <u>10</u> = <u>21</u> %		
If total accessible habitat is:		
> <sup>1</sup> / <sub>3</sub> (33.3%) of 1 km Polygon points = 3		
20-33% of 1 km Polygon points = 2		
10-19% of 1 km Polygon points = 1		

% undisturbed habitat 33 + [(% moderate and low intensity land uses)52/2]26 = 59 %

Add the points in the boxes above 5 Record the rating on the first page

points = 0

points = 3

points = 2

points = 1

points = 0

points = 0

points = (-2)

3

0

Rating of Landscape Potential If score is: X 4-6 = H 1-3 = M \_\_\_\_<1 = L</pre>

H 2.2. Undisturbed habitat in 1 km Polygon around the wetland.

Undisturbed habitat 10-50% and in 1-3 patches

> 50% of 1 km Polygon is high intensity land use

Undisturbed habitat 10-50% and > 3 patches

Undisturbed habitat < 10% of 1 km Polygon

Undisturbed habitat > 50% of Polygon

≤ 50% of 1 km Polygon is high intensity

H 2.3. Land use intensity in 1 km Polygon: If

#### H 3.0. Is the habitat provided by the site valuable to society?

H 3.1. Does the site provide habitat for species valued in laws, regulations, or policies? *Choose only the highest score that applies to the wetland being rated.* 

Site meets ANY of the following criteria:

- It has 3 or more priority habitats within 100 m (see next page)
- It provides habitat for Threatened or Endangered species (any plant or animal on the state or federal lists)
- It is mapped as a location for an individual WDFW priority species
- It is a Wetland of High Conservation Value as determined by the Department of Natural Resources

— It has been categorized as an important habitat site in a local or regional comprehensive plan, in a

- Shoreline Master Plan, or in a watershed plan
- Site has 1 or 2 priority habitats (listed on next page) within 100 m

Site does not meet any of the criteria above

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

points = 2



points = 0 Record the rating on the first page

# **WDFW Priority Habitats**

<u>Priority habitats listed by WDFW</u> (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. <u>http://wdfw.wa.gov/publications/00165/wdfw00165.pdf</u> or access the list from here: <u>http://wdfw.wa.gov/conservation/phs/list/</u>)

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

# **CATEGORIZATION BASED ON SPECIAL CHARACTERISTICS**

Wetland Type	Category
Check off any criteria that apply to the wetland. Circle the category when the appropriate criteria are met.	
SC 1.0. Estuarine wetlands Does the wetland meet the following criteria for Estuarine wetlands? — The dominant water regime is tidal, — Vegetated, and	
— With a salinity greater than 0.5 ppt Yes –Go to SC 1.1 Not an estuarine wetland	
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? Yes = <b>Category I</b> No - Go to <b>SC 1.2</b>	Cat. I
<ul> <li>SC 1.2. Is the wetland unit at least 1 ac in size and meets at least two of the following three conditions?</li> <li>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)</li> <li>At least ¼ of the landward edge of the wetland has a 100 ft buffer of shrub, forest, or un-grazed or un-merved areasland.</li> </ul>	Cat. I
<ul> <li>The wetland has at least two of the following features: tidal channels, depressions with open water, or contiguous freshwater wetlands.</li> <li>Yes = Category I</li> <li>No = Category II</li> </ul>	Cat. II
SC 2.0. Wetlands of High Conservation Value (WHCV)         SC 2.1. Has the WA Department of Natural Resources updated their website to include the list of Wetlands of High Conservation Value?         Yes – Go to SC 2.2         SC 2.2. Is the wetland listed on the WDNR database as a Wetland of High Conservation Value?         Yes = Category I         No = Not a WHCV	Cat. I
SC 2.3. Is the wetland in a Section/Township/Range that contains a Natural Heritage wetland? <u>http://www1.dnr.wa.gov/nhp/refdesk/datasearch/wnhpwetlands.pdf</u> Yes – Contact WNHP/WDNR and go to SC 2.4  we have a weight of the section of the secti	
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? Yes = Category I No = Not a WHCV	
<ul> <li>SC 3.0. Bogs         Does the wetland (or any part of the unit) meet both the criteria for soils and vegetation in bogs? Use the key below. If you answer YES you will still need to rate the wetland based on its functions.     </li> <li>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? Yes – Go to SC 3.3 – Go to SC 3.2     <li>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? Yes – Go to SC 3.3 Ves – Is not a bog</li> <li>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%</li> </li></ul>	
<ul> <li>cover of plant species listed in Table 4?</li> <li>Yes = Is a Category I bog</li> <li>No – Go to SC 3.4</li> <li>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.</li> <li>SC 3.4. Is an area with peats or mucks forested (&gt; 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?</li> <li>Yes = Is a Category I bog</li> <li>No = Is not a bog</li> </ul>	Cat. I

SC 4.0. Forested Wetlands	
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? If you answer YES you will still need to rate	
the wetland based on its functions.	
— 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 UK the	
species that make up the canopy have an average diameter (duit) exceeding 21 in (55 cm).	
Yes = Category I Ves = Not a forested wetland for this section	Cat. I
SC 5.0. Wetlands in Coastal Lagoons	
Does the wetland meet all of the following criteria of a wetland in a coastal lagoon?	
— 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)	Cat I
during most of the year in at least a portion of the lagoon (needs to ne measured near the bottom)	Cat. I
Tes = 00 to <b>3C 5.1 W</b> = <b>NOT a Wettand</b> in a coastal lagoon	
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).	Cat. II
- At least % of the landward edge of the wetland has a 100 ft buffer of shrub, forest, or un-grazed or un-	
mowed grassland.	
— The wetland is larger than $1/_{10}$ ac (4350 ft <sup>2</sup> )	
Yes = Category I No = Category II	
SC 6.0. Interdunal Wetlands	
Is the wetland west of the 1889 line (also called the Western Boundary of Upland Ownership or WBUO)? If	
vou answer ves vou will still need to rate the wetland based on its habitat functions.	
In practical terms that means the following geographic areas:	
<ul> <li>Long Beach Peninsula: Lands west of SR 103</li> </ul>	
<ul> <li>— Grayland-Westport: Lands west of SR 105</li> </ul>	Cat I
<ul> <li>Ocean Shores-Copalis: Lands west of SR 115 and SR 109</li> </ul>	
Yes – Go to SC 6.1 No = not an interdunal wetland for rating	
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	Cat. II
for the three aspects of function)? Yes = <b>Category I</b> No – Go to <b>SC 6.2</b>	
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	Cat. III
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	
	Cat. IV
Category of wetland based on Special Characteristics	Not
If you answered No for all types, enter "Not Applicable" on Summary Form	Applicable

Wetland name or number  $\underline{A}$ 

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# **RATING SUMMARY – Western Washington**

Name of wetland (or ID #):Wetland BDate of site visit:3/3/2016, 9/7/16Rated byKT WillsTrained by Ecology?YesDate of training 9/2016HGM Class used for ratingSlopeWetland has multiple HGM classes?YX

**NOTE**: Form is not complete without the figures requested (figures can be combined). Source of base aerial photo/map <u>Google Earth</u>

**OVERALL WETLAND CATEGORY IV** (based on functions <u>X</u> 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					
					Circle	the ap	propri	ate r	atings	
Site Potential	Н	М	$\bigcirc$	Н	Μ	0	Н	Μ	$\bigcirc$	
Landscape Potential	Н	$\mathbf{M}$	Ĺ	Н	$\mathbb{M}$	Ĺ	Θ	Μ	Ĺ	
Value	θ	М	L	Н	Μ	0	Н	Μ	0	TOTAL
Score Based on Ratings		6			4			5		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	Ι	II	
Wetland of High Conservation Value	I		
Bog	Ι		
Mature Forest	I		
Old Growth Forest		Ι	
Coastal Lagoon	Ι	II	
Interdunal	I II	III IV	
None of the above	Not A	pplicable	

# 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	
Hydroperiods	D 1.4, H 1.2	
Location of outlet (can be added to map of hydroperiods)	D 1.1, D 4.1	
Boundary of area within 150 ft of the wetland (can be added to another figure)	D 2.2, D 5.2	
Map of the contributing basin	D 4.3, D 5.3	
1 km Polygon: Area that extends 1 km from entire wetland edge - including	H 2.1, H 2.2, H 2.3	
polygons for accessible habitat and undisturbed habitat		
Screen capture of map of 303(d) listed waters in basin (from Ecology website)	D 3.1, D 3.2	
Screen capture of list of TMDLs for WRIA in which unit is found (from web)	D 3.3	

## **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 (can be added to another figure)	R 2.4	
Plant cover of trees, shrubs, and herbaceous plants	R 1.2, R 4.2	
Width of unit vs. width of stream (can be added to another figure)	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	Н 2.1, Н 2.2, Н 2.3	
polygons for accessible habitat and undisturbed habitat		
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 (can be added to another figure)	L 2.2	
1 km Polygon: Area that extends 1 km from entire wetland edge - including	Н 2.1, Н 2.2, Н 2.3	
polygons for accessible habitat and undisturbed habitat		
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	Н 1.1, Н 1.4	7
Hydroperiods	H 1.2	7
Plant cover of <b>dense</b> trees, shrubs, and herbaceous plants	S 1.3	7
Plant cover of dense, rigid trees, shrubs, and herbaceous plants	S 4.1	7
(can be added to figure above)		
Boundary of 150 ft buffer (can be added to another figure)	S 2.1, S 5.1	7
1 km Polygon: Area that extends 1 km from entire wetland edge - including	H 2.1, H 2.2, H 2.3	8
polygons for accessible habitat and undisturbed habitat		
Screen capture of map of 303(d) listed waters in basin (from Ecology website)	S 3.1, S 3.2	17
Screen capture of list of TMDLs for WRIA in which unit is found (from web)	S 3.3	17
## 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?

**W** - 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)** *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.

YES – The wetland class is **Flats** If your wetland can be classified as a Flats wetland, use the form for **Depressional** wetlands.

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).

🚺 – go to 4

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

- 4. Does the entire wetland unit **meet all** of the following criteria?
  - <u>x</u> The wetland is on a slope (*slope can be very gradual*),
  - <u>x</u> 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,

<u>x</u>The water leaves the wetland **without being impounded**.

NO – go to 5

• 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 <u>B</u>

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

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

 Rating of Site Potential If score is: \_\_\_12 = H \_\_\_6-11 = M \_X\_0-5 = L
 Record the rating on the first page

 S 2.0. Does the landscape have the potential to support the water quality function of the site?
 S 2.0. Does the landscape have the potential to support the water quality function of the site?
 Image: Colspan="2">S 2.0. Does the landscape have the potential to support the water quality function of the site?

 S 2.1. Is > 10% of the area within 150 ft on the uphill side of the wetland in land uses that generate pollutants?
 1

 Yes = 1
 No = 0
 1

 S 2.2. Are there other sources of pollutants coming into the wetland that are not listed in question S 2.1?
 0

 Other sources
 Yes = 1
 No = 0

 Total for S 2
 Add the points in the boxes above
 1

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

Record the rating on the first page

S 3.0. Is the water quality improvement provided by the site valuab	e to society?	
S 3.1. Does the wetland discharge directly (i.e., within 1 mi) to a stream, riv 303(d) list?	ver, lake, or marine water that is on the Yes = 1 No = 0	0
S 3.2. Is the wetland in a basin or sub-basin where water quality is an issue on the 303(d) list.	? At least one aquatic resource in the basin is Yes = 1 No = 0	1
S 3.3. Has the site been identified in a watershed or local plan as importan if there is a TMDL for the basin in which unit is found.	t for maintaining water quality? <i>Answer YES</i> Yes = 2 No = 0	2
Total for S 3	Add the points in the boxes above	3
Deting of Males of second in M. 2.4. II. 4. MA. O. I	Descurit the method and	the Cost is a se

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

Record the rating on the first page

SLOPE WETLANDS Hydrologic Functions - Indicators that the site functions to reduce flooding and stream ero	sion
S 4.0. Does the site have the potential to reduce flooding and stream erosion?	
S 4.1. Characteristics of plants that reduce the velocity of surface flows during storms: Choose the points appropriate for the description that best fits conditions in the wetland. <i>Stems of plants should be thick enough (usually &gt; 1/</i> <i>in), or dense enough, to remain erect during surface flows.</i> Dense, uncut, <b>rigid</b> plants cover > 90% of the area of the wetland	0
All other conditionsTSolution and a conditionsPoints = 1Rating of Site Potential If score is: $1 = M$ $X_0 = L$ Record the rating on	the first page
S 5.0. Does the landscape have the potential to support the hydrologic functions of the site?	
S 5.1. Is more than 25% of the area within 150 ft upslope of wetland in land uses or cover that generate excess surface runoff? Yes = 1 No = 0	1
Rating of Landscape Potential If score is:       X 1 = M 0 = L       Record the rating on	the first page

S 6.0. Are the hydrologic functions provided by the site valuable to society?		
S 6.1. Distance to the nearest areas downstream that have flooding problems:		
The sub-basin immediately down-gradient of site has flooding problems that result in damage to human or		
natural resources (e.g., houses or salmon redds) points = 2		
Surface flooding problems are in a sub-basin farther down-gradient points = 1		
No flooding problems anywhere downstream points = 0		
S 6.2. Has the site been identified as important for flood storage or flood conveyance in a regional flood control plan?		
Yes = 2 No = 0		
Total for S 6Add 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

NOTES and FIELD OBSERVATIONS:

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        Areased       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       1	0
H 1 2 Hydroperiods	0
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       2 points        Seasonally flowing stream in, or adjacent to, the wetland       2 points        Seasonally flowing stream in, or adjacent to, the wetland       2 points	U
H 1.3. Richness of plant species	1
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 thistleIf you counted: > 19 speciespoints = 25 - 19 speciespoints = 1< 5 species	
H 1.4. Interspersion of habitats	0
Decide from the diagrams below whether interspersion 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. <i>If you</i> <i>have four or more plant classes or three classes and open water, the rating is always high.</i> None = 0 points Low = 1 point All three diagrams in this row are <b>HIGH</b> = 3points	

#### Wetland name or number **B**

H 1.5. Special habitat features:	0	
Check the habitat features that are present in the wetland. The number of checks is the number of points.		
large, downed, woody debris within the wetland (> 4 in diameter and 6 ft long).		
Standing snags (dbh > 4 in) within the wetland		
Undercut banks are present for at least 6.6 ft (2 m) <b>and/or</b> 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)		
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 (cut shrubs or trees that have not yet weathered where wood is exposed)		
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>		
Invasive plants cover less than 25% of the wetland area in every stratum of plants (see H 1.1 for list of strata)		
Total for H 1 Add the points in the boxes above	1	
Rating of Site Potential If score is:       15-18 = H       7-14 = M       X       0-6 = L       Record the rating on	the first page	
H 2.0. Does the landscape have the potential to support the habitat functions of the site?		
H 2.1. Accessible habitat (include only habitat that directly abuts wetland unit).	2	
Calculate: % undisturbed habitat <u>11.6</u> + [(% moderate and low intensity land uses) <u>21</u> /2] <u>10.5</u> = <u>22</u> %		
If total accessible habitat is:		
> <sup>1</sup> / <sub>3</sub> (33.3%) of 1 km Polygon points = 3		
20-33% of 1 km Polygon points = 2		
10-19% of 1 km Polygon points = 1		
< 10% of 1 km Polygon points = 0		
H 2.2. Undisturbed habitat in 1 km Polygon around the wetland.	3	
Calculate: % undisturbed habitat <u>32</u> + [(% moderate and low intensity land uses) <u>56</u> /2] <u>28</u> = <u>60</u> %		
Undisturbed habitat > 50% of Polygon points = 3		
Undisturbed habitat 10-50% and in 1-3 patches points = 2		
Undisturbed habitat 10-50% and > 3 patches points = 1		
Undisturbed habitat < 10% of 1 km Polygon points = 0		
H 2.3. Land use intensity in 1 km Polygon: If	0	

Total for H 2 Rating of Landscape Potential If score is: X 4-6 = H 1-3 = M < 1 = L Add the points in the boxes above Record the rating on the first page

5

points = 0

#### H 3.0. Is the habitat provided by the site valuable to society?

H 3.1. Does the site provide habitat for species valued in laws, regulations, or policies? Choose only the highest score that applies to the wetland being rated.

Site meets ANY of the following criteria:

≤ 50% of 1 km Polygon is high intensity

- It has 3 or more priority habitats within 100 m (see next page)
- It provides habitat for Threatened or Endangered species (any plant or animal on the state or federal lists)
- It is mapped as a location for an individual WDFW priority species
- It is a Wetland of High Conservation Value as determined by the Department of Natural Resources

— It has been categorized as an important habitat site in a local or regional comprehensive plan, in a

- Shoreline Master Plan, or in a watershed plan
- Site has 1 or 2 priority habitats (listed on next page) within 100 m

Site does not meet any of the criteria above

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

points = 2

Record the rating on the first page

points = 1points = 0

## **WDFW Priority Habitats**

<u>Priority habitats listed by WDFW</u> (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. <u>http://wdfw.wa.gov/publications/00165/wdfw00165.pdf</u> or access the list from here: <u>http://wdfw.wa.gov/conservation/phs/list/</u>)

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

## **CATEGORIZATION BASED ON SPECIAL CHARACTERISTICS**

Wetland Type	Category
Check off any criteria that apply to the wetland. Circle the category when the appropriate criteria are met.	
SC 1.0. Estuarine wetlands Does the wetland meet the following criteria for Estuarine wetlands? — The dominant water regime is tidal, — Vegetated, and	
— With a salinity greater than 0.5 ppt Yes –Go to SC 1.1 Not an estuarine wetland	
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? Yes = <b>Category I</b> No - Go to <b>SC 1.2</b>	Cat. I
<ul> <li>SC 1.2. Is the wetland unit at least 1 ac in size and meets at least two of the following three conditions?</li> <li>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)</li> <li>At least ¼ of the landward edge of the wetland has a 100 ft buffer of shrub, forest, or un-grazed or un-mound grassland.</li> </ul>	Cat. I
<ul> <li>The wetland has at least two of the following features: tidal channels, depressions with open water, or contiguous freshwater wetlands.</li> <li>Yes = Category I</li> <li>No = Category II</li> </ul>	Cat. II
SC 2.0. Wetlands of High Conservation Value (WHCV)         SC 2.1. Has the WA Department of Natural Resources updated their website to include the list of Wetlands of High Conservation Value?         Yes – Go to SC 2.2         SC 2.2. Is the wetland listed on the WDNR database as a Wetland of High Conservation Value?         Yes = Category I         No = Not a WHCV	Cat. I
SC 2.3. Is the wetland in a Section/Township/Range that contains a Natural Heritage wetland? <u>http://www1.dnr.wa.gov/nhp/refdesk/datasearch/wnhpwetlands.pdf</u> Yes – Contact WNHP/WDNR and go to SC 2.4  we have a weight of the section of the secti	
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? Yes = Category I No = Not a WHCV	
<ul> <li>SC 3.0. Bogs         Does the wetland (or any part of the unit) meet both the criteria for soils and vegetation in bogs? Use the key below. If you answer YES you will still need to rate the wetland based on its functions.     </li> <li>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? Yes – Go to SC 3.3 – Go to SC 3.2     <li>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? Yes – Go to SC 3.3 Ves – Is not a bog</li> <li>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%</li> </li></ul>	
<ul> <li>cover of plant species listed in Table 4?</li> <li>Yes = Is a Category I bog</li> <li>No – Go to SC 3.4</li> <li>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.</li> <li>SC 3.4. Is an area with peats or mucks forested (&gt; 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?</li> <li>Yes = Is a Category I bog</li> <li>No = Is not a bog</li> </ul>	Cat. I

SC 4.0. Forested Wetlands	
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? If you answer YES you will still need to rate	
the wetland based on its functions.	
- 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 OK the	
species that make up the canopy have an average diameter (upin) exceeding 21 in (35 cm).	
Yes = Category I Vg = Not a forested wetland for this section	Cat. I
SC 5.0. Wetlands in Coastal Lagoons	
Does the wetland meet all of the following criteria of a wetland in a coastal lagoon?	
— 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)	Cat I
Ves = Go to SC 5.1 Nu = Not a wetland in a coastal lagoon	Cat. I
SC 5.1 Does the wetland meet all of the following three conditions?	
— 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).	Cat. II
— At least ¾ of the landward edge of the wetland has a 100 ft buffer of shrub, forest, or un-grazed or un-	
mowed grassland.	
— The wetland is larger than $^{1}/_{10}$ ac (4350 ft <sup>2</sup> )	
Yes = Category I No = Category II	
SC 6.0. Interdunal Wetlands	
Is the wetland west of the 1889 line (also called the Western Boundary of Upland Ownership or WBUO)? If	
you answer yes you will still need to rate the wetland based on its habitat functions.	
In practical terms that means the following geographic areas:	
<ul> <li>Long Beach Peninsula: Lands west of SR 103</li> </ul>	
— Grayland-Westport: Lands west of SR 105	Cat I
Ocean Shores-Copalis: Lands west of SR 115 and SR 109     Voc. Co to SC 6.1     No - not an interdunal wetland for rating	
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	Cat. II
for the three aspects of function)? Yes = Category I No – Go to SC 6.2	
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	Cat. III
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	Cat IV
Category of wetland based on Special Characteristics	Not
If you answered No for all types, enter "Not Applicable" on Summary Form	Applicable

Wetland name or number  $\underline{B}$ 

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# **RATING SUMMARY – Western Washington**

Name of wetland (or ID #):Wetland CDate of site visit:3/3/2016, 9/7/16Rated byKT WillsTrained by Ecology?YesNo Date of training 9/2016HGM Class used for ratingSlopeWetland has multiple HGM classes?YX

**NOTE**: Form is not complete without the figures requested (figures can be combined). Source of base aerial photo/map <u>Google Earth</u>

**OVERALL WETLAND CATEGORY IV** (based on functions <u>X</u> 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				
					Circle	the ap	propr	iate ra	itings	
Site Potential	Н	М	$\bigcirc$	Н	Μ	0	Н	Μ	$\bigcirc$	
Landscape Potential	Н	${\bf M}$	Ĺ	Н	Μ	Ō	Θ	Μ	L	
Value	Θ	М	L	Н	Μ	Ō	Н	0	L	TOTAL
Score Based on Ratings		6			3			6		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	Ι	II	
Wetland of High Conservation Value	I		
Bog	I		
Mature Forest	I		
Old Growth Forest	Ι		
Coastal Lagoon	Ι	II	
Interdunal	I II	III IV	
None of the above	Not A	pplicable	

# 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	
Hydroperiods	D 1.4, H 1.2	
Location of outlet (can be added to map of hydroperiods)	D 1.1, D 4.1	
Boundary of area within 150 ft of the wetland (can be added to another figure)	D 2.2, D 5.2	
Map of the contributing basin	D 4.3, D 5.3	
1 km Polygon: Area that extends 1 km from entire wetland edge - including	H 2.1, H 2.2, H 2.3	
polygons for accessible habitat and undisturbed habitat		
Screen capture of map of 303(d) listed waters in basin (from Ecology website)	D 3.1, D 3.2	
Screen capture of list of TMDLs for WRIA in which unit is found (from web)	D 3.3	

#### **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 (can be added to another figure)	R 2.4	
Plant cover of trees, shrubs, and herbaceous plants	R 1.2, R 4.2	
Width of unit vs. width of stream (can be added to another figure)	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	Н 2.1, Н 2.2, Н 2.3	
polygons for accessible habitat and undisturbed habitat		
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 (can be added to another figure)	L 2.2	
1 km Polygon: Area that extends 1 km from entire wetland edge - including	Н 2.1, Н 2.2, Н 2.3	
polygons for accessible habitat and undisturbed habitat		
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	Н 1.1, Н 1.4	9
Hydroperiods	H 1.2	9
Plant cover of <b>dense</b> trees, shrubs, and herbaceous plants	S 1.3	9
Plant cover of dense, rigid trees, shrubs, and herbaceous plants	S 4.1	9
(can be added to figure above)		
Boundary of 150 ft buffer (can be added to another figure)	S 2.1, S 5.1	9
1 km Polygon: Area that extends 1 km from entire wetland edge - including	H 2.1, H 2.2, H 2.3	10
polygons for accessible habitat and undisturbed habitat		
Screen capture of map of 303(d) listed waters in basin (from Ecology website)	S 3.1, S 3.2	17
Screen capture of list of TMDLs for WRIA in which unit is found (from web)	S 3.3	17

## 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?

**W** - 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)** *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.

YES – The wetland class is **Flats** If your wetland can be classified as a Flats wetland, use the form for **Depressional** wetlands.

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).

🚺 – go to 4

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

- 4. Does the entire wetland unit **meet all** of the following criteria?
  - <u>\_\_\_\_\_</u>The wetland is on a slope (*slope can be very gradual*),
  - <u>x</u> 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,

<u>x</u>The water leaves the wetland **without being impounded**.

NO – go to 5

• 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<u>C</u>

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

SLOPE WETLANDS Water Quality Functions - Indicators that the site functions to improve water quality	
S 1.0. Does the site have the potential to improve water quality?	
S 1.1. Characteristics of the average slope of the wetland: (a 1% slope has a 1 ft vertical drop in elevation for every 100 ft of horizontal distance)	1
Slope is 1% or less points = 3	
Slope is > 1%-2% points = 2	
Slope is > 2%-5% points = 1	
Slope is greater than 5% points = 0	
S 1.2. The soil 2 in below the surface (or duff layer) is true clay or true organic (use NRCS definitions): Yes = 3 No = 0	0
S 1.3. Characteristics of the plants in the wetland that trap sediments and pollutants:	1
Choose the points appropriate for the description that best fits the plants in the wetland. <i>Dense means you have trouble seeing the soil surface (&gt;75% cover), and uncut means not grazed or mowed and plants are higher than 6 in.</i>	
Dense, uncut, herbaceous plants > 90% of the wetland area points = 6	
Dense, uncut, herbaceous plants > ½ of area points = 3	
Dense, woody, plants > ½ of area points = 2	
Dense, uncut, herbaceous plants > ¼ of area points = 1	
Does not meet any of the criteria above for plants points = 0	
Total for S 1Add the points in the boxes above	2
<b>Rating of Site Potential</b> If score is: 12 = H 6-11 = M X 0-5 = L Record the rating on the firs	

S 2.0. Does the landscape have the potential to support the water quality function of the site?	
S 2.1. Is > 10% of the area within 150 ft on the uphill side of the wetland in land uses that generate pollutants?	
Yes = 1 No = 0	
S 2.2. Are there other sources of pollutants coming into the wetland that are not listed in question S 2.1?	
Other sources Yes = 1 No = 0	
Total for S 2Add the points in the boxes above	1
Rating of Landscape Potential If score is: X       1-2 = M       0 = L       Record the rating	on the first page

S 3.0. Is the water quality improvement provided by the site valuable to society?	
S 3.1. Does the wetland discharge directly (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
S 3.2. Is the wetland in a basin or sub-basin where water quality is an issue? At least one aquatic resource in the basin is on the 303(d) list. Yes = 1 No = 0	1
S 3.3. Has the site been identified in a watershed or local plan as important for maintaining water quality? Answer YES if there is a TMDL for the basin in which unit is found. Yes = 2 No = 0	2
Total for S 3Add 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 <u>C</u>

<u>SLOPE WETLANDS</u>	
Hydrologic Functions - Indicators that the site functions to reduce flooding and stream eros	sion
S 4.0. Does the site have the potential to reduce flooding and stream erosion?	
S 4.1. Characteristics of plants that reduce the velocity of surface flows during storms: Choose the points appropriate for the description that best fits conditions in the wetland. <i>Stems of plants should be thick enough (usually &gt; 1/</i> <i>in), or dense enough, to remain erect during surface flows.</i> Dense, uncut, <b>rigid</b> plants cover > 90% of the area of the wetland points = 1	0
Rating of Site Potential If score is: $1 = M$ $X_0 = L$ Record the rating on	the first page
S 5.0. Does the landscape have the potential to support the hydrologic functions of the site?	
S 5.1. Is more than 25% of the area within 150 ft upslope of wetland in land uses or cover that generate excess surface runoff? Yes = 1 No = 0	0
Rating of Landscape Potential If score is:       1 = M       X       0 = L       Record the rating on	the first page
S 6.0. Are the hydrologic functions provided by the site valuable to society?	
S 6.1. Distance to the nearest areas downstream that have flooding problems: The sub-basin immediately down-gradient of site has flooding problems that result in damage to human or natural resources (e.g., houses or salmon redds) points = 2	0

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

Surface flooding problems are in a sub-basin farther down-gradient

No flooding problems anywhere downstream

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

NOTES and FIELD OBSERVATIONS:

Total for S 6

points = 1

points = 0

Record the rating on the first page

Yes = 2 No = 0

Add the points in the boxes above

0

0

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 % 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        Arease       3 structures: points = 2        Astructures or more: 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)	1
that each cover 20% within the Forested polygon	
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       2 points        Seasonally flowing stream in, or adjacent to, the wetland       2 points        Saturated only       2 points	0
H 1.3. Richness of plant species	1
Count the number of plant species in the wetland that cover at least 10 ft <sup>2</sup> .         Different patches of the same species can be combined to meet the size threshold 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	
H 1.4. Interspersion of habitats Decide from the diagrams below whether interspersion 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. <i>If you</i> <i>have four or more plant classes or three classes and open water, the rating is always high.</i> None = 0 points All three diagrams in this row are <b>HIGH</b> = 3points	1

#### Wetland name or number <u>C</u>

H 1.5. Special habitat features:	0
Check the habitat features that are present in the wetland. <i>The number of checks is the number of points.</i> Large, downed, woody debris within the wetland (> 4 in diameter and 6 ft long).	
Standing snags (dbh > 4 in) within the wetland	
Undercut banks are present for at least 6.6 ft (2 m) <b>and/or</b> 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)	
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 (cut shrubs or trees that have not yet weathered where wood is exposed)	
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>	
Invasive plants cover less than 25% of the wetland area in every stratum of plants (see H 1.1 for list of strata)	
Total for H 1Add the points in the boxes above	3
Rating of Site Potential If score is:       15-18 = H       7-14 = M       X_0-6 = L       Record the rating of the state of the stat	n the first page
H 2.0. Does the landscape have the potential to support the habitat functions of the site?	
H 2.1. Accessible habitat (include only habitat that directly abuts wetland unit). Calculate: % undisturbed habitat <u>11.4</u> + [(% moderate and low intensity land uses) <u>22</u> /2] <u>11</u> = <u>22</u> % If total accessible habitat is: $\sum_{i=1}^{1} (23.2\%) = 61 \text{ km}$ Delygen	2
$\frac{2}{3} (33.5\%) \text{ of } 1 \text{ km Polygon} $ points = 3	

20-33% of 1 km Polygon points = 2	
10-19% of 1 km Polygon points = 1	
< 10% of 1 km Polygon points = 0	
H 2.2. Undisturbed habitat in 1 km Polygon around the wetland.	3
Calculate: % undisturbed habitat <u>32</u> + [(% moderate and low intensity land uses) <u>49</u> /2] <u>24.5</u> = <u>57</u> %	
Undisturbed habitat > 50% of Polygon points = 3	
Undisturbed habitat 10-50% and in 1-3 patches points = 2	
Undisturbed habitat 10-50% and > 3 patches points = 1	
Undisturbed habitat < 10% of 1 km Polygon points = 0	
H 2.3. Land use intensity in 1 km Polygon: If	0
> 50% of 1 km Polygon is high intensity land use points = (- 2)	
≤ 50% of 1 km Polygon is high intensity points = 0	
Total for H 2 Add the points in the boxes above	5
Rating of Landscape Potential If score is: X 4-6 = H 1-3 = M <pre>&lt;1 = L</pre> Record the rating on	the first page

#### H 3.0. Is the habitat provided by the site valuable to society?

H 3.1. Does the site provide habitat for species valued in laws, regulations, or policies? *Choose only the highest score that applies to the wetland being rated.* 

Site meets ANY of the following criteria:

- It has 3 or more priority habitats within 100 m (see next page)
- It provides habitat for Threatened or Endangered species (any plant or animal on the state or federal lists)
- It is mapped as a location for an individual WDFW priority species
- It is a Wetland of High Conservation Value as determined by the Department of Natural Resources

— It has been categorized as an important habitat site in a local or regional comprehensive plan, in a

- Shoreline Master Plan, or in a watershed plan
- Site has 1 or 2 priority habitats (listed on next page) within 100 m

Site does not meet any of the criteria above

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



points

points = 0 Record the rating on the first page

points = 2

## **WDFW Priority Habitats**

<u>Priority habitats listed by WDFW</u> (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. <u>http://wdfw.wa.gov/publications/00165/wdfw00165.pdf</u> or access the list from here: <u>http://wdfw.wa.gov/conservation/phs/list/</u>)

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: <u>Old-growth west of Cascade crest</u> 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. <u>Mature forests</u> 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*).
- X— **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*).
- X— **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.

## **CATEGORIZATION BASED ON SPECIAL CHARACTERISTICS**

Wetland Type	Category
Check off any criteria that apply to the wetland. Circle the category when the appropriate criteria are met.	
SC 1.0. Estuarine wetlands Does the wetland meet the following criteria for Estuarine wetlands? — The dominant water regime is tidal,	
<ul> <li>With a salinity greater than 0.5 ppt</li> <li>Yes –Go to SC 1.1</li> <li>Wes –Go to SC 1.1</li> </ul>	
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? Yes = <b>Category I</b> No - Go to <b>SC 1.2</b>	Cat. I
<ul> <li>SC 1.2. Is the wetland unit at least 1 ac in size and meets at least two of the following three conditions?</li> <li>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)</li> <li>At least ¼ of the landward edge of the wetland has a 100 ft buffer of shrub, forest, or un-grazed or un-</li> </ul>	Cat. I
mowed grassland. — The wetland has at least two of the following features: tidal channels, depressions with open water, or contiguous freshwater wetlands. Yes = <b>Category I</b> No = <b>Category II</b>	Cat. II
SC 2.0. Wetlands of High Conservation Value (WHCV)         SC 2.1. Has the WA Department of Natural Resources updated their website to include the list of Wetlands of High Conservation Value?         Yes – Go to SC 2.2         SC 2.2. Is the wetland listed on the WDNR database as a Wetland of High Conservation Value?         Yes = Category I         No = Not a WHCV	Cat. I
SC 2.3. Is the wetland in a Section/Township/Range that contains a Natural Heritage wetland? <u>http://www1.dnr.wa.gov/nhp/refdesk/datasearch/wnhpwetlands.pdf</u> Yes – Contact WNHP/WDNR and go to SC 2.4  we have a wetland	
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? Yes = Category I No = Not a WHCV	
SC 3.0. Bogs         Does the wetland (or any part of the unit) meet both the criteria for soils and vegetation in bogs? Use the key below. If you answer YES you will still need to rate the wetland based on its functions.         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?         Yes – Go to SC 3.3         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?	
<ul> <li>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? Yes = Is a Category I bog No – Go to SC 3.4 NOTE: If you are uncertain about the extent of mosses in the understory, you may substitute that criterion by measuring the pH of the water that seeps into a hole dug at least 16 in deep. If the pH is less than 5.0 and the plant species in Table 4 are present, the wetland is a bog.</li> <li>SC 3.4. Is an area with peats or mucks forested (&gt; 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? Yes = Is a Category I bog No = Is not a bog</li> </ul>	Cat. I

SC 4.0. Forested Wetlands	
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? If you answer YES you will still need to rate	
the wetland based on its functions.	
— 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).	
Yes = Category I Ver = Not a forested wetland for this section	Cat. I
SC 5.0. Wetlands in Coastal Lagoons	
Does the wetland meet all of the following criteria of a wetland in a coastal lagoon?	
— 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)	Cat
during most of the year in at least a portion of the lagoon (needs to be measured hear the bottom)	Cat. I
SC 5.1 Does the wetland meet all of the following three conditions?	
— 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)	Cat. II
- At least <sup>3</sup> / <sub>4</sub> of the landward edge of the wetland has a 100 ft buffer of shrub, forest, or un-grazed or un-	
mowed grassland.	
— The wetland is larger than $1/_{10}$ ac (4350 ft <sup>2</sup> )	
Yes = Category I No = Category II	
SC 6.0. Interdunal Wetlands	
Is the wetland west of the 1889 line (also called the Western Boundary of Upland Ownership or WBUO)? If	
vou answer ves vou will still need to rate the wetland based on its habitat functions.	
In practical terms that means the following geographic areas:	
<ul> <li>Long Beach Peninsula: Lands west of SR 103</li> </ul>	
<ul> <li>— Grayland-Westport: Lands west of SR 105</li> </ul>	Cat I
<ul> <li>Ocean Shores-Copalis: Lands west of SR 115 and SR 109</li> </ul>	
Yes – Go to SC 6.1 No = not an interdunal wetland for rating	
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	Cat. II
for the three aspects of function)? Yes = <b>Category I</b> No – Go to <b>SC 6.2</b>	
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	Cat. III
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	
	Cat. IV
Category of wetland based on Special Characteristics	Not
If you answered No for all types, enter "Not Applicable" on Summary Form	Applicable

Wetland name or number  $\underline{C}$ 

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# **RATING SUMMARY – Western Washington**

Name of wetland (or ID #):Wetland DDate of site visit: 4/6/16 and 9/7/16Rated byKT WillsTrained by Ecology?YesDate of training 9/2016HGM Class used for ratingDepressionalWetland has multiple HGM classes?Y X N

**NOTE**: Form is not complete without the figures requested (figures can be combined). Source of base aerial photo/map <u>Google Earth</u>

### **OVERALL WETLAND CATEGORY IV** (based on functions <u>X</u> 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	lr Wa	npro ter Q	ving uality	H	ydrol	ogic		Habit	at	
					Circle	the ap	propi	riate ra	ntings	
Site Potential	Н	$\square$	L	Н	Μ	0	Н	Μ	0	
Landscape Potential	Н	М	C	Н	Μ	0	θ	Μ	L	
Value	θ	Μ	L	Н	Μ	0	Н	$\mathbb{M}$	L	ΤΟΤΑΙ
Score Based on		6			3			6		15
Ratings										

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	Ι	II	
Wetland of High Conservation Value		Ι	
Bog		Ι	
Mature Forest		Ι	
Old Growth Forest		Ι	
Coastal Lagoon	Ι	II	
Interdunal	I II	III IV	
None of the above	Not A	pplicable	

# 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	11
Hydroperiods	D 1.4, H 1.2	11
Location of outlet (can be added to map of hydroperiods)	D 1.1, D 4.1	11
Boundary of area within 150 ft of the wetland (can be added to another figure)	D 2.2, D 5.2	11
Map of the contributing basin	D 4.3, D 5.3	12
1 km Polygon: Area that extends 1 km from entire wetland edge - including	H 2.1, H 2.2, H 2.3	12
polygons for accessible habitat and undisturbed habitat		
Screen capture of map of 303(d) listed waters in basin (from Ecology website)	D 3.1, D 3.2	17
Screen capture of list of TMDLs for WRIA in which unit is found (from web)	D 3.3	17

#### **Riverine Wetlands**

Map of:	To answer questions:	Figure #
Cowardin plant classes	Н 1.1, Н 1.4	
Hydroperiods	H 1.2	
Ponded depressions	R 1.1	
Boundary of area within 150 ft of the wetland (can be added to another figure)	R 2.4	
Plant cover of trees, shrubs, and herbaceous plants	R 1.2, R 4.2	
Width of unit vs. width of stream (can be added to another figure)	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	H 2.1, H 2.2, H 2.3	
polygons for accessible habitat and undisturbed habitat		
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 (can be added to another figure)	L 2.2	
1 km Polygon: Area that extends 1 km from entire wetland edge - including	Н 2.1, Н 2.2, Н 2.3	
polygons for accessible habitat and undisturbed habitat		
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 <b>dense</b> trees, shrubs, and herbaceous plants	S 1.3	
Plant cover of dense, rigid trees, shrubs, and herbaceous plants	S 4.1	
(can be added to figure above)		
Boundary of 150 ft buffer (can be added to another figure)	S 2.1, S 5.1	
1 km Polygon: Area that extends 1 km from entire wetland edge - including	H 2.1, H 2.2, H 2.3	
polygons for accessible habitat and undisturbed habitat		
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?

N - 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)** *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.

**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).

**10**- 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**.

**10**- 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 <u>D</u>

**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

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

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. The soil 2 in below the surface (or duff layer) is true clay or true organic (use NRCS definitions). Yes = 4 No = 0	0
D 1.3. Characteristics and distribution of persistent plants (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 > <sup>1</sup> / <sub>10</sub> of area       points = 1         Wetland has persistent, ungrazed plants < <sup>1</sup> / <sub>10</sub> of area       points = 0	5
D 1.4. Characteristics of seasonal ponding or inundation:This is the area that is ponded for at least 2 months. See description in manual.Area seasonally ponded is > ½ total area of wetlandArea seasonally ponded is > ½ total area of wetlandArea seasonally ponded is > ½ total area of wetlandArea seasonally ponded is < ¼ total area of wetland	0
Total for D 1 Add the points in the boxes above	8
<b>Rating of Site Potential</b> If score is: <b>12-16 = HX_6-11 = M0-5 = L</b> Record the rating on the first j	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	0
D 2.3. Are there septic systems within 250 ft of the wetland? Yes = 1 No = 0	0
D 2.4. Are there other sources of pollutants coming into the wetland that are not listed in questions D 2.1-D 2.3? Source Yes = 1 No = 0	0
Total for D 2Add the points in the boxes above	0
<b>Rating of Landscape Potential</b> If score is: <b>3 or 4 = H 1 or 2 = M X 0 = L</b> <i>Record the rating on the fi</i>	rst 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 ( <i>answer YES if there is a TMDL for the basin in which the unit is found</i> )? Yes = 2 No = 0	2
Total for D 3 Add the points in the boxes above	3

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

DEPRESSIONAL AND FLATS WETLANDS		
Hydrologic Functions - Indicators that the site functions to reduce flooding	and stream degradat	ion
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:		4
Wetland is a depression or flat depression with no surface water leaving it (no outlet) Wetland has an intermittently flowing stream or ditch, OR highly constricted permanently Wetland is a flat depression (QUESTION 7 on key), whose outlet is a permanently flowing d Wetland has an unconstricted, or slightly constricted, surface outlet that is permanently flo	points = 4 flowing outletpoints = 2 itch points = 1 wing points = 0	
D 4.2. <u>Depth of storage during wet periods:</u> Estimate the height of ponding above the bottom of t	he outlet. For wetlands	0
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 = /	
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	
I ne wetiand is a "neadwater" wetiand	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. <u>Contribution of the wetland to storage in the watershed</u> : <i>Estimate the ratio of the area of u</i> contributing surface water to the wetland to the area of the wetland unit itself.	pstream basin	0
The area of the basin is less than 10 times the area of the unit	points = 5	
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	4
Rating of Site Potential If score is: 12-16 = H6-11 = MX_0-5 = L	Record the rating on the	e 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 No = 0	0
D 5.2. Is >10% of the area within 150 ft of the wetland in land uses that generate excess runoff?	Yes = 1 No = 0	0
D 5.3. Is more than 25% of the contributing basin of the wetland covered with intensive human la	nd uses (residential at	0
>1 residence/ac, urban, commercial, agriculture, etc.)?	Yes = 1 No = 0	
Total for D 5Add the points	in the boxes above	0
Rating of Landscape Potential       If score is:3 = H      1 or 2 = M       X       0 = L	Record the rating on the	e first page
D 6.0. Are the hydrologic functions provided by the site valuable to society?		
D 6.1. <u>The unit is in a landscape that has flooding problems</u> . Choose the description that best mate the wetland unit being rated. Do not add points. <u>Choose the highest score if more than one</u> The wetland captures surface water that would otherwise flow down-gradient into areas w damaged human or natural resources (e.g., houses or salmon redds):	<i>ches conditions around</i> <u>condition is met</u> . here flooding has	0
<ul> <li>Flooding occurs in a sub-basin that is immediately down-gradient of unit.</li> </ul>	points = 2	
<ul> <li>Surface flooding problems are in a sub-basin farther down-gradient.</li> </ul>	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 c	onditions that the	
water stored by the wetland cannot reach areas that flood. <i>Explain why</i>	points = 0	
There are no problems with flooding downstream of the wetland.	points = 0	
D 6.2. Has the site been identified as important for flood storage or flood conveyance in a regiona	I flood control plan?	0
		0
Add the points	in the boxes above	U
Rating of Value If score is:2-4 = H1 = MX0 = L	Record the rating on the	e first page

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        Arease       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)	0
that each cover 20% within the Forested polygon	1
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        X_Occasionally flooded or inundated       2 types present: points = 1        X_Saturated only       1 type present: points = 0        Permanently flowing stream or river in, or adjacent to, the wetland       2 points = 0	
H 1 3 Richness of plant species	1
Count the number of plant species in the wetland that cover at least 10 ft <sup>2</sup> . Different patches of the same species can be combined to meet the size threshold 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	
H 1.4. Interspersion of habitats	0
Decide from the diagrams below whether interspersion 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. <i>If you</i> <i>have four or more plant classes or three classes and open water, the rating is always high.</i>	
<b>None</b> = 0 points <b>Low</b> = 1 point <b>Moderate</b> = 2 points	
All three diagrams in this row are <b>HIGH =</b> 3points	

H 1.5. Special habitat features:	0
Check the habitat features that are present in the wetland. The number of checks is the number of points.	
Large, downed, woody debris within the wetland (> 4 in diameter and 6 ft long).	
Standing snags (dbh > 4 in) within the wetland	
Undercut banks are present for at least 6.6 ft (2 m) <b>and/or</b> 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)	
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 (cut shrubs or trees that have not yet weathered where wood is exposed)	
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>	
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> )	
Total for H 1 Add the points in the boxes above	2
Rating of Site Potential If score is:       15-18 = H       7-14 = M       X       0-6 = L       Record the rating or	the first page
H 2.0. Does the landscape have the potential to support the habitat functions of the site?	
H 2.1. Accessible habitat (include only habitat that directly abuts wetland unit).	2
Calculate: % undisturbed habitat <u>10.7</u> + [(% moderate and low intensity land uses) <u>21.1</u> /2] <u>10.5</u> = <u>21</u> %	
If total accessible habitat is:	
> <sup>1</sup> / <sub>3</sub> (33.3%) of 1 km Polygon points = 3	
20-33% of 1 km Polygon points = 2	
10-19% of 1 km Polygon points = 1	
< 10% of 1 km Polygon points = 0	
H 2.2. Undisturbed habitat in 1 km Polygon around the wetland.	3
Calculate: % undisturbed habitat <u>32</u> + [(% moderate and low intensity land uses) <u>48</u> /2] <u>24</u> = <u>56</u> %	
Undisturbed habitat > 50% of Polygon points = 3	
Undisturbed habitat 10-50% and in 1-3 patches points = 2	
Undisturbed habitat 10-50% and > 3 patches points = 1	
Undisturbed habitat < 10% of 1 km Polygon points = 0	
H 2.3. Land use intensity in 1 km Polygon: If	0
> 50% of 1 km Polygon is high intensity land use points = (- 2)	
≤ 50% of 1 km Polygon is high intensity points = 0	
Total for H 2 Add the points in the boxes above	5
<b>Rating of Landscape Potential</b> If score is: $X = 4-6 = H$ $1-3 = M < 1 = L$	the first page

#### H 3.0. Is the habitat provided by the site valuable to society?

H 3.1. Does the site provide habitat for species valued in laws, regulations, or policies? Choose only the highest score that applies to the wetland being rated.

Site meets ANY of the following criteria:

- It has 3 or more priority habitats within 100 m (see next page)
- It provides habitat for Threatened or Endangered species (any plant or animal on the state or federal lists)
- It is mapped as a location for an individual WDFW priority species
- It is a Wetland of High Conservation Value as determined by the Department of Natural Resources

— It has been categorized as an important habitat site in a local or regional comprehensive plan, in a

- Shoreline Master Plan, or in a watershed plan
- Site has 1 or 2 priority habitats (listed on next page) within 100 m

Site does not meet any of the criteria above

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



points = 2

points

points = 0 Record the rating on the first page

## **WDFW Priority Habitats**

<u>Priority habitats listed by WDFW</u> (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. <u>http://wdfw.wa.gov/publications/00165/wdfw00165.pdf</u> or access the list from here: <u>http://wdfw.wa.gov/conservation/phs/list/</u>)

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: <u>Old-growth west of Cascade crest</u> 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. <u>Mature forests</u> 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*).
- X **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*).
- X **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.

## **CATEGORIZATION BASED ON SPECIAL CHARACTERISTICS**

Wetland Type	Category
Check off any criteria that apply to the wetland. Circle the category when the appropriate criteria are met.	
SC 1.0. Estuarine wetlands Does the wetland meet the following criteria for Estuarine wetlands? — The dominant water regime is tidal, — Vegetated, and	
— With a salinity greater than 0.5 ppt Yes –Go to SC 1.1 No Not an estuarine wetland	
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? Yes = <b>Category I</b> No - Go to <b>SC 1.2</b>	Cat. I
<ul> <li>SC 1.2. Is the wetland unit at least 1 ac in size and meets at least two of the following three conditions?</li> <li>— 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)</li> <li>— At least ¾ of the landward edge of the wetland has a 100 ft buffer of shrub, forest, or un-grazed or unmowed grassland.</li> </ul>	Cat. I
<ul> <li>The wetland has at least two of the following features: tidal channels, depressions with open water, or contiguous freshwater wetlands.</li> <li>Yes = Category I</li> <li>No = Category II</li> </ul>	Cat. II
SC 2.0. Wetlands of High Conservation Value (WHCV)         SC 2.1. Has the WA Department of Natural Resources updated their website to include the list of Wetlands of High Conservation Value?         Yes – Go to SC 2.2         SC 2.2. Is the wetland listed on the WDNR database as a Wetland of High Conservation Value?         Yes = Category I         No = Not a WHCV	Cat. I
SC 2.3. Is the wetland in a Section/Township/Range that contains a Natural Heritage wetland? <u>http://www1.dnr.wa.gov/nhp/refdesk/datasearch/wnhpwetlands.pdf</u> Yes – Contact WNHP/WDNR and go to SC 2.4 No = Not a WHCV	
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? Yes = Category I No = Not a WHCV	
<ul> <li>SC 3.0. Bogs         Does the wetland (or any part of the unit) meet both the criteria for soils and vegetation in bogs? Use the key below. If you answer YES you will still need to rate the wetland based on its functions.     </li> <li>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? Yes – Go to SC 3.3 No – Go to SC 3.2      <li>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</li> </li></ul>	
<ul> <li>pond? Yes – Go to SC 3.3 Yes – Go to SC 3.3 Yes – Is not a bog</li> <li>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? Yes = Is a Category I bog No – Go to SC 3.4 NOTE: If you are uncertain about the extent of mosses in the understory, you may substitute that criterion by measuring the pH of the water that seeps into a hole dug at least 16 in deep. If the pH is less than 5.0 and the plant species in Table 4 are present, the wetland is a bog.</li> <li>SC 3.4. Is an area with peats or mucks forested (&gt; 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? Yes = Is a Category I bog No = Is not a bog</li> </ul>	Cat. I

	1
SC 4.0. Forested Wetlands	
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? If you answer YES you will still need to rate	
the wetland based on its functions.	
- 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 carropy have an average diameter (ubit) exceeding 21 in (55 cm).	
Yes = Category I Not a forested wetland for this section	Cat. I
SC 5.0. Wetlands in Coastal Lagoons	
Does the wetland meet all of the following criteria of a wetland in a coastal lagoon?	
— 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)	Cat I
during most of the year in at least a portion of the lagoon (needs to be measured hear the bottom)	Cat. I
SC 5.1 Does the wetland meet all of the following three conditions?	
— 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).	Cat. II
— At least ¾ of the landward edge of the wetland has a 100 ft buffer of shrub, forest, or un-grazed or un-	
mowed grassland.	
— The wetland is larger than $1/_{10}$ ac (4350 ft <sup>2</sup> )	
Yes = Category I No = Category II	
SC 6.0. Interdunal Wetlands	
Is the wetland west of the 1889 line (also called the Western Boundary of Upland Ownership or WBUO)? If	
you answer yes you will still need to rate the wetland based on its habitat functions.	
In practical terms that means the following geographic areas:	
<ul> <li>Long Beach Peninsula: Lands west of SR 103</li> </ul>	
Grayland-Westport: Lands west of SR 105	Cat I
— Ocean Shores-Copalis: Lands West of SR 115 and SR 109	
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	Cat. II
for the three aspects of function)? Yes = <b>Category I</b> No – Go to <b>SC 6.2</b>	
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	Cat. III
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	Cat N/
	Cat. IV
Category of wetland based on Special Characteristics	Not
If you answered No for all types, enter "Not Applicable" on Summary Form	Applicable

Wetland name or number <u>D</u>

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# **RATING SUMMARY – Western Washington**

Name of wetland (or ID #):Wetland EDate of site visit: 4/6/16 and 9/7/16Rated byKT WillsTrained by Ecology? YesDate of training 9/2016HGM Class used for ratingDepressionalWetland has multiple HGM classes? Y X N

**NOTE**: Form is not complete without the figures requested (figures can be combined). Source of base aerial photo/map <u>Google Earth</u>

## **OVERALL WETLAND CATEGORY** <u>IV</u> (based on functions <u>X</u> 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

Х	<b>Category IV</b> – Total score = 9 –	15

FUNCTION	Improving Water Quality		Hydrologic		Habitat					
					Circle t	he ap	propr	iate ra	tings	
Site Potential	Н		L	Н	м(	$\mathbf{E}$	Н	м		
Landscape Potential	Н	М	$\bigcirc$	Н	м		Ð	Μ	L	
Value	H	Μ	L	Н	м (	$\mathbb{D}$	Н		L	ΤΟΤΑΙ
Score Based on Ratings		6			3			6		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	Ι	II	
Wetland of High Conservation Value		Ι	
Bog		Ι	
Mature Forest	I		
Old Growth Forest		Ι	
Coastal Lagoon	Ι	II	
Interdunal	I II	III IV	
None of the above	Γ	N/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	13
Hydroperiods	D 1.4, H 1.2	13
Location of outlet (can be added to map of hydroperiods)	D 1.1, D 4.1	13
Boundary of area within 150 ft of the wetland (can be added to another figure)	D 2.2, D 5.2	13
Map of the contributing basin	D 4.3, D 5.3	14
1 km Polygon: Area that extends 1 km from entire wetland edge - including	H 2.1, H 2.2, H 2.3	14
polygons for accessible habitat and undisturbed habitat		14
Screen capture of map of 303(d) listed waters in basin (from Ecology website)	D 3.1, D 3.2	17
Screen capture of list of TMDLs for WRIA in which unit is found (from web)	D 3.3	17

#### **Riverine Wetlands**

Map of:	To answer questions:	Figure #
Cowardin plant classes	Н 1.1, Н 1.4	
Hydroperiods	H 1.2	
Ponded depressions	R 1.1	
Boundary of area within 150 ft of the wetland (can be added to another figure)	R 2.4	
Plant cover of trees, shrubs, and herbaceous plants	R 1.2, R 4.2	
Width of unit vs. width of stream (can be added to another figure)	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	H 2.1, H 2.2, H 2.3	
polygons for accessible habitat and undisturbed habitat		
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 (can be added to another figure)	L 2.2	
1 km Polygon: Area that extends 1 km from entire wetland edge - including	Н 2.1, Н 2.2, Н 2.3	
polygons for accessible habitat and undisturbed habitat		
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 <b>dense</b> trees, shrubs, and herbaceous plants	S 1.3	
Plant cover of dense, rigid trees, shrubs, and herbaceous plants	S 4.1	
(can be added to figure above)		
Boundary of 150 ft buffer (can be added to another figure)	S 2.1, S 5.1	
1 km Polygon: Area that extends 1 km from entire wetland edge - including	H 2.1, H 2.2, H 2.3	
polygons for accessible habitat and undisturbed habitat		
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?

**N** – 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)** *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.

**YES** – The wetland class is **Flats** If your wetland can be classified as a Flats wetland, use the form for **Depressional** wetlands.

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).

**O**- 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**.

# **10**- 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 <u>E</u>\_\_\_\_\_

**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

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

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. Characteristics of surface water outflows from the wetland:	
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 nermanently flowing outlet	
points = 2	
Wetland has an unconstricted, or slightly constricted, surface outlet that is permanently flowing points = 1	2
Wetland is a flat depression (QUESTION 7 on key), whose outlet is a permanently flowing ditch. points = 1	
D 1.2. <u>The soil 2 in below the surface (or duff layer)</u> is true clay or true organic (use NRCS definitions). 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 > $\frac{1}{2}$ of area points = 3	3
Wetland has persistent, ungrazed plants $> /_{10}$ of area points = 1 Wetland has persistent ungrazed plants $<^{1}/_{10}$ of area points = 0	
D 1.4. Characteristics of seasonal ponding or inundation:	
This is the area that is ponded for at least 2 months. See description in manual.	
Area seasonally ponded is > 1/2 total area of wetland points = 4	2
Area seasonally ponded is > 1/4 total area of wetland points = 2	
Area seasonally ponded is < ¼ total area of wetland points = 0	
Total for D 1 Add the points in the boxes above	7
Add the points in the boxes above         Rating of Site Potential If score is:       12-16 = H       X       6-11 = M       0-5 = L       Record the rating on the first points in the boxes above	<b>7</b> Dage
Add the points in the boxes above         Rating of Site Potential If score is:       12-16 = H       X       6-11 = M       0-5 = L       Record the rating on the first p         D 2.0. Does the landscape have the potential to support the water quality function of the site?	7 Dage
Add the points in the boxes above         Rating of Site Potential If score is:       12-16 = H       X       6-11 = M       0-5 = L       Record the rating on the first p         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	7 Dage 0
Add the points in the boxes above         Rating of Site Potential If score is:       12-16 = H       X       6-11 = M       0-5 = L       Record the rating on the first p         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         D 2.2. Is > 10% of the area within 150 ft of the wetland in land uses that generate pollutants?       Yes = 1       No = 0	7 Dage 0 0
Add the points in the boxes aboveAdd the points in the boxes aboveRating of Site Potential If score is:12-16 = HX6-11 = MO-5 = LRecord the rating on the first pD 2.0. Does the landscape have the potential to support the water quality function of the site?DDD	7 Dage 0 0 0
Add the points in the boxes aboveAdd the points in the boxes aboveRating of Site Potential If score is:12-16 = HX6-11 = M0-5 = LRecord the rating on the first $\mu$ D 2.0. Does the landscape have the potential to support the water quality function of the site?DD<	7 Dage 0 0 0 0
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Initial for D 1       Add the points in the boxes above         Rating of Site Potential       If score is:       12-16 = H       X       6-11 = M       0-5 = L       Record the rating on the first p         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         D 2.2. Is > 10% of the area within 150 ft of the wetland in land uses that generate pollutants?       Yes = 1       No = 0         D 2.3. Are there septic systems within 250 ft of the wetland?       Yes = 1       No = 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         Total for D 2       Add the points in the boxes above	7 page 0 0 0 0 0 0 0
Initial for D 1       Add the points in the boxes above         Rating of Site Potential If score is:12-16 = HX6-11 = M0-5 = L       Record the rating on the first p         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         D 2.2. Is > 10% of the area within 150 ft of the wetland in land uses that generate pollutants?       Yes = 1 No = 0         D 2.3. Are there septic systems within 250 ft of the wetland?       Yes = 1 No = 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       Add the points in the boxes above         Rating of Landscape Potential If score is:3 or 4 = H1 or 2 = MX_0 = L       Record the rating on the set and the set a	7 oage 0 0 0 0 first page
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Initial for D 1       Add the points in the boxes above         Rating of Site Potential If score is:12-16 = H X_6-11 = M0-5 = L       Record the rating on the first p         D 2.0. Does the landscape have the potential to support the water quality function of the site?       D         D 2.1. Does the wetland unit receive stormwater discharges?       Yes = 1 No = 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         D 2.3. Are there septic systems within 250 ft of the wetland?       Yes = 1 No = 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       Total for D 2       Add the points in the boxes above         Rating of Landscape Potential If score is:3 or 4 = H1 or 2 = M X_0 = L       Record the rating on the 303(d) list?         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       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         D 3.3. Has the site been identified in a watershed or local plan as important for maintaining water quality (answer YES)       D 3.3. Has the site been identified in a watershed or local plan as important for maintaining water quality (answer YES) <td>7 page 0 0 0 0 0 first page 1 1 2</td>	7 page 0 0 0 0 0 first page 1 1 2
Add the points in the boxes aboveAdd the points in the boxes aboveRating of Site Potential If score is:12-16 = HX_6-11 = M0-5 = LRecord the rating on the first µD 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 = 0D 2.2. Is > 10% of the area within 150 ft of the wetland in land uses that generate pollutants?Yes = 1 No = 0D 2.3. Are there septic systems within 250 ft of the wetland?Yes = 1 No = 0D 2.4. Are there other sources of pollutants coming into the wetland that are not listed in questions D 2.1-D 2.3? SourceYes = 1 No = 0Total for D 2Add the points in the boxes aboveRating of Landscape Potential If score is:3 or 4 = H1 or 2 = MX_0 = LRecord the rating on the goal of the goal of the stee of the ste	7 page 0 0 0 0 0 first page 1 1 2
Initial for D 1       Add the points in the boxes above         Rating of Site Potential If score is:12-16 = H _X_6-11 = M0-5 = L       Record the rating on the first y         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         D 2.2. Is > 10% of the area within 150 ft of the wetland in land uses that generate pollutants?       Yes = 1 No = 0         D 2.3. Are there septic systems within 250 ft of the wetland?       Yes = 1 No = 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         Source       Yes = 1 No = 0         Total for D 2       Add the points in the boxes above         Rating of Landscape Potential If score is:3 or 4 = H1 or 2 = M 0 = L       Record the rating on the 303(d) list?         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       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         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         Total for D 3       <	7 page 0 0 0 0 0 first page 1 1 2 4

Wetland name or number <u>E</u>

DEPRESSIONAL AND FLATS WETLANDS	
Hydrologic Functions - Indicators that the site functions to reduce flooding and stream degrac	ation
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 = 4Wetland has an intermittently flowing stream or ditch, OR highly constricted permanently flowing outletpoints =Wetland has an intermittently flowing stream or ditch, OR highly constricted permanently flowing ditchpoints = 1Wetland is a flat depression (QUESTION 7 on key), whose outlet is a permanently flowing ditchpoints = 1Wetland has an unconstricted, or slightly constricted, surface outlet that is permanently flowingpoints = 0	2 2
D 4.2. Depth of storage during wet periods: Estimate the height of ponding above the bottom of the outlet. For wetland	5
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	
Marks of ponding between 2 ft to < 3 ft from surface or bottom of outlet points = 5	3
Marks are at least 0.5 ft to < 2 ft from surface or bottom of outlet $points = 3$	
Netland is a "neadwater" wetland <u>boints = 3</u>	
Wetland is flat but has small depressions on the surface that trap water points = 1 Marks of ponding loss than $0.5$ ft (6 in)	
D 4.3. <u>Contribution of the wetland to storage in the watershed</u> : 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 $real of the unit for the basin is less than 10 times the area of the unit points = 5$	
The area of the basin is 10 to 100 times the area of the unit points = 3	0
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	5
Rating of Site Potential If score is: 12-16 = H6-11 = MX 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 No = 0	0
D 5.2. Is >10% of the area within 150 ft of the wetland in land uses that generate excess runoff? Yes = 1 No = 0	0
D 5.3. Is more than 25% of the contributing basin of the wetland covered with intensive human land uses (residential at	0
>1 residence/ac, urban, commercial, agriculture, etc.)? Yes = 1 No = 0	0
Total for D 5Add the points in the boxes above	0
Rating of Landscape Potential       If score is:3 = H1 or 2 = M _X _0 = L       Record the rating on	the first page
D 6.0. Are the hydrologic functions provided by the site valuable to society?	
<ul> <li>D 6.1. <u>The unit is in a landscape that has flooding problems</u>. <i>Choose the description that best matches conditions around the wetland unit being rated.</i> Do not add points. <u>Choose the highest score if more than one condition is met</u>. 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):</li> <li>Flooding occurs in a sub-basin that is immediately down-gradient of unit. points = 2</li> <li>Surface flooding problems are in a sub-basin farther down-gradient. points = 1</li> </ul>	0
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. <i>Explain why</i> points = 0	
There are no problems with flooding downstream of the wetland. points = 0	
D 6.2. Has the site been identified as important for flood storage or flood conveyance in a regional flood control plan? Yes = 2 No = 0	0
Total for 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

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        X Scrub-shrub (areas where shrubs have > 30% cover)       2 structures: points = 1        X 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       1	1
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).	1
H 1.3. Richness of plant species Count the number of plant species in the wetland that cover at least 10 ft <sup>2</sup> . Different patches of the same species can be combined to meet the size threshold 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 interspersion 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. <i>If you</i> <i>have four or more plant classes or three classes and open water, the rating is always high.</i> None = 0 points All three diagrams in this row are <b>HIGH</b> = 3points	2

Wetland name or number <u>E</u>

<ul> <li>H 1.5. Special habitat features:</li> <li>Check the habitat features that are present in the wetland. <i>The number of checks is the number of points.</i></li> <li>Large, downed, woody debris within the wetland (&gt; 4 in diameter and 6 ft long).</li> <li>Standing snags (dbh &gt; 4 in) within the wetland</li> <li>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)</li> <li>Stable steep banks of fine material that might be used by beaver or muskrat for denning (&gt; 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>)</li> </ul>	
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> 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> )	
Total for H 1Add the points in the boxes above	5
Rating of Site Potential If score is:       15-18 = H       7-14 = M       X       0-6 = L       Record the rating of the state of the st	n the first page
H 2.0. Does the landscape have the potential to support the habitat functions of the site?	
H 2.1. Accessible habitat (include only habitat that directly abuts wetland unit).Calculate: % undisturbed habitat 10.3 + [(% moderate and low intensity land uses)20.4/2] 10.2 = 20.5 %If total accessible habitat is:> $^{1}/_{3}$ (33.3%) of 1 km Polygon20-33% of 1 km Polygon10-19% of 1 km Polygon< 10% of 1 km Polygon	2
H 2.2. Undisturbed habitat in 1 km Polygon around the wetland.         Calculate:       % undisturbed habitat 33+ [(% moderate and low intensity land uses)49.5/2]24.25= 57 %         Undisturbed habitat > 50% of Polygon       points = 3         Undisturbed habitat 10-50% and in 1-3 patches       points = 2         Undisturbed habitat 10-50% and > 3 patches       points = 1         Undisturbed habitat < 10% of 1 km Polygon	3
$> 50\% \text{ of } 1 \text{ km Polygon is high intensity land use} \qquad points = (-2)$ $\leq 50\% \text{ of } 1 \text{ km Polygon is high intensity} \qquad points = 0$	0
Total for H 2 Add the points in the boxes above	5
Rating of Landscape Potential If score is: X 4-6 = H 1-3 = M < 1 = L Record the rating on	the first page

### H 3.0. Is the habitat provided by the site valuable to society?

H 3.1. Does the site provide habitat for species valued in laws, regulations, or policies? *Choose only the highest score that applies to the wetland being rated.* 

Site meets ANY of the following criteria:

- It has 3 or more priority habitats within 100 m (see next page)
- It provides habitat for Threatened or Endangered species (any plant or animal on the state or federal lists)
- It is mapped as a location for an individual WDFW priority species
- It is a Wetland of High Conservation Value as determined by the Department of Natural Resources

— It has been categorized as an important habitat site in a local or regional comprehensive plan, in a

- Shoreline Master Plan, or in a watershed plan
- Site has 1 or 2 priority habitats (listed on next page) within 100 m

Site does not meet any of the criteria above

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

Wetland Rating System for Western WA: 2014 Update Rating Form – Effective January 1, 2015 Record the rating on the first page

points = 2

ooints = 1

points = 0

## **WDFW Priority Habitats**

<u>Priority habitats listed by WDFW</u> (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. <u>http://wdfw.wa.gov/publications/00165/wdfw00165.pdf</u> or access the list from here: <u>http://wdfw.wa.gov/conservation/phs/list/</u>)

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

## **CATEGORIZATION BASED ON SPECIAL CHARACTERISTICS**

Wetland Type	Category
Check off any criteria that apply to the wetland. Circle the category when the appropriate criteria are met.	
SC 1.0. Estuarine wetlands	
Does the wetland meet the following criteria for Estuarine wetlands?	
— The dominant water regime is tidal,	
— Vegetated, and — With a salinity greater than 0.5 ppt $\nabla$ version $\nabla$ version to SC 1.1 (Nor Not an estuarine wetland	
Contra summer greater man ous ppt ness to be in the potential and the second and	
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 332-30-1512	
Yes = Category I No - Go to SC 1.2	Cat. I
SC 1.2. Is the wetland unit at least 1 ac in size and meets at least two of the following three conditions?	
— The wetland is relatively undisturbed (has no diking, ditching, filling, cultivation, grazing, and has less	Cathl
than 10% cover of non-native plant species. (If non-native species are <i>Spartina</i> , see page 25)	Cat. I
— At least ¾ of the landward edge of the wetland has a 100 ft buffer of shrub, forest, or un-grazed or un- mowed grassland	
— The wetland has at least two of the following features: tidal channels, depressions with open water, or	Cat. II
contiguous freshwater wetlands. Yes = Category I No = Category II	
SC 2.0. Wetlands of High Conservation Value (WHCV)	
SC 2.1. Has the WA Department of Natural Resources updated their website to include the list of Wetlands of High	
Conservation Value? Yes – Go to SC 2.2 (No – ) o to SC 2.3	Cat. I
SC 2.2. Is the wetland listed on the WDNR database as a Wetland of High Conservation Value?	
Yes = Category I NO = Not a WHCV SC 2.3. Is the wetland in a Section/Townshin/Range that contains a Natural Heritage wetland?	
http://www1.dnr.wa.gov/nhp/refdesk/datasearch/wnhpwetlands.pdf	
Yes – Contact WNHP/WDNR and go to SC 2.4 (No =) Not a WHCV	
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? Yes = Category I No = Not a WHCV	
SC 3.0. BOgs	
below. If you answer YES you will still need to rate the wetland based on its functions.	
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? Yes – Go to SC 3.3 $No - 0$ to SC 3.2	
SC 3.2. Does an area within the wetland unit have organic soils, either peats or mucks, that are less than 16 in deep	
pond? Yes – Go to SC 3.3 No = Is not a bog	
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? Yes = Is a Category I bog No – Go to SC 3.4	
<b>NOTE:</b> If you are uncertain about the extent of mosses in the understory, you may substitute that criterion by	
neasuring the pH of the water that seeps into a hole dug at least 10 in deep. If the pH is less than 5.0 and the	Cat. I
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?	
Yes = <b>is a Category i bog</b> No <b>= is not a bog</b>	

	î .
SC 4.0. Forested Wetlands	
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? If you answer YES you will still need to rate	
the wetland based on its functions.	
— 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).	
Yes = Category I No = Jot a forested wetland for this section	Cat. I
SC 5.0. Wetlands in Coastal Lagoons	
Does the wetland meet all of the following criteria of a wetland in a coastal lagoon?	
— 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 (needs to be measured near the bottom)	Cat. I
Yes – Go to SC 5.1 No = Not a wetland in a coastal lagoon	
SC 5.1. Does the wetland meet all of the following three conditions?	
— The wetland is relatively undisturbed (has no diking, ditching, filling, cultivation, grazing), and has less	Cat II
than 20% cover of aggressive, opportunistic plant species (see list of species on p. 100).	Cat. II
— At least ¾ of the landward edge of the wetland has a 100 ft buffer of shrub, forest, or un-grazed or un-	
mowed grassland.	
— The wetland is larger than $^{-}/_{10}$ ac (4350 ft <sup>-</sup> )	
Tes - Calegory i No - Calegory i	
SC 6.0. Interdunal Wetlands	
Is the wetland west of the 1889 line (also called the Western Boundary of Upland Ownership or WBUO)? If	
you answer yes you will still need to rate the wetland based on its habitat functions.	
In practical terms that means the following geographic areas:	
<ul> <li>Long Beach Peninsula: Lands west of SR 103</li> </ul>	
<ul> <li>— Grayland-Westport: Lands west of SR 105</li> </ul>	Cat I
<ul> <li>Ocean Shores-Copalis: Lands west of SR 115 and SR 109</li> </ul>	
Yes – Go to SC 6.1 No = not an interdunal wetland for rating	
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	Cat. II
for the three aspects of function)? Yes = <b>Category I</b> No – Go to <b>SC 6.2</b>	
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	Cat. III
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	
	Cat. IV
Category of wetland based on Special Characteristics	
If you answered No for all types, enter "Not Applicable" on Summary Form	N/A

Wetland name or number <u>E</u>

# **RATING SUMMARY – Western Washington**

Name of wetland (or ID #): <u>Wetland F</u>Date of site visit: <u>3/3/2016, 9/7/16</u>

Rated byKT WillsTrained by Ecology?YesDate of training 9/2016HGM Class used for ratingSlopeWetland has multiple HGM classes?YXN

**NOTE**: Form is not complete without the figures requested (figures can be combined). Source of base aerial photo/map <u>Google Earth</u>

## **OVERALL WETLAND CATEGORY IV** (based on functions <u>X</u> 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					
					Circle	the ap	propri	ate r	atings	
Site Potential	Н	Μ	$\bigcirc$	Н	Μ	0	Н	Μ	$\bigcirc$	
Landscape Potential	Н	$\bigotimes$	Ĺ	Н	M	L	Ð	Μ	Ĺ	
Value	Θ	М	L	н	М	0	Н	Μ	C	ΤΟΤΑ
Score Based on		6			4			5		15
Ratings										

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	Ι	II	
Wetland of High Conservation Value	I		
Bog		Ι	
Mature Forest	I		
Old Growth Forest		Ι	
Coastal Lagoon	Ι	II	
Interdunal	I II	III IV	
None of the above	Not A	pplicable	

# 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	
Hydroperiods	D 1.4, H 1.2	
Location of outlet (can be added to map of hydroperiods)	D 1.1, D 4.1	
Boundary of area within 150 ft of the wetland (can be added to another figure)	D 2.2, D 5.2	
Map of the contributing basin	D 4.3, D 5.3	
1 km Polygon: Area that extends 1 km from entire wetland edge - including	H 2.1, H 2.2, H 2.3	
polygons for accessible habitat and undisturbed habitat		
Screen capture of map of 303(d) listed waters in basin (from Ecology website)	D 3.1, D 3.2	
Screen capture of list of TMDLs for WRIA in which unit is found (from web)	D 3.3	

### Riverine Wetlands

Map of:	To answer questions:	Figure #
Cowardin plant classes	Н 1.1, Н 1.4	
Hydroperiods	H 1.2	
Ponded depressions	R 1.1	
Boundary of area within 150 ft of the wetland (can be added to another figure)	R 2.4	
Plant cover of trees, shrubs, and herbaceous plants	R 1.2, R 4.2	
Width of unit vs. width of stream (can be added to another figure)	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	H 2.1, H 2.2, H 2.3	
polygons for accessible habitat and undisturbed habitat		
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 (can be added to another figure)	L 2.2	
1 km Polygon: Area that extends 1 km from entire wetland edge - including	Н 2.1, Н 2.2, Н 2.3	
polygons for accessible habitat and undisturbed habitat		
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	Н 1.1, Н 1.4	15
Hydroperiods	H 1.2	15
Plant cover of <b>dense</b> trees, shrubs, and herbaceous plants	S 1.3	15
Plant cover of dense, rigid trees, shrubs, and herbaceous plants	S 4.1	15
(can be added to figure above)		
Boundary of 150 ft buffer (can be added to another figure)	S 2.1, S 5.1	15
1 km Polygon: Area that extends 1 km from entire wetland edge - including	H 2.1, H 2.2, H 2.3	16
polygons for accessible habitat and undisturbed habitat		
Screen capture of map of 303(d) listed waters in basin (from Ecology website)	S 3.1, S 3.2	17
Screen capture of list of TMDLs for WRIA in which unit is found (from web)	S 3.3	17

## 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?

**W** - 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)** *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.

YES – The wetland class is **Flats** If your wetland can be classified as a Flats wetland, use the form for **Depressional** wetlands.

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).

🚺 – go to 4

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

- 4. Does the entire wetland unit **meet all** of the following criteria?
  - <u>x</u> The wetland is on a slope (*slope can be very gradual*),
  - <u>x</u> 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,

<u>x</u>The water leaves the wetland **without being impounded**.

NO – go to 5

• 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 <u>F</u>

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

SLOPE WETLANDS	
Water Quality Functions - Indicators that the site functions to improve water quality	
S 1.0. Does the site have the potential to improve water quality?	
S 1.1. Characteristics of the average slope of the wetland: (a 1% slope has a 1 ft vertical drop in elevation for every 100 ft of horizontal distance)	1
Slope is 1% or less points = 3	
Slope is > 1%-2% points = 2	
Slope is > 2%-5% points = 1	
Slope is greater than 5% points = 0	
S 1.2. The soil 2 in below the surface (or duff layer) is true clay or true organic (use NRCS definitions): Yes = 3 No = 0	0
S 1.3. Characteristics of the plants in the wetland that trap sediments and pollutants:	1
Choose the points appropriate for the description that best fits the plants in the wetland. <i>Dense means you</i> have trouble seeing the soil surface (>75% cover), and uncut means not grazed or mowed and plants are higher than 6 in.	
Dense, uncut, herbaceous plants > 90% of the wetland area points = 6	
Dense, uncut, herbaceous plants > ½ of area points = 3	
Dense, woody, plants > ½ of area points = 2	
Dense, uncut, herbaceous plants > ¼ of area points = 1	
Does not meet any of the criteria above for plants points = 0	
Total for S 1Add the points in the boxes above	2
Rating of Site Potential If score is:       12 = H       6-11 = M       X       0-5 = L       Record the rating on the first page	

S 2.0. Does the landscape have the potential to support the water q	uality function of the site?	
S 2.1. Is > 10% of the area within 150 ft on the uphill side of the wetland in land uses that generate pollutants?		1
	Yes = 1 No = 0	
S 2.2. Are there other sources of pollutants coming into the wetland that are not listed in question S 2.1?		0
Other sources	Yes = 1 No = 0	
Total for S 2	Add the points in the boxes above	1
Rating of Landscape Potential If score is: X 1-2 = M 0 = L Record the rating on the first p		the first page

S 3.0. Is the water quality improvement provided by the site valuable to society?	
S 3.1. Does the wetland discharge directly (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
S 3.2. Is the wetland in a basin or sub-basin where water quality is an issue? At least one aquatic resource in the basin is on the 303(d) list. Yes = 1 No = 0	1
S 3.3. Has the site been identified in a watershed or local plan as important for maintaining water quality? Answer YES if there is a TMDL for the basin in which unit is found. Yes = 2 No = 0	2
Total for S 3Add the points in the boxes above	3
Deting of Value If accurate V_2.4 - U_4 = M_0 = L	the first serves

Rating of Value If score is: X 2-4 = H \_\_\_1 = M \_\_\_0 = L

Record the rating on the first page

<u>SLOPE WETLANDS</u>	
Hydrologic Functions - Indicators that the site functions to reduce flooding and stream eros	ion
S 4.0. Does the site have the potential to reduce flooding and stream erosion?	
S 4.1. Characteristics of plants that reduce the velocity of surface flows during storms: Choose the points appropriate for the description that best fits conditions in the wetland. Stems of plants should be thick enough (usually > 1/	0
in), or dense enough, to remain erect during surface flows.	
Dense, uncut, <b>rigid</b> plants cover > 90% of the area of the wetland points = 1	
Rating of Site Potential If score is: $1 = M \times 0 = L$ Record the rating on i	the first page
S 5.0. Does the landscape have the potential to support the hydrologic functions of the site?	
S 5.1. Is more than 25% of the area within 150 ft upslope of wetland in land uses or cover that generate excess surface runoff? Yes = 1 No = 0	1
Rating of Landscape Potential If score is:       X 1 = M 0 = L       Record the rating on the	
S 6.0. Are the hydrologic functions provided by the site valuable to society?	
S 6.1. Distance to the nearest areas downstream that have flooding problems:	0
The sub-basin immediately down-gradient of site has flooding problems that result in damage to human or	
natural resources (e.g., houses or salmon redds) points = 2	
Surface flooding problems are in a sub-basin farther down-gradient points = 1	
No flooding problems anywhere downstream points = 0	
S 6.2. Has the site been identified as important for flood storage or flood conveyance in a regional flood control plan?	0
Yes = 2 No = 0	
Total for S 6Add 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

NOTES and FIELD OBSERVATIONS:

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        X 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)	0
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        X Saturated only       1 type present: points = 0        Permanently flowing stream or river in, or adjacent to, the wetland       2 points        Seasonally flowing stream in, or adjacent to, the wetland       2 points        Seasonally flowing stream in, or adjacent to, the wetland       2 points	U
H 1.3. Richness of plant species	1
Count the number of plant species in the wetland that cover at least 10 ft <sup>2</sup> .         Different patches of the same species can be combined to meet the size threshold 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	
H 1.4. Interspersion of habitats	0
Decide from the diagrams below whether interspersion 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. <i>If you</i> <i>have four or more plant classes or three classes and open water, the rating is always high.</i> None = 0 points All three diagrams in this row are <b>HIGH</b> = 3points	

### Wetland name or number <u>F</u>

H 1.5. Special habitat features:	0
Check the habitat features that are present in the wetland. The number of checks is the number of points.	
Large, downed, woody debris within the wetland (> 4 in diameter and 6 ft long).	
Standing snags (dbh > 4 in) within the wetland	
Undercut banks are present for at least 6.6 ft (2 m) <b>and/or</b> 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)	
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 (cut shrubs or trees that have not yet weathered where wood is exposed)	
At least ¼ ac of thin-stemmed persistent plants or woody branches are present in areas that are	
permanently or seasonally inundated (structures for egg-laying by amphibians)	
Invasive plants cover less than 25% of the wetland area in every stratum of plants (see H 1.1 for list of strata)	
Total for H 1     Add the points in the boxes above	1
Rating of Site Potential If score is:       15-18 = H       7-14 = M       X       0-6 = L       Record the rating or	the first page
H 2.0. Does the landscape have the potential to support the habitat functions of the site?	
H 2.1. Accessible habitat (include only habitat that directly abuts wetland unit).	2
<i>Calculate:</i> % undisturbed habitat <u>12.1</u> + [(% moderate and low intensity land uses) <u>19.7</u> /2] <u>10</u> = <u>22</u> % If	
total accessible habitat is:	
> <sup>1</sup> / <sub>3</sub> (33.3%) of 1 km Polygon points = 3	
20-33% of 1 km Polygon points = 2	
10-19% of 1 km Polygon points = 1	
< 10% of 1 km Polygon points = 0	
H 2.2. Undisturbed habitat in 1 km Polygon around the wetland.	3
<i>Calculate:</i> % undisturbed habitat <u>32</u> + [(% moderate and low intensity land uses) <u>53</u> /2] <u>26.5</u> = <u>58.5</u> %	
Undisturbed habitat > 50% of Polygon points = 3	
Undisturbed habitat 10-50% and in 1-3 patches points = 2	
Undisturbed habitat 10-50% and > 3 patches points = 1	
Undisturbed habitat < 10% of 1 km Polygon points = 0	
H 2.3. Land use intensity in 1 km Polygon: If	0
> 50% of 1 km Polygon is high intensity land use points = (- 2)	
≤ 50% of 1 km Polygon is high intensity points = 0	
Total for H 2 Add the points in the boxes above	5
Rating of Landscape Potential If score is: X 4-6 = H 1-3 = M <1 = L Record the rating on	the first page

### H 3.0. Is the habitat provided by the site valuable to society?

H 3.1. Does the site provide habitat for species valued in laws, regulations, or policies? *Choose only the highest score that applies to the wetland being rated.* 

Site meets ANY of the following criteria:

- It has 3 or more priority habitats within 100 m (see next page)
- It provides habitat for Threatened or Endangered species (any plant or animal on the state or federal lists)
- It is mapped as a location for an individual WDFW priority species
- It is a Wetland of High Conservation Value as determined by the Department of Natural Resources

— It has been categorized as an important habitat site in a local or regional comprehensive plan, in a

- Shoreline Master Plan, or in a watershed plan
- Site has 1 or 2 priority habitats (listed on next page) within 100 m

Site does not meet any of the criteria above

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

points = 2

points = 1 points = 0

*Record the rating on the first page* 

## **WDFW Priority Habitats**

<u>Priority habitats listed by WDFW</u> (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. <u>http://wdfw.wa.gov/publications/00165/wdfw00165.pdf</u> or access the list from here: <u>http://wdfw.wa.gov/conservation/phs/list/</u>)

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: <u>Old-growth west of Cascade crest</u> 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. <u>Mature forests</u> 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.

## **CATEGORIZATION BASED ON SPECIAL CHARACTERISTICS**

Wetland Type	Category
Check off any criteria that apply to the wetland. Circle the category when the appropriate criteria are met.	
SC 1.0. Estuarine wetlands Does the wetland meet the following criteria for Estuarine wetlands? — The dominant water regime is tidal, — Vegetated, and	
— With a salinity greater than 0.5 ppt Yes –Go to SC 1.1 No= Not an estuarine wetland	
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? Yes = Category I No - Go to SC 1.2	Cat. I
<ul> <li>SC 1.2. Is the wetland unit at least 1 ac in size and meets at least two of the following three conditions?</li> <li>— 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)</li> <li>— At least ¾ of the landward edge of the wetland has a 100 ft buffer of shrub, forest, or un-grazed or un-mowed grassland.</li> </ul>	Cat. I
<ul> <li>The wetland has at least two of the following features: tidal channels, depressions with open water, or contiguous freshwater wetlands.</li> <li>Yes = Category I</li> <li>No = Category II</li> </ul>	Cat. II
SC 2.0. Wetlands of High Conservation Value (WHCV)         SC 2.1. Has the WA Department of Natural Resources updated their website to include the list of Wetlands of High Conservation Value?         Yes – Go to SC 2.2         SC 2.2. Is the wetland listed on the WDNR database as a Wetland of High Conservation Value?         Yes = Category I         No = Not a WHCV	Cat. I
SC 2.3. Is the wetland in a Section/Township/Range that contains a Natural Heritage wetland? <u>http://www1.dnr.wa.gov/nhp/refdesk/datasearch/wnhpwetlands.pdf</u>	
Yes – Contact WNHP/WDNR and go to SC 2.4 W = Not a WHCV 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? Yes = Category I No = Not a WHCV	
<ul> <li>SC 3.0. Bogs         Does the wetland (or any part of the unit) meet both the criteria for soils and vegetation in bogs? Use the key below. If you answer YES you will still need to rate the wetland based on its functions.     </li> <li>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? Yes – Go to SC 3.3 – Go to SC 3.2     <li>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</li> </li></ul>	
<ul> <li>pond?</li> <li>Yes – Go to SC 3.3</li> <li>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?</li> <li>Yes = Is a Category I bog</li> <li>No – Go to SC 3.4</li> <li>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.</li> <li>SC 3.4. Is an area with peats or mucks forested (&gt; 30% cover) with Sitka spruce, subalpine fir, western red cedar, western bemlock lodgenole pine guaking aspen. Engelmann spruce or western white pine. AND any of the</li> </ul>	Cat. I
species (or combination of species) listed in Table 4 provide more than 30% of the cover under the canopy? Yes = Is a Category I bog No = Is not a bog	

SC 4.0. Forested Wetlands	
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? If you answer YES you will still need to rate	
the wetland based on its functions.	
— 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).	
Yes = Category I Not a forested wetland for this section	Cat. I
SC 5.0. Wetlands in Coastal Lagoons	
Does the wetland meet all of the following criteria of a wetland in a coastal lagoon?	
— 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 (needs to be measured near the bottom)	Cat. I
Yes – Go to SC 5.1 <b>W</b> = Not a wetland in a coastal lagoon	
SC 5.1. Does the wetland meet all of the following three conditions?	
— The wetland is relatively undisturbed (has no diking, ditching, tilling, cultivation, grazing), and has less	Cat II
than 20% cover of aggressive, opportunistic plant species (see list of species on p. 100).	Cat. II
— At least ¾ of the landward edge of the wetland has a 100 ft buffer of shrub, forest, or un-grazed or un-	
mowed grassiand.	
— The wetland is larger than $/_{10}$ ac (4350 ft ) Yes = Category I No = Category II	
SC 6.0. Interdunal Wetlands	
Is the wetland west of the 1889 line (also called the Western Boundary of Upland Ownership or WBUO)? If	
you answer yes you will still need to rate the wetland based on its habitat functions.	
In practical terms that means the following geographic areas:	
<ul> <li>Long Beach Peninsula: Lands west of SR 103</li> </ul>	
<ul> <li>— Grayland-Westport: Lands west of SR 105</li> </ul>	Cat I
— Ocean Shores-Copalis: Lands west of SR 115 and SR 109	
Yes – Go to SC 6.1 No = not an interdunal wetland for rating	
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	Cat. II
for the three aspects of function)? Yes = <b>Category I</b> No – Go to <b>SC 6.2</b>	
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	Cat. III
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	
	Cat. IV
Category of wetland based on Special Characteristics	Not
If you answered No for all types, enter "Not Applicable" on Summary Form	Applicable

Wetland name or number  $\underline{F}$ 

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