

GRASS VALLEY DEVELOPMENT

WETLAND DELINEATION AND ASSESSMENT CAMAS, WASHINGTON



Prepared for:
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January 26, 2018



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WETLAND DELINEATION & ASSESSMENT

Project: Grass Valley Development
Applicant: Holland Partner Group
Location: 5800 Block NW 38th Avenue, Camas, Washington
Legal Description: NW¼ of Sec. 05, T01N, R03E, W. M., Clark County
Serial Number(s): 126043-000 (17.57 ac.) and 126255-000 (15.13 ac.)
Local Jurisdiction: City of Camas
Study Area Size: 32.7 acres
Zoning: RC
ComPlan: COM
Assessment by: Kevin Grosz, P.W.S.
Site Visit(s): February 10 and 11, 2016 & January 8, 2018
Report Date: January 26, 2018

1.0 INTRODUCTION

This report details the results of a wetland delineation and assessment conducted for the Holland Partner Group by Olson Environmental, LLC (OE) for the property located south of N.W. 38th Avenue, (near the 5800 block), Camas, Washington (Fig. 1). Wetlands and associated buffers identified within the study area as defined and regulated by the City of Camas (City) Critical Areas Ordinance – Wetlands (16.60), the Washington State Department of Ecology (Ecology) under the Water Pollution Control Act and U.S. Army Corps of Engineers (USACE) under Section 404 of the Clean Water Act are described in this report. This report is prepared under the guidelines of CMC 16.60 which was in effect in 2008 when the Development Agreement (DA) was recorded for the installation of a sanitary sewerline in the western portion of the study area.

The study area includes parcel number 126043-000 (17.57 ac.) and 125255-000 (15.13 ac.) which is encompass approximately 33 acres. Currently, the property is predominantly vacant land with a house and outbuildings located near the west edge of parcel 126255-000. The study area is predominantly open grassland with a few fir trees scattered throughout the property. Fisher's Creek forms the western edge of the site. Generally, the property slopes from east to west (Fig. 2). Through the course of the assessment two wetlands were identified in the study area.

2.0 DELINEATION METHODS

The wetland delineation was conducted according to the Regional Supplement to the Corps of Engineers Wetland Delineation Manual: Western Mountains, Valleys and Coast Region (USACE, 2010) hereafter, referred to as the manual. According to the manual, jurisdictional wetlands are defined as:

Those areas that are inundated or saturated by surface or ground water at a frequency and duration sufficient to support, and that under normal circumstances do support, a prevalence of vegetation typically adapted for life

in saturated soil conditions. Wetlands generally include swamps, marshes, bogs, and similar areas.

The manual uses three parameters in making wetland determinations: hydrophytic vegetation, hydric soils and wetland hydrology. Except in certain situations defined in the manual, evidence of a minimum of one positive indicator from each parameter (hydrology, soil, and vegetation) must be found in order to make a positive wetland determination.

Hydrophytic vegetation (Lichvar et.al. 2016) are plants that due to morphological, physiological, and/or reproductive adaptations, have the ability to grow, effectively compete, reproduce, and/or persist in anaerobic soil conditions. Hydric soils (USDA 2016) are soils that are saturated, flooded, or ponded long enough during the growing season to develop anaerobic conditions that favor the growth and regeneration of hydrophytic vegetation. Wetland hydrology is present when an area is inundated or saturated to the surface for at least 5 percent of the growing season. The growing season is defined as the portion of the year when soil temperature at 19.7 inches below the soil surface is greater than biological zero (5 degrees C).

Except in certain situations defined in the manual, evidence of a minimum of one positive wetland indicator from each of the three parameters (hydrology, soil, and vegetation) must be found in order to make a positive wetland determination.

Prior to the on-site investigations, a review of existing information related to determination of wetland boundaries was conducted. This review included Clark County LiDAR Topography, National Wetland Inventory (NWI) data, Clark County Local Wetland Inventory (LWI) data, the Natural Resource Conservation Service (NRCS) Web Soil Survey, and aerial photography.

Following the background information review, on-site investigations were conducted in February 2016 and January 2018. To delineate wetlands within the study area, observation points were selected to correspond with terrain features, vegetation, hydrology and mapped hydric soils identified on the site. At each observation point, the vegetation, soils and hydrology were characterized and this information was then used as the basis for making the wetland determinations.

Wetland indicator status ratings and their ordinal rating categories, based on ecological descriptions. Indicator Status (abbreviation) Ecological Description*

Obligate (OBL) Almost always is a hydrophyte, rarely in uplands

Facultative Wetland (FACW) Usually is a hydrophyte but occasionally found in uplands

Facultative (FAC) Commonly occurs as either a hydrophyte or nonhydrophyte

Facultative Upland (FACU) Occasionally is a hydrophyte, but usually occurs in uplands

Upland (UPL) Rarely is a hydrophyte, almost always in uplands.

*Source: Lichvar and Minkin (2008)

Hydrophytic vegetation is present when more than 50 percent of the dominant species have an indicator status of OBL, FACW, and/or FAC.

The presence or absence of hydric soils was determined by digging soil pits to a depth of 18 inches and examining the soil for hydric soil indicators. Organic soils such as peats and mucks are considered hydric soils. Mineral hydric soils are generally either gleyed or have bright concentrations and/or low matrix chroma immediately below the A-horizon or 10 inches (whichever is shallower). Soil colors are determined using the Munsell Soil Color Chart (Munsell Color System 2009).

The site was examined for standing water and/or saturated soils, which serve as primary indicators of wetland hydrology. The area was also checked for other wetland hydrologic characteristics such as watermarks, drift lines, wetland drainage patterns, and morphological plant adaptations.

3.0 SITE SPECIFIC METHODS

OE conducted a wetland delineation of the study area on February 10 and 11, 2016 and January 8, 2018 using the methodology found in the Regional Supplement to the Manual (USACE 2010). In addition, applicable guidance and any supporting technical guidance documents issued by the USACE, Ecology, and City were also utilized.

The entire site was first traversed by foot to observe any visible wetland conditions. Once the general location of the wetland boundaries were identified, paired data plots were taken in areas that represented the conditions of the uplands and wetlands, respectively. Five (5) foot radius plots were chosen in a uniform topographic position that was representative of a single plant community. The paired plots were located approximately 5 - 10 feet apart to minimize the margin of error. Soils at each sample plot were typically inspected to a depth of 18 inches (or more) to determine the presence or absence of hydric soil characteristics and/or wetland hydrology. Data sheets for the sample plots are attached in Appendix A.

The wetland boundary was determined based on the presence of hydric soils, wetland hydrology indicators (i.e. saturation, geomorphic position, water stained leaves), and a dominance of hydrophytic vegetation. It should be noted that only paired plots were recorded in the field, however, numerous unrecorded plots were dug to confirm wetland boundaries. The on-site wetlands were classified according the USFWS classification system (Cowardin et al. 1979) and the Hydrogeomorphic (HGM) Classification system (Adamus et al. 2001).

4.0 RESULTS AND DISCUSSION

The NWI and LWI maps identify a wetland along the western edge of the study area (Fig. 3). In addition, the LWI identifies a wetland along the south eastern edge of the eastern parcel (Fig. 3 – this wetland occurs off-site). The NWI map classifies the wetlands on the western edge of the site as Palustrine, Emergent, Seasonally Flooded (PEMC) and

Palustrine, Unconsolidated Shore, Permanently Flooded, Excavated (PUBHx). It should be noted that NWI and LWI maps are created through aerial photograph and topographic map interpretation and are not intended to represent the extent of jurisdictional wetlands. There may be unmapped wetland and waters subject to regulation and all wetlands and waters boundary mapping is approximate. In all cases, actual field conditions determine the presence, absence and boundaries of wetlands and waters.

The NRCS Web Soil Survey (Fig. 4) identifies the following soil mapping units on site:

Cove silty clay loam, 0 to 3 percent slopes (CvA) and thin solum (CwA), occurs in the western portion of the study area. This soil typically is located in concave drainageways and in large, flat old lake beds with a slope that is generally less than 1 percent. In a typical profile, the surface layer is a very dark gray (10YR 3/1) silty clay about 4 inches thick. Below this is a firm clay about 32 inches thick that is black (N 2/0) in the upper part and very dark gray with concentrations (5Y 4/2) in the lower part. This soil is very poorly drained very slowly permeable, surface run-off is very slow, and there is no hazard of erosion. It is classified as a **hydric** soil according to the Clark County hydric soils list.

Hesson clay loam, 0 to 8 percent slopes (HcB), is found in the south-central portion of the properties. This soil series consists of deep, well drained soils formed in deeply weathered, mixed old alluvium with varying amounts of gravel. In most places the slope is 2 to 5 percent. In a typical profile, the surface layer is about an 8 inches thick reddish brown (5YR 2/2) clay loam. Below this to a depth of 12 inches the soil is a dark reddish brown (5YR 3/3) clay loam. Generally, this series is well drained, moderately permeable, surface runoff is slow, and the erosion hazard is slight. This soil is classified as a **non-hydric soil** according to the Clark County hydric soils list.

Olympic stony, clay loam, 3 to 30 percent slopes (OmE), occurs in the northern portion of the property. This soil series consists of deep, well drained soils formed in weathered igneous lava flows. In a typical profile, the surface layer is about a 13 inch thick dark reddish brown (5YR 3/4) gravelly clay loam. Below this to a depth of 20 inches the soil is a dark reddish brown (5YR 3/3) clay loam. Generally, this series is well drained, moderately slowly permeable, surface runoff is medium, and the erosion hazard is moderate if left bare. This soil is classified as a **non-hydric soil** according to the Clark County hydric soils list.

Based on the review of existing information and the routine on-site delineation method described by the Army Corps of Engineers (USACE), two wetlands were identified and classified along the western portion of the study site. The area within the flagged boundary, which meets all three wetland criteria, was marked in the field with orange flagging with 'WETLAND BOUNDARY' written in black lettering. These flags were surveyed in the field and are shown in Figure 5. A description of the wetlands and surrounding uplands is found below.

4.1 WETLANDS

Wetlands A (Swale) & B (Farm Pond) (5.1 acres – on-site) (Fig. 5)

Wetland A is an emergent (grass dominated), HGM riverine/slope that is predominantly Palustrine, Emergent, Seasonally Flooded (PEMC – Cowardin, et.al. 1979) wetland that contains an excavated pond (Palustrine, Unconsolidated Bottom, Permanently Flooded, excavated – Cowardin et.al. 1979) near the southern portion of the property. Vegetation in the wetland is dominated by reed canarygrass (*Phalaris arundinacea* – FACW and tall fescue (*Schedonoris arundinacea* – FAC) with a patch of Oregon ash (*Fraxinus latifolia* – FACW) near the southern portion of the wetland. Vegetation along the wetland boundary consists of colonial bentgrass (*Agrostis capillaris* – FAC), reed canarygrass, orchardgrass (*Dactylis glomerata* – FACU), bird's-foot trefoil (*Lotus corniculatus* – FAC), and bedstraw (*Gallium microphyllum*). Soils in the wetland from 0 to 16 inches are generally a black (10YR 2/1) gravelly clay loam. Water was observed at six inches below the ground surface and soil saturation was at the soil surface. This wetland rated as a Category III wetland (See Table 1). Wetland B (HGM Depressional) is the farm pond has been excavated and bermed within the boundary of Wetland A.

4.2 WETLAND FUNCTIONAL ASSESSMENT

The wetland has been assessed using the Washington State Wetland Rating System for Western Washington (Hruby 2006). The system was designed to differentiate between wetlands based on their sensitivity to disturbance, their significance, their rarity, our ability to replace them, and the functions they provide. Through a series of questions, the wetland rating system generates a number for water quality functions, hydrologic functions, and habitat function, which creates a total score. Based on the total score, the wetland is categorized as a Category I, II, III, or IV wetland. Table 1 below summarizes the wetland type, total score for functions, and category of wetland identified within the study area.

Table 1. Wetland Function Rating

Wetland	Wetland Type	Water Quality Functions	Hydrologic Functions	Habitat Functions	Total Score	Wetland Category
A	Riverine/ Slope	4	8	14	26	IV
B	Depressional	10	5	12	27	IV

4.3 NON-WETLANDS

The non-wetland portion of the study area is predominantly an open grassland area with blackberry (*Rubus* spp.) thickets and a few trees ((mostly Douglas-fir (*Pseudotsuga menziesii* – FACU)). The herbaceous cover is dominated of tall fescue, orchardgrass and colonial bentgrass. Soils vary from a very dark grayish brown (10YR 3/1) gravelly silt loam in the upper 10 inches and a brown (10YR 4/3) silt loam below this to a depth of 16 inches. No wetland hydrology indicators were observed in the upland portion of the site at the time of the delineation.

Photographs of the study and surrounding areas are shown in Photo-sheet 1.

5.0 REGULATORY ISSUES

The City of Camas Critical Areas Ordinance (16.60) provides for the protection of wetlands within the City's jurisdiction. The ordinance establishes protective buffers associated with wetlands and specifies that certain permits or approvals be obtained for projects containing wetlands or their respective buffers.

As mentioned above, the wetlands were rated with the wetland rating system developed by Washington Department of Ecology for western Washington. Wetlands A and B rated as Category IV wetlands (Table 1). According to Table 16.60.040-1 of the critical areas ordinance, Category IV wetlands have a base buffer width of 50-feet in a high intensity land use (Fig. 5).

In addition to the City's critical areas ordinance, jurisdictional wetlands are also regulated at the federal and state levels by the U.S. Army Corps of Engineers (USACE) and the Washington Department of Ecology (Ecology) under Sections 401 and 404 of the Clean Water Act, respectively. Any impacts to the wetlands may require notification and approval from the USACE and Ecology. It is recommended that the USACE and Ecology be contacted regarding current permit requirements before proceeding with any development activities that would impact wetlands on this site.

The wetland boundaries and classifications shown in this report have been determined using the most appropriate field techniques and best professional judgment of the environmental scientist. It should be noted that USACE and City of Camas have the final authority in determining the wetland boundaries and categories under their respective jurisdictions. It is recommended that this delineation report be submitted to these agencies for concurrence prior to starting any development or planning activities that would affect wetlands or buffers on this site.

6.0 LITERATURE CITED

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[illegible]

PURPOSE: Wetland Delineation and Assessment

Project Location Map

Grass Valley Development

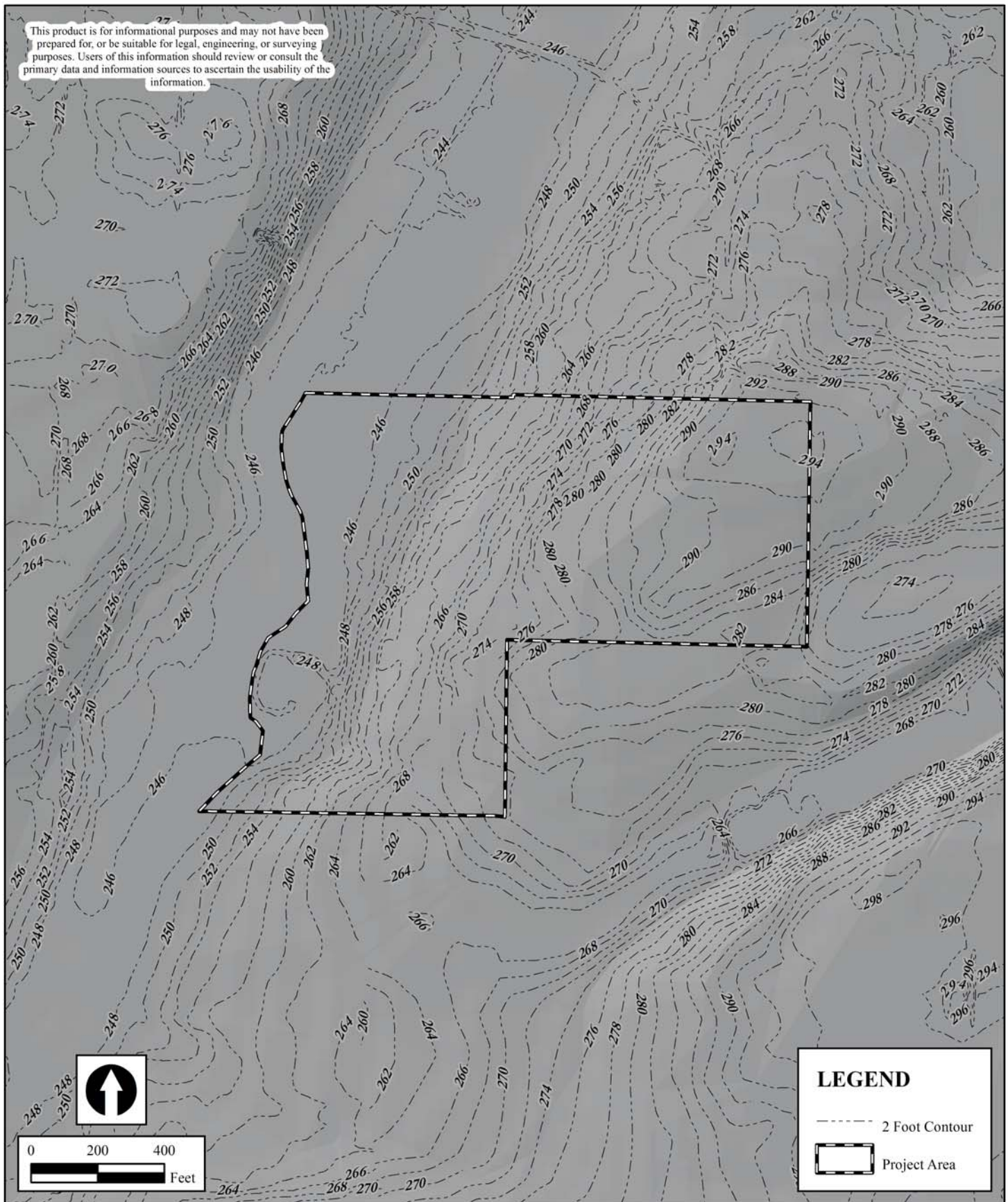
Camas, Washington



222 E. Evergreen Blvd., Vancouver, WA 98660 ph: 360-693-4555 fax: 360-699-6242

PROPOSED ACTIVITIES IN:
 Lacamas Creek Watershed
LEGAL: NW ¼ of Section 5, T1N, R3E,
 W.M.,
NEAR: Camas, Washington
COUNTY: Clark County
DATE: January 26, 2018
Figure 1

This product is for informational purposes and may not have been prepared for, or be suitable for legal, engineering, or surveying purposes. Users of this information should review or consult the primary data and information sources to ascertain the usability of the information.



Grass Valley Development

APPLICANT:
Holland Partner Group
1111 Main Street, #700
Vancouver, WA 98660

PURPOSE: Wetland Delineation and Assessment

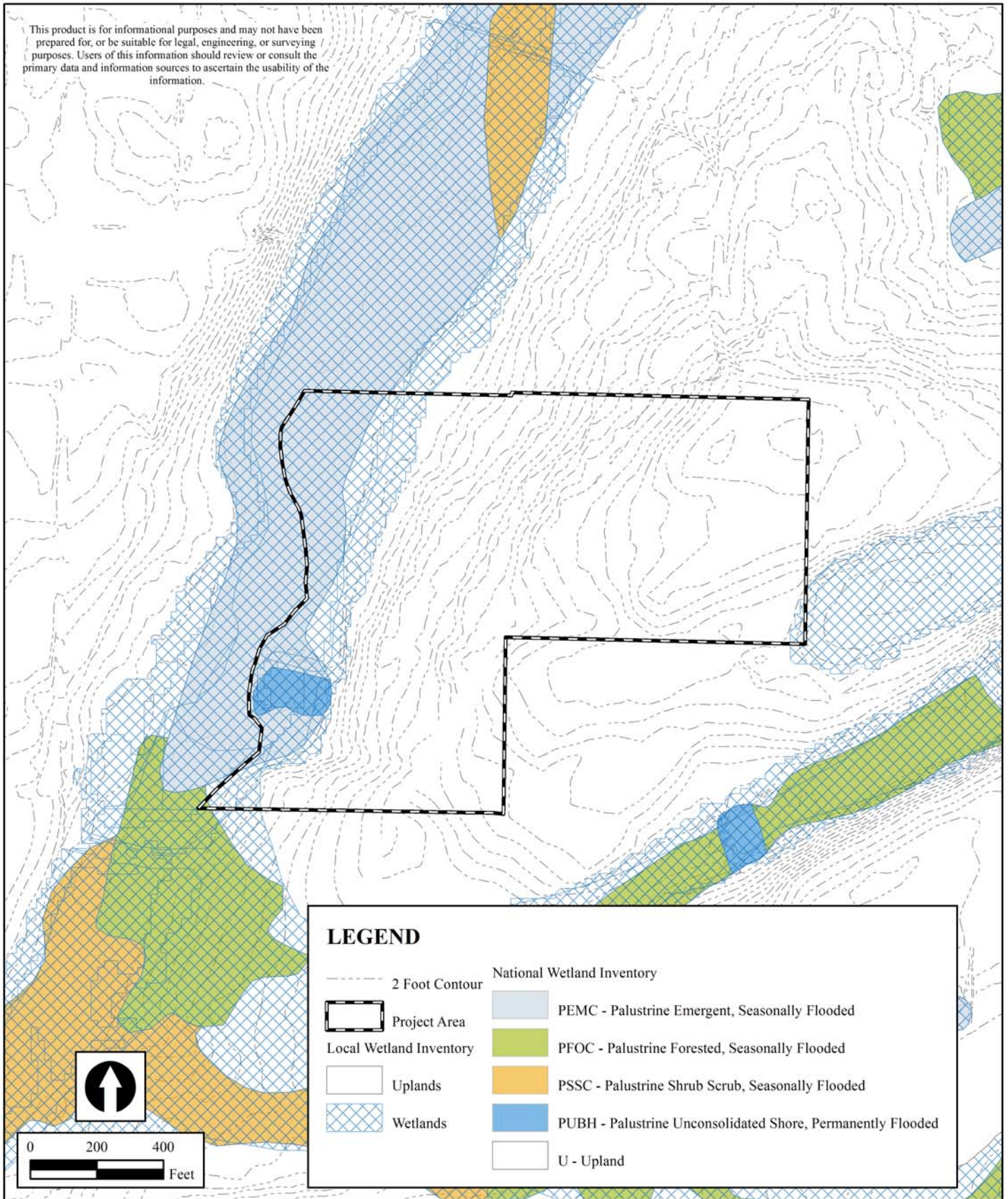
Clark County LiDAR Topography Grass Valley Development Camas, Washington



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PROPOSED ACTIVITIES IN:
Lacamas Creek Watershed
LEGAL: NW ¼ of Section 5, T1N, R3E, WM.,
NEAR: Camas, Washington
COUNTY: Clark County
DATE: January 26, 2018
Figure 2

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Grass Valley Development

APPLICANT:
Holland Partner Group
1111 Main Street, #700
Vancouver, WA 98660

PURPOSE: Wetland Delineation and Assessment

Local and National Wetland Inventories Grass Valley Development Camas, Washington



222 E. Evergreen Blvd., Vancouver, WA 98660 ph: 360.693.4555 fax: 360.699.6242

PROPOSED ACTIVITIES IN:
Lacamas Creek Watershed
LEGAL: NW ¼ of Section 5, T1N, R3E, WM.,
NEAR: Camas, Washington
COUNTY: Clark County
DATE: January 26, 2018
Figure 3

This product is for informational purposes and may not have been prepared for, or be suitable for legal, engineering, or surveying purposes. Users of this information should review or consult the primary data and information sources to ascertain the usability of the information.



Grass Valley Development

APPLICANT:

Holland Partner Group
1111 Main Street, #700
Vancouver, WA 98660

PURPOSE: Wetland Delineation and Assessment

Clark County NRCS Soils Grass Valley Development Camas, Washington



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PROPOSED ACTIVITIES IN:

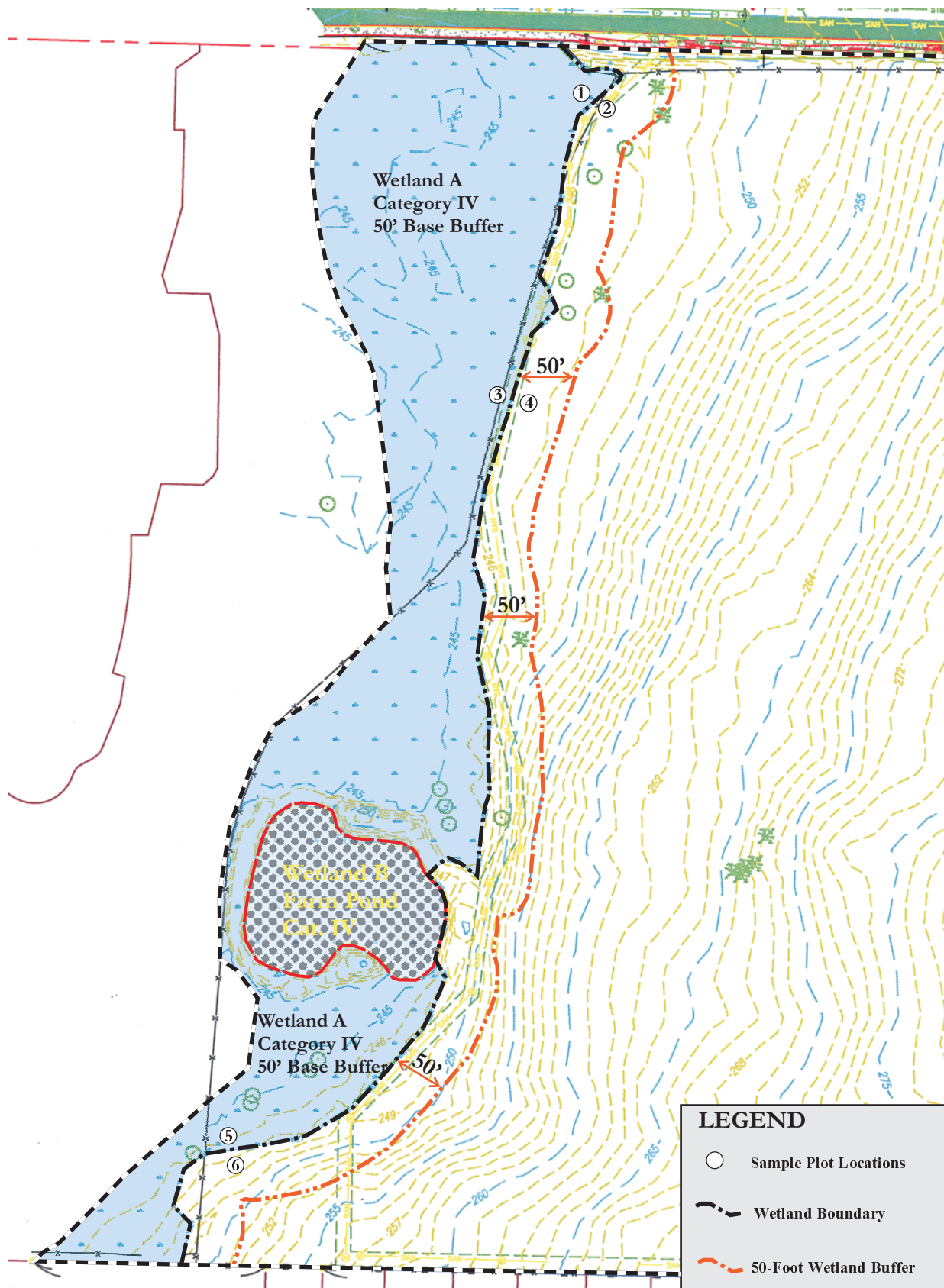
Lacamas Creek Watershed
LEGAL: NW ¼ of Section 5, T1N, R3E, WM.,

NEAR: Camas, Washington

COUNTY: Clark County

DATE: January 26, 2018

Figure 4



Grass Valley Development

APPLICANT:

Holland Partner Group
1111 Main Street, #700
Vancouver, WA 98660

PURPOSE: Wetland Delineation and Assessment

Approximate Wetland Boundary, Buffer & Sample Plots Grass Valley Development Camas, Washington



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PROPOSED ACTIVITIES IN:

Lacamas Creek Watershed
LEGAL: NW ¼ of Section 5, T1N, R3E, WM.,
NEAR: Camas, Washington
COUNTY: Clark County
DATE: January 26, 2018

Figure 5



Grass Valley Development

APPLICANT:

Holland Partner Group
1111 Main Street, #700
Vancouver, WA 98660

PURPOSE: Wetland Delineation and Assessment

**Project Photographs
Grass Valley Development
Camas, Washington**



OLSON
ENVIRONMENTAL, INC.
Environmental Science • Planning • Design • Construction

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PROPOSED ACTIVITIES IN:

Lacamas Creek Watershed
LEGAL: NW ¼ of Section 5, T1N, R3E, WM.,
NEAR: Camas, Washington
COUNTY: Clark County
DATE: January 26, 2018

Photo Sheet 1

APPENDIX A - WETLAND DETERMINATION DATA FORMS

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

Project/Site: Grass Valley Development City/County: Clark Sampling Date: 02/11/2016- 1/8/18
 Applicant/Owner: Holland Partner Group State: WA Sampling Point: 1
 Investigator(s): Kevin Grosz Section, Township, Range: S05 T01N R03E
 Landform (hillslope, terrace, etc.): Drainageway Local relief (concave, convex, none): concave Slope (%): 2
 Subregion (LRR): Northwest Forests & Coast (LRR A) Lat: 45.60645610 Long: -122.47226320 Datum: WGS84
 Soil Map Unit Name: CwA NWI classification: Local
 Are climatic/hydrologic conditions on the site typical for this time of year? Yes (if no, explain in Remarks.)
 Are Vegetation __, Soil __, or Hydrology __ significantly disturbed? Are "Normal Circumstances" present? Yes
 Are Vegetation __, Soil __, or Hydrology __ naturally problematic? (if needed, explain any answers in Remarks.)

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

Hydrophytic Vegetation Present? <u>Yes</u>	Is the Sampled Area within a Wetland? <u>Yes</u>
Hydric Soil Present? <u>Yes</u>	
Wetland Hydrology Present? <u>Yes</u>	
Remarks:	

VEGETATION – Use scientific names of plants.

Tree Stratum (Plot size: <u>0</u>)	Absolute % Cover	Dominant Species?	Indicator Status	Dominance Test worksheet: Number of Dominant Species That Are OBL, FACW, or FAC: <u>1</u> (A) Total Number of Dominant Species Across All Strata: <u>1</u> (B) Percent of Dominant Species That Are OBL, FACW, or FAC: <u>100</u> (A/B) Prevalence Index worksheet: <table border="0"> <tr> <td colspan="2"><u>Total % Cover of:</u></td> <td colspan="2"><u>Multiply by:</u></td> </tr> <tr> <td>OBL species</td> <td><u>0</u></td> <td>x 1 =</td> <td><u>0</u></td> </tr> <tr> <td>FACW species</td> <td><u>0</u></td> <td>x 2 =</td> <td><u>0</u></td> </tr> <tr> <td>FAC species</td> <td><u>0</u></td> <td>x 3 =</td> <td><u>0</u></td> </tr> <tr> <td>FACU species</td> <td><u>0</u></td> <td>x 4 =</td> <td><u>0</u></td> </tr> <tr> <td>UPL species</td> <td><u>0</u></td> <td>x 5 =</td> <td><u>0</u></td> </tr> <tr> <td>Column Totals:</td> <td><u>0</u> (A)</td> <td></td> <td><u>0</u> (B)</td> </tr> </table> Prevalence Index = B/A = <u>0.00</u>	<u>Total % Cover of:</u>		<u>Multiply by:</u>		OBL species	<u>0</u>	x 1 =	<u>0</u>	FACW species	<u>0</u>	x 2 =	<u>0</u>	FAC species	<u>0</u>	x 3 =	<u>0</u>	FACU species	<u>0</u>	x 4 =	<u>0</u>	UPL species	<u>0</u>	x 5 =	<u>0</u>	Column Totals:	<u>0</u> (A)		<u>0</u> (B)
<u>Total % Cover of:</u>		<u>Multiply by:</u>																														
OBL species	<u>0</u>	x 1 =	<u>0</u>																													
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UPL species	<u>0</u>	x 5 =	<u>0</u>																													
Column Totals:	<u>0</u> (A)		<u>0</u> (B)																													
<u>Sapling/Shrub Stratum</u> (Plot size: <u>0</u>) 1. 2. 3. 4. 5. Total Cover = <u>0</u>																																
<u>Herb Stratum</u> (Plot size: <u>0</u>) 1. <u>Agrostis capillaris</u> 2. <u>Hypericum perforatum</u> 3. <u>Phalaris arundinacea</u> 4. 5. 6. 7. 8. 9. 10. 11. Total Cover = <u>80</u>	<u>70</u> <u>5</u> <u>5</u>	<u>Yes</u> <u>No</u> <u>No</u>	<u>FAC</u> <u>FACU</u> <u>FACW</u>																													
<u>Woody Vine Stratum</u> (Plot size: <u>0</u>) 1. 2. Total Cover = <u>0</u> % Bare Ground in Herb Stratum: <u>0</u>																																
1Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic. Hydrophytic Vegetation Indicators: ___ 1 –Rapid Test for Hydrophytic Vegetation <u>X</u> 2 – Dominance Test >50% ___ 3 - Prevalence Index is ≤ 3.0 ¹ ___ 4 - Morphological Adaptions ¹ (Provide supporting data in Remarks or on a separate sheet) ___ 5 – Wetland Non-Vascular Plants ¹ ___ Problematic Hydrophytic Vegetation ¹ (Explain)																																
Hydrophytic Vegetation Present? <u>Yes</u>																																
Remarks:																																

SOIL

Sampling Point: 1

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

Matrix			Redox Features				Texture	Remarks
Depth (inches)	Color (moist)	%	Color (moist)	%	Type ¹	Loc ²		
0-12	10YR 2/1	100		0				
12-16	10YR 5/1	80	7.5YR 4/6	20	C	M	Gravelly silt loam	

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

Hydric Soil Indicators: (Applicable to all LRRs, unless otherwise noted.)	Indicators for Problematic Hydric Soils ³ :
<input type="checkbox"/> Histosol (A1) <input type="checkbox"/> Histic Epipedon (A2) <input type="checkbox"/> Black Histic (A3) <input type="checkbox"/> Hydrogen Sulfide (A4) <input type="checkbox"/> Depleted Below Dark Surface (A11) <input type="checkbox"/> Thick Dark Surface (A12) <input type="checkbox"/> Sandy Mucky Mineral (S1) <input type="checkbox"/> Sandy Gleyed Matrix (S4)	<input type="checkbox"/> Sandy Redox (S5) <input type="checkbox"/> Stripped Matrix (S6) <input type="checkbox"/> Loamy Mucky Mineral (F1) (except MLRA 1) <input type="checkbox"/> Loamy Gleyed Matrix (F2) <input type="checkbox"/> Depleted Matrix (F3) <input type="checkbox"/> Redox Dark Surface (F6) <input checked="" type="checkbox"/> Depleted Dark Surface (F7) <input type="checkbox"/> Redox Depressions (F8)
<input type="checkbox"/> 2 cm Muck (A10) <input type="checkbox"/> Red Parent Material (TF2) <input type="checkbox"/> Very Shallow Dark Surface (TF12) <input type="checkbox"/> Other (Explain in Remarks)	

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

Restrictive Layer (if present):	Hydric Soil Present? <u>Yes</u>
Type: Depth (inches): 0	
Remarks:	

HYDROLOGY

Wetland Hydrology Indicators:		Secondary Indicators (two or more required)
Primary Indicators (minimum of one required; check all that apply)		
<input type="checkbox"/> Surface Water (A1) <input type="checkbox"/> High Water Table (A2) <input checked="" type="checkbox"/> Saturation (A3) <input type="checkbox"/> Water Marks (B1) <input type="checkbox"/> Sediment Deposits (B2) <input type="checkbox"/> Drift Deposits (B3) <input type="checkbox"/> Algal Mat or Crust (B4) <input type="checkbox"/> Iron Deposits (B5) <input type="checkbox"/> Surface Soil Cracks (B6) <input type="checkbox"/> Inundation Visible on Aerial Imagery (B7) <input type="checkbox"/> Sparsely Vegetated Concave Surface (B8)	<input type="checkbox"/> Water-Stained Leaves (B9) (except MLRA 1,2,4A, and 4B) <input type="checkbox"/> Salt Crust (B11) <input type="checkbox"/> Aquatic Invertebrates (B13) <input type="checkbox"/> Hydrogen Sulfide Odor (C1) <input type="checkbox"/> Oxidized Rhizospheres along Living Roots (C3) <input type="checkbox"/> Presence of Reduced Iron (C4) <input type="checkbox"/> Recent Iron Reduction in Tilled Soils (C6) <input type="checkbox"/> Stunted or Stressed Plants (D1)(LRR A) <input type="checkbox"/> Other (Explain in Remarks)	<input type="checkbox"/> Water-Stained Leaves (B9)(MLRA 1,2,4A,4B) <input type="checkbox"/> Drainage Patterns (B10) <input type="checkbox"/> Dry-Season Water Table (C2) <input type="checkbox"/> Saturation Visible on Aerial Imagery (C9) <input type="checkbox"/> Geomorphic Position (D2) <input type="checkbox"/> Shallow Aquitard (D3) <input type="checkbox"/> FAC-Neutral Test (D5) <input type="checkbox"/> Raised Ant Mounds (D6)(LRR A) <input type="checkbox"/> Frost-Heave Hummocks (D7)
Field Observations: Surface Water Present? <u>No</u> Water Table Present? <u>No</u> Saturation Present? <u>Yes</u> (includes capillary fringe)		Depth (inches): Depth (inches): Depth (inches): 8 Wetland Hydrology Present? <u>Yes</u>
Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:		
Remarks:		

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

Project/Site: Grass Valley Development City/County: Clark Sampling Date: 02/11/2016-1/8/18
 Applicant/Owner: Holland Partner Group State: WA Sampling Point: 2
 Investigator(s): Kevin Grosz Section, Township, Range: S05 T01N R03E
 Landform (hillslope, terrace, etc.): Drainageway Local relief (concave, convex, none): concave Slope (%): 02
 Subregion (LRR): Northwest Forests & Coast (LRR A) Lat: 45.60642130 Long: -122.47211300 Datum: WGS84
 Soil Map Unit Name: CwA NWI classification: Local

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

Are Vegetation __, Soil __, or Hydrology __ significantly disturbed?

Are "Normal Circumstances" present? Yes

Are Vegetation __, Soil __, or Hydrology __ naturally problematic?

(if needed, explain any answers in Remarks.)

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

Hydrophytic Vegetation Present? <u>No</u>	Is the Sampled Area within a Wetland? <u>No</u>
Hydric Soil Present? <u>No</u>	
Wetland Hydrology Present? <u>No</u>	
Remarks:	

VEGETATION – Use scientific names of plants.

	Absolute % Cover	Dominant Species?	Indicator Status																													
Tree Stratum (Plot size: <u>30</u>) 1. <u>Pseudotsuga menziesii</u> 2. 3. 4. Total Cover = <u>25</u>	<u>25</u>	<u>Yes</u>	<u>FACU</u>	Dominance Test worksheet: Number of Dominant Species That Are OBL, FACW, or FAC: <u>1</u> (A) Total Number of Dominant Species Across All Strata: <u>4</u> (B)																												
Sapling/Shrub Stratum (Plot size: <u>30</u>) 1. 2. 3. 4. 5. Total Cover = <u>0</u>				Percent of Dominant Species That Are OBL, FACW, or FAC: <u>25</u> (A/B) Prevalence Index worksheet: <table border="0"> <tr> <td colspan="2"><u>Total % Cover of:</u></td> <td colspan="2"><u>Multiply by:</u></td> </tr> <tr> <td>OBL species</td> <td><u>0</u></td> <td>x 1 =</td> <td><u>0</u></td> </tr> <tr> <td>FACW species</td> <td><u>0</u></td> <td>x 2 =</td> <td><u>0</u></td> </tr> <tr> <td>FAC species</td> <td><u>0</u></td> <td>x 3 =</td> <td><u>0</u></td> </tr> <tr> <td>FACU species</td> <td><u>65</u></td> <td>x 4 =</td> <td><u>260</u></td> </tr> <tr> <td>UPL species</td> <td><u>0</u></td> <td>x 5 =</td> <td><u>0</u></td> </tr> <tr> <td>Column Totals:</td> <td><u>85</u> (A)</td> <td></td> <td><u>320</u> (B)</td> </tr> </table> Prevalence Index = B/A = <u>3.76</u>	<u>Total % Cover of:</u>		<u>Multiply by:</u>		OBL species	<u>0</u>	x 1 =	<u>0</u>	FACW species	<u>0</u>	x 2 =	<u>0</u>	FAC species	<u>0</u>	x 3 =	<u>0</u>	FACU species	<u>65</u>	x 4 =	<u>260</u>	UPL species	<u>0</u>	x 5 =	<u>0</u>	Column Totals:	<u>85</u> (A)		<u>320</u> (B)
<u>Total % Cover of:</u>		<u>Multiply by:</u>																														
OBL species	<u>0</u>	x 1 =	<u>0</u>																													
FACW species	<u>0</u>	x 2 =	<u>0</u>																													
FAC species	<u>0</u>	x 3 =	<u>0</u>																													
FACU species	<u>65</u>	x 4 =	<u>260</u>																													
UPL species	<u>0</u>	x 5 =	<u>0</u>																													
Column Totals:	<u>85</u> (A)		<u>320</u> (B)																													
Herb Stratum (Plot size: <u>10</u>) 1. <u>Dactylis glomerata</u> 2. <u>Schedonorus arundinaceus</u> 3. 4. 5. 6. 7. 8. 9. 10. 11. Total Cover = <u>65</u>	<u>50</u> <u>30</u> <u>5</u>	<u>Yes</u> <u>Yes</u> <u>Yes</u>	<u>FACU</u> <u>FAC</u>	Hydrophytic Vegetation Indicators: ___ 1 – Rapid Test for Hydrophytic Vegetation ___ 2 – Dominance Test >50% ___ 3 - Prevalence Index is ≤ 3.0 ¹ ___ 4 - Morphological Adaptions ¹ (Provide supporting data in Remarks or on a separate sheet) ___ 5 – Wetland Non-Vascular Plants ¹ ___ Problematic Hydrophytic Vegetation ¹ (Explain)																												
Woody Vine Stratum (Plot size: <u>30</u>) 1. 2. Total Cover = <u>0</u> % Bare Ground in Herb Stratum: <u>0</u>				¹ Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic. Hydrophytic Vegetation Present? <u>No</u>																												
Remarks:																																

SOIL

Sampling Point: 2

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

Matrix			Redox Features				Texture	Remarks
Depth (inches)	Color (moist)	%	Color (moist)	%	Type ¹	Loc ²		
0-16	10YR 3/2	100		0			Gravelly Loam	
¹ Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered or Coated Sand Grains. ² Location: PL=Pore Lining, M=Matrix								
Hydric Soil Indicators: (Applicable to all LRRs, unless otherwise noted.)						Indicators for Problematic Hydric Soils³:		
<input type="checkbox"/> Histosol (A1) <input type="checkbox"/> Histic Epipedon (A2) <input type="checkbox"/> Black Histic (A3) <input type="checkbox"/> Hydrogen Sulfide (A4) <input type="checkbox"/> Depleted Below Dark Surface (A11) <input type="checkbox"/> Thick Dark Surface (A12) <input type="checkbox"/> Sandy Mucky Mineral (S1) <input type="checkbox"/> Sandy Gleyed Matrix (S4)			<input type="checkbox"/> Sandy Redox (S5) <input type="checkbox"/> Stripped Matrix (S6) <input type="checkbox"/> Loamy Mucky Mineral (F1) (except MLRA 1) <input type="checkbox"/> Loamy Gleyed Matrix (F2) <input type="checkbox"/> Depleted Matrix (F3) <input type="checkbox"/> Redox Dark Surface (F6) <input type="checkbox"/> Depleted Dark Surface (F7) <input type="checkbox"/> Redox Depressions (F8)			<input type="checkbox"/> 2 cm Muck (A10) <input type="checkbox"/> Red Parent Material (TF2) <input type="checkbox"/> Very Shallow Dark Surface (TF12) <input type="checkbox"/> Other (Explain in Remarks) ³ Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.		
Restrictive Layer (if present): Type: Depth (inches): 0						Hydric Soil Present? No		
Remarks:								

HYDROLOGY

Wetland Hydrology Indicators:		Secondary Indicators (two or more required)
Primary Indicators (minimum of one required; check all that apply)		
<input type="checkbox"/> Surface Water (A1) <input type="checkbox"/> High Water Table (A2) <input type="checkbox"/> Saturation (A3) <input type="checkbox"/> Water Marks (B1) <input type="checkbox"/> Sediment Deposits (B2) <input type="checkbox"/> Drift Deposits (B3) <input type="checkbox"/> Algal Mat or Crust (B4) <input type="checkbox"/> Iron Deposits (B5) <input type="checkbox"/> Surface Soil Cracks (B6) <input type="checkbox"/> Inundation Visible on Aerial Imagery (B7) <input type="checkbox"/> Sparsely Vegetated Concave Surface (B8)	<input type="checkbox"/> Water-Stained Leaves (B9) (except MLRA 1,2,4A, and 4B) <input type="checkbox"/> Salt Crust (B11) <input type="checkbox"/> Aquatic Invertebrates (B13) <input type="checkbox"/> Hydrogen Sulfide Odor (C1) <input type="checkbox"/> Oxidized Rhizospheres along Living Roots (C3) <input type="checkbox"/> Presence of Reduced Iron (C4) <input type="checkbox"/> Recent Iron Reduction in Tilled Soils (C6) <input type="checkbox"/> Stunted or Stressed Plants (D1)(LRR A) <input type="checkbox"/> Other (Explain in Remarks)	<input type="checkbox"/> Water-Stained Leaves (B9)(MLRA 1,2,4A,4B) <input type="checkbox"/> Drainage Patterns (B10) <input type="checkbox"/> Dry-Season Water Table (C2) <input type="checkbox"/> Saturation Visible on Aerial Imagery (C9) <input type="checkbox"/> Geomorphic Position (D2) <input type="checkbox"/> Shallow Aquitard (D3) <input type="checkbox"/> FAC-Neutral Test (D5) <input type="checkbox"/> Raised Ant Mounds (D6)(LRR A) <input type="checkbox"/> Frost-Heave Hummocks (D7)
Field Observations: Surface Water Present? <u>No</u> Water Table Present? <u>No</u> Saturation Present? <u>No</u> (includes capillary fringe)		Depth (inches): Depth (inches): Depth (inches): Wetland Hydrology Present? No
Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:		
Remarks:		

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

Project/Site: Grass Valley Development City/County: Clark Sampling Date: 02/11/2016-1/81/18
 Applicant/Owner: Holland Partner Group State: WA Sampling Point: 3
 Investigator(s): Kevin Grosz Section, Township, Range: S05 T01N R03E
 Landform (hillslope, terrace, etc.): Drainageway Local relief (concave, convex, none): concave Slope (%): 1
 Subregion (LRR): Northwest Forests & Coast (LRR A) Lat: 45.60582410 Long: -122.47258400 Datum: WGS84
 Soil Map Unit Name: CvA NWI classification: Local

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

Are Vegetation __, Soil __, or Hydrology __ significantly disturbed?

Are "Normal Circumstances" present? Yes

Are Vegetation __, Soil __, or Hydrology __ naturally problematic?

(if needed, explain any answers in Remarks.)

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

Hydrophytic Vegetation Present? <u>Yes</u>	Is the Sampled Area within a Wetland? <u>Yes</u>
Hydric Soil Present? <u>Yes</u>	
Wetland Hydrology Present? <u>Yes</u>	
Remarks:	

VEGETATION – Use scientific names of plants.

	Absolute % Cover	Dominant Species?	Indicator Status	Dominance Test worksheet: Number of Dominant Species That Are OBL, FACW, or FAC: <u>3</u> (A) Total Number of Dominant Species Across All Strata: <u>4</u> (B) Percent of Dominant Species That Are OBL, FACW, or FAC: <u>75</u> (A/B) Prevalence Index worksheet: <table border="0"> <tr> <td><u>Total % Cover of:</u></td> <td><u>Multiply by:</u></td> </tr> <tr> <td>OBL species <u>0</u></td> <td>x 1 = <u>0</u></td> </tr> <tr> <td>FACW species <u>0</u></td> <td>x 2 = <u>0</u></td> </tr> <tr> <td>FAC species <u>75</u></td> <td>x 3 = <u>225</u></td> </tr> <tr> <td>FACU species <u>20</u></td> <td>x 4 = <u>80</u></td> </tr> <tr> <td>UPL species <u>0</u></td> <td>x 5 = <u>0</u></td> </tr> <tr> <td>Column Totals: <u>95</u> (A)</td> <td><u>305</u> (B)</td> </tr> </table> Prevalence Index = B/A = <u>3.21</u>	<u>Total % Cover of:</u>	<u>Multiply by:</u>	OBL species <u>0</u>	x 1 = <u>0</u>	FACW species <u>0</u>	x 2 = <u>0</u>	FAC species <u>75</u>	x 3 = <u>225</u>	FACU species <u>20</u>	x 4 = <u>80</u>	UPL species <u>0</u>	x 5 = <u>0</u>	Column Totals: <u>95</u> (A)	<u>305</u> (B)
<u>Total % Cover of:</u>	<u>Multiply by:</u>																	
OBL species <u>0</u>	x 1 = <u>0</u>																	
FACW species <u>0</u>	x 2 = <u>0</u>																	
FAC species <u>75</u>	x 3 = <u>225</u>																	
FACU species <u>20</u>	x 4 = <u>80</u>																	
UPL species <u>0</u>	x 5 = <u>0</u>																	
Column Totals: <u>95</u> (A)	<u>305</u> (B)																	
Tree Stratum (Plot size: <u>30</u>) 1. 2. 3. 4. Total Cover = <u>0</u>																		
Sapling/Shrub Stratum (Plot size: <u>30</u>) 1. 2. 3. 4. 5. Total Cover = <u>0</u>																		
Herb Stratum (Plot size: <u>10</u>) 1. <u>Dactylis glomerata</u> 2. <u>Galium microphyllum</u> 3. <u>Agrostis capillaris</u> 4. <u>Lotus corniculatus</u> 5. 6. 7. 8. 9. 10. 11. Total Cover = <u>95</u>	<u>20</u> <u>20</u> <u>30</u> <u>25</u>	<u>Yes</u> <u>Yes</u> <u>Yes</u> <u>Yes</u>	<u>FACU</u> <u>FAC</u> <u>FAC</u> <u>FAC</u>															
Woody Vine Stratum (Plot size: <u>30</u>) 1. 2. Total Cover = <u>0</u> % Bare Ground in Herb Stratum: <u>0</u>				1Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic. Hydrophytic Vegetation Indicators: ___ 1 –Rapid Test for Hydrophytic Vegetation <u>X</u> 2 – Dominance Test >50% ___ 3 - Prevalence Index is ≤ 3.0 ¹ <u>X</u> 4 - Morphological Adaptions ¹ (Provide supporting data in Remarks or on a separate sheet) ___ 5 – Wetland Non-Vascular Plants ¹ ___ Problematic Hydrophytic Vegetation ¹ (Explain)														
Remarks:				Hydrophytic Vegetation Present? <u>Yes</u>														

SOIL

Sampling Point: 3

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

Matrix			Redox Features				Texture	Remarks
Depth (inches)	Color (moist)	%	Color (moist)	%	Type ¹	Loc ²		
0-16	10YR 2/1	0		0				
¹ Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered or Coated Sand Grains. ² Location: PL=Pore Lining, M=Matrix								
Hydric Soil Indicators: (Applicable to all LRRs, unless otherwise noted.)						Indicators for Problematic Hydric Soils³:		
<input checked="" type="checkbox"/> Histosol (A1) <input type="checkbox"/> Histic Epipedon (A2) <input type="checkbox"/> Black Histic (A3) <input type="checkbox"/> Hydrogen Sulfide (A4) <input type="checkbox"/> Depleted Below Dark Surface (A11) <input type="checkbox"/> Thick Dark Surface (A12) <input type="checkbox"/> Sandy Mucky Mineral (S1) <input type="checkbox"/> Sandy Gleyed Matrix (S4)			<input type="checkbox"/> Sandy Redox (S5) <input type="checkbox"/> Stripped Matrix (S6) <input type="checkbox"/> Loamy Mucky Mineral (F1) (except MLRA 1) <input type="checkbox"/> Loamy Gleyed Matrix (F2) <input type="checkbox"/> Depleted Matrix (F3) <input type="checkbox"/> Redox Dark Surface (F6) <input type="checkbox"/> Depleted Dark Surface (F7) <input type="checkbox"/> Redox Depressions (F8)			<input type="checkbox"/> 2 cm Muck (A10) <input type="checkbox"/> Red Parent Material (TF2) <input type="checkbox"/> Very Shallow Dark Surface (TF12) <input type="checkbox"/> Other (Explain in Remarks) ³ Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.		
Restrictive Layer (if present): Type: Depth (inches): 0						Hydric Soil Present? <u>Yes</u>		
Remarks:								

HYDROLOGY

Wetland Hydrology Indicators:		Secondary Indicators (two or more required)
Primary Indicators (minimum of one required; check all that apply)		
<input type="checkbox"/> Surface Water (A1) <input checked="" type="checkbox"/> High Water Table (A2) <input checked="" type="checkbox"/> Saturation (A3) <input type="checkbox"/> Water Marks (B1) <input type="checkbox"/> Sediment Deposits (B2) <input type="checkbox"/> Drift Deposits (B3) <input type="checkbox"/> Algal Mat or Crust (B4) <input type="checkbox"/> Iron Deposits (B5) <input type="checkbox"/> Surface Soil Cracks (B6) <input type="checkbox"/> Inundation Visible on Aerial Imagery (B7) <input type="checkbox"/> Sparsely Vegetated Concave Surface (B8)	<input type="checkbox"/> Water-Stained Leaves (B9) (except MLRA 1,2,4A, and 4B) <input type="checkbox"/> Salt Crust (B11) <input type="checkbox"/> Aquatic Invertebrates (B13) <input type="checkbox"/> Hydrogen Sulfide Odor (C1) <input type="checkbox"/> Oxidized Rhizospheres along Living Roots (C3) <input type="checkbox"/> Presence of Reduced Iron (C4) <input type="checkbox"/> Recent Iron Reduction in Tilled Soils (C6) <input type="checkbox"/> Stunted or Stressed Plants (D1)(LRR A) <input type="checkbox"/> Other (Explain in Remarks)	<input type="checkbox"/> Water-Stained Leaves (B9)(MLRA 1,2,4A,4B) <input type="checkbox"/> Drainage Patterns (B10) <input type="checkbox"/> Dry-Season Water Table (C2) <input type="checkbox"/> Saturation Visible on Aerial Imagery (C9) <input type="checkbox"/> Geomorphic Position (D2) <input type="checkbox"/> Shallow Aquitard (D3) <input type="checkbox"/> FAC-Neutral Test (D5) <input type="checkbox"/> Raised Ant Mounds (D6)(LRR A) <input type="checkbox"/> Frost-Heave Hummocks (D7)
Field Observations: Surface Water Present? <u>No</u> Water Table Present? <u>Yes</u> Saturation Present? <u>Yes</u> (includes capillary fringe)		Depth (inches): Depth (inches): <u>6</u> Depth (inches): <u>0</u> Wetland Hydrology Present? <u>Yes</u>
Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:		
Remarks:		

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

Project/Site: Grass Valley Development City/County: Clark Sampling Date: 02/11/2016-1/8/18
 Applicant/Owner: Holland Partner Group State: WA Sampling Point: 4
 Investigator(s): Kevin Grosz Section, Township, Range: S05 T01N R03E
 Landform (hillslope, terrace, etc.): Drainageway Local relief (concave, convex, none): concave Slope (%): 1
 Subregion (LRR): Northwest Forests & Coast (LRR A) Lat: 45.60581440 Long: -122.47248490 Datum: WGS84
 Soil Map Unit Name: CvA NWI classification: Local

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

Are Vegetation __, Soil __, or Hydrology __ significantly disturbed?

Are "Normal Circumstances" present? Yes

Are Vegetation __, Soil __, or Hydrology __ naturally problematic?

(if needed, explain any answers in Remarks.)

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

Hydrophytic Vegetation Present? <u>No</u>	Is the Sampled Area within a Wetland? <u>No</u>
Hydric Soil Present? <u>No</u>	
Wetland Hydrology Present? <u>No</u>	
Remarks:	

VEGETATION – Use scientific names of plants.

Tree Stratum (Plot size: <u>30</u>)	Absolute % Cover	Dominant Species?	Indicator Status	Dominance Test worksheet: Number of Dominant Species That Are OBL, FACW, or FAC: <u>2</u> (A) Total Number of Dominant Species Across All Strata: <u>4</u> (B) Percent of Dominant Species That Are OBL, FACW, or FAC: <u>50</u> (A/B)
1. 2. 3. 4. Total Cover = <u>0</u>				
Sapling/Shrub Stratum (Plot size: <u>30</u>) 1. 2. 3. 4. 5. Total Cover = <u>0</u>				Hydrophytic Vegetation Indicators: ___ 1 – Rapid Test for Hydrophytic Vegetation ___ 2 – Dominance Test >50% ___ 3 - Prevalence Index is ≤ 3.0 ¹ ___ 4 - Morphological Adaptions ¹ (Provide supporting data in Remarks or on a separate sheet) ___ 5 – Wetland Non-Vascular Plants ¹ ___ Problematic Hydrophytic Vegetation ¹ (Explain) ¹ Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.
Herb Stratum (Plot size: <u>10</u>) 1. <u>Agrostis capillaris</u> <u>40</u> 2. <u>Dactylis glomerata</u> <u>25</u> 3. <u>Galium microphyllum</u> <u>15</u> 4. 5. 6. 7. 8. 9. 10. 11. Total Cover = <u>80</u>		<u>Yes</u> <u>Yes</u> <u>Yes</u>	<u>FAC</u> <u>FACU</u> <u>FAC</u>	
Woody Vine Stratum (Plot size: <u>30</u>) 1. <u>Rubus armeniacus</u> 2. Total Cover = <u>10</u> % Bare Ground in Herb Stratum: <u>0</u>	<u>10</u>	<u>Yes</u>	<u>FACU</u>	Hydrophytic Vegetation Present? <u>No</u>
Remarks:				

SOIL

Sampling Point: 4

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

Matrix			Redox Features			Texture	Remarks
Depth (inches)	Color (moist)	%	Color (moist)	%	Type ¹		
0-16		0		0			unconsolidated fill
¹ Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered or Coated Sand Grains. ² Location: PL=Pore Lining, M=Matrix							
Hydric Soil Indicators: (Applicable to all LRRs, unless otherwise noted.)						Indicators for Problematic Hydric Soils³:	
___ Histosol (A1) ___ Histic Epipedon (A2) ___ Black Histic (A3) ___ Hydrogen Sulfide (A4) ___ Depleted Below Dark Surface (A11) ___ Thick Dark Surface (A12) ___ Sandy Mucky Mineral (S1) ___ Sandy Gleyed Matrix (S4)						___ Sandy Redox (S5) ___ Stripped Matrix (S6) ___ Loamy Mucky Mineral (F1) (except MLRA 1) ___ Loamy Gleyed Matrix (F2) ___ Depleted Matrix (F3) ___ Redox Dark Surface (F6) ___ Depleted Dark Surface (F7) ___ Redox Depressions (F8)	
Restrictive Layer (if present): Type: Depth (inches): 0						Hydric Soil Present? No	
Remarks:							

HYDROLOGY

Wetland Hydrology Indicators:		Secondary Indicators (two or more required)
Primary Indicators (minimum of one required; check all that apply)		
___ Surface Water (A1) ___ High Water Table (A2) ___ Saturation (A3) ___ Water Marks (B1) ___ Sediment Deposits (B2) ___ Drift Deposits (B3) ___ Algal Mat or Crust (B4) ___ Iron Deposits (B5) ___ Surface Soil Cracks (B6) ___ Inundation Visible on Aerial Imagery (B7) ___ Sparsely Vegetated Concave Surface (B8)	___ Water-Stained Leaves (B9) (except MLRA 1,2,4A, and 4B) ___ Salt Crust (B11) ___ Aquatic Invertebrates (B13) ___ Hydrogen Sulfide Odor (C1) ___ Oxidized Rhizospheres along Living Roots (C3) ___ Presence of Reduced Iron (C4) ___ Recent Iron Reduction in Tilled Soils (C6) ___ Stunted or Stressed Plants (D1)(LRR A) ___ Other (Explain in Remarks)	___ Water-Stained Leaves (B9)(MLRA 1,2,4A,4B) ___ Drainage Patterns (B10) ___ Dry-Season Water Table (C2) ___ Saturation Visible on Aerial Imagery (C9) ___ Geomorphic Position (D2) ___ Shallow Aquitard (D3) ___ FAC-Neutral Test (D5) ___ Raised Ant Mounds (D6)(LRR A) ___ Frost-Heave Hummocks (D7)
Field Observations: Surface Water Present? <u>No</u> Water Table Present? <u>No</u> Saturation Present? <u>No</u> (includes capillary fringe)		Depth (inches): Depth (inches): Depth (inches): Wetland Hydrology Present? No
Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:		
Remarks:		

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

Project/Site: Grass Valley Development City/County: Clark Sampling Date: 02/10/2016-1/8/18
 Applicant/Owner: Holland Partner Group State: WA Sampling Point: 5
 Investigator(s): Kevin Grosz Section, Township, Range: S05 T01N R03E
 Landform (hillslope, terrace, etc.): Drainageway Local relief (concave, convex, none): concave Slope (%): 05
 Subregion (LRR): Northwest Forests & Coast (LRR A) Lat: 45.60353590 Long: -122.47373590 Datum: WGS84
 Soil Map Unit Name: CvA NWI classification: Local

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

Are Vegetation __, Soil __, or Hydrology __ significantly disturbed?

Are "Normal Circumstances" present? Yes

Are Vegetation __, Soil __, or Hydrology __ naturally problematic?

(if needed, explain any answers in Remarks.)

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

Hydrophytic Vegetation Present? <u>Yes</u>	Is the Sampled Area within a Wetland? <u>Yes</u>
Hydric Soil Present? <u>Yes</u>	
Wetland Hydrology Present? <u>Yes</u>	
Remarks:	

VEGETATION – Use scientific names of plants.

	Absolute % Cover	Dominant Species?	Indicator Status	Dominance Test worksheet: Number of Dominant Species That Are OBL, FACW, or FAC: <u>4</u> (A) Total Number of Dominant Species Across All Strata: <u>4</u> (B) Percent of Dominant Species That Are OBL, FACW, or FAC: <u>100</u> (A/B)
Tree Stratum (Plot size: <u>30</u>) 1. 2. 3. 4. Total Cover = <u>0</u>				Prevalence Index worksheet: Total % Cover of: Multiply by: OBL species <u>0</u> x 1 = <u>0</u> FACW species <u>15</u> x 2 = <u>30</u> FAC species <u>70</u> x 3 = <u>210</u> FACU species <u>0</u> x 4 = <u>0</u> UPL species <u>0</u> x 5 = <u>0</u> Column Totals: <u>85</u> (A) <u>240</u> (B) Prevalence Index = B/A = <u>2.82</u>
Sapling/Shrub Stratum (Plot size: <u>30</u>) 1. 2. 3. 4. 5. Total Cover = <u>0</u>				
Herb Stratum (Plot size: <u>10</u>) 1. <u>Agrostis capillaris</u> <u>30</u> <u>Yes</u> <u>FAC</u> 2. <u>Holcus lanatus</u> <u>20</u> <u>Yes</u> <u>FAC</u> 3. <u>Schedonorus arundinaceus</u> <u>20</u> <u>Yes</u> <u>FAC</u> 4. <u>Juncus effusus</u> <u>15</u> <u>Yes</u> <u>FACW</u> 5. 6. 7. 8. 9. 10. 11. Total Cover = <u>85</u>				
Woody Vine Stratum (Plot size: <u>30</u>) 1. 2. Total Cover = <u>0</u>				
% Bare Ground in Herb Stratum: <u>0</u>				
Remarks:				Hydrophytic Vegetation Indicators: ___ 1 – Rapid Test for Hydrophytic Vegetation <u>X</u> 2 – Dominance Test >50% <u>X</u> 3 – Prevalence Index is ≤ 3.0 ¹ ___ 4 – Morphological Adaptions ¹ (Provide supporting data in Remarks or on a separate sheet) ___ 5 – Wetland Non-Vascular Plants ¹ ___ Problematic Hydrophytic Vegetation ¹ (Explain) ¹ Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.
				Hydrophytic Vegetation Present? <u>Yes</u>

SOIL

Sampling Point: 5

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

Matrix			Redox Features				Texture	Remarks
Depth (inches)	Color (moist)	%	Color (moist)	%	Type ¹	Loc ²		
0-16	10YR 2/1	100		0				
¹ Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered or Coated Sand Grains. ² Location: PL=Pore Lining, M=Matrix								
Hydric Soil Indicators: (Applicable to all LRRs, unless otherwise noted.)						Indicators for Problematic Hydric Soils³:		
<input checked="" type="checkbox"/> Histosol (A1) <input type="checkbox"/> Histic Epipedon (A2) <input type="checkbox"/> Black Histic (A3) <input type="checkbox"/> Hydrogen Sulfide (A4) <input type="checkbox"/> Depleted Below Dark Surface (A11) <input type="checkbox"/> Thick Dark Surface (A12) <input type="checkbox"/> Sandy Mucky Mineral (S1) <input type="checkbox"/> Sandy Gleyed Matrix (S4)			<input type="checkbox"/> Sandy Redox (S5) <input type="checkbox"/> Stripped Matrix (S6) <input type="checkbox"/> Loamy Mucky Mineral (F1) (except MLRA 1) <input type="checkbox"/> Loamy Gleyed Matrix (F2) <input type="checkbox"/> Depleted Matrix (F3) <input type="checkbox"/> Redox Dark Surface (F6) <input type="checkbox"/> Depleted Dark Surface (F7) <input type="checkbox"/> Redox Depressions (F8)			<input type="checkbox"/> 2 cm Muck (A10) <input type="checkbox"/> Red Parent Material (TF2) <input type="checkbox"/> Very Shallow Dark Surface (TF12) <input type="checkbox"/> Other (Explain in Remarks) ³ Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.		
Restrictive Layer (if present): Type: Depth (inches): 0						Hydric Soil Present? <u>No</u>		
Remarks:								

HYDROLOGY

Wetland Hydrology Indicators:		Secondary Indicators (two or more required)
Primary Indicators (minimum of one required; check all that apply)		
<input type="checkbox"/> Surface Water (A1) <input type="checkbox"/> High Water Table (A2) <input checked="" type="checkbox"/> Saturation (A3) <input type="checkbox"/> Water Marks (B1) <input type="checkbox"/> Sediment Deposits (B2) <input type="checkbox"/> Drift Deposits (B3) <input type="checkbox"/> Algal Mat or Crust (B4) <input type="checkbox"/> Iron Deposits (B5) <input type="checkbox"/> Surface Soil Cracks (B6) <input type="checkbox"/> Inundation Visible on Aerial Imagery (B7) <input type="checkbox"/> Sparsely Vegetated Concave Surface (B8)	<input type="checkbox"/> Water-Stained Leaves (B9) (except MLRA 1,2,4A, and 4B) <input type="checkbox"/> Salt Crust (B11) <input type="checkbox"/> Aquatic Invertebrates (B13) <input type="checkbox"/> Hydrogen Sulfide Odor (C1) <input type="checkbox"/> Oxidized Rhizospheres along Living Roots (C3) <input type="checkbox"/> Presence of Reduced Iron (C4) <input type="checkbox"/> Recent Iron Reduction in Tilled Soils (C6) <input type="checkbox"/> Stunted or Stressed Plants (D1)(LRR A) <input type="checkbox"/> Other (Explain in Remarks)	<input type="checkbox"/> Water-Stained Leaves (B9)(MLRA 1,2,4A,4B) <input type="checkbox"/> Drainage Patterns (B10) <input type="checkbox"/> Dry-Season Water Table (C2) <input type="checkbox"/> Saturation Visible on Aerial Imagery (C9) <input type="checkbox"/> Geomorphic Position (D2) <input type="checkbox"/> Shallow Aquitard (D3) <input type="checkbox"/> FAC-Neutral Test (D5) <input type="checkbox"/> Raised Ant Mounds (D6)(LRR A) <input type="checkbox"/> Frost-Heave Hummocks (D7)
Field Observations: Surface Water Present? <u>No</u> Water Table Present? <u>No</u> Saturation Present? <u>Yes</u> (includes capillary fringe)		Depth (inches): Depth (inches): Depth (inches): 6 Wetland Hydrology Present? <u>Yes</u>
Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:		
Remarks:		

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

Project/Site: Grass Valley Development City/County: Clark Sampling Date: 02/10/2016-1/8/18
 Applicant/Owner: Holland Partner Group State: WA Sampling Point: 6
 Investigator(s): Kevin Grosz Section, Township, Range: S05 T01N R03E
 Landform (hillslope, terrace, etc.): Drainageway Local relief (concave, convex, none): concave Slope (%): 06
 Subregion (LRR): Northwest Forests & Coast (LRR A) Lat: 45.60345390 Long: -122.47374710 Datum: WGS84
 Soil Map Unit Name: CvA NWI classification: Local

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

Are Vegetation __, Soil __, or Hydrology __ significantly disturbed?

Are "Normal Circumstances" present? Yes

Are Vegetation __, Soil __, or Hydrology __ naturally problematic?

(if needed, explain any answers in Remarks.)

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

Hydrophytic Vegetation Present? <u>No</u>	Is the Sampled Area within a Wetland? <u>No</u>
Hydric Soil Present? <u>No</u>	
Wetland Hydrology Present? <u>No</u>	
Remarks:	

VEGETATION – Use scientific names of plants.

	Absolute % Cover	Dominant Species?	Indicator Status	Dominance Test worksheet: Number of Dominant Species That Are OBL, FACW, or FAC: <u>2</u> (A) Total Number of Dominant Species Across All Strata: <u>3</u> (B) Percent of Dominant Species That Are OBL, FACW, or FAC: <u>66</u> (A/B)
Tree Stratum (Plot size: <u>30</u>) 1. 2. 3. 4. Total Cover = <u>0</u>				Prevalence Index worksheet: Total % Cover of: Multiply by: OBL species <u>0</u> x 1 = <u>0</u> FACW species <u>0</u> x 2 = <u>0</u> FAC species <u>85</u> x 3 = <u>255</u> FACU species <u>0</u> x 4 = <u>0</u> UPL species <u>0</u> x 5 = <u>0</u> Column Totals: <u>85</u> (A) <u>255</u> (B) Prevalence Index = B/A = <u>3.00</u>
Sapling/Shrub Stratum (Plot size: <u>30</u>) 1. 2. 3. 4. 5. Total Cover = <u>0</u>				
Herb Stratum (Plot size: <u>10</u>) 1. <u>Agrostis capillaris</u> <u>20</u> 2. <u>Schedonorus arundinacea</u> <u>65</u> 3. <u>other</u> <u>15</u> 4. 5. 6. 7. 8. 9. 10. 11. Total Cover = <u>100</u>		<u>Yes</u> <u>Yes</u> <u>Yes</u>	<u>FAC</u> <u>FAC</u> <u>FACU</u>	
Woody Vine Stratum (Plot size: <u>30</u>) 1. 2. Total Cover = <u>0</u> % Bare Ground in Herb Stratum: <u>0</u>				
Remarks:				Hydrophytic Vegetation Indicators: ___ 1 – Rapid Test for Hydrophytic Vegetation <u>X</u> 2 – Dominance Test >50% <u>X</u> 3 – Prevalence Index is ≤ 3.0 ¹ ___ 4 – Morphological Adaptions ¹ (Provide supporting data in Remarks or on a separate sheet) ___ 5 – Wetland Non-Vascular Plants ¹ ___ Problematic Hydrophytic Vegetation ¹ (Explain) ¹ Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.
				Hydrophytic Vegetation Present? <u>No</u>

SOIL

Sampling Point: 6

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

Matrix			Redox Features				Texture	Remarks
Depth (inches)	Color (moist)	%	Color (moist)	%	Type ¹	Loc ²		
0-10	10YR 3/2	100		0				
10-16	10YR 4/3	100		0				

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

Hydric Soil Indicators: (Applicable to all LRRs, unless otherwise noted.)	Indicators for Problematic Hydric Soils ³ :
<input type="checkbox"/> Histosol (A1) <input type="checkbox"/> Histic Epipedon (A2) <input type="checkbox"/> Black Histic (A3) <input type="checkbox"/> Hydrogen Sulfide (A4) <input type="checkbox"/> Depleted Below Dark Surface (A11) <input type="checkbox"/> Thick Dark Surface (A12) <input type="checkbox"/> Sandy Mucky Mineral (S1) <input type="checkbox"/> Sandy Gleyed Matrix (S4)	<input type="checkbox"/> Sandy Redox (S5) <input type="checkbox"/> Stripped Matrix (S6) <input type="checkbox"/> Loamy Mucky Mineral (F1) (except MLRA 1) <input type="checkbox"/> Loamy Gleyed Matrix (F2) <input type="checkbox"/> Depleted Matrix (F3) <input type="checkbox"/> Redox Dark Surface (F6) <input type="checkbox"/> Depleted Dark Surface (F7) <input type="checkbox"/> Redox Depressions (F8)
<input type="checkbox"/> 2 cm Muck (A10) <input type="checkbox"/> Red Parent Material (TF2) <input type="checkbox"/> Very Shallow Dark Surface (TF12) <input type="checkbox"/> Other (Explain in Remarks)	

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

Restrictive Layer (if present):	Hydric Soil Present? <u>No</u>
Type: Depth (inches): <u>0</u>	
Remarks:	

HYDROLOGY

Wetland Hydrology Indicators:		Secondary Indicators (two or more required)
Primary Indicators (minimum of one required; check all that apply)		
<input type="checkbox"/> Surface Water (A1) <input type="checkbox"/> High Water Table (A2) <input type="checkbox"/> Saturation (A3) <input type="checkbox"/> Water Marks (B1) <input type="checkbox"/> Sediment Deposits (B2) <input type="checkbox"/> Drift Deposits (B3) <input type="checkbox"/> Algal Mat or Crust (B4) <input type="checkbox"/> Iron Deposits (B5) <input type="checkbox"/> Surface Soil Cracks (B6) <input type="checkbox"/> Inundation Visible on Aerial Imagery (B7) <input type="checkbox"/> Sparsely Vegetated Concave Surface (B8)	<input type="checkbox"/> Water-Stained Leaves (B9) (except MLRA 1,2,4A, and 4B) <input type="checkbox"/> Salt Crust (B11) <input type="checkbox"/> Aquatic Invertebrates (B13) <input type="checkbox"/> Hydrogen Sulfide Odor (C1) <input type="checkbox"/> Oxidized Rhizospheres along Living Roots (C3) <input type="checkbox"/> Presence of Reduced Iron (C4) <input type="checkbox"/> Recent Iron Reduction in Tilled Soils (C6) <input type="checkbox"/> Stunted or Stressed Plants (D1)(LRR A) <input type="checkbox"/> Other (Explain in Remarks)	<input type="checkbox"/> Water-Stained Leaves (B9)(MLRA 1,2,4A,4B) <input type="checkbox"/> Drainage Patterns (B10) <input type="checkbox"/> Dry-Season Water Table (C2) <input type="checkbox"/> Saturation Visible on Aerial Imagery (C9) <input type="checkbox"/> Geomorphic Position (D2) <input type="checkbox"/> Shallow Aquitard (D3) <input type="checkbox"/> FAC-Neutral Test (D5) <input type="checkbox"/> Raised Ant Mounds (D6)(LRR A) <input type="checkbox"/> Frost-Heave Hummocks (D7)
Field Observations: Surface Water Present? <u>No</u> Water Table Present? <u>No</u> Saturation Present? <u>No</u> (includes capillary fringe)		Depth (inches): Depth (inches): Depth (inches): Wetland Hydrology Present? <u>No</u>
Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:		
Remarks:		

APPENDIX B - WETLAND RATING FORMS FOR WESTERN WASHINGTON

Wetland name or number A

WETLAND RATING FORM – WESTERN WASHINGTON

Version 2 - Updated July 2006 to increase accuracy and reproducibility among users

Updated Oct 2008 with the new WDFW definitions for priority habitats

Name of wetland (if known): Eioford - Fishers Swale Date of site visit: 2/11/16

Rated by Kevin Grosz Trained by Ecology? Yes ☒ No ☐ Date of training 12/22/15

SEC: 5 TWSHP: 1N RNGE: 3E Is S/T/R in Appendix D? Yes ☐ No ☒

Map of wetland unit: Figure 5 Estimated size 5.1

SUMMARY OF RATING

Category based on FUNCTIONS provided by wetland

I ☐ II ☐ III ☐ IV ☒

Category I = Score ≥ 70

Category II = Score 51-69

Category III = Score 30-50

Category IV = Score < 30

Score for Water Quality Functions

4

Score for Hydrologic Functions

8

Score for Habitat Functions

14

TOTAL score for Functions

26

Category based on SPECIAL CHARACTERISTICS of wetland

I ☐ II ☐ Does not Apply ☒

Final Category (choose the “highest” category from above)

IV

Summary of basic information about the wetland unit

Wetland Unit has Special Characteristics	Wetland HGM Class used for Rating
Estuarine	Depressional
Natural Heritage Wetland	Riverine
Bog	Lake-fringe
Mature Forest	Slope
Old Growth Forest	Flats
Coastal Lagoon	Freshwater Tidal
Interdunal	
None of the above	Check if unit has multiple HGM classes present

Does the wetland unit being rated meet any of the criteria below?

If you answer YES to any of the questions below you will need to protect the wetland according to the regulations regarding the special characteristics found in the wetland.

Check List for Wetlands That May Need Additional Protection (in addition to the protection recommended for its category)	YES	NO
SP1. <i>Has the wetland unit been documented as a habitat for any Federally listed Threatened or Endangered animal or plant species (T/E species)?</i> For the purposes of this rating system, "documented" means the wetland is on the appropriate state or federal database.		X
SP2. <i>Has the wetland unit been documented as habitat for any State listed Threatened or Endangered animal species?</i> For the purposes of this rating system, "documented" means the wetland is on the appropriate state database. Note: Wetlands with State listed plant species are categorized as Category I Natural Heritage Wetlands (see p. 19 of data form).		X
SP3. <i>Does the wetland unit contain individuals of Priority species listed by the WDFW for the state?</i>		X
SP4. <i>Does the wetland unit have a local significance in addition to its functions?</i> For example, the wetland has been identified in the Shoreline Master Program, the Critical Areas Ordinance, or in a local management plan as having special significance.		X

To complete the next part of the data sheet you will need to determine the Hydrogeomorphic Class of the wetland being rated.

The hydrogeomorphic classification groups wetlands into those that function in similar ways. This simplifies the questions needed to answer how well the wetland functions. The Hydrogeomorphic Class of a wetland can be determined using the key below. See p. 24 for more detailed instructions on classifying wetlands.

Classification of Wetland Units in Western Washington

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 (i.e. except during floods)?

NO – go to 2

YES – the wetland class is **Tidal Fringe**

If yes, is the salinity of the water during periods of annual low flow below 0.5 ppt (parts per thousand)? **YES – Freshwater Tidal Fringe** **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 rated as an **Estuarine** wetland.* Wetlands that were called estuarine in the first and second editions of the rating system are called Salt Water Tidal Fringe in the Hydrogeomorphic Classification. Estuarine wetlands were categorized separately in the earlier editions, and this separation is being kept in this revision. To maintain consistency between editions, the term “Estuarine” wetland is kept. Please note, however, that the characteristics that define Category I and II estuarine wetlands have changed (see p.).

2. The entire wetland unit is flat and precipitation is the only source (>90%) of water to it.

Groundwater and surface water runoff are NOT sources of water to the unit.

NO – go to 3

YES – The wetland class is **Flats**

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

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

 The vegetated part of the wetland is on the shores of a body of permanent open water (without any vegetation on the surface) at least 20 acres (8 ha) in size;

 At least 30% of the open water area is deeper than 6.6 ft (2 m)?

NO – go to 4

YES – The wetland class is **Lake-fringe (Lacustrine**

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

 X The wetland is on a slope (*slope can be very gradual*),

 X 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.

 X The water leaves the wetland **without being impounded**?

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

NO - go to 5

YES – The wetland class is **Slope**

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

 X The unit is in a valley, or stream channel, where it gets inundated by overbank flooding from that stream or river

 X The overbank flooding occurs at least once every two years.

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

NO - go to 6 **YES** – The wetland class is **Riverine**

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 your wetland. 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 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.

<i>HGM Classes within the wetland unit being rated</i>	<i>HGM Class to Use in Rating</i>
Slope + Riverine	Riverine
Slope + Depressional	Depressional
Slope + Lake-fringe	Lake-fringe
Depressional + Riverine along stream within boundary	Depressional
Depressional + Lake-fringe	Depressional
Salt Water Tidal Fringe and any other class of freshwater wetland	Treat as ESTUARINE under wetlands with special characteristics

If you are unable still 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.

[illegible]

Comments

R Riverine and Freshwater Tidal Fringe Wetlands HYDROLOGIC FUNCTIONS - Indicators that wetland functions to reduce flooding and stream erosion		Points (only 1 score per box)
	R 3. Does the wetland unit have the <u>potential</u> to reduce flooding and erosion?	(see p.54)
R	<p>R 3.1 Characteristics of the overbank storage the unit provides: <i>Estimate the average width of the wetland unit perpendicular to the direction of the flow and the width of the stream or river channel (distance between banks). Calculate the ratio: (average width of unit)/(average width of stream between banks).</i> If the ratio is more than 20 points = 9 If the ratio is between 10 – 20 points = 6 If the ratio is 5 - <10 points = 4 If the ratio is 1 - <5 points = 2 If the ratio is < 1 points = 1</p> <p>Aerial photo or map showing average widths</p>	Figure <u>4</u>
R	<p>R 3.2 Characteristics of vegetation that slow down water velocities during floods: <i>Treat large woody debris as "forest or shrub". Choose the points appropriate for the best description.</i> (polygons need to have >90% cover at person height NOT Cowardin classes): Forest or shrub for >1/3 area OR herbaceous plants > 2/3 area points = 7 Forest or shrub for > 1/10 area OR herbaceous plants > 1/3 area points = 4 Vegetation does not meet above criteria points = 0</p> <p>Aerial photo or map showing polygons of different vegetation types</p>	Figure <u>0</u>
R	Add the points in the boxes above	<u>4</u>
R	<p>R 4. Does the wetland unit have the <u>opportunity</u> to reduce flooding and erosion? Answer YES if the unit is in a location in the watershed where the flood storage, or reduction in water velocity, it provides helps protect downstream property and aquatic resources from flooding or excessive and/or erosive flows. <i>Note which of the following conditions apply.</i> <input checked="" type="checkbox"/> There are human structures and activities downstream (roads, buildings, bridges, farms) that can be damaged by flooding. <input type="checkbox"/> There are natural resources downstream (e.g. salmon redds) that can be damaged by flooding <input type="checkbox"/> Other _____ <i>(Answer NO if the major source of water to the wetland is controlled by a reservoir or the wetland is tidal fringe along the sides of a dike)</i> YES multiplier is 2 NO multiplier is 1</p>	(see p.57) multiplier <u>2</u>
R	<p>TOTAL - Hydrologic Functions Multiply the score from R 3 by R 4 <i>Add score to table on p. 1</i></p>	8

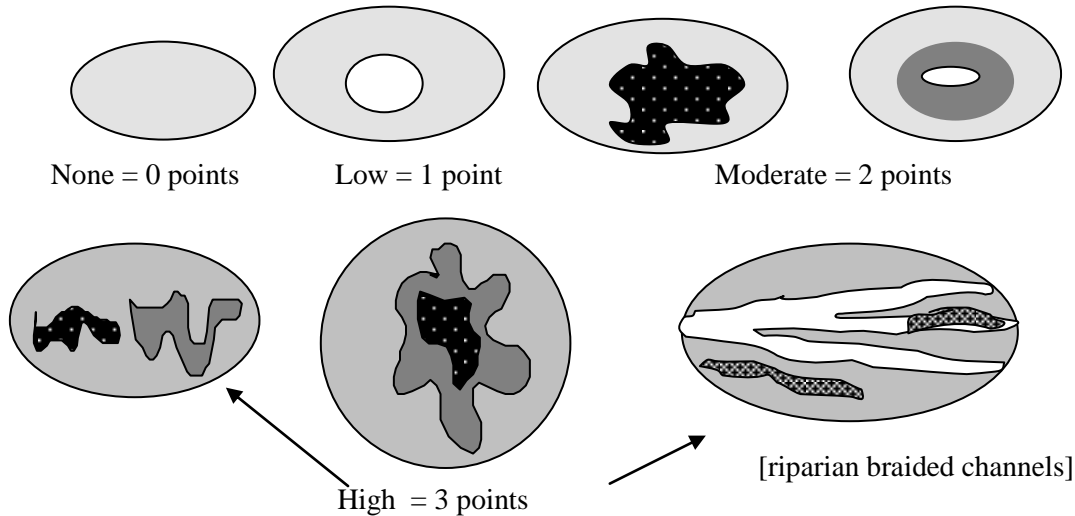
Comments

These questions apply to wetlands of all HGM classes.		Points (only 1 score per box)																								
HABITAT FUNCTIONS - Indicators that unit functions to provide important habitat																										
H 1. Does the wetland unit have the <u>potential</u> to provide habitat for many species?																										
<p>H 1.1 Vegetation structure (see p. 72) Check the types of vegetation classes present (as defined by Cowardin)- Size threshold for each class is ¼ acre or more than 10% of the area if unit is smaller than 2.5 acres.</p> <p><input type="checkbox"/> Aquatic bed <input checked="" type="checkbox"/> Emergent plants <input type="checkbox"/> Scrub/shrub (areas where shrubs have >30% cover) <input type="checkbox"/> Forested (areas where trees have >30% cover)</p> <p>If the unit has a forested class check if: <input type="checkbox"/> 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</p> <p>Add the number of vegetation structures that qualify. If you have:</p> <table border="0"> <tr> <td>4 structures or more</td> <td>points = 4</td> </tr> <tr> <td>3 structures</td> <td>points = 2</td> </tr> <tr> <td>2 structures</td> <td>points = 1</td> </tr> <tr> <td>1 structure</td> <td>points = 0</td> </tr> </table> <p>Map of Cowardin vegetation classes</p>		4 structures or more	points = 4	3 structures	points = 2	2 structures	points = 1	1 structure	points = 0	<p>Figure ____</p> <p>0</p>																
4 structures or more	points = 4																									
3 structures	points = 2																									
2 structures	points = 1																									
1 structure	points = 0																									
<p>H 1.2. Hydroperiods (see p. 73) 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 acre to count. (see text for descriptions of hydroperiods)</p> <table border="0"> <tr> <td><input type="checkbox"/> Permanently flooded or inundated</td> <td>4 or more types present</td> <td>points = 3</td> </tr> <tr> <td><input checked="" type="checkbox"/> Seasonally flooded or inundated</td> <td>3 types present</td> <td>points = 2</td> </tr> <tr> <td><input type="checkbox"/> Occasionally flooded or inundated</td> <td>2 types present</td> <td>point = 1</td> </tr> <tr> <td><input checked="" type="checkbox"/> Saturated only</td> <td>1 type present</td> <td>points = 0</td> </tr> <tr> <td colspan="3"><input checked="" type="checkbox"/> Permanently flowing stream or river in, or adjacent to, the wetland</td> </tr> <tr> <td colspan="3"><input type="checkbox"/> Seasonally flowing stream in, or adjacent to, the wetland</td> </tr> <tr> <td colspan="3"><input type="checkbox"/> Lake-fringe wetland = 2 points</td> </tr> <tr> <td colspan="3"><input type="checkbox"/> Freshwater tidal wetland = 2 points</td> </tr> </table> <p>Map of hydroperiods</p>		<input type="checkbox"/> Permanently flooded or inundated	4 or more types present	points = 3	<input checked="" type="checkbox"/> Seasonally flooded or inundated	3 types present	points = 2	<input type="checkbox"/> Occasionally flooded or inundated	2 types present	point = 1	<input checked="" type="checkbox"/> Saturated only	1 type present	points = 0	<input checked="" type="checkbox"/> Permanently flowing stream or river in, or adjacent to, the wetland			<input type="checkbox"/> Seasonally flowing stream in, or adjacent to, the wetland			<input type="checkbox"/> Lake-fringe wetland = 2 points			<input type="checkbox"/> Freshwater tidal wetland = 2 points			<p>Figure ____</p> <p>2</p>
<input type="checkbox"/> Permanently flooded or inundated	4 or more types present	points = 3																								
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<input type="checkbox"/> Freshwater tidal wetland = 2 points																										
<p>H 1.3. Richness of Plant Species (see p. 75) Count the number of plant species in the wetland that cover at least 10 ft². (different patches of the same species can be combined to meet the size threshold) You do not have to name the species. Do not include Eurasian Milfoil, reed canarygrass, purple loosestrife, Canadian Thistle</p> <p>If you counted:</p> <table border="0"> <tr> <td>> 19 species</td> <td>points = 2</td> </tr> <tr> <td>5 - 19 species</td> <td>points = 1</td> </tr> <tr> <td>< 5 species</td> <td>points = 0</td> </tr> </table> <p>List species below if you want to:</p>		> 19 species	points = 2	5 - 19 species	points = 1	< 5 species	points = 0	<p>1</p>																		
> 19 species	points = 2																									
5 - 19 species	points = 1																									
< 5 species	points = 0																									

Total for page 3

H 1.4. Interspersion of habitats (*see p. 76*)

Decide from the diagrams below whether interspersions between Cowardin vegetation classes (described in H 1.1), or the classes and unvegetated areas (can include open water or mudflats) is high, medium, low, or none.



NOTE: If you have four or more classes or three vegetation classes and open water the rating is always "high". Use map of Cowardin vegetation classes

H 1.5. Special Habitat Features: (*see p. 77*)

Check the habitat features that are present in the wetland. The number of checks is the number of points you put into the next column.

- ___ Large, downed, woody debris within the wetland (>4in. diameter and 6 ft long).
- ___ Standing snags (diameter at the bottom > 4 inches) in the wetland
- ___ Undercut banks are present for at least 6.6 ft (2m) and/or overhanging vegetation extends at least 3.3 ft (1m) over a stream (or ditch) in, or contiguous with the unit, for at least 33 ft (10m)
- ___ Stable steep banks of fine material that might be used by beaver or muskrat for denning (>30degree slope) OR signs of recent beaver activity are present (*cut shrubs or trees that have not yet turned grey/brown*)
- ___ At least ¼ acre of thin-stemmed persistent vegetation 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 each stratum of plants

NOTE: The 20% stated in early printings of the manual on page 78 is an error.

H 1. TOTAL Score - potential for providing habitat
Add the scores from H1.1, H1.2, H1.3, H1.4, H1.5

Comments

H 2. Does the wetland unit have the opportunity to provide habitat for many species?	
<p>H 2.1 Buffers (<i>see p. 80</i>) <i>Choose the description that best represents condition of buffer of wetland unit. The highest scoring criterion that applies to the wetland is to be used in the rating. See text for definition of "undisturbed."</i></p> <ul style="list-style-type: none"> — 100 m (330ft) of relatively undisturbed vegetated areas, rocky areas, or open water >95% of circumference. No structures are within the undisturbed part of buffer. (relatively undisturbed also means no-grazing, no landscaping, no daily human use) Points = 5 — 100 m (330 ft) of relatively undisturbed vegetated areas, rocky areas, or open water > 50% circumference. Points = 4 — 50 m (170ft) of relatively undisturbed vegetated areas, rocky areas, or open water >95% circumference. Points = 4 — 100 m (330ft) of relatively undisturbed vegetated areas, rocky areas, or open water > 25% circumference, . Points = 3 — 50 m (170ft) of relatively undisturbed vegetated areas, rocky areas, or open water for > 50% circumference. Points = 3 <p style="text-align: center;">If buffer does not meet any of the criteria above</p> <ul style="list-style-type: none"> — No paved areas (except paved trails) or buildings within 25 m (80ft) of wetland > 95% circumference. Light to moderate grazing, or lawns are OK. Points = 2 — No paved areas or buildings within 50m of wetland for >50% circumference. Light to moderate grazing, or lawns are OK. Points = 2 x Heavy grazing in buffer. Points = 1 — Vegetated buffers are <2m wide (6.6ft) for more than 95% of the circumference (e.g. tilled fields, paving, basalt bedrock extend to edge of wetland Points = 0. — Buffer does not meet any of the criteria above. Points = 1 <p style="text-align: right;">Aerial photo showing buffers</p>	<p>Figure <u> </u></p> <p style="text-align: center;">1</p>
<p>H 2.2 Corridors and Connections (<i>see p. 81</i>)</p> <p>H 2.2.1 Is the wetland part of a relatively undisturbed and unbroken vegetated corridor (either riparian or upland) that is at least 150 ft wide, has at least 30% cover of shrubs, forest or native undisturbed prairie, that connects to estuaries, other wetlands or undisturbed uplands that are at least 250 acres in size? (<i>dams in riparian corridors, heavily used gravel roads, paved roads, are considered breaks in the corridor</i>).</p> <p style="text-align: center;">YES = 4 points (<i>go to H 2.3</i>) NO = go to H 2.2.2</p> <p>H 2.2.2 Is the wetland part of a relatively undisturbed and unbroken vegetated corridor (either riparian or upland) that is at least 50ft wide, has at least 30% cover of shrubs or forest, and connects to estuaries, other wetlands or undisturbed uplands that are at least 25 acres in size? OR a Lake-fringe wetland, if it does not have an undisturbed corridor as in the question above?</p> <p style="text-align: center;">YES = 2 points (<i>go to H 2.3</i>) NO = H 2.2.3</p> <p>H 2.2.3 Is the wetland:</p> <p style="padding-left: 40px;">within 5 mi (8km) of a brackish or salt water estuary OR within 3 mi of a large field or pasture (>40 acres) OR within 1 mi of a lake greater than 20 acres?</p> <p style="text-align: center;">YES = 1 point NO = 0 points</p>	<p style="text-align: center;">1</p>

Total for page 2

H 2.3 Near or adjacent to other priority habitats listed by WDFW (see new and complete descriptions of WDFW priority habitats, and the counties in which they can be found, in the PHS report <http://wdfw.wa.gov/hab/phslist.htm>)

Which of the following priority habitats are within 330ft (100m) of the wetland unit? *NOTE: the connections do not have to be relatively undisturbed.*

- ☐ **Aspen Stands:** Pure or mixed stands of aspen greater than 0.4 ha (1 acre).
- ☐ **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 p. 152*).
- ☐ **Herbaceous Balds:** Variable size patches of grass and forbs on shallow soils over bedrock.
- ☐ **Old-growth/Mature forests:** (Old-growth west of Cascade crest) Stands of at least 2 tree species, forming a multi-layered canopy with occasional small openings; with at least 20 trees/ha (8 trees/acre) > 81 cm (32 in) dbh or > 200 years of age. (Mature forests) Stands with average diameters exceeding 53 cm (21 in) dbh; crown cover may be less than 100%; 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:** Woodlands 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*).
- ☒ **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*).
- ☒ **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: pp. 167-169 and glossary in Appendix A*).
- ☐ **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 7.6 m (25 ft) high and occurring below 5000 ft.
- ☐ **Talus:** Homogenous areas of rock rubble ranging in average size 0.15 - 2.0 m (0.5 - 6.5 ft), 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 > 51 cm (20 in) in western Washington and are > 2 m (6.5 ft) in height. Priority logs are > 30 cm (12 in) in diameter at the largest end, and > 6 m (20 ft) long.

If wetland has **3 or more** priority habitats = **4 points**

If wetland has **2** priority habitats = **3 points**

If wetland has **1** priority habitat = **1 point**

No habitats = 0 points

Note: All vegetated wetlands are by definition a priority habitat but are not included in this list. Nearby wetlands are addressed in question H 2.4)

4

<p>H 2.4 Wetland Landscape (<i>choose the one description of the landscape around the wetland that best fits</i>) (<i>see p. 84</i>)</p> <p>There are at least 3 other wetlands within ½ mile, and the connections between them are relatively undisturbed (light grazing between wetlands OK, as is lake shore with some boating, but connections should NOT be bisected by paved roads, fill, fields, or other development. points = 5</p> <p>The wetland is Lake-fringe on a lake with little disturbance and there are 3 other lake-fringe wetlands within ½ mile points = 5</p> <p>There are at least 3 other wetlands within ½ mile, BUT the connections between them are disturbed points = 3</p> <p>The wetland is Lake-fringe on a lake with disturbance and there are 3 other lake-fringe wetland within ½ mile points = 3</p> <p>There is at least 1 wetland within ½ mile. points = 2</p> <p>There are no wetlands within ½ mile. points = 0</p>	3
<p>H 2. TOTAL Score - opportunity for providing habitat <i>Add the scores from H2.1, H2.2, H2.3, H2.4</i></p>	10
<p>TOTAL for H 1 from page 14</p>	4
<p>Total Score for Habitat Functions – add the points for H 1, H 2 and record the result on p. 1</p>	14

CATEGORIZATION BASED ON SPECIAL CHARACTERISTICS

Please determine if the wetland meets the attributes described below and circle the appropriate answers and Category.

Wetland Type	Category
<p><i>Check off any criteria that apply to the wetland. Circle the Category when the appropriate criteria are met.</i></p> <p>SC 1.0 Estuarine wetlands (see p. 86)</p> <p>Does the wetland unit meet the following criteria for Estuarine wetlands?</p> <ul style="list-style-type: none"> — The dominant water regime is tidal, — Vegetated, and — With a salinity greater than 0.5 ppt. <p>YES = Go to SC 1.1 NO <u>X</u></p>	
<p>SC 1.1 Is the wetland unit within a National Wildlife Refuge, National Park, National Estuary Reserve, Natural Area Preserve, State Park or Educational, Environmental, or Scientific Reserve designated under WAC 332-30-151?</p> <p>YES = Category I NO go to SC 1.2</p>	Cat. I
<p>SC 1.2 Is the wetland unit at least 1 acre in size and meets at least two of the following three conditions? YES = Category I NO = Category II</p> <ul style="list-style-type: none"> — The wetland is relatively undisturbed (has no diking, ditching, filling, cultivation, grazing, and has less than 10% cover of non-native plant species. If the non-native <i>Spartina</i> spp. are the only species that cover more than 10% of the wetland, then the wetland should be given a dual rating (I/II). The area of <i>Spartina</i> would be rated a Category II while the relatively undisturbed upper marsh with native species would be a Category I. Do not, however, exclude the area of <i>Spartina</i> in determining the size threshold of 1 acre. — 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 2 of the following features: tidal channels, depressions with open water, or contiguous freshwater wetlands. 	<p>Cat. I</p> <p>Cat. II</p> <p>Dual rating</p> <p>I/II</p>

<p>SC 2.0 Natural Heritage Wetlands (<i>see p. 87</i>) Natural Heritage wetlands have been identified by the Washington Natural Heritage Program/DNR as either high quality undisturbed wetlands or wetlands that support state Threatened, Endangered, or Sensitive plant species.</p> <p>SC 2.1 Is the wetland unit being rated in a Section/Township/Range that contains a Natural Heritage wetland? (<i>this question is used to screen out most sites before you need to contact WNHP/DNR</i>) S/T/R information from Appendix D <u> </u> or accessed from WNHP/DNR web site <u> </u></p> <p>YES <u> </u> – contact WNHP/DNR (see p. 79) and go to SC 2.2 NO <u> X </u></p> <p>SC 2.2 Has DNR identified the wetland as a high quality undisturbed wetland or as or as a site with state threatened or endangered plant species? YES = Category I NO <u> X </u> not a Heritage Wetland</p>	Cat. I
<p>SC 3.0 Bogs (<i>see p. 87</i>) Does the wetland unit (or any part of the unit) meet both the criteria for soils and vegetation in bogs? <i>Use the key below to identify if the wetland is a bog. If you answer yes you will still need to rate the wetland based on its functions.</i></p> <ol style="list-style-type: none"> Does the unit have organic soil horizons (i.e. layers of organic soil), either peats or mucks, that compose 16 inches or more of the first 32 inches of the soil profile? (See Appendix B for a field key to identify organic soils)? Yes - go to Q. 3 No - go to Q. 2 Does the unit have organic soils, either peats or mucks that are less than 16 inches deep over bedrock, or an impermeable hardpan such as clay or volcanic ash, or that are floating on a lake or pond? Yes - go to Q. 3 No - Is not a bog for purpose of rating Does the unit have more than 70% cover of mosses at ground level, AND other plants, if present, consist of the “bog” species listed in Table 3 as a significant component of the vegetation (more than 30% of the total shrub and herbaceous cover consists of species in Table 3)? Yes – Is a bog for purpose of rating No - go to Q. 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” deep. If the pH is less than 5.0 and the “bog” plant species in Table 3 are present, the wetland is a bog. <ol style="list-style-type: none"> Is the unit forested (> 30% cover) with sitka spruce, subalpine fir, western red cedar, western hemlock, lodgepole pine, quaking aspen, Englemann’s spruce, or western white pine, WITH any of the species (or combination of species) on the bog species plant list in Table 3 as a significant component of the ground cover (> 30% coverage of the total shrub/herbaceous cover)? YES = Category I No <u> X </u> Is not a bog for purpose of rating 	Cat. I

<p>SC 4.0 Forested Wetlands (<i>see p. 90</i>)</p> <p>Does the wetland unit have at least 1 acre of forest that meet one of these criteria for the Department of Fish and Wildlife's forests as priority habitats? <i>If you answer yes you will still need to rate the wetland based on its functions.</i></p> <ul style="list-style-type: none"> — Old-growth forests: (west of Cascade crest) Stands of at least two tree species, forming a multi-layered canopy with occasional small openings; with at least 8 trees/acre (20 trees/hectare) that are at least 200 years of age OR have a diameter at breast height (dbh) of 32 inches (81 cm) or more. <p>NOTE: The criterion for dbh is based on measurements for upland forests. Two-hundred year old trees in wetlands will often have a smaller dbh because their growth rates are often slower. The DFW criterion is and "OR" so old-growth forests do not necessarily have to have trees of this diameter.</p> <ul style="list-style-type: none"> — Mature forests: (west of the Cascade Crest) Stands where the largest trees are 80 – 200 years old OR have average diameters (dbh) exceeding 21 inches (53cm); 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. <p>YES = Category I NO <u>X</u> not a forested wetland with special characteristics</p>	<p>Cat. I</p>
<p>SC 5.0 Wetlands in Coastal Lagoons (<i>see p. 91</i>)</p> <p>Does the wetland meet all of the following criteria of a wetland in a coastal lagoon?</p> <ul style="list-style-type: none"> — The wetland lies in a depression adjacent to marine waters that is wholly or partially separated from marine waters by sandbanks, gravel banks, shingle, or, less frequently, rocks — The lagoon in which the wetland is located contains surface water that is saline or brackish (> 0.5 ppt) during most of the year in at least a portion of the lagoon (<i>needs to be measured near the bottom</i>) <p>YES = Go to SC 5.1 NO <u>X</u> not a wetland in a coastal lagoon</p> <p>SC 5.1 Does the wetland meets all of the following three conditions?</p> <ul style="list-style-type: none"> — The wetland is relatively undisturbed (has no diking, ditching, filling, cultivation, grazing), and has less than 20% cover of invasive plant species (see list of invasive species on p. 74). — 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 acre (4350 square feet) <p>YES = Category I NO = Category II</p>	<p>Cat. I</p> <p>Cat. II</p>

<p>SC 6.0 Interdunal Wetlands (<i>see p. 93</i>)</p> <p>Is the wetland unit west of the 1889 line (also called the Western Boundary of Upland Ownership or WBUO)?</p> <p>YES - go to SC 6.1 NO __ not an interdunal wetland for rating</p> <p><i>If you answer yes you will still need to rate the wetland based on its functions.</i></p> <p>In practical terms that means the following geographic areas:</p> <ul style="list-style-type: none"> • Long Beach Peninsula- lands west of SR 103 • Grayland-Westport- lands west of SR 105 • Ocean Shores-Copalis- lands west of SR 115 and SR 109 <p>SC 6.1 Is the wetland one acre or larger, or is it in a mosaic of wetlands that is once acre or larger?</p> <p>YES = Category II NO – go to SC 6.2</p> <p>SC 6.2 Is the unit between 0.1 and 1 acre, or is it in a mosaic of wetlands that is between 0.1 and 1 acre?</p> <p>YES = Category III</p>	<p>Cat. II</p> <p>Cat. III</p>
<p>Category of wetland based on Special Characteristics</p> <p><i>Choose the “highest” rating if wetland falls into several categories, and record on p. 1.</i></p> <p>If you answered NO for all types enter “Not Applicable” on p.1</p>	<p>NA</p>

Wetland name or number B

WETLAND RATING FORM – WESTERN WASHINGTON

Version 2 - Updated July 2006 to increase accuracy and reproducibility among users

Updated Oct 2008 with the new WDFW definitions for priority habitats

Name of wetland (if known): Farm Pond Date of site visit: 2/10-11/16

Rated by Kevin Grosz Trained by Ecology? Yes X No Date of training 12/22/15

SEC: 5 TOWNSHIP: 1N RANGE: 3E Is S/T/R in Appendix D? Yes No X

Map of wetland unit: Figure 5 Estimated size

SUMMARY OF RATING

Category based on FUNCTIONS provided by wetland

I II III IV X

Category I = Score ≥ 70

Category II = Score 51-69

Category III = Score 30-50

Category IV = Score < 30

Score for Water Quality Functions

10

Score for Hydrologic Functions

5

Score for Habitat Functions

12

TOTAL score for Functions

27

Category based on SPECIAL CHARACTERISTICS of wetland

I II Does not Apply X

Final Category (choose the “highest” category from above)

IV

Summary of basic information about the wetland unit

Wetland Unit has Special Characteristics	Wetland HGM Class used for Rating	
Estuarine	Depressional	X
Natural Heritage Wetland	Riverine	
Bog	Lake-fringe	
Mature Forest	Slope	
Old Growth Forest	Flats	
Coastal Lagoon	Freshwater Tidal	
Interdunal		
None of the above	Check if unit has multiple HGM classes present	

Does the wetland unit being rated meet any of the criteria below?

If you answer YES to any of the questions below you will need to protect the wetland according to the regulations regarding the special characteristics found in the wetland.

Check List for Wetlands That May Need Additional Protection (in addition to the protection recommended for its category)	YES	NO
SP1. <i>Has the wetland unit been documented as a habitat for any Federally listed Threatened or Endangered animal or plant species (T/E species)?</i> For the purposes of this rating system, "documented" means the wetland is on the appropriate state or federal database.		X
SP2. <i>Has the wetland unit been documented as habitat for any State listed Threatened or Endangered animal species?</i> For the purposes of this rating system, "documented" means the wetland is on the appropriate state database. Note: Wetlands with State listed plant species are categorized as Category I Natural Heritage Wetlands (see p. 19 of data form).		X
SP3. <i>Does the wetland unit contain individuals of Priority species listed by the WDFW for the state?</i>		X
SP4. <i>Does the wetland unit have a local significance in addition to its functions?</i> For example, the wetland has been identified in the Shoreline Master Program, the Critical Areas Ordinance, or in a local management plan as having special significance.		X

To complete the next part of the data sheet you will need to determine the Hydrogeomorphic Class of the wetland being rated.

The hydrogeomorphic classification groups wetlands into those that function in similar ways. This simplifies the questions needed to answer how well the wetland functions. The Hydrogeomorphic Class of a wetland can be determined using the key below. See p. 24 for more detailed instructions on classifying wetlands.

Classification of Wetland Units in Western Washington

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 (i.e. except during floods)?

NO – go to 2

YES – the wetland class is **Tidal Fringe**

If yes, is the salinity of the water during periods of annual low flow below 0.5 ppt (parts per thousand)? **YES – Freshwater Tidal Fringe** **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 rated as an **Estuarine** wetland.* Wetlands that were called estuarine in the first and second editions of the rating system are called Salt Water Tidal Fringe in the Hydrogeomorphic Classification. Estuarine wetlands were categorized separately in the earlier editions, and this separation is being kept in this revision. To maintain consistency between editions, the term “Estuarine” wetland is kept. Please note, however, that the characteristics that define Category I and II estuarine wetlands have changed (see p.).

2. The entire wetland unit is flat and precipitation is the only source (>90%) of water to it.

Groundwater and surface water runoff are NOT sources of water to the unit.

NO – go to 3

YES – The wetland class is **Flats**

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

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

___ The vegetated part of the wetland is on the shores of a body of permanent open water (without any vegetation on the surface) at least 20 acres (8 ha) in size;

___ At least 30% of the open water area is deeper than 6.6 ft (2 m)?

NO – go to 4

YES – The wetland class is **Lake-fringe (Lacustrine**

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**?

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

NO - go to 5

YES – The wetland class is **Slope**

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 two years.

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

NO - go to 6 **YES** – The wetland class is **Riverine**

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 your wetland. 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 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.

<i>HGM Classes within the wetland unit being rated</i>	<i>HGM Class to Use in Rating</i>
Slope + Riverine	Riverine
Slope + Depressional	Depressional
Slope + Lake-fringe	Lake-fringe
Depressional + Riverine along stream within boundary	Depressional
Depressional + Lake-fringe	Depressional
Salt Water Tidal Fringe and any other class of freshwater wetland	Treat as ESTUARINE under wetlands with special characteristics

If you are unable still 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.

D Depressional and Flats Wetlands		Points (only 1 score per box)
WATER QUALITY FUNCTIONS - Indicators that the wetland unit functions to improve water quality		
D	D 1. Does the wetland unit have the <u>potential</u> to improve water quality?	(see p.38)
D	<p>D 1.1 Characteristics of surface water flows out of the wetland:</p> <p>Unit is a depression with no surface water leaving it (no outlet) points = 3</p> <p>Unit has an intermittently flowing, OR highly constricted permanently flowing outlet points = 2</p> <p>Unit has an unconstricted, or slightly constricted, surface outlet (<i>permanently flowing</i>) points = 1</p> <p>Unit is a "flat" depression (Q. 7 on key), or in the Flats class, with permanent surface outflow and no obvious natural outlet and/or outlet is a man-made ditch points = 1</p> <p>(If ditch is not permanently flowing treat unit as "intermittently flowing")</p> <p>Provide photo or drawing</p>	Figure <u> 2 </u>
D	<p>S 1.2 The soil 2 inches below the surface (or duff layer) is clay or organic (<i>use NRCS definitions</i>)</p> <p>YES points = 4</p> <p>NO points = 0</p>	<u> 0 </u>
D	<p>D 1.3 Characteristics of persistent vegetation (emergent, shrub, and/or forest Cowardin class)</p> <p>Wetland has persistent, ungrazed, vegetation > = 95% of area points = 5</p> <p>Wetland has persistent, ungrazed, vegetation > = 1/2 of area points = 3</p> <p>Wetland has persistent, ungrazed vegetation > = 1/10 of area points = 1</p> <p>Wetland has persistent, ungrazed vegetation < 1/10 of area points = 0</p> <p>Map of Cowardin vegetation classes</p>	Figure <u> 1 </u>
D	<p>D1.4 Characteristics of seasonal ponding or inundation.</p> <p><i>This is the area of the wetland unit that is ponded for at least 2 months, but dries out sometime during the year. Do not count the area that is permanently ponded. Estimate area as the average condition 5 out of 10 yrs.</i></p> <p>Area seasonally ponded is > 1/2 total area of wetland points = 4</p> <p>Area seasonally ponded is > 1/4 total area of wetland points = 2</p> <p>Area seasonally ponded is < 1/4 total area of wetland points = 0</p> <p>Map of Hydroperiods</p>	Figure <u> 2 </u>
D	Total for D 1 <i>Add the points in the boxes above</i>	<u> 5 </u>
D	<p>D 2. Does the wetland unit have the <u>opportunity</u> to improve water quality?</p> <p>Answer YES if you know or believe there are pollutants in groundwater or surface water coming into the wetland that would otherwise reduce water quality in streams, lakes or groundwater downgradient from the wetland. <i>Note which of the following conditions provide the sources of pollutants. A unit may have pollutants coming from several sources, but any single source would qualify as opportunity.</i></p> <p><u> X </u> Grazing in the wetland or within 150 ft</p> <p>— Untreated stormwater discharges to wetland</p> <p>— Tilled fields or orchards within 150 ft of wetland</p> <p>— A stream or culvert discharges into wetland that drains developed areas, residential areas, farmed fields, roads, or clear-cut logging</p> <p><u> X </u> Residential, urban areas, golf courses are within 150 ft of wetland</p> <p>— Wetland is fed by groundwater high in phosphorus or nitrogen</p> <p>— Other _____</p> <p>YES multiplier is 2 NO multiplier is 1</p>	(see p. 44) multiplier <u> 2 </u>
D	<p>TOTAL - Water Quality Functions Multiply the score from D1 by D2</p> <p><i>Add score to table on p. 1</i></p>	<u> 10 </u>

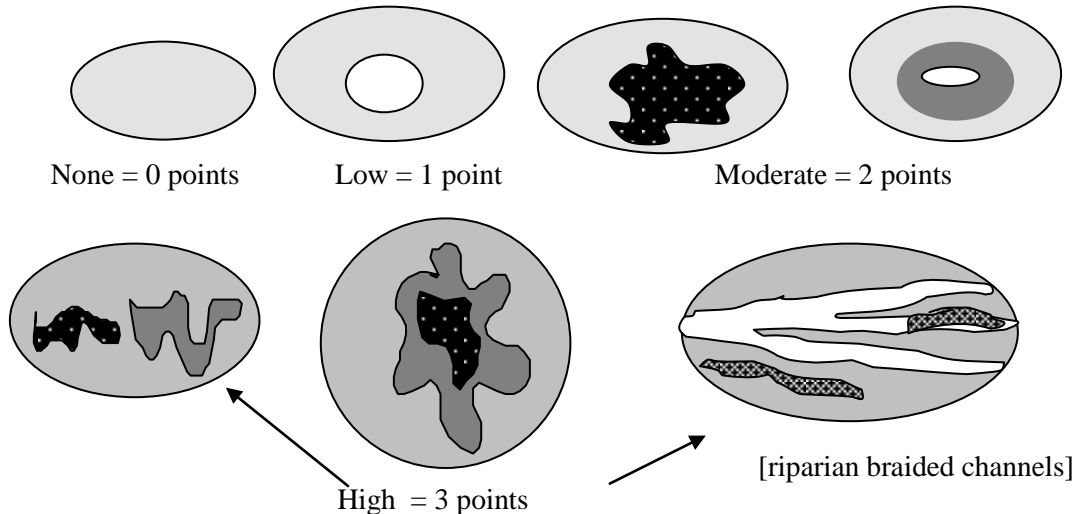
D Depressional and Flats Wetlands HYDROLOGIC FUNCTIONS - Indicators that the wetland unit functions to reduce flooding and stream degradation		Points (only 1 score per box)
	D 3. Does the wetland unit have the <u>potential</u> to reduce flooding and erosion?	(see p.46)
D	D 3.1 Characteristics of surface water flows out of the wetland unit Unit is a depression with no surface water leaving it (no outlet) points = 4 Unit has an intermittently flowing, OR highly constricted permanently flowing outlet points = 2 Unit is a "flat" depression (Q. 7 on key), or in the Flats class, with permanent surface outflow and no obvious natural outlet and/or outlet is a man-made ditch points = 1 (If ditch is not permanently flowing treat unit as "intermittently flowing") Unit has an unconstricted, or slightly constricted, surface outlet (<i>permanently flowing</i>) points = 0	2
D	D 3.2 Depth of storage during wet periods <i>Estimate the height of ponding above the bottom of the outlet. For units with no outlet measure from the surface of permanent water or deepest part (if dry).</i> Marks of ponding are 3 ft or more above the surface or bottom of outlet points = 7 The wetland is a "headwater" wetland points = 5 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 Unit is flat (yes to Q. 2 or Q. 7 on key) but has small depressions on the surface that trap water points = 1 Marks of ponding less than 0.5 ft points = 0	0
D	D 3.3 Contribution of wetland unit to storage in the watershed <i>Estimate the ratio of the area of upstream basin contributing surface water to the wetland to the area of the wetland unit itself.</i> The area of the basin is less than 10 times the area of 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 unit is in the FLATS class points = 5	3
D	Total for D 3 <i>Add the points in the boxes above</i>	<u>5</u>
D	D 4. Does the wetland unit have the <u>opportunity</u> to reduce flooding and erosion? Answer YES if the unit is in a location in the watershed where the flood storage, or reduction in water velocity, it provides helps protect downstream property and aquatic resources from flooding or excessive and/or erosive flows. Answer NO if the water coming into the wetland is controlled by a structure such as flood gate, tide gate, flap valve, reservoir etc. OR you estimate that more than 90% of the water in the wetland is from groundwater in areas where damaging groundwater flooding does not occur. <i>Note which of the following indicators of opportunity apply.</i> — Wetland is in a headwater of a river or stream that has flooding problems — Wetland drains to a river or stream that has flooding problems — Wetland has no outlet and impounds surface runoff water that might otherwise flow into a river or stream that has flooding problems — Other _____ YES multiplier is 2 NO multiplier is 1	(see p. 49) multiplier <u>1</u>
D	TOTAL - Hydrologic Functions Multiply the score from D 3 by D 4 <i>Add score to table on p. 1</i>	5

These questions apply to wetlands of all HGM classes.		Points (only 1 score per box)																								
HABITAT FUNCTIONS - Indicators that unit functions to provide important habitat																										
H 1. Does the wetland unit have the <u>potential</u> to provide habitat for many species?																										
<p>H 1.1 Vegetation structure (see p. 72) Check the types of vegetation classes present (as defined by Cowardin)- Size threshold for each class is ¼ acre or more than 10% of the area if unit is smaller than 2.5 acres.</p> <p><input type="checkbox"/> Aquatic bed <input checked="" type="checkbox"/> Emergent plants <input type="checkbox"/> Scrub/shrub (areas where shrubs have >30% cover) <input type="checkbox"/> Forested (areas where trees have >30% cover)</p> <p>If the unit has a forested class check if: <input type="checkbox"/> 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</p> <p>Add the number of vegetation structures that qualify. If you have:</p> <table border="0"> <tr> <td>4 structures or more</td> <td>points = 4</td> </tr> <tr> <td>3 structures</td> <td>points = 2</td> </tr> <tr> <td>2 structures</td> <td>points = 1</td> </tr> <tr> <td>1 structure</td> <td>points = 0</td> </tr> </table> <p>Map of Cowardin vegetation classes</p>		4 structures or more	points = 4	3 structures	points = 2	2 structures	points = 1	1 structure	points = 0	<p>Figure <u> </u></p> <p>0</p>																
4 structures or more	points = 4																									
3 structures	points = 2																									
2 structures	points = 1																									
1 structure	points = 0																									
<p>H 1.2. Hydroperiods (see p. 73) 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 acre to count. (see text for descriptions of hydroperiods)</p> <table border="0"> <tr> <td><input checked="" type="checkbox"/> Permanently flooded or inundated</td> <td>4 or more types present</td> <td>points = 3</td> </tr> <tr> <td><input checked="" type="checkbox"/> Seasonally flooded or inundated</td> <td>3 types present</td> <td>points = 2</td> </tr> <tr> <td><input type="checkbox"/> Occasionally flooded or inundated</td> <td>2 types present</td> <td>point = 1</td> </tr> <tr> <td><input type="checkbox"/> Saturated only</td> <td>1 type present</td> <td>points = 0</td> </tr> <tr> <td colspan="3"><input type="checkbox"/> Permanently flowing stream or river in, or adjacent to, the wetland</td> </tr> <tr> <td colspan="3"><input type="checkbox"/> Seasonally flowing stream in, or adjacent to, the wetland</td> </tr> <tr> <td colspan="3"><input type="checkbox"/> Lake-fringe wetland = 2 points</td> </tr> <tr> <td colspan="3"><input type="checkbox"/> Freshwater tidal wetland = 2 points</td> </tr> </table> <p>Map of hydroperiods</p>		<input checked="" type="checkbox"/> Permanently flooded or inundated	4 or more types present	points = 3	<input checked="" type="checkbox"/> Seasonally flooded or inundated	3 types present	points = 2	<input type="checkbox"/> Occasionally flooded or inundated	2 types present	point = 1	<input type="checkbox"/> Saturated only	1 type present	points = 0	<input type="checkbox"/> Permanently flowing stream or river in, or adjacent to, the wetland			<input type="checkbox"/> Seasonally flowing stream in, or adjacent to, the wetland			<input type="checkbox"/> Lake-fringe wetland = 2 points			<input type="checkbox"/> Freshwater tidal wetland = 2 points			<p>Figure <u> </u></p> <p>1</p>
<input checked="" type="checkbox"/> Permanently flooded or inundated	4 or more types present	points = 3																								
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<input type="checkbox"/> Lake-fringe wetland = 2 points																										
<input type="checkbox"/> Freshwater tidal wetland = 2 points																										
<p>H 1.3. Richness of Plant Species (see p. 75) Count the number of plant species in the wetland that cover at least 10 ft². (different patches of the same species can be combined to meet the size threshold) You do not have to name the species. Do not include Eurasian Milfoil, reed canarygrass, purple loosestrife, Canadian Thistle</p> <p>If you counted:</p> <table border="0"> <tr> <td>> 19 species</td> <td>points = 2</td> </tr> <tr> <td>5 - 19 species</td> <td>points = 1</td> </tr> <tr> <td>< 5 species</td> <td>points = 0</td> </tr> </table> <p>List species below if you want to:</p>		> 19 species	points = 2	5 - 19 species	points = 1	< 5 species	points = 0	<p>1</p>																		
> 19 species	points = 2																									
5 - 19 species	points = 1																									
< 5 species	points = 0																									

Total for page 2

H 1.4. Interspersion of habitats (see p. 76)

Decide from the diagrams below whether interspersion between Cowardin vegetation classes (described in H 1.1), or the classes and unvegetated areas (can include open water or mudflats) is high, medium, low, or none.



NOTE: If you have four or more classes or three vegetation classes and open water the rating is always "high". Use map of Cowardin vegetation classes

Figure 1

1

H 1.5. Special Habitat Features: (see p. 77)

Check the habitat features that are present in the wetland. The number of checks is the number of points you put into the next column.

- ☐ Large, downed, woody debris within the wetland (>4in. diameter and 6 ft long).
- ☐ Standing snags (diameter at the bottom > 4 inches) in the wetland
- ☐ Undercut banks are present for at least 6.6 ft (2m) and/or overhanging vegetation extends at least 3.3 ft (1m) over a stream (or ditch) in, or contiguous with the unit, for at least 33 ft (10m)
- ☐ Stable steep banks of fine material that might be used by beaver or muskrat for denning (>30degree slope) OR signs of recent beaver activity are present (*cut shrubs or trees that have not yet turned grey/brown*)
- ☐ At least ¼ acre of thin-stemmed persistent vegetation 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 each stratum of plants

NOTE: The 20% stated in early printings of the manual on page 78 is an error.

0

H 1. TOTAL Score - potential for providing habitat
Add the scores from H1.1, H1.2, H1.3, H1.4, H1.5

3

Comments

H 2. Does the wetland unit have the opportunity to provide habitat for many species?	
<p>H 2.1 Buffers (<i>see p. 80</i>) <i>Choose the description that best represents condition of buffer of wetland unit. The highest scoring criterion that applies to the wetland is to be used in the rating. See text for definition of "undisturbed."</i></p> <ul style="list-style-type: none"> — 100 m (330ft) of relatively undisturbed vegetated areas, rocky areas, or open water >95% of circumference. No structures are within the undisturbed part of buffer. (relatively undisturbed also means no-grazing, no landscaping, no daily human use) Points = 5 — 100 m (330 ft) of relatively undisturbed vegetated areas, rocky areas, or open water > 50% circumference. Points = 4 — 50 m (170ft) of relatively undisturbed vegetated areas, rocky areas, or open water >95% circumference. Points = 4 — 100 m (330ft) of relatively undisturbed vegetated areas, rocky areas, or open water > 25% circumference, . Points = 3 — 50 m (170ft) of relatively undisturbed vegetated areas, rocky areas, or open water for > 50% circumference. Points = 3 <p style="text-align: center;">If buffer does not meet any of the criteria above</p> <ul style="list-style-type: none"> — No paved areas (except paved trails) or buildings within 25 m (80ft) of wetland > 95% circumference. Light to moderate grazing, or lawns are OK. Points = 2 <u>X</u> No paved areas or buildings within 50m of wetland for >50% circumference. Light to moderate grazing, or lawns are OK. Points = 2 — Heavy grazing in buffer. Points = 1 — Vegetated buffers are <2m wide (6.6ft) for more than 95% of the circumference (e.g. tilled fields, paving, basalt bedrock extend to edge of wetland Points = 0. — Buffer does not meet any of the criteria above. Points = 1 <p style="text-align: right;">Aerial photo showing buffers</p>	<p>Figure <u> </u></p> <p style="text-align: center;">2</p>
<p>H 2.2 Corridors and Connections (<i>see p. 81</i>)</p> <p>H 2.2.1 Is the wetland part of a relatively undisturbed and unbroken vegetated corridor (either riparian or upland) that is at least 150 ft wide, has at least 30% cover of shrubs, forest or native undisturbed prairie, that connects to estuaries, other wetlands or undisturbed uplands that are at least 250 acres in size? (<i>dams in riparian corridors, heavily used gravel roads, paved roads, are considered breaks in the corridor</i>).</p> <p style="text-align: center;">YES = 4 points (<i>go to H 2.3</i>) NO = go to H 2.2.2</p> <p>H 2.2.2 Is the wetland part of a relatively undisturbed and unbroken vegetated corridor (either riparian or upland) that is at least 50ft wide, has at least 30% cover of shrubs or forest, and connects to estuaries, other wetlands or undisturbed uplands that are at least 25 acres in size? OR a Lake-fringe wetland, if it does not have an undisturbed corridor as in the question above?</p> <p style="text-align: center;">YES = 2 points (<i>go to H 2.3</i>) NO = H 2.2.3</p> <p>H 2.2.3 Is the wetland:</p> <ul style="list-style-type: none"> within 5 mi (8km) of a brackish or salt water estuary OR within 3 mi of a large field or pasture (>40 acres) OR within 1 mi of a lake greater than 20 acres? <p style="text-align: center;">YES = 1 point NO = 0 points</p>	<p style="text-align: center;">1</p>

Total for page 3

H 2.3 Near or adjacent to other priority habitats listed by WDFW (see new and complete descriptions of WDFW priority habitats, and the counties in which they can be found, in the PHS report <http://wdfw.wa.gov/hab/phslist.htm>)

Which of the following priority habitats are within 330ft (100m) of the wetland unit? *NOTE: the connections do not have to be relatively undisturbed.*

- ☐ **Aspen Stands:** Pure or mixed stands of aspen greater than 0.4 ha (1 acre).
- ☐ **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 p. 152*).
- ☐ **Herbaceous Balds:** Variable size patches of grass and forbs on shallow soils over bedrock.
- ☐ **Old-growth/Mature forests:** (Old-growth west of Cascade crest) Stands of at least 2 tree species, forming a multi-layered canopy with occasional small openings; with at least 20 trees/ha (8 trees/acre) > 81 cm (32 in) dbh or > 200 years of age. (Mature forests) Stands with average diameters exceeding 53 cm (21 in) dbh; crown cover may be less than 100%; 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:** Woodlands 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*).
- ☒ **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*).
- ☐ **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: pp. 167-169 and glossary in Appendix A*).
- ☐ **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 7.6 m (25 ft) high and occurring below 5000 ft.
- ☐ **Talus:** Homogenous areas of rock rubble ranging in average size 0.15 - 2.0 m (0.5 - 6.5 ft), 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 > 51 cm (20 in) in western Washington and are > 2 m (6.5 ft) in height. Priority logs are > 30 cm (12 in) in diameter at the largest end, and > 6 m (20 ft) long.

If wetland has **3 or more** priority habitats = **4 points**

If wetland has **2** priority habitats = **3 points**

If wetland has **1** priority habitat = **1 point**

No habitats = 0 points

Note: All vegetated wetlands are by definition a priority habitat but are not included in this list. Nearby wetlands are addressed in question H 2.4)

<p>H 2.4 Wetland Landscape (<i>choose the one description of the landscape around the wetland that best fits</i>) (<i>see p. 84</i>)</p> <p>There are at least 3 other wetlands within ½ mile, and the connections between them are relatively undisturbed (light grazing between wetlands OK, as is lake shore with some boating, but connections should NOT be bisected by paved roads, fill, fields, or other development. points = 5</p> <p>The wetland is Lake-fringe on a lake with little disturbance and there are 3 other lake-fringe wetlands within ½ mile points = 5</p> <p>There are at least 3 other wetlands within ½ mile, BUT the connections between them are disturbed points = 3</p> <p>The wetland is Lake-fringe on a lake with disturbance and there are 3 other lake-fringe wetland within ½ mile points = 3</p> <p>There is at least 1 wetland within ½ mile. points = 2</p> <p>There are no wetlands within ½ mile. points = 0</p>	3
<p>H 2. TOTAL Score - opportunity for providing habitat <i>Add the scores from H2.1, H2.2, H2.3, H2.4</i></p>	9
<p>TOTAL for H 1 from page 14</p>	3
<p>Total Score for Habitat Functions – add the points for H 1, H 2 and record the result on p. 1</p>	12

CATEGORIZATION BASED ON SPECIAL CHARACTERISTICS

Please determine if the wetland meets the attributes described below and circle the appropriate answers and Category.

Wetland Type	Category
<p><i>Check off any criteria that apply to the wetland. Circle the Category when the appropriate criteria are met.</i></p> <p>SC 1.0 Estuarine wetlands (<i>see p. 86</i>)</p> <p>Does the wetland unit meet the following criteria for Estuarine wetlands?</p> <ul style="list-style-type: none"> — The dominant water regime is tidal, — Vegetated, and — With a salinity greater than 0.5 ppt. <p>YES = Go to SC 1.1 NO <u>X</u></p>	
<p>SC 1.1 Is the wetland unit within a National Wildlife Refuge, National Park, National Estuary Reserve, Natural Area Preserve, State Park or Educational, Environmental, or Scientific Reserve designated under WAC 332-30-151?</p> <p>YES = Category I NO go to SC 1.2</p>	Cat. I
<p>SC 1.2 Is the wetland unit at least 1 acre in size and meets at least two of the following three conditions? YES = Category I NO = Category II</p> <ul style="list-style-type: none"> — The wetland is relatively undisturbed (has no diking, ditching, filling, cultivation, grazing, and has less than 10% cover of non-native plant species. If the non-native <i>Spartina</i> spp. are the only species that cover more than 10% of the wetland, then the wetland should be given a dual rating (I/II). The area of <i>Spartina</i> would be rated a Category II while the relatively undisturbed upper marsh with native species would be a Category I. Do not, however, exclude the area of <i>Spartina</i> in determining the size threshold of 1 acre. — 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 2 of the following features: tidal channels, depressions with open water, or contiguous freshwater wetlands. 	Cat. I Cat. II Dual rating I/II

<p>SC 2.0 Natural Heritage Wetlands (<i>see p. 87</i>) Natural Heritage wetlands have been identified by the Washington Natural Heritage Program/DNR as either high quality undisturbed wetlands or wetlands that support state Threatened, Endangered, or Sensitive plant species.</p> <p>SC 2.1 Is the wetland unit being rated in a Section/Township/Range that contains a Natural Heritage wetland? (<i>this question is used to screen out most sites before you need to contact WNHP/DNR</i>) S/T/R information from Appendix D <u> </u> or accessed from WNHP/DNR web site <u> </u></p> <p>YES <u> </u> – contact WNHP/DNR (see p. 79) and go to SC 2.2 NO <u> X </u></p> <p>SC 2.2 Has DNR identified the wetland as a high quality undisturbed wetland or as or as a site with state threatened or endangered plant species? YES = Category I NO <u> X </u> not a Heritage Wetland</p>	<p>Cat. I</p>
<p>SC 3.0 Bogs (<i>see p. 87</i>) Does the wetland unit (or any part of the unit) meet both the criteria for soils and vegetation in bogs? <i>Use the key below to identify if the wetland is a bog. If you answer yes you will still need to rate the wetland based on its functions.</i></p> <ol style="list-style-type: none"> 1. Does the unit have organic soil horizons (i.e. layers of organic soil), either peats or mucks, that compose 16 inches or more of the first 32 inches of the soil profile? (See Appendix B for a field key to identify organic soils)? Yes - go to Q. 3 No - go to Q. 2 2. Does the unit have organic soils, either peats or mucks that are less than 16 inches deep over bedrock, or an impermeable hardpan such as clay or volcanic ash, or that are floating on a lake or pond? Yes - go to Q. 3 No - Is not a bog for purpose of rating 3. Does the unit have more than 70% cover of mosses at ground level, AND other plants, if present, consist of the “bog” species listed in Table 3 as a significant component of the vegetation (more than 30% of the total shrub and herbaceous cover consists of species in Table 3)? Yes – Is a bog for purpose of rating No - go to Q. 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” deep. If the pH is less than 5.0 and the “bog” plant species in Table 3 are present, the wetland is a bog. <ol style="list-style-type: none"> 1. Is the unit forested (> 30% cover) with sitka spruce, subalpine fir, western red cedar, western hemlock, lodgepole pine, quaking aspen, Englemann’s spruce, or western white pine, WITH any of the species (or combination of species) on the bog species plant list in Table 3 as a significant component of the ground cover (> 30% coverage of the total shrub/herbaceous cover)? 2. YES = Category I No <u> X </u> Is not a bog for purpose of rating 	<p>Cat. I</p>

<p>SC 4.0 Forested Wetlands (see p. 90) Does the wetland unit have at least 1 acre of forest that meet one of these criteria for the Department of Fish and Wildlife's forests as priority habitats? <i>If you answer yes you will still need to rate the wetland based on its functions.</i></p> <ul style="list-style-type: none"> — Old-growth forests: (west of Cascade crest) Stands of at least two tree species, forming a multi-layered canopy with occasional small openings; with at least 8 trees/acre (20 trees/hectare) that are at least 200 years of age OR have a diameter at breast height (dbh) of 32 inches (81 cm) or more. <p>NOTE: The criterion for dbh is based on measurements for upland forests. Two-hundred year old trees in wetlands will often have a smaller dbh because their growth rates are often slower. The DFW criterion is and "OR" so old-growth forests do not necessarily have to have trees of this diameter.</p> <ul style="list-style-type: none"> — Mature forests: (west of the Cascade Crest) Stands where the largest trees are 80 – 200 years old OR have average diameters (dbh) exceeding 21 inches (53cm); 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. <p>YES = Category I NO <u> X </u> not a forested wetland with special characteristics</p>	<p>Cat. I</p>
<p>SC 5.0 Wetlands in Coastal Lagoons (see p. 91) Does the wetland meet all of the following criteria of a wetland in a coastal lagoon?</p> <ul style="list-style-type: none"> — The wetland lies in a depression adjacent to marine waters that is wholly or partially separated from marine waters by sandbanks, gravel banks, shingle, or, less frequently, rocks — The lagoon in which the wetland is located contains surface water that is saline or brackish (> 0.5 ppt) during most of the year in at least a portion of the lagoon (<i>needs to be measured near the bottom</i>) <p>YES = Go to SC 5.1 NO <u> X </u> not a wetland in a coastal lagoon</p> <p>SC 5.1 Does the wetland meets all of the following three conditions?</p> <ul style="list-style-type: none"> — The wetland is relatively undisturbed (has no diking, ditching, filling, cultivation, grazing), and has less than 20% cover of invasive plant species (see list of invasive species on p. 74). — 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 acre (4350 square feet) <p>YES = Category I NO = Category II</p>	<p>Cat. I</p> <p>Cat. II</p>

<p>SC 6.0 Interdunal Wetlands (<i>see p. 93</i>)</p> <p>Is the wetland unit west of the 1889 line (also called the Western Boundary of Upland Ownership or WBUO)?</p> <p>YES - go to SC 6.1 NO <u>X</u> not an interdunal wetland for rating</p> <p><i>If you answer yes you will still need to rate the wetland based on its functions.</i></p> <p>In practical terms that means the following geographic areas:</p> <ul style="list-style-type: none"> • Long Beach Peninsula- lands west of SR 103 • Grayland-Westport- lands west of SR 105 • Ocean Shores-Copalis- lands west of SR 115 and SR 109 <p>SC 6.1 Is the wetland one acre or larger, or is it in a mosaic of wetlands that is once acre or larger?</p> <p>YES = Category II NO – go to SC 6.2</p> <p>SC 6.2 Is the unit between 0.1 and 1 acre, or is it in a mosaic of wetlands that is between 0.1 and 1 acre?</p> <p>YES = Category III</p>	<p>Cat. II</p> <p>Cat. III</p>
<p>Category of wetland based on Special Characteristics</p> <p><i>Choose the “highest” rating if wetland falls into several categories, and record on p. 1.</i></p> <p>If you answered NO for all types enter “Not Applicable” on p.1</p>	<p>NA</p>