DELINEATION REPORT UPDATE NORTH BELLEVUE SEGMENT

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Prepared on behalf of (applicant):



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The information contained in this report is based on the application of technical guidelines currently accepted as the best available science and in conjunction with the manuals and criteria outlined in the methods section. All discussions, conclusions and recommendations reflect the best professional judgment of the author(s) and are based upon information available at the time the study was conducted. All work was completed within the constraints of budget, scope, and timing. The findings of this report are subject to verification and agreement by the appropriate local, state and federal regulatory authorities. No other warranty, expressed or implied, is made.



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1 Introduction

1.1 Background and Purpose

The purpose of this report is to document wetland and stream critical areas associated with the Puget Sound Energy (PSE) Energize Eastside Project (Project) in North Bellevue. The Project includes building a new electric substation and higher capacity transmission lines to serve homes and businesses on the Eastside. This report focuses on the North Bellevue Segment of the Energize Eastside Project. The North Bellevue Segment includes 5.2 miles of two existing 115 kV transmission lines which will be upgraded to operate up to 230 kV (herein referred to as 230 kV lines). Upgrades will replace pole and conductor infrastructure.

This delineation report is intended to supplement the information provided in the *North Bellevue Critical Area Report* (The Watershed Company 2021) with respect to wetlands and streams. This document is an update from the original delineation report (which covered both North and South Bellevue Segments) issued May 2016; it supersedes that previous version and is intended to serve as a stand-alone document for local permitting¹ in North Bellevue.

1.2 Project Location

The North Bellevue Segment study area spans an urban landscape setting. Most of the corridor is zoned single-family residential at various densities; with the exception of the Bel-Red area, generally zoned commercial and office. In North Bellevue Segment, the Project corridor passes through or adjacent to (from north to south) the Bridle Trails, Bel-Red, Wilburton, Crossroads, Woodridge, Lake Hills, and Eastgate neighborhoods (Figure 1). The corridor is in the following public land survey sections: Sections 15, 22, 27, and 34 of Township 25N, Range 05E; and Sections 3 and 10 of Township 24N, Range 05E.

The North Bellevue Segment study area is in the Cedar-Sammamish Watershed (WRIA 8), and spans three City of Bellevue-defined drainage basins, which include (from north to south) the Valley Creek, Kelsey Creek, and Richards Creek basins.

¹ Energize Eastside work associated with the North Bellevue Segment avoids activities that would trigger state and federal permitting. Therefore, state and federal regulations related to wetlands and streams are not included. The jurisdictional status of wetlands and streams, their classifications, and the associated buffer widths that are provided are in accordance with City of Bellevue regulations.

1.3 Methods

Study Area

The North Bellevue Segment study area is a linear transmission line corridor that averages 100 feet in width. It begins at the northern city limit boundary at the Bridle Crest Trail near NE 60th Street and extends south to the existing Lakeside Substation for a corridor length of approximately 5.2 miles (Figure 1). Limits of the study area corridor were determined in the field using aerial maps, GPS, and by measuring 25 feet out from the center of each existing pole set or set of transmission lines when poles were not nearby.

Background Review

Public-domain information on the study area corridor was reviewed for 2015 delineation field work efforts. These sources include USDA Natural Resources Conservation Service (NRCS) soil maps, U.S. Fish and Wildlife Service National Wetland Inventory (NWI) maps, Washington Department of Fish and Wildlife interactive mapping programs (PHS on the Web and SalmonScape), the mapping tool associated with Washington Department of Natural Resources Forest Practices Application Review System (FPARS), City of Bellevue's interactive mapping website (nwmaps.net, no longer active), City of Bellevue GIS data, and King County's mapping website (iMap).

Online sources of information have been revisited so relevant changes since 2015 could be incorporated during updates to wetland and stream mapping and/or classification. Additional resources like Washington Department of Ecology's interactive Water Quality Atlas map and various sources for aerial imagery (like Google Earth) have also been referenced for answering wetland rating form questions.



Figure 1. Vicinity map of the North Bellevue Segment study area.

Delineation and Classification Chronology

Original wetland and stream delineation field work for the Energize Eastside Project in Bellevue was completed in 2015. The Bellevue portion of the Project includes 8.3 miles of transmission line corridor and the Richards Creek Substation site. Wetlands were classified using the 2004 version of the *Washington State Wetland Rating System for Western Washington* (2004 Rating System), in accordance with the City of Bellevue Land Use Code (LUC) 20.25H.095 in effect at that time.

The 2004 Rating System was updated in 2014; and the LUC was subsequently updated to require use of the *Washington State Wetland Rating System for Western Washington: 2014 Update* (2014 Rating System) to classify wetlands. The Watershed Company began updating the North Bellevue Segment wetland classifications to the 2014 Rating System in 2018 and conducted site visits to many of the wetlands in the North Bellevue Segment to aid in that effort. The South Bellevue Segment is covered in a separate report and was permitted separately from the North Bellevue Segment.

Finally, in 2020, more than five years from the original delineation study, The Watershed Company revisited all wetlands and streams in the North Bellevue Segment project area (with one exception²) to verify or update wetland/stream boundaries and confirm each wetland was appropriately classified according to the 2014 Rating System. Overall, wetland boundaries did not change or remained relatively consistent with the original delineation study.

Wetland Assessment

The study area was evaluated for wetlands using methodology from the *Corps of Engineers Wetland Delineation Manual* (Environmental Laboratory 1987) and the *Regional Supplement to the Corps of Engineers Wetland Delineation Manual: Western Mountains, Valleys, and Coast Region Version 2.0* (U.S. Army Corps of Engineers 2010). Presence or absence of wetlands was determined based on an examination of vegetation, soils and hydrology. Wetland determination data forms are included in Attachment B. These parameters were sampled at several locations along the wetland boundary to determine the wetland edge.

Wetlands were originally classified according to the 2004 version of the Department of Ecology's wetland rating system (Hruby 2004). Wetland classifications were updated using the

² The Watershed Company was not granted access to the Overlake Farms property (parcel numbers 1525059269 and 1525059247) to verify or update the prior wetland delineation despite PSE's numerous attempts to reach the property owner(s) to obtain permission in 2018. The wetland on Overlake Farms (Wetland A) was last delineated March 29, 2013 (The Watershed Company).

Overlake Farms property owners granted permission for The Watershed Company to utilize the information obtained during the private 2013 wetland and stream delineation study where it was relevant to the Energize Eastside Project (C. Gugoni, personal communication, March 19, 2015).

Department of Ecology's 2014 rating system (Hruby 2014) beginning in 2018. Rating forms and figures are included in Attachment C.

Stream Assessment

The study area was evaluated for streams based on the City of Bellevue's definition and the presence or absence of an ordinary high water mark (OHWM) as defined by Section 404 of the Clean Water Act, the Washington Administrative Code 220-660-030, and the Revised Code of Washington 90.58.030. The City of Bellevue defines streams as follows (LUC 20.25H.075):

An aquatic area where surface water produces a channel, not including a wholly artificial channel, unless the artificial channel is:

- 1. Used by salmonids; or
- 2. Used to convey a stream that occurred naturally before construction of the artificial channel.

The centerlines of streams in the study area were recorded in the field, with stream widths either visually approximated in the field or later approximated based on aerial photometry and elevation contours. Streams were classified as a Type S, Type F, Type N or Type O water according to the City of Bellevue Land Use Code.

The City of Bellevue measures stream buffers from 'top-of-bank,' defined as (LUC 20.50.048):

The point closest to the boundary of the active floodplain of a stream where a break in the slope of the land occurs such that the grade beyond the break is flatter than 3:1 at any point for minimum distance of 50 feet measured perpendicularly from the break

In some instances, the mapped stream width, based on estimated average distance between opposite OHWM boundaries, coincides with top-of-bank. However, limited availability of detailed site-specific topographic information makes it infeasible to determine top-of-bank adjacent to streams. Stream buffers were measured from estimated OHWM boundaries.

Mapping

Wetland boundaries, stream centerlines, data points, and other features (such as culverts) were GPS-located using a hand-held Trimble Geo-XH unit. Following field location, the GPS data were differentially corrected using GPS Pathfinder Office and exported into ESRI ArcGIS software for mapping. Stream and wetland delineation maps are included as Attachment A.

2 Wetlands

A total of 25 wetlands are located along the North Bellevue Segment of the Energize Eastside corridor in the City of Bellevue (Attachment A). They are all categorized as having either slope or depressional hydrogeomorphic classes; and are palustrine systems according to the Cowardin classification system (Cowardin et. al. 1979). Wetland categories based on the 2014 Rating System range from Category II to Category IV with the majority of wetlands rated as

Category III features. Wetlands are further described in the following subsections and summarized in Table 1.

2.1 Descriptions

2.1.1 Wetland A (Overlake Farms)

A private 2013 delineation study was performed by The Watershed Company that included the PSE easement corridor on Overlake Farms (parcel numbers 1525059269 and 1525059247; Attachment A, Page 1) (The Watershed Company 2013). The west corner of the wetland identified as Wetland A extends into the 100-foot PSE corridor in parcel 1525059247. This wetland is a slope and depressional wetland with forested and scrub-shrub vegetation classes. Dominant vegetation includes western red cedar, red alder, vine maple, salmonberry, skunk cabbage, and lady fern. Sampled soils (Attachment B, Overlake Farms DP-1) in 2013 met hydric soil indicator, Hydrogen Sulfide. Wetland hydrology indicators include Saturation (to the surface) and Hydrogen Sulfide Odor. Wetland A is classified as a Category IV wetland.

2.1.2 Wetland CB01

Wetland CB01 is a relatively large slope wetland located north of SR-520 in Viewpoint Park (Attachment A, Page 2). Wetland CB01 hydrology is mainly provided by groundwater seeps. Wetland CB01 contains forested, scrub-shrub, and emergent vegetation classes. Common vegetation observed includes red alder, various willow species, salmonberry, reed canarygrass, creeping buttercup, giant horsetail, small-fruited bulrush and lady fern. Sampled soils (Attachment B, DP-8) met the criteria for both Depleted Matrix and Redox Dark Surface hydric soil indicators. The wetland also met multiple hydrology indicators at the time of sampling. Wetland CB01 is classified as a Category III wetland.

2.1.3 Wetland EB01

Wetland EB01 is a slope wetland located south of Bel-Red Road near Kelsey Creek (Attachment A, Page 4-5). This wetland contains forested, scrub-shrub, and emergent vegetation classes. Common vegetation observed includes red alder, Sitka willow, salmonberry, giant horsetail, small-fruited bulrush and soft rush. Hydrogen sulfide odor was detected at the test pit (Attachment B, DP-6), meeting the criteria for both hydric soil and wetland hydrology. In addition, soils were saturated to the surface and a water table was observed at seven inches below the soil surface. Wetland EB01 hydrology is mainly provided by groundwater seeps. Wetland EB01 is classified as a Category III wetland.

2.1.4 Wetland EBO2

Wetland EB02 is a relatively large slope wetland located in the northeast corner of the Glendale Golf and Country Club (Attachment A, Page 7-9). This wetland contains forested, scrub-shrub, and emergent vegetation classes. Common vegetation observed includes English hawthorn, red alder, Himalayan blackberry, reed canarygrass, soft rush and small-fruited bulrush. Sampled soils (Attachment B, DP-11) met hydric soil indicator, Depleted Matrix. Oxidized rhizospheres were present along living roots, indicative of a primary wetland hydrology indicator. Two secondary wetland hydrology indicators were also observed. Wetland EB02 rates as a Category III wetland.

2.1.5 Wetlands EB03 through EB10

Wetlands EB03 through EB10 are located on two large parcels north of Lake Hills Connector (Attachment A, Pages 11-18). All except for Wetland EB09 are located within the transmission line corridor. The northern parcel is owned by the Glendale County Club; the southern property is owned by the City of Bellevue Parks Department (Kelsey Creek Park). The study area in these parcels is dominated by grasses, Himalayan blackberry, and a few trees and shrubs. It also includes a compact gravel walking trail that runs north-south through the corridor. Topography is dominated by series of rolling hills and valleys oriented perpendicular to a generally west-facing slope.

The eight wetlands identified in this general area are relatively similar in character. They are commonly present in depressions, swales, or breaks in slopes, and are primarily supported by groundwater seeps. Several of these wetlands include small streams and/or culverts that convey surface water flow beneath the established trail. Common vegetation observed includes Himalayan blackberry, reed canarygrass, soft rush, sawbeak sedge, small-fruited bulrush, and giant horsetail. Each wetland met the criteria for at least one hydric soil indicator as well as one primary or two secondary hydrology indicators (Attachment B, DPs 12-16,20-24, 24A).

Wetlands EB06 and EB07 are small (< 2,500 square feet) Category IV wetlands. The rest (EB03-EB05; EB08-EB10) are Category III wetlands (for more information, see Table 1 and Rating Forms & Figures in Attachment C).

2.1.6 Wetland EB11 through EB19

Wetlands EB11 through EB19 are located south of Lake Hills Connector (Attachment A, Pages 19-25), mostly located on a large vacant parcel owned by SCI Management Corp. Similar to the previously described area north of Lake Hills Connector the study area south of Lake Hills Connector to 130th Place SE is generally dominated by grasses, Himalayan blackberry, and a few trees and shrubs. It also includes a compact gravel walking trail that runs north-south through the corridor; and the general topography is similar.

These nine wetlands are often located in low-lying swales. Most are associated with small stream features also present in the swales. Furthermore, the trail acts as a break between several of these wetland units. These wetlands are primarily supported by groundwater seeps. Vegetation is often dominated by red alder and black cottonwood in the forested areas with lady fern and reed canarygrass common in the understory. Other common emergent and shrub vegetation observed included Himalayan blackberry, soft rush, small-fruited bulrush, and giant horsetail. Each wetland met the criteria for at least one hydric soil indicator as well as at least one primary or two secondary hydrology indicators (Attachment B, DPs 17-19, 25-26, 29-34).

Wetland EB11 is classified as a Category II wetland; Wetlands EB12 through EB19 are all Category III wetlands (for more information, see Table 1 and Rating Forms & Figures in Attachment C).

2.1.7 Wetland EB20

Wetland EB20 is a slope wetland located north of SE 26th Street on parcels 1024059089 and 1024059065 (Attachment A, Page 29, 31). The wetland contains an emergent vegetation class. Common plants observed include reed canarygrass, small-fruited bulrush, and patches of Himalayan blackberry along the perimeter. Soils met the criteria for hydric soil indicator, Redox Dark Surface. One primary wetland hydrology indicator and two secondary hydrology indicators were observed at the test pit during field investigations (Attachment B, DP-27). Wetland EB20 is classified as a Category III wetland.

2.1.8 Wetland EB21

Wetland EB21 is a depressional wetland located south of NE 20th Street in a wide ditch-like feature that runs north-south, immediately adjacent to the transmission line corridor (Attachment A, Page 3). The wetland includes scrub-shrub and emergent Cowardin vegetation classes. Vegetation is dense and dominated by willows, red-twig dogwood, Himalayan blackberry, reed canarygrass, giant horsetail, and watercress. A number of red alder, Sitka spruce and Oregon ash trees are present just outside wetland boundaries, beneath existing transmission lines. City of Bellevue's GIS data characterizes this feature as stream that flows south, then is conveyed underground until it crosses 136th Place NE. Wetland hydrology observations included permanent slow-moving water, consistent with City of Bellevue's GIS data, as well as saturation near wetland edges. Wetland hydrology has been observed during each site visit (at least three) over several years. Hydric soils are presumed because strong wetland hydrology is persistent, and all dominant vegetation is hydrophytic. Wetland boundaries were judged to be equal to or larger than (more encumbering) stream edges. Wetland EB21 is classified as a Category III wetland.

2.1.9 Wetland EE (Lakeside)

Wetland EE is located on the north side of Lakeside Substation parcel (Attachment A, Page 30-31). It is a slope wetland that drains to a ditch. It contains emergent and scrub-shrub vegetation classes. Dominant plants consist of shore pine, red alder, and English hawthorn, and willow species affected by routine vegetation management activities. Cattail, soft rush, and giant horsetail are common in the understory. Hydrology comes from groundwater seeps and is supplemented by surface water. Soils met criteria for hydric soil indicator, Redox Dark Surface and were saturated at seven inches below the surface during the site assessment. Wetland EE is rated as a Category IV wetland.

2.1.10 Wetland I (Lakeside)

Wetland I is located in the northwest corner of the Lakeside Substation site outside of the transmission line corridor (Attachment A, Page 31). It is a relatively small, narrow wetland located at the toe of a slope, adjacent to a nearby road, and is rated as depressional. Wetland I contains a forested vegetation community dominated by weeping willow, red alder, and black cottonwood in the canopy with Himalayan blackberry, giant horsetail, soft rush, and grasses in the understory. Hydrology comes from groundwater and is supplemented by surface water. Soils were a dark brown gravelly sandy clay loam with organics masking redoximorphic features. Soils were saturated to the surface and a water table was present at nine inches below the soil surface at the time of the site visit (Attachment B, DP-4). Wetland I is classified as a Category III wetland.

2.2 Standard Buffers

Wetlands are regulated by the City of Bellevue under their Land Use Code (LUC), Part 20.25H, Critical Areas Overlay District.

Wetland classification is used in part to determine wetland buffer widths in the City of Bellevue. Wetland size, habitat score, and whether a site is considered developed or undeveloped also influence buffer widths. Per LUC 20.25H.095.D, "developed" is defined as when a parcel has been previously recorded with a NGPE prior to August 1, 2006 (regardless of presence of a primary structure on-site). None of the wetlands encountered in the study area occur on parcels with NGPEs, so associated properties are all considered undeveloped for the purpose of applying wetland buffers.

Table 1 provides a summary of wetland classifications and other key wetland attributes. The wetland size in Table 1 is approximate for wetlands that include estimated wetland area outside of the transmission line corridor. Furthermore, the City of Bellevue does not regulate Category IV wetlands that are less than 2,500 SF; therefore, the two wetlands to which this exception applies do not require a buffer as they are not regulated.

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Latest Assessment Date	Wetland Name	Approx. Size (square feet)	HGM Class used for Rating	2014 Ecology Wetland Rating Scores (Water Quality Hydrology Habitat Total)				Category	Standard Buffer Width (feet)
3/29/2013	A (Overlake)	15,673	Depressional	5	6	4	15	IV	40
5/26/2020	CB01	31,758	Slope	6	6	5	17	Ш	110
5/26/2020	EB01	7,289	Slope	5	6	6	17	III	110
5/26/2020	EB02	98,761	Slope	6	6	6	18		110
2/27/2020	EB03	6,507	Slope	7	7	4	18	III	60
2/27/2020	EB04	2,196	Depressional	7	6	4	17		60
2/27/2020	EB05	3,904	Slope	6	7	4	17	III	60
2/27/2020	EB06	1,067	Slope	5	6	4	15	IV	0
2/27/2020	EB07	717	Slope	5	6	4	15	IV	0
2/27/2020	EB08	497	Slope	7	5	5	17	III	110
2/27/2020	EB09	420	Depressional	7	6	6	19	III	110
2/27/2020	EB10	2,316	Slope	7	7	5	19	111	110
2/27/2020	EB11	8,365	Depressional	8	7	5	20	II	110
2/27/2020	EB12	12,823	Slope	5	6	5	16	111	110
2/27/2020	EB13	3,658	Slope	6	5	5	16	III	110
2/27/2020	EB14	7,322	Slope	6	5	6	17	ш	110
2/27/2020	EB15	31,090	Slope	5	6	6	17		110
2/27/2020	EB16	6,792	Depressional	7	6	6	19	ш	110
2/27/2020	EB17	58,906	Depressional	7	6	6	19	III	110
2/27/2020	EB18	4,317	Slope	6	6	6	18	ш	110
2/27/2020	EB19	4,296	Slope	6	5	6	17	III	110
5/26/2020	EB20	11,595	Slope	5	7	4	16		60
5/26/2020	EB21	2,258	Depressional	7	7	3	17		60
2/27/2020	EE (Lakeside)	2,949	Slope	5	6	4	15	IV	40
2/27/2020	I (Lakeside)	1,061	Depressional	6	6	4	16	Ш	60

Table 1. Summary table of wetlands in the North Bellevue Segment of the PSE Energize Eastside corridor.

PSE Energize Eastside Project Documentation Delineation Report Update

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3 Streams

3.1 Descriptions

3.1.1 Stream EB01 (Kelsey Creek)

Stream EB01, commonly known as Kelsey Creek, is a perennial fish-bearing stream that flows northeast to southwest across the PSE corridor south of Bellevue Redmond Road (parcel numbers 760580TRCT and 0672100140) (Attachment A, Page 4). It is in the Kelsey Creek drainage basin. Wetland EB01 is adjacent to the creek. Fall Chinook, coho, winter steelhead, and sockeye salmonids have been documented in Kelsey Creek (WDFW n.d.). Stream EB01 is a Type F stream due to fish presence.

3.1.2 Streams near Glendale Country Club

Streams EB02-EB05 and EB16 are typically small, non-fish bearing streams that day-light and reenter culverts along the PSE corridor on the Glendale Country Club property (parcel 3425059010) (Attachment A, Pages 8-11,13-15). They are in the Kelsey Creek drainage basin. Fish use is precluded by natural gradient barriers downstream (channel gradients exceed 16 percent); as such, they are classified as Type N streams. Additional information for these features is provided below and in Table 2:

- **Stream EB02** is a relatively straight, channelized feature that appears to have been altered by historical land use. It flows seasonally along the east edge of the Glendale County Club, both north along the edge of Wetland EB02, and south to where it enters a culvert. City of Bellevue's GIS data does not show a stream at this location.
- **Stream EB03** is associated with Wetland EB03. It is a small seasonal stream that flows west; it loses channel definition in the wetland before re-entering a culvert at the north end of the wetland unit. This feature is consistent with a stream mapped by City of Bellevue at this location.
- **Stream EB04** is a very narrow yet persistent channel within Wetland EB08. It is a short stream segment that begins at a culvert outlet, flows west then re-enters a culvert at the bottom of the wetland. This stream is not mapped by the City of Bellevue and is on the eastern edge of the transmission line corridor.
- Stream EB05 is on the west (downslope side) of the gravel trail near the southeast corner of the golf course east of the transmission line corridor. Three culverts discharge water on a slope of angular rock that eventually meet and channelize to the west, just outside of the project corridor. City of Bellevue GIS data show a stream in the vicinity of this feature, just downstream of the culverts and angular rock, outside the corridor.

• **Stream EB16** enters Wetland EB05 from the east, flows west through the center of the wetland unit then into a culvert. It is a seasonally flowing stream that is also mapped (and typed as 'Ns') in City of Bellevue's GIS data.

3.1.3 Streams in vicinity of Lake Hills Connector

Streams EB06 through EB14 and EB17 also occur in the Kelsey Creek drainage basin in the vicinity of the Lake Hills Connector (Attachment A, Pages 16-24). They are small, non-fish bearing streams that are often piped under the trail within the corridor or were noted to enter culverts. Fish use is precluded by natural gradient barriers downstream (channel gradients exceed 16 percent). These streams are Type N streams.

- **Stream EB06, EB07, and EB08** are within approximately 600 feet of one another. They are mostly piped in the project corridor. They are consistent with streams mapped by the City of Bellevue. These are perennial features that flow west.
- **Stream EB09** is just north of Lake Hills Connector, associated with Wetland EB10. It is a perennial stream that flows west and is piped under the trail within the corridor. This stream is in the vicinity of one depicted in City of Bellevue's GIS data.
- Streams EB10 and EB11 are south of Lake Hills Connector, within the boundaries of Wetland EB11. Stream EB10 is a short segment that flows south. Stream EB11 is a longer segment that flows generally northwest. They meet and flow into the same culvert near the road right-of-way. These streams are located in the vicinity of one depicted in City of Bellevue's GIS data.
- **Stream EB12** flows west through Wetlands EB14 and EB13. City of Bellevue GIS data indicate two stream features that converge in the vicinity of this one.
- **Stream EB13** serves as the outlet to Wetland EB16. It is piped under the gravel trail and daylights again at the western edge of the study area in Wetland EB15. This stream location is consistent with the City of Bellevue's stream mapping.
- **Stream EB14** is located in and adjacent to Wetland EB17. It flows into a culvert on the east side of the trail and presumably daylights further downstream within the wetland unit, outside of the study area. Stream EB14 is in the vicinity of one depicted in City of Bellevue's GIS data.
- **Stream EB17** is a small channel that begins at the western edge of Wetland EB12 and flows west outside of the study area. City of Bellevue GIS data show a stream feature nearby.

3.1.4 Stream EB15

Stream EB15 is located in the Richards Creek drainage basin. The stream forms at a culvert outlet west of 130th Place SE. The stream and its buffer fall outside of the transmission line

corridor (Attachment A, Page 27-28). It is consistent with City of Bellevue mapping. City of Bellevue data indicate this feature is a permanently flowing, non-fish bearing stream. Fish use is likely precluded by a natural downstream gradient barrier. Stream EB15 is a Type N stream.

3.1.5 Stream EB18

Stream EB18 is located in the Richards Creek drainage basin (Attachment A, Page 25). Stream flows near the study area to the west and appears to be seasonal. It flows west through Wetland EB18 then enters a culvert and discharges outside of the transmission line corridor in Wetland EB19. City of Bellevue GIS data indicate a stream at this location and classifies is as Type F. The fish access gradient barrier that was present for similar streams in the Kelsey Creek basin (except for Kelsey Creek) is no longer present at this location.

3.2 Standard Buffers

Streams are regulated by the City of Bellevue under their Land Use Code (LUC), Part 20.25H, Critical Areas Overlay District.

Stream buffers are established based upon stream type, stream condition (open or closed), and whether the parcel on which the stream is located is considered developed or undeveloped. For streams, a developed site is a site that includes a primary structure or any site where the stream and stream buffer have been included within an approved and recorded NGPE or NGPA prior to August 1, 2006 (LUC 20.25H.075.C). There are two locations where streams in the study area occur on parcels with NGPEs/NGPAs and some contain structures. Table 2 provides a summary of stream classifications, flow characteristics, approximate channel width, description of developed or undeveloped site conditions, and buffer widths.

Stream Name	Туре	Flow	Est. Width (feet)	Pri i (Y/N App	Buffer (feet)	
EB01 (Kelsey Creek)	F	Perennial	15	No undeveloped ROW		100
				Yes	NGPA- 760580TRCT	NGPA edge
				Yes	0672100140	50
				Yes	0672100139	50
				Yes	0672100135	50
				Yes	0672100120	50
EB02	N	Seasonal	5	Yes	3425059010	25
EB03	N	Seasonal	2	Yes	3425059010	25
EB04	N	Seasonal	1	Yes	Yes 3425059010	
EB05	N	Seasonal	3	Yes	Yes 3425059010	
EB06	N	Perennial	2	Yes	3425059287	NGPE edge
		1		Yes	3425059016	25
EB07	N	Perennial	2	Yes	3425059017	25
		1		Yes	3425059016	25
EB08	N	Seasonal	2	Yes	3425059017	25
		1	L	Yes	3425059016	25
EB09	N	Perennial	2	No	0324059009	50
		1	L	No	0324059047	50
EB10	N	Seasonal	5	No	0324059122	50
	1	1	L	Yes	developed ROW	25
EB11	N	Seasonal	5	Yes	2077700036	25
				Yes	developed ROW	25
		1	1	No	developed ROW	50
EB12	N	Seasonal	2	No	0324059066	50
EB13	N	Seasonal	2	No 0324059066		50
EB14	N	Seasonal	2	No 0324059066		50
EB15	N	Perennial	2	Yes 0686050100		25
		1		No	0686050090	50
EB16	EB16 N Seasonal 2 Yes 3425059219		3425059219	25		
		1		Yes	3425059010	25
EB17	N	Seasonal	2	No	No 0324059122	
EB18	F	Seasonal	2	Yes 0324059025		50

 Table 2.
 Summary of stream critical area classifications, key attributes, and buffer widths.

References

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- Hruby, T. 2014. Washington State Wetland Rating System for Western Washington: 2014 Update. (Publication #14-06-029). Olympia, WA: Washington Department of Ecology.
- [WDFW] Washington Department of Fish and Wildlife. (n.d.). Salmonscape interactive web mapping application: <u>https://apps.wdfw.wa.gov/salmonscape/map.html</u>. Accessed: 23 September 2020.
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- The Watershed Company. 2016. City of Bellevue Critical Areas Delineation Report: Puget Sound Energy – Energize Eastside Project. Prepared for PSE.
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Attachment A

DELINEATION MAPS





- City Limit^{KC} Parcel Boundary^{COB} - white outline 100' Screening Limit^{TWC}
- Approximate Wetland Boundary TWC <u>م</u>
- ✦ Delineated Wetland Boundary ^{™C}
- 🔁 Wetland
- Critical Area Buffer
- Data Point^{TWC} 0





- City Limit^{KC} Parcel Boundary^{COB} - white outline Existing Pole Locations ^{PSE}
 100' Screening Limit^{TWC}
- Approximate Wetland Boundary ^{TWC}
- Delineated Wetland Boundary TWC
- 👮 Wetland
- ▲ Critical Area Buffer













- City Limit^{KC} Parcel Boundary^{COB} - white outline Existing Pole Locations PSE 100' Screening Limit^{™C}
- ♦ Approximate Wetland Boundary ^{TWC}
- Delineated Wetland Boundary TWC **
- Delineated Stream Centerline ••
- 🖾 Stream
- 🔁 Wetland
- Critical Area Buffer
- Data Point

8 Ť 20 Feet



- City Limit^{KC} Parcel Boundary^{COB} - white outline 100' Screening Limit^{TWC}
- ♦ Approximate Wetland Boundary ^{TWC}
- Delineated Wetland Boundary TWC **
- Delineated Stream Centerline^{™C} •
- 🖾 Stream
- 🔁 Wetland
- Critical Area Buffer









- City Limit^{KC} Parcel Boundary^{COB} - white outline
- Existing Pole Locations ^{PSE}
 100' Screening Limit^{TWC}
- ◆ Approximate Wetland Boundary ^{TWC}
- Delineated Wetland Boundary TWC **
- Ditch^{™C} ^

- 📃 Wetland
- ▲ Critical Area Buffer
- Data Point^{™C} 0




- City Limit^{KC} Parcel Boundary^{COB} - white outline Existing Pole Locations 100' Screening Limit^{™C}
- ◆ Approximate Wetland Boundary ^{TWC}
- Delineated Wetland Boundary TWC
- Approximate Stream^{TWC} •
- Critical Area Buffer Data Point
 - Z Culvert

🖾 Stream

🔁 Wetland

13 🚸 Feet





- City Limit^{KC} Parcel Boundary^{COB} - white outline Existing Pole Locations PSE
- 100' Screening Limit^{™C}
- Delineated Stream Centerline^{TWC}
- Stream
- ٨ Critical Area Buffer
- X Culvert











- City Limit^{KC} Parcel Boundary^{COB} - white outline 100' Screening Limit^{TWC}
- ♦ Approximate Wetland Boundary ^{TWC}
- ✦ Delineated Wetland Boundary ^{™C}
- ◆ Delineated Stream Centerline^{™C}
- 🖾 Stream 🔁 Wetland ▲ Critical Area Buffer Data Point Culvert





- City Limit^{κC} Parcel Boundary^{COB} - white outline Existing Pole Locations ^{PSE}
 100' Screening Limit^{TWC}
- ◆ Approximate Wetland Boundary ^{TWC}
- Delineated Wetland Boundary **
- Approximate Stream $^{\tt TWC}$ •
- 🖾 Stream
- 🔁 Wetland
- Critical Area Buffer
- Data Point





- City Limit^{KC} Parcel Boundary^{COB} - white outline Existing Pole Locations PSE 100' Screening Limit^{TWC}
- Approximate Wetland Boundary TWC .
- ✦ Delineated Wetland Boundary ^{™C}
- Delineated Stream Centerline^{TWC}
- 匹 Stream 🔁 Wetland Critical Area Buffer Data Point^{TWC} ٨ 0
- Culvert^{TWC}







EB17 (CATEGORY

City Limit^{KC} Parcel Boundary^{COB} - white outline

Existing Pole Locations PSE

- 100' Screening Limit^{™C}
- ◆ Approximate Wetland Boundary ^{TWC}
- Delineated Wetland Boundary ^{TWC}
- 🚾 Wetland
- Critical Area Buffer
- Data Point



Document Path: H:\PROJECTS\2011\11 - NOV



- City Limit^{κC} Parcel Boundary^{COB} - white outline 100' Screening Limit^{TWC}
- Approximate Wetland Boundary $^{\mbox{\tiny TWC}}$.
- ✦ Delineated Wetland Boundary ^{™C}
- ✓ Delineated Stream Centerline^{TWC}

65	Stream
	Wetland
•	Critical Area Buffer
0	Data Point ^{™C}

Culvert^{TWC}





- City Limit^{κC} Parcel Boundary^{COB} - white outline 100' Screening Limit^{TWC}
- Approximate Wetland Boundary TWC
- ✦ Delineated Wetland Boundary ^{™C}
- Approximate Stream^{TWC} •
- 🖾 Stream 湮 Wetland
 - Critical Area Buffer
 - Data Point
 - Z Culvert

25 🚸 20 Feet









- Parcel Boundary^{COB} white outline
- Existing Pole Locations
- 100' Screening Limit^{™C}

- ▲ Critical Area Buffer
- Data Point





- Existing Pole Locations PSE
- 100' Screening Limit^{TWC}

30 🐧 20 Feet



Attachment B

WETLAND DETERMINATION DATA FORMS



Western Mountains, Valleys, and Coast Supplement to the 1987 COE Wetlands Delineation Manual 750 Sixth Street South Kirkland, Washington 98033 (425) 822-5242 watershedco.com

DP- 1

Project Site:	Over	lake Farms (parcels	Sampling Date: 4/20/2010 Sampling Point: DP- 1								
Applicant/Owner:	Davis	Investors and Mar د	nageme	ent, LLC		Sampling	, Point:	DP- 1			
Investigator:	R. Ka	hlo, M. McManus				City/Cour	ity:	Bellevue	/ Ki	ing	
Sect., Township, Range	S 1	ت ⊺ 25N	R 5 E	-		State:	-	WA			
Landform (hillslope, terrac	ce, etc)	Riverbank		Slope (%)	>5%	Local relief	i (concave,	, convex, non	ie)	ave	
Subregion (LRR) A			Long	122 de	g. 9' 15" W		Datum				
Soil Map Unit Name	Everett gr	avelly sandy loam,		NWI clas	ssification	N/	Α				
Are climatic/hydrologic co Are "Normal Circumstanc Are Vegetation	onditions on es" present ☐, or Hydro ☐, or Hydro	the site typical for this ti t on the site? ology ☐ significantly dis ology ☐ naturally proble	ime of ye sturbed? ematic?	Yes D No Yes D No	(If no, explain in remarks.) (If needed, explain any answers in Remarks.)						
SUMMARY OF FINDI	NGS – At	tach site map show	/ing sar	mpling poin	t locations, trans	sects, impr	ortant fea	itures, etc.			
Hydrophytic Vegetation Present? Image: State map showing sampling point locations, transects, important leaders, etc. Hydrophytic Vegetation Present? Image: State map showing sampling point locations, transects, important leaders, etc. Hydrophytic Vegetation Present? Image: State map showing sampling point locations, transects, important leaders, etc. Wetland Hydrology Present? Image: State map showing sampling point locations, transects, important leaders, etc. Wetland Hydrology Present? Image: State map showing sampling point locations, transects, important leaders, etc. Wetland Hydrology Present? Image: State map showing sampling point locations, transects, important leaders, etc.											No
Remarks: Wetland	A (Overla	ke Farms) in-pit. Wetla	and cond	ditions were r	econfirmed in adja	cent areas ir	n March 20	013.			

VEGETATION – Use scientific names of plants.

Tree Stratum (Plot size 5m diam.)	Absolute % Cover	Dominant Species?	Indicator Status	Dominan	ce Test Worksheet		
1. 2.				Number of that are OE	Dominant Species 3L, FACW, or FAC:	4	(A)
3. 4.				Total Numb Species Ac	per of Dominant cross All Strata:	4	(B)
Sanling/Shruh Stratum (Plot size 3m diam)		= Total Cover		Percent of that are OE	Dominant Species BL, FACW, or FAC:	100	(A/B)
	15	v	EAC	Broyalan	oo Indox Workshoot		
Rubus spectabilis Pubus lougodormis	15	r v			Total % Cover of	Mult	tinly by
3.	3	I		OBL specie		$x_1 = \frac{1}{1}$	
4.				EACW species	cies	x 2 =	
5.				FAC specie	25	x 3 =	
	20	= Total Cover		FACU specie	cies	x 4 =	
		_		UPL specie	25	x 5 =	
Herb Stratum (Plot size 1m diam.)				Column tot	als	(A)	(B)
1. Athvrium filix-femina	55	Y	FAC			()	(=)
² Lysichiton americanum	10	Ň	OBL	Prevale	ence Index = B / A =		
^{3.} Urtica dioica	20	Y	FAC	-			
4. Rorippa sp.	5	N	NL	Hydrophy	vtic Vegetation Indica	ators	
5.				Yes	Dominance test is > 50%		
6.					Prevalence test is ≤ 3.0 *		
7.					Morphological Adaptation	s * (provide su	upporting
8.					data in remarks or on a se	eparate sheet)	
9.				,	Wetland Non-Vascular Pla	ants *	
10.					Problematic Hydrophytic V	Vegetation * (e	explain)
11.				1			
	80	= Total Cover		* Indicators present, un	s of hydric soil and wetland less disturbed or problem	d hydrology m atic	ust be
Woody Vine Stratum (Plot size)							
1.							
2.				Hydrophyt	tic Vegetation Yes	\square	No
		= Total Cover		Present?	105		
% Bare Ground in Herb Stratum							
Remarks:							

Profile Descri	ption: (Describe to the	depth neede	d to document the indicate	or or confi	rm the absence o	f indicator	rs.)	
Depth	Matrix	01	R	edox Featu	res	1.2	-	D
(Incnes) 0-8"	10YR 2/1	% 100	Color (moist)	%	туре	LOC	I exture Sandy Ioam	Remarks
0-0		100						
8-16"	10YR 2/1	100					Sandy loam with some	
							organic	
¹ Type: C=Con	centration, D=Depletion, I	RM=Reduced	Matrix, CS=Covered or Co	ated Sand (Grains ² Loc: PL	.=Pore Lini	ng, M=Matrix	
Hydric Soil In Histosol (Histic Ep Black His Hydroger Depleted Thick Da Sandy M Sandy G	dicators: (Applicable to (A1) ipedon (A2) stic (A3) n Sulfide (A4) Below Dark Surface (A1 ² rk Surface (A12) ucky Mineral (S1) leyed Matrix (S4)	all LRRs, ur	Aless otherwise noted.) Sandy Redox (S5) Stripped Matrix (S6) .oamy Mucky Mineral (F1) (.oamy Gleyed Matrix (F2) Depleted Matrix (F3) Redox Dark Surface (F6) Depleted Dark Surface (F7) Redox Depressions (F8)	except MLF	Indicato 2ci RA 1) ³ Indicato be prese	rs for Prol m Muck (A d Parent M her (explain pors of hydro ent, unless	blematic Hydric Soils ³ 10) laterial (TF2) n in remarks) ophytic vegetation and wetland hyd disturbed or problematic	rology must
Restrictive Lay	ver (if present):				Hydric soil	present?	Yes N	lo
Depth (inches)):							
Remarks:	Low chroma soil, red sulfidic odor	loximorphi	ic features masked by	organic a	ccumulations t	hat form	ed as a result of prolonged s	aturation,
HYDROLOG	Υ							
Wetland Hydr Primary India Surfac High V Satura Vater Sedim Drift D Iron D Surfac Inunda Image	rology Indicators: ators (minimum of one re ee water (A1) Water Table (A2) ation (A3) Marks (B1) hent Deposits (B2) heposits (B3) Mat or Crust (B4) eposits (B5) be Soil Cracks (B6) ation Visible on Aerial rry (B7)	quired: check	a all that apply): barsely Vegetated Concave a ater-Stained Leaves (excep lit Crust (B11) guatic Invertebrates (B13) rdrogen Sulfide Odor (C1) ridized Rhizospheres along esence of Reduced Iron (C4 ecent Iron Reduction in Tille unted or Stressed Plants (D her (explain in remarks)	Surface (B8 t MLRA 1, Living Root) d Soils (C6) 1) (LRR A)	3) 2, 4A & 4B) (B9) s (C3)	Second W D D S S S S S S S S S S S S S S S S S	ary Indicators (2 or more required). /ater-Stained Leaves (B9) (MLRA ' rainage Patterns (B10) ry-Season Water Table (C2) aturation Visible on Aerial Imagery eomorphic Position (D2) hallow Aquitard (D3) AC-Neutral Test (D5) aised Ant Mounds (D6) (LRR A) rost-Heave Hummocks	(C9)
Field Observa Surface Water Water Table P Saturation Pre (includes capil	ations Yesent? Ye Present? Ye Ye resent? Xe Ye lary fringe) Ye	s 🛛 N s 🖾 N s 🗌 N	lo Depth (in): lo Depth (in): lo Depth (in): 0 "		Wetland Hydro	logy Prese	ent? Yes No	
Describe Reco	orded Data (stream gauge	, monitoring	well, aerial photos, previous	inspections	s), if available:			
Remarks:								
<u>p</u>								



Western Mountains, Valleys, and Coast Supplement to the 1987 COE Wetlands Delineation Manual

DP- 6

Project Site:	Segment E, pare	cel nur	nber (067210	0140				Sampling Date:	5/29/201	5		
Applicant/Owner:	Puget Sound Er	ergy							Sampling Point:	DP- 6			
Investigator:	K. Crandall, R. V	Vhitso	n, M. I	Foster					City/County: Bellevue		;		
Sect., Township, Range:	S 27 T	25N	R	05E					State:	WA			
Landform (hillslope, terrace,	etc): Hillslope					Slope (%): ~	5	Local relief (concave, convex, none): Concave				
Subregion (LRR): A						Lat:			Long: Datum:				
Soil Map Unit Name: AgC	 Alderwood grav 	/elly sa	andy l	oam			NWI classification: NA						
Are climatic/hydrologic condi	tions on the site typic	al for th	is time	of year	? 🛛	🛛 Yes		No	(If no, explain in rema	arks.)			
Are "Normal Circumstances"	present on the site?					🛛 Yes		No					
Are Vegetation \Box , Soil \Box , or	Hydrology	antly dis	sturbed	?									
Are Vegetation□, Soil □, or	Hydrology natural	ly proble	ematic						(If needed, explain a	ny answers ir	n Remarks.)		
SUMMARY OF FINDING	SUMMARY OF FINDINGS – Attach site map showing sampling point locations, transects, important features, etc.												
Hydrophytic Vegetation Pres	ent?	Yes	\boxtimes	No									
Hydric Soils Present?		Yes	\boxtimes	No		Is the S	Sampli	ina Poi	nt within a Wetland?	Yes	\square	No	
Wetland Hydrology Present?		Yes	\boxtimes	No				J					

Remarks: Wetland EB01 in-pit. Wetland near Kelsey Creek under lines; weedy corridor area.

VEGETATION - Use scientific names of plants. Tree Stratum (Plot size: 5m diam.) Absolute % Dominant Indicator **Dominance Test Worksheet** Cover Species? Status Number of Dominant Species 1. 2 that are OBL, FACW, or FAC: 2. (A) Total Number of Dominant 3. 2 Species Across All Strata: 4. (B) = Total Cover Percent of Dominant Species 100 that are OBL, FACW, or FAC: (A/B) Sapling/Shrub Stratum (Plot size: 3m diam.) 1 **Prevalence Index Worksheet** 2. Total % Cover of Multiply by **OBL** species 3. x 1 = FACW species 4. x 2 = 5 FAC species x 3 = = Total Cover FACU species x 4 = UPL species x 5 = Column totals (A) Herb Stratum (Plot size: 1m diam.) (B) Scirpus microcarpus 60 Υ OBL 1 2. Phalaris arundinacea 50 Υ FACW Prevalence Index = B / A = FACW 30 Ν 3. Equisetum telmateia Ν FACW Hydrophytic Vegetation Indicators 5 4. Stachys chamissonis cooleyae Galium sp. FAC* Dominance test is > 50% 5. 5 Ν \boxtimes Carex obnupta 5 Ν OBL Prevalence test is ≤ 3.0 * 6. Morphological Adaptations * (provide supporting 7. 8. data in remarks or on a separate sheet) Wetland Non-Vascular Plants * 9. Problematic Hydrophytic Vegetation * (explain) 10. 11. 155 = Total Cover * Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic Woody Vine Stratum (Plot size: 1. 2. Hydrophytic Vegetation X Yes No = Total Cover Present? % Bare Ground in Herb Stratum: Remarks: *Presumed FAC

SOIL	
------	--

Sampling Point - DP-6

301L							Sampling Point – L	7F-0
Profile Descri	ption: (Describe to th	e depth neede	ed to document the in	ndicator or confi	rm the absence o	of indicators	5.)	
Depth	Matrix			Redox Feat	ures		·	
(inches)	Color (moist)	%	Color (moist)	%		Loc ²	Texture	Remarks
0-12	10YR 3/1	100					Sandy loam	
12-16	2.5Y 3/1	95	10YR 3/4	5	С	М	Sandy loam	
¹ Type: C=Con	centration, D=Depletior	n, RM=Reduce	d Matrix, CS=Covered	or Coated Sand	Grains ² Loc: PL	_=Pore Linin	g, M=Matrix	•
Hydric Soil In	dicators: (Applicable	to all LRRs, u	nless otherwise note	ed.)		ors for Prob	lematic Hydric Soils ³	
	(A2)		tripped Matrix (SS)			Doront Mot) toriol (TE2)	
			unpped Matrix (56)			ar (avalain i	eriai (TFZ)	
			oamy Mucky Mineral ((F1) (except MLR	(A1) ∐ Otn	er (explain ir	n remarks)	
Hydrogen	Sulfide (A4)		oamy Gleyed Matrix (I	-2)				
	Below Dark Surface (A1	□1) ∐ D	epleted Matrix (F3)		2			
☐ Thick Dark	c Surface (A12)	∐ R	edox Dark Surface (F	6)	³ Indicate	ors of hydrop	ohytic vegetation and wetla	nd hydrology must
Sandy Mu	cky Mineral (S1)		epleted Dark Surface	(F7)	be prese	ent, uniess a	isturbed or problematic	
Sandy Gle	yed Matrix (S4)	🗆 R	edox Depressions (F8	3)				
Restrictive Lay	ver (if present):							
Type:					Hydric soil	present?	Yes 🔀	No
Depth (inches)								
Remarks:								
HYDROLOGY	•							
Wetland Hydr	ology Indicators:							
Primary Indic	ators (minimum of one	required: chec	k all that apply):			Secondary	Indicators (2 or more requi	red):
Surface w	ater (A1)	□ S	parsely Vegetated Co	ncave Surface (B	8)	□ Wat	er-Stained Leaves (B9) (MI	RA 1, 2, 4A & 4B)
High Wate	er Table (A2)	🗆 W	ater-Stained Leaves (except MLRA 1,	2, 4A & 4B) (B9)	🗌 Drai	nage Patterns (B10)	
Saturation	n (A3)	🗆 Sa	alt Crust (B11)			Dry-	Season Water Table (C2)	
Water Ma	rks (B1)		quatic Invertebrates (E	313)		□ Satu	uration Visible on Aerial Ima	agery (C9)
□ Sediment	Deposits (B2)	⊠н	vdrogen Sulfide Odor	(C1)		🖂 Geo	morphic Position (D2)	0,00
	osits (B3)		xidized Rhizospheres	along Living Roo	ts (C3)	□ Sha	llow Aquitard (D3)	
	or Crust (B4)		resence of Reduced Ir	on (C4)		S FAC	-Neutral Test (D5)	
	eite (B5)		ecent Iron Reduction i	in Tilled Soils (C6)		ed Ant Mounds (D6) (I RR	۵)
	iail Cracka (B6)		tunted or Stressed Pla	nte (D1) (I PP A))			A)
Surface S	Nicible on Aprial Imag		thor (ovelain in romar				SI-Heave Hummocks	
(B7)	r visible on Aenai imag			(5)				
Field Observa	ations							
Surface Water	Present? Voc		Depth (in)					
Water Table P	resent?			7 865				
Soturction D	aont2			0.869	Wetland Hydro	ology Prese	nt? Yes 🔀	No 🔛
(includes capil	lary fringe)	No L		0 663				
Describe Reco	orded Data (stream gau	ge, monitoring	well, aerial photos, pr	evious inspection	s), if available:			
	_		-					
Remarks:	BGS = below grou	nd surface						
1								



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DP- 7

Project Site:	Segment E, parcel nu	Sampling Date:	5/29/2015									
Applicant/Owner:	Puget Sound Energy	Sampling Point:	DP- 7									
Investigator:	K. Crandall, R. Whitso	City/County:	Bellevue									
Sect., Township, Range:	S 27 T 25N	State:	WA									
Landform (hillslope, terrace,	etc): Hillslope		Local relief (concave	, convex, none):	None							
Subregion (LRR): A		Long:		Datum:								
Soil Map Unit Name: AgC	 Alderwood gravelly s 	andy lo	bam					NWI classification:	IA			
Are climatic/hydrologic condi	tions on the site typical for th	(If no, explain in remarks.)										
Are "Normal Circumstances"	present on the site?			[🛛 Yes		No					
Are Vegetation \Box , Soil \Box , or	Hydrology significantly d	sturbed?	•									
Are Vegetation \Box , Soil \Box , or	Hydrology □ naturally prob	lematic						(If needed, explain ar	ny answers in Re	emarks.)		
SUMMARY OF FINDING	SUMMARY OF FINDINGS – Attach site map showing sampling point locations, transects, important features, etc.											
Hydrophytic Vegetation Pres	ent? Yes	\boxtimes	No									
Hydric Soils Present?	Yes		No	\boxtimes	Is the S	amnli	na Poir	nt within a Wetland?	Yes [7	No	\square
Wetland Hydrology Present?	Yes		No	\boxtimes		ampi	ing i on					
Remarks: Wetland	EB01 out-pit.											

VEGETATION – Use scientific names of plants.

Tree Stratum (Plot s	size: 5m diam.)	Absolute % Cover	Dominant Species?	Indicator Status	Dom	inance Te	st Worksheet		
1.			•		Numb	er of Domin	ant Species	3	
2.					that a	re OBL, FAU	SVV, OF FAC:	<u> </u>	(A)
3.					Total	Number of E	Dominant	4	
4.			Total Cavar		Speci				(B)
					Perce	re OBL FAC	ant Species	75	
Sanling/Shrub Stra	tum (Plot size: 3m diam)				that a				(A/B)
		10	v	FACU	Drav	alanaa Ina	lay Warkahaat		
	Vinorus	10	T	FACU	Prev	Total %		Multiply	by
2.					OBL	necies		x 1 –	<u>by</u>
3. 1					FACV	V snecies		x 2 =	
4. 5					FAC	species		x 3 =	
0.			= Total Cover		FACU	J species		x 4 =	
			-		UPLs	species		x 5 =	
Herb Stratum (Plot	size: 1m diam.)				Colum	nn totals	(A)	(B)	
1. Holcus land	atus	70	Y	FAC					
2. Other gras	s	60	Y	FAC*	P	revalence l	ndex = B / A =		
3. Equisetum	telmateia	20	N	FACW					
4. Alopecurus	s pratensis	10	Ν	FAC	Hydr	ophytic V	egetation Indicato	ors	
5. Athyrium c	yclosorum	5	Ν	FAC	\boxtimes	Dominance	test is > 50%		
6.	-					Prevalence	test is ≤ 3.0 *		
7.						Morphologi	cal Adaptations * (pro	vide supporting	1
8.						data in rem	arks or on a separate	sheet)	·
9.						Wetland No	on-Vascular Plants *		
10						Problematio	c Hvdrophvtic Vegetat	tion * (explain)	
11							, , , , , , , , , , , , , , , , , , , ,	(
		155	= Total Cover		* India	cators of hyd	Iric soil and wetland h	vdrology must !	he
			-		prese	nt, unless di	sturbed or problemati	C	
Woody Vine Stratu	m (Plot size:)								
1. Rubus arm	eniacus	10	Y	FACU					
2.					Hy	drophytic V	egetation		
			= Total Cover			Presen	t? Yes		, П
		-	-						
% Bare Ground in H	erb Stratum:								
Remarks: *Pres	umed FAC								

Sampling Point – DP-7

Profile Descri	ption: (Describe to the	depth need	led to document the indicat	or or confi	rm the absence o	f indicator	s.)			
Depth	Matrix		F	Redox Feat	ures					
(inches)	Color (moist)	%	Color (moist)	%	Type ¹	Loc ²	٦ ٦	exture	F	emarks
0-4	10YR 3/2	100					Loam			
4-8	10YR 4/2	98	10YR 4/6	2	С	М	Loam			
¹ Type: C=Con	centration, D=Depletion,	RM=Reduc	ed Matrix, CS=Covered or Co	ated Sand	Grains ² Loc: PL	=Pore Lini	ng, M=Matrix			
Hydric Soil In	dicators: (Applicable to	all LRRs,	unless otherwise noted.)		Indicato	rs for Prol	plematic Hyd	ric Soils ³		
Histosol (A	A1)		Sandy Redox (S5)		□ 2cm	Muck (A1	0)			
Histic Epip	edon (A2)		Stripped Matrix (S6)		🗌 Red	Parent Ma	aterial (TF2)			
Black Hist	ic (A3)		Loamy Mucky Mineral (F1) (e	xcept MLR	A 1) 🗌 Othe	er (explain	in remarks)			
Hydrogen	Sulfide (A4)		Loamy Gleyed Matrix (F2)							
Depleted I	Below Dark Surface (A11)	Depleted Matrix (F3)							
Thick Dark	surface (A12)		Redox Dark Surface (F6)		³ Indicate	ors of hydro	phytic vegeta	ation and wetlar	d hydrol	ogy must
Sandy Mu	cky Mineral (S1)		Depleted Dark Surface (F7)		be prese	nt, unless (disturbed or p	roblematic		
Sandy Gle	eyed Matrix (S4)		Redox Depressions (F8)							
Restrictive Lay	ver (if present):									
Туре:					Hvdric soil	present?	Yes		No	\mathbf{X}
Depth (inches)	:								-	
Remarks:	Compact with many	roots and	d cobbles; difficult to dig	g below 8	inches.					
HYDROLOGY										
Wetland Hydr	ology Indicators:									
Primary Indic	ators (minimum of one re	equired: che	eck all that apply):	Curfage (D	0)	Secondar	y Indicators (2	or more requir	ed):	44 9 40
	rater (A1)		Sparsely vegetated Concave	Surrace (B			iller-Stained L	eaves (B9) (ML	KA 1, 2,	4A & 4B)
			vvaler-stained Leaves (excep	DI WILKA 1,	z, 4A & 4B) (B9)		anage Patteri	IS (BIU)		
□ Saturation	1 (A3)		Sait Crust (BTT)			Dry	-Season wat	er i able (C2)		

Salt Crust (B11)	

- Aquatic Invertebrates (B13)
- Hydrogen Sulfide Odor (C1)
- Oxidized Rhizospheres along Living Roots (C3)

Recent Iron Reduction in Tilled Soils (C6)

Stunted or Stressed Plants (D1) (LRR A)

- Presence of Reduced Iron (C4)
- □ Iron Deposits (B5)

Water Marks (B1)

Drift Deposits (B3)

Sediment Deposits (B2)

Algal Mat or Crust (B4)

Surface Soil Cracks (B6)
 Inundation Visible on Aerial In

Inundation Visible on Aerial Imagery (B7)	Other (explain in remarks)

(B7)						
Field Observations						
Surface Water Present?	Yes 🗆	No 🛛	Depth (in):			
Water Table Present?	Yes 🗆	No 🛛	Depth (in):	Wetland Hydrology Present?	Yes	No 🕅
Saturation Present? (includes capillary fringe)	Yes 🗆	No 🖾	Depth (in):			
Describe Recorded Data (st	tream gauge, n	nonitoring well,	aerial photos, previous insp	bections), if available:		
Remarks:						

Saturation Visible on Aerial Imagery (C9)

Geomorphic Position (D2)

Raised Ant Mounds (D6) (LRR A)

Shallow Aquitard (D3)

FAC-Neutral Test (D5)

□ Frost-Heave Hummocks



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DP- 8

Project Site:	Segment C, parcel n	Sampling Date:	6/1/2015									
Applicant/Owner:	Puget Sound Energy	1	Sampling Point:	DP- 8								
Investigator:	Katy Crandall, Mike	Foster				City/County:	Bellevue)				
Sect., Township, Range:	S 27 T 25M	R	05E	State:	WA							
Landform (hillslope, terrace,	etc): Hillslope	Local relief (concave, convex, none): Concave										
Subregion (LRR): A	Long:		Datum:									
Soil Map Unit Name: EvC	 Everett gravelly san 	dy loam	, 5-15%	slop	es.			NWI classification:	IA			
Are climatic/hydrologic condi	tions on the site typical for	this time of	of year?	Σ	🛛 Yes		No	(If no, explain in rema	arks.)			
Are "Normal Circumstances"	present on the site?			\sum	🛛 Yes		No					
Are Vegetation□, Soil □, or	Hydrology □ significantly	disturbed	?									
Are Vegetation \Box , Soil \Box , or	Hydrology □ naturally pro	blematic						(If needed, explain any answers in Remarks.)				
SUMMARY OF FINDING	S – Attach site map s	howing	sampliı	ng po	oint loca	tions	, trans	sects, important fea	atures, etc.			
Hydrophytic Vegetation Pres	ent? Ye	\mathbf{x}	No									
Hydric Soils Present?	Ye	\mathbf{x}	No		Is the S	ampli	ng Poi	nt within a Wetland?	Yes	\boxtimes	No	
Wetland Hydrology Present?	Ye	s 🛛	No				J					

Remarks: Wetland CB01 in-pit. Wetland is located north of 520.

VEGETATION – Use scientific names of plants.

Tree Stratum (Plot size: 5m diam.)	Absolute % Cover	Dominant Species?	Indicator Status	Dominance Test Worksh	eet
1. Alnus rubra	30	Y	FAC	Number of Dominant Species	3
2.				that are OBL, FACVV, or FAC:	(A)
3. 4.				Total Number of Dominant Species Across All Strata:	3 (B)
	30	= Total Cover		Percent of Dominant Species that are OBL, FACW, or FAC:	100 (A/B)
Sapling/Shrub Stratum (Plot size: 3m diam.)					-
1.				Prevalence Index Works	heet
2.				Total % Cover of	Multiply by
3.				OBL species	x 1 =
4.				FACW species	x 2 =
5.		T (10		FAC species	x 3 =
		= I otal Cover		FACU species	x 4 =
				UPL species	x 5 =
Herb Stratum (Plot size: 1m diam.)				Column totals (A)	(B)
1. Phalaris arundinacea	80	Y	FACW		
2. Scirpus microcarpus	70	Y	OBL	Prevalence Index = B /	A =
3. Carex stipata	10	N	OBL		
4.				Hydrophytic Vegetation	Indicators
5.				Dominance test is > 50°	%
6.				□ Prevalence test is ≤ 3.0	*
7.				Morphological Adaptation	ons * (provide supporting
8.				data in remarks or on a	separate sheet)
9				Wetland Non-Vascular	Plants *
10				Problematic Hydrophyti	c Vegetation * (explain)
11					(
	160	= Total Cover		* Indicators of hydric soil and present, unless disturbed or p	wetland hydrology must be roblematic
Woody Vine Stratum (Plot size:)					
1.					
2.				Hydrophytic Vegetation	
		= Total Cover		Present?	Yes 🗶 No 📋
% Bare Ground in Herb Stratum:					
Remarks:					

SOIL	
------	--

Sampling Point – DP-8

								Sampi	ing i oint – Di	-0
Profile Descri	ption: (Describe to the	e depth need	ed to document the in	dicator or conf	firm tl	he absence o	f indicators	s.)		
Depth	Matrix			Redox Fea	atures					
(inches)	Color (moist)	%	Color (moist)	%		Type ¹	Loc ²	Т	exture	Remarks
0-6	10YR 3/2	95	7.5YR 4/6	5	С		М	Sandy lo	bam	
6-12	10YR 4/1	85	7.5YR 4/6	15	С		M, PL	Gravelly	sandy loam	
								-	-	<u> </u>
¹ Type: C=Con	centration, D=Depletion	, RM=Reduce	ed Matrix, CS=Covered	or Coated Sand	d Grai	ns ² Loc: PL	-=Pore Linin	g, M=Matrix		
Hydric Soil In	dicators: (Applicable 1	to all LRRs, u	unless otherwise noted	1.)			rs for Prob	lematic Hyd	ric Soils ³	
Histic Enir	(A2)		Stripped Matrix (S6)				Parent Mat	herial (TF2)		
	ic (A2)		opmy Mucky Minoral /F	1) (oxcont ML	DA 1)		or (ovolain i	$r_{\rm romarke}$		
	Sulfide (A.4)							ii ieiliaiks)		
				2)						
	Below Dark Surface (A1	1) 🗆 I	Depleted Matrix (F3)	、 、		31 11 1				
	Surface (A12)		Redox Dark Surface (F6)		° Indicato	ors of hydrop ant unless d	phytic vegeta	ition and wetland	nyarology mus
Sandy Mu	cky Mineral (S1)		Depleted Dark Surface (F7)		be prese	in, uness u	istuibed of p	TODIEITIALIC	
☐ Sandy Gle	eyed Matrix (S4)		Redox Depressions (F8)							
Restrictive Lay	ver (if present):									
Туре:						Hydric soil	present?	Yes	\boxtimes	No 🗌
Depth (inches)	:						•			
Bomorko:										
Remarks.										
YDROLOGY	,									
Wotland Llud	alogy Indicators									
Primary Indic	ators (minimum of one	required: che	ck all that apply).				Secondary	Indicators (2	or more required	7)·
□ Surface w	ater (A1)		Sparsely Vegetated Con	cave Surface (E	38)		□ Wat	er-Stained L	eaves (B9) (MLR	A 1. 2. 4A & 4
High Wate	er Table (A2)		Vater-Stained Leaves (e	except MLRA 1	. 2. 4	4 & 4B) (B9)	Drai	inage Patterr	ns (B10)	,,,
□ Saturation	n (A3)		Salt Crust (B11)		, _,)(20)		Season Wat	er Table (C2)	
□ Water Ma	rks (B1)		auatic Invertebrates (B	13)			□ Sati	ration Visible	e on Aerial Image	ary(C.9)
	Donosite (B2)		lydrogon Sulfido Odor ((1) (1)					ition (D2)	iy (03)
				UI) Nang Living Day	ata (C	2)				
	or Cruch (D4)		Dxidized Rhizospheres a		ois (C	3)			1 (D3)	
				T (C4)	•					
	ISITS (B5)		Recent Iron Reduction in	Tilled Solls (Ce	6)			sed Ant Mour	nds (D6) (LRR A)	
□ Surface S	oil Cracks (B6)		Stunted or Stressed Plar	nts (D1) (LRR A	()		∐ Fros	st-Heave Hur	nmocks	
Inundation (B7)	n Visible on Aerial Imag	ery 🗌 (Other (explain in remarks	5)						
Field Observa	ations									
Surface Water	Present?		Depth (in):							
Water Table P	resent?		Depth (in):			1-41				
Saturation Pre (includes capil	sent? Yes 🗌 lary fringe)	No 2	☐ Depth (in):		Ň	retiand Hydro	logy Prese	ent <i>r</i> Y	es 🔀	
Describe Reco	orded Data (stream gaug	ge, monitoring	g well, aerial photos, pre	vious inspection	ns), if	available:				
Remarks:	Dryer than average	e rainfall – 1	.32 inches below a	verage for th	e yea	ar to date (N	IOAA Nati	onal Weat	her Service Da	uta, generate
	6/2/2015).			-	-					-



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DP- 9

Project Site:	Segment C, parce	I num	ber 2	7250	59045				Sampling Date:	6/1/2015			
Applicant/Owner:	Puget Sound Ene	rgy							Sampling Point:	DP- 9			
Investigator:	Katy Crandall, Mil	ke Fos	ster						City/County:	Bellevue			
Sect., Township, Range:	S 27 T 2	25N	R	05E					State:	WA			
Landform (hillslope, terrace,	etc): Hillslope					Slope	(%):	10	Local relief (concave,	convex, non	e): None		
Subregion (LRR): A						Lat:			Long:		Datum:		
Soil Map Unit Name: EvC	 Everett gravelly s 	andy	loam,	5-15	% slop	es.			NWI classification: N	A			
Are climatic/hydrologic cond	itions on the site typical	for this	time c	of year	? [2	⊠ Yes		No	(If no, explain in rema	arks.)			
Are "Normal Circumstances"	present on the site?					🛛 Yes		No					
Are Vegetation□, Soil □, or	Hydrology 🗆 significar	ntly dist	urbed?	2									
Are Vegetation □, Soil □, or	Hydrology naturally	probler	natic						(If needed, explain ar	ny answers in	n Remarks.)		
SUMMARY OF FINDING	S – Attach site ma	p shov	wing s	samp	ling po	oint loc	ation	s, trans	sects, important fea	tures, etc.			
Hydrophytic Vegetation Pres	ent?	Yes	\boxtimes	No									
Hydric Soils Present?		Yes		No	\boxtimes	Is the	Samp	lina Poi	nt within a Wetland?	Yes		No	\square
Wetland Hydrology Present?)	Yes		No	\boxtimes			5					
Remarks: Wetland CB01 out-pit.													
VEGETATION – Use sc	ientific names of pla	ants.											
Tree Stratum (Plot size: 5m	diam.)	Ab	solute	%	Domina	ant	Inc	licator	Dominance Test	Workshee	t		

Tree Stratum (Plot size: 5m diam.)	Absolute % Cover	Dominant Species?	Indicator Status	Dominance Test Worksheet	
1. Alnus rubra	10	Y	FAC	Number of Dominant Species 3 that are OBL, FACW, or FAC: 3	
3. 4.				Total Number of Dominant Species Across All Strata: 4 (B)	
	10	= Total Cover		Percent of Dominant Species that are OBL, FACW, or FAC: 75 (A/E	B)
Sapling/Shrub Stratum (Plot size: 3m diam.)					
1.				Prevalence Index Worksheet	
2.				Total % Cover of <u>Multiply by</u>	
3.				OBL species x 1 =	
4.				FACW species x 2 =	
5.		- Total Covar		FAC species X 3 =	
				FACU species X 4 =	
Harb Stratum (Plot aize: 1m diam)				$\begin{array}{c c} \text{OFL species} & \text{X 3} = \\ \hline \text{Column totals} & (A) & (B) \\ \hline \end{array}$	
A Belovio ovundinocco	70	v	EAC	Column totals (A) (B)	
Other grass	40	1 V		Brovalanco Index - B / A -	
2. Other grass	40	N	FAC*	Flevalence index = D / A =	
4	10		140	Hydrophytic Vegetation Indicators	_
5				\square Dominance test is > 50%	
6				$\square Prevalence test is < 3.0.*$	
0. 7				Morphological Adaptations * (provide supporting	
2				data in remarks or on a senarate sheet)	
8.					
9.				Weitand Non-Vascular Flams Problemstic Unders butic Vice setation * (combine)	
10.					
11.		T (10			
	125	= Total Cover		* Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic	
Woody Vine Stratum (Plot size:)					
1. Rubus armeniacus	45	Y	FACU		
2.				Hydrophytic Vegetation	ר
	45	= Total Cover		Present?]
% Bare Ground in Herb Stratum:					
Remarks: *Presumed FAC					

SOIL

Sampling Point – DP-9

Profile Descr	iption: (Describe to the c	lepth nee	ded to document the indica	tor or confirm	the absence c	of indicators)			
Depth	Matrix			Redox Feature	S					
(inches)	Color (moist)	%	Color (moist)	%	Type ¹	Loc ²	Textu	ure	Re	emarks
0-10	10 YR 4/2	100					Sandy loam	I		
1										
¹ Type: C=Con	centration, D=Depletion, F	RM=Redu	ced Matrix, CS=Covered or Co	oated Sand Gra	iins ² Loc: Pl	L=Pore Linin	g, M=Matrix			
Hydric Soil In	dicators: (Applicable to	all LRRs,	unless otherwise noted.)		Indicato	ors for Probl	ematic Hydric S	Soils ³		
Histosol (A	A1)		Sandy Redox (S5)		□ 2cn	n Muck (A10)			
Histic Epip	bedon (A2)		Stripped Matrix (S6)		Red	d Parent Mat	erial (TF2)			
Black Hist			Loamy Mucky Mineral (F1) (except MLRA 1) 🗌 Oth	ier (explain ir	n remarks)			
Hydrogen	Sulfide (A4)		Loamy Gleyed Matrix (F2)							
Depleted	Below Dark Surface (A11)		Depleted Matrix (F3)		³ Indiaat	are of hudrow		ممط سماممط	hudrolo	
	alu Mineral (S1)		Redux Dark Surface (F6)		be prese	ent unless di	isturbed or problem	ematic	nyaroic	gy musi
	cky Mineral (ST)		Depieted Dark Sufface (F7)		20 0.000	and a needed a		omato		
			Redux Depressions (Fo)		1					
Restrictive Lay	ver (if present):						V L	-		
Type:					Hydric soil	present?	Yes		No	X
Depth (Inches):									
HYDROLOGY	,									
Wetland Hyd	ology Indicators:									
Primary Indic	ators (minimum of one rea	quired: ch	eck all that apply):			Secondary	Indicators (2 or	more required	1):	
Surface w	vater (A1)		Sparsely Vegetated Concave	Surface (B8)		Wate	er-Stained Leave	es (B9) (MLR	A 1, 2,	4A & 4B)
High Wat	er Table (A2)		Water-Stained Leaves (exce	pt MLRA 1, 2, 4	1A & 4B) (B9)	🗌 Drai	nage Patterns (E	310)		
Saturation	n (A3)		Salt Crust (B11)			Dry-	Season Water T	able (C2)		
Water Ma	ırks (B1)		Aquatic Invertebrates (B13)			Satu	ration Visible on	Aerial Image	ry (C9)	
Sediment	Deposits (B2)		Hydrogen Sulfide Odor (C1)			🗌 Geo	morphic Positior	n (D2)		
Drift Depo	osits (B3)		Oxidized Rhizospheres along	Living Roots (C3)	Shal	llow Aquitard (D3	3)		
☐ Algal Mat	or Crust (B4)		Presence of Reduced Iron (C	:4)			-Neutral Test (D	5)		
	osits (B5)		Recent Iron Reduction in Tille	ed Soils (C6)			ed Ant Mounds	(D6) (LRR A)		
 Surface S Inundatio (B7) 	oil Cracks (B6) n Visible on Aerial Imager	y 🗆	Other (explain in remarks)	01) (LRR A)		L Fros	t-Heave Hummo	OCKS		
Field Observa	ations									
Surface Water	Present? Yes	No	Depth (in):							
Water Table P	resent? Yes	No	Depth (in):	,	Wetland Hvdro	oloav Prese	nt? Yes		No	\square
Saturation Pre (includes capil	esent? Yes 🗆 lary fringe)	No	Depth (in):				100		110	
Describe Reco	orded Data (stream gauge	, monitorii	ng well, aerial photos, previou	s inspections), i	f available:					
Remarks:										



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DP- 10

Project Site:	Segment E, parcel nu	mber 34250	059010				Sampling Date:	6/3/2015			
Applicant/Owner:	Puget Sound Energy	Sampling Point:	DP- 10								
Investigator:	Katy Crandall, Mike Fo	oster					City/County:	Bellevue			
Sect., Township, Range:	S 34 T 25N	R 05E					State:	WA			
Landform (hillslope, terrace,	etc): Hillslope			Slope (%): 1	0	Local relief (concave	, convex, none)): None		
Subregion (LRR): A				Lat:			Long:		Datum:		
Soil Map Unit Name: AgC	- Alderwood gravelly s	andy loam	, 8-15%	slope			NWI classification: NA				
Are climatic/hydrologic cond	itions on the site typical for th	nis time of yea	ar?	🛛 Yes		No	(If no, explain in rema	arks.)			
Are "Normal Circumstances"	' present on the site?			🛛 Yes		No					
Are Vegetation □, Soil □, or	r Hydrology 🗆 significantly di	sturbed?									
Are Vegetation□, Soil □, or	Hydrology naturally probl	ematic					(If needed, explain any answers in Remarks.)				
SUMMARY OF FINDING	SS – Attach site map sh	owing sam	pling p	oint loca	ations	s, trans	sects, important fea	atures, etc.			
Hydrophytic Vegetation Pres	sent? Yes		, 🗆								
Hydric Soils Present?	Yes			la tha	Someli	ina Doi	nt within a Watland?	Voc [_	No	
Wetland Hydrology Present	Vec			is the	Sampi	ing Pol	int within a wetland?	res		INO	\square
Welland Hydrology Fresent	165										
Remarks: FB02 out	-nit										
	, pit										

VEGETATION – Use scientific names of pla	nts.			
Tree Stratum (Plot size: 5m diam.)	Absolute % Cover	Dominant Species?	Indicator Status	Dominance Test Worksheet
1.				Number of Dominant Species
2.				that are OBL, FACW, or FAC:
3.				Total Number of Dominant Species Across All Strata: 3 (B)
		= Total Cover		Percent of Dominant Species
		_		that are OBL, FACW, or FAC: 67
Sapling/Shrub Stratum (Plot size: 3m diam.)				(//B
1.				Prevalence Index Worksheet
2.				Total % Cover of Multiply by
3.				OBL species x 1 =
4.				FACW species x 2 =
5.				FAC species x 3 =
		= Total Cover		FACU species x 4 =
				UPL species x 5 =
Herb Stratum (Plot size: 1m diam.)				Column totals (A) (B)
1. Phalaris arundinacea	80	Y	FACW	
2. Agrostis stolonifera	35	Y	FAC	Prevalence Index = B / A =
3. Holcus lanatus	15	N	FAC	
4. Vicia sp.	15	N	FAC*	Hydrophytic Vegetation Indicators
5. Galium sp.	5	N	FAC*	\square Dominance test is > 50%
6. Cirsium arvense	5	Ν	FAC	□ Prevalence test is $\leq 3.0^{*}$
7. Carex sp.	Trace	N		Morphological Adaptations * (provide supporting
8.				 data in remarks or on a separate sheet)
9.				Wetland Non-Vascular Plants *
10.				Problematic Hydrophytic Vegetation * (explain)
11.				
	155	= Total Cover		* Indicators of hydric soil and wetland hydrology must be
		-		present, unless disturbed or problematic
Woody Vine Stratum (Plot size:)				
1. Rubus armeniacus	35	Y	FACU	
2.				Hydrophytic Vegetation
	35	= Total Cover		Present?
% Bare Ground in Herb Stratum: 0				
Remarks: *Brocumed EAC				•
Fresumed FAC				

Sampling Point – DP-10

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)														
Depth	Matrix			Redox Fea	tures									
(inches)	Color (moist)	%	Color (moist)	%	T	ype ¹	Loc ²	Texture		Remarks				
0-5	10YR 4/2	100						Sandy loam						
5-14	10YR 4/3	97	7.5YR 5/8	3	С		М	Gravelly	sandy loam	Relict redox features*				
¹ Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered or Coated Sand Grains ² Loc: PL=Pore Lining, M=Matrix														
Hydric Soil In	Hydric Soil Indicators: (Applicable to all LRRs, unless otherwise noted.)							Indicators for Problematic Hydric Soils ³ 2cm Muck (A10)						
Histic Epip	edon (A2)		Stripped Matrix (S6)	tripped Matrix (S6)										
Black Histi	c (A3)		Loamy Mucky Mineral (F1) (e	Other	Other (explain in remarks)									
Hydrogen	Sulfide (A4)		Loamy Gleyed Matrix (F2)											
Depleted E	Below Dark Surface (A11)	Depleted Matrix (F3)											
Thick Dark	Surface (A12)		Redox Dark Surface (F6)			³ Indicators of hydrophytic vegetation and wetland hydrology must								
Sandy Mu	cky Mineral (S1)		Depleted Dark Surface (F7)		be present, unless disturbed or problematic									
Sandy Gle	yed Matrix (S4)		Redox Depressions (F8)											
Restrictive Lay	er (if present):													
Туре:					н	Hydric soil present? Yes No X								
Depth (inches)	Depth (inches):													
Remarks:	Remarks: *Redox features are hard nodules with sharp edges													

HYDROLOGY

Wetland Hydrology Indicators: Primary Indicators (minimum of one reg	uired: cl	heck all that apply);		Seco	ndary Indicators (2 or more required):					
□ Surface water (A1)		Sparsely Vegetated Concave Surface (B8)			Water-Stained Leaves (B9) (MLRA 1, 2, 4A & 4B)					
☐ High Water Table (A2)		Water-Stained Leaves (except MLRA 1, 2, 4A & 4B) (B9)			Drainage Patterns (B10)					
□ Saturation (A3)		Salt Crust (B11)	Drv-Season Water Table (C2)							
Water Marks (B1)		Aquatic Invertebrates (B13)			Saturation Visible on Aerial Imagery (C9)					
Sediment Deposits (B2)		Hydrogen Sulfide Odor (C1)			Geomorphic Position (D2)					
Drift Deposits (B3)		Oxidized Rhizospheres along Living Roots	(C3)		Shallow Aguitard (D3)					
Algal Mat or Crust (B4)		Presence of Reduced Iron (C4)			EAC-Neutral Test (D5)					
□ Iron Deposits (B5)		Recent Iron Reduction in Tilled Soils (C6)			Raised Ant Mounds (D6) (LRR A)					
Surface Soil Cracks (B6)		Stunted or Stressed Plants (D1) (LRR A)			Frost-Heave Hummocks					
Inundation Visible on Aerial Imagery		Other (explain in remarks)								
(B7)										
Field Observations										
Surface Water Present? Yes	No	Depth (in):								
Water Table Present? Yes	No	Depth (in):	Wetland Hvdro	oloav	Present? Yes No 🕅					
Saturation Present? Yes	No	Depth (in):								
(includes capillary fringe)										
Describe Recorded Data (stream gauge,	monitor	I ing well, aerial photos, previous inspections)	, if available:							
Remarks: Dry	Remarks: Drv									



VEGETATION – Use scientific names of plants.

WETLAND DETERMINATION DATA FORM

Western Mountains, Valleys, and Coast Supplement to the 1987 COE Wetlands Delineation Manual

DP- 11

2

3

67

x 1 = x 2 = x 3 = x 4 = x 5 = (B) (A)

(B)

(A/B)

Multiply by

Project Site: Segment E, parcel number 3425059010								Sampling Date:	6/3/2015	5		
Applicant/Owner:	Puget Sound Energy						Sampling Point:	DP- 11				
Investigator:	Katy Crandall, Mike F	Katy Crandall, Mike Foster						City/County:	Bellevu	e		
Sect., Township, Range: S 34 T 25N R 05E								State:	WA			
Landform (hillslope, terrace,	Slope (9	%): 5		Local relief (concave, convex, none): Concave								
Subregion (LRR): A					Lat:			Long:	Long: Datum:			
Soil Map Unit Name: AgC	 Alderwood gravelly s 	andy l	oam, 8-	15%	slopes			NWI classification: NA				
Are climatic/hydrologic conditions on the site typical for this time of year? 🛛 Yes 🗌 No								(If no, explain in remarks.)				
Are "Normal Circumstances"	present on the site?				🛛 Yes		No					
Are Vegetation□, Soil □, or	Hydrology significantly di	sturbed	?									
Are Vegetation \Box , Soil \Box , or	Hydrology □ naturally prob	ematic						(If needed, explain any answers in Remarks.)				
SUMMARY OF FINDINGS – Attach site map showing sampling point locations, transects, important features, etc.												
Hydrophytic Vegetation Pres	ent? Yes	\boxtimes	No									
Hydric Soils Present? Yes 🛛 No						Is the Sampling Point within a Wetland? Yes 🛛 No						
Wetland Hydrology Present? Yes 🛛 No 🗌									100		110	
Remarks: Wetland	EB02 in-pit											

Tree Stratum (Plot size: 5m diam.)	Absolute % Cover	Dominant Species?	Indicator Status	Dominance Te	est Worksheet
1.				Number of Domir	nant Species
2.				that are OBL, FA	CW, or FAC:
3.				Total Number of	Dominant
4.				Species Across A	All Strata:
		= Total Cover		Percent of Domin	ant Species
		-		that are OBL, FA	CW, or FAC:
Sapling/Shrub Stratum (Plot size: 3m diam.)					
1.				Prevalence In	dex Worksheet
2.				Total 9	<u>6 Cover of</u>
3.				OBL species	
4.				FACW species	
5.				FAC species	
		= Total Cover		FACU species	
		-		UPL species	
Herb Stratum (Plot size: 1m diam.)				Column totals	(A)
1. Juncus ensifolius	60	Y	FACW		
2. Juncus tenuis	40	Y	FAC	Prevalence	Index = B / A =
3. Holcus lanatus	20	Ν	FAC		
4. Carex stipata	5	Ν	OBL	Hydrophytic V	egetation India
5. Ranunculus repens	5	Ν	FAC	Dominance	e test is > 50%
6. Equisetum telmateia	5	Ν	FACW		e test is ≤ 3.0 *

-					
4.	Carex stipata	5	N	OBL	Hydrophytic Vegetation Indicators
5.	Ranunculus repens	5	N	FAC	☑ Dominance test is > 50%
6.	Equisetum telmateia	5	Ν	FACW	□ Prevalence test is $\leq 3.0^{*}$
7.	Plantago major	5	Ν	FAC	Morphological Adaptations * (provide supporting
8.	Trifolium repens	5	N	FAC	 data in remarks or on a separate sheet)
9.					Wetland Non-Vascular Plants *
10.					Problematic Hydrophytic Vegetation * (explain)
11.					
		145	= Total Cover		 * Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic
Wood	dy Vine Stratum (Plot size:)				
1.	Rubus armeniacus	5	Y	FACU]
2.					Hydrophytic Vegetation
		5	= Total Cover		Present? Tes No
% Ba	re Ground in Herb Stratum:				
Rema	arks:				

SOIL							Sampling Point – D	P-11			
Profile Descri	ption: (Describe to the	depth need	ed to document the indicat	or or confi	rm the absence o	f indicators	s.)				
Depth	Matrix			Redox Feat	ures						
(inches)	Color (moist)	%	Color (moist)	%	Type ¹	Loc ²	Texture	Remarks			
0-5	10YR 4/2	100					Sandy loam				
5-12	2.5Y 6/2	75	7.5YR 4/6	25	С	M, PL	Sandy loam				
¹ Type: C=Con	¹ Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered or Coated Sand Grains ² Loc: PL=Pore Lining, M=Matrix										
Hydric Soil Indicators: (Applicable to all LRRs, unless otherwise noted.) Indicators for Problematic Hydric Soils ³											
□ Histosol (A1) □ Sandy Redox (S5) □ 2cm Muck (A10)											
	edon (AZ)		Stripped Matrix (S6)			Parent Mat	eriai (TFZ)				
Black Histi	ic (A3)		oamy Mucky Mineral (F1) (e	xcept MLR	(A1) ∐ Oth	er (explain ir	n remarks)				
Hydrogen	Sulfide (A4)		oamy Gleyed Matrix (F2)								
	Below Dark Surface (A11) 🛛 🗆	Depleted Matrix (F3)		2						
☐ Thick Dark	c Surface (A12)	F	Redox Dark Surface (F6)		^o Indicato	ors of hydrop	ohytic vegetation and wetlar	nd hydrology must			
Sandy Mu	cky Mineral (S1)		Depleted Dark Surface (F7)		be prese	nt, unless a	isturbed or problematic				
Sandy Gle	yed Matrix (S4)	□ F	Redox Depressions (F8)								
Restrictive Lay	ver (if present):										
Type:					Hydric soil	present?	Yes 🔀	No			
Depth (inches)											
Remarks:											
HYDROLOGY											
Wetland Hydr	ology Indicators:										
Primary Indic	ators (minimum of one r	equired: chec	ck all that apply):			Secondary	Indicators (2 or more requir	red):			
Surface w	vater (A1)		sparsely Vegetated Concave	Surface (B	8)	Wat	er-Stained Leaves (B9) (ML	.RA 1, 2, 4A & 4B)			
High Wate	er Table (A2)		Vater-Stained Leaves (excep	ot MLRA 1,	2, 4A & 4B) (B9)	🗌 Drai	nage Patterns (B10)				
Saturation	n (A3)		Salt Crust (B11)			Dry-	Season Water Table (C2)				
Water Ma	rks (B1)	□ A	quatic Invertebrates (B13)			🗌 Satu	uration Visible on Aerial Ima	gery (C9)			
Sediment	Deposits (B2)	□ H	lydrogen Sulfide Odor (C1)			🛛 Geo	morphic Position (D2)				
Drift Depo	osits (B3)	X	xidized Rhizospheres along	Living Roo	ts (C3)	🗌 Sha	llow Aquitard (D3)				
Algal Mat	or Crust (B4)	🗆 P	Presence of Reduced Iron (C4	4)		🛛 FAC	C-Neutral Test (D5)				
Iron Depo	sits (B5)		Recent Iron Reduction in Tille	d Soils (C6)	🗌 Rais	sed Ant Mounds (D6) (LRR	A)			
Surface S	oil Cracks (B6)	🗆 S	Stunted or Stressed Plants (D	1) (LRR A)		Fros	st-Heave Hummocks				
Inundation	n Visible on Aerial Image	ery □ C	Other (explain in remarks)	,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,							
(B7)	-										
Field Observa	ations										
Surface Water	Present? Yes	No 🛛	Depth (in):								
Water Table P	resent? Yes	No 🛛	Depth (in):		Wetland Hydro	loav Prese	nt? Yes	No 🗌			
Saturation Pre	sent? Yes	No D	Depth (in):		Wedana Hyare	logy i lese					
(includes capil	lary fringe)										
Describe Reco	orded Data (stream daud	e, monitorina	well, aerial photos, previous	inspection	s), if available:						
			, , ,,,								
Remarks:											
l											


Western Mountains, Valleys, and Coast Supplement to the 1987 COE Wetlands Delineation Manual

Project Site: Applicant/Owner: Investigator: Sect., Township, Range:	Sampling Date: Sampling Point: City/County: State:	6/3/2015 DP- 12 Bellevue WA	5 e									
Landform (hillslope, terrace, etc): Hillslope Slope (%): 5-10								Local relief (concave	, convex, no	one): Concav	/e	
Subregion (LRR): A Lat:								Long:		Datum:		
Soil Map Unit Name: AgC -	 Alderwood gravelly sa 	andy l	oam, 8	8-15%	slopes			NWI classification:	A			
Are climatic/hydrologic conditi	ions on the site typical for th	is time	of year?	? [🛛 Yes		No	(If no, explain in rema	arks.)			
Are "Normal Circumstances"	present on the site?				🛛 Yes		No					
Are Vegetation \Box , Soil \Box , or H Are Vegetation \Box , Soil \Box , or H	Hydrology □ significantly dis Hydrology □ naturally proble	sturbed ematic	?					(If needed, explain a	ny answers	in Remarks.)		
SUMMARY OF FINDING	S – Attach site map sho	owing	sampl	ing po	oint loca	ations	s, trans	sects, important fea	atures, etc			
Hydrophytic Vegetation Prese	ent? Yes	\boxtimes	No									
Hydric Soils Present?	Yes	\boxtimes	No		Is the	Samnl	ina Poi	nt within a Wetland?	Yes	\square	No	
Wetland Hydrology Present?	Yes	\boxtimes	No			oumpi	ing i oi		100			
Remarks: Wetland E	B03; west of SE 1st str	eet.										
VEGETATION – Use scie	entific names of plants.							1				

Tree Stratum (Plot size: 5m diam.)	Absolute % Cover	Dominant Species?	Indicator Status	Dominance Test Worksheet	
1.				Number of Dominant Species	
2.					(A)
3. 4.				Species Across All Strata: 2	(B)
Denline (Obroth Otentum (Distained Orenting)		= Total Cover		Percent of Dominant Species that are OBL, FACW, or FAC: 100	(A/B)
Sapling/Shrub Stratum (Plot size: 3m diam.)					
1.				Prevalence Index Worksheet	
2.				<u>I otal % Cover of</u> <u>Multiply by</u>	<u>v</u>
3.				OBL species X 1 =	
4. E				FAC v species x 2 =	
5.		- Total Cover		FAC species X 3 =	
		_		IPL species x 4 =	
Herb Stratum (Plot size: 1m diam.)				Column totals (A) (B)	
1. Phalaris arundinacea	100	Y	FACW		
2. Solanum dulcamara	50	Y	FAC	Prevalence Index = B / A =	
3.				-	
4.				Hydrophytic Vegetation Indicators	
5.				☑ Dominance test is > 50%	
6.				□ Prevalence test is $\leq 3.0^{*}$	
7.				Morphological Adaptations * (provide supporting	
8.				data in remarks or on a separate sheet)	
9.				─ Wetland Non-Vascular Plants *	
10.				 Problematic Hydrophytic Vegetation * (explain) 	
11.					
	150	= Total Cover		* Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic	
Woody Vine Stratum (Plot size:)				·	
1.					
2.				Hydrophytic Vegetation	
		= Total Cover		Present? Yes No	
% Bare Ground in Herb Stratum: 0					
Remarks: Rubus armeniacus growing in pl	ot from unsle	ne			
		γ μ ς			

Profile Descrip							Sampling Forth –	DP-12
	ption: (Describe to the d	epth nee	ded to document the ind	dicator or confir	m the absence o	f indicators	.)	
Depth	Matrix	•		Redox Featu	res		,	
(inches)	Color (moist)	%	Color (moist)	%	Type ¹	Loc ²	Texture	Remarks
0-10	10YR 3/2	100			71 -		Sandy loam	
10.10	50X 4/4	400					Conductor	Climbal
10-12	5GY 4/1	100					Sandy loam	higher sand content
¹ Type: C=Conc	entration, D=Depletion, R	M=Reduc	ed Matrix, CS=Covered o	or Coated Sand G	Grains ² Loc: PL	_=Pore Linin	g, M=Matrix	
Undria Sail Inc	diastora, (Applicable to		unloss otherwise noted		Indiaata	ra far Brah	omotio Uudria Saila ³	
Histosol (A		ali LKKS,	Sandy Redox (S5)	.,		Muck (A10		
	edon (A2)		Stripped Matrix (S6)			Parent Mat	, erial (TF2)	
Black Histic	c (A3)		Loamy Mucky Mineral (F	1) (except MLRA	(1) □ Oth	er (explain ir	remarks)	
Hvdrogen §	Sulfide (A4)		Loamy Gleved Matrix (E2	2)		or (onpicair i	(in the second s	
Depleted B	elow Dark Surface (A11)		Depleted Matrix (E3)	_)				
Thick Dark	Surface (A12)		Redox Dark Surface (F6))	³ Indicate	ors of hydror	phytic vegetation and wetla	and hydrology must
Sandy Muc	kv Mineral (S1)		Depleted Dark Surface (I	, F7)	be prese	ent, unless d	sturbed or problematic	
Sandy Glev	ved Matrix (S4)		Redox Depressions (F8)	,				
	,							
Restrictive Laye	er (if present):							_
туре:					Hydric soil	present?	Yes 🔀	No
Depth (inches):								
YDROLOGY								
Wetland Hydro	ology Indicators:							
Primary Indica	ators (minimum of one rec							
		quired: ch	eck all that apply):			Secondary	Indicators (2 or more requ	ired):
Surface wa	ater (A1)	quired: che	eck all that apply): Sparsely Vegetated Cond	cave Surface (B8)	Secondary	Indicators (2 or more requ er-Stained Leaves (B9) (M	ired): LRA 1, 2, 4A & 4B)
Surface watHigh Wate	ater (A1) er Table (A2)	quired: cho	eck all that apply): Sparsely Vegetated Cond Water-Stained Leaves (e	cave Surface (B8 except MLRA 1, 2) 2 , 4A & 4B) (B9)	Secondary	<i>Indicators (2 or more requ</i> er-Stained Leaves (B9) (M nage Patterns (B10)	ired): LRA 1, 2, 4A & 4B)
Surface waHigh WateSaturation	ater (A1) r Table (A2) (A3)	quired: che	eck all that apply): Sparsely Vegetated Cond Water-Stained Leaves (e Salt Crust (B11)	cave Surface (B8 x cept MLRA 1, 2) 2, 4A & 4B) (B9)	Secondary Wat Drai Dry-	Indicators (2 or more requ er-Stained Leaves (B9) (M nage Patterns (B10) Season Water Table (C2)	ired): LRA 1, 2, 4A & 4B)
 Surface watch High Wate Saturation Water Mar 	ater (A1) n Table (A2) (A3) rks (B1)	quired: che	eck all that apply): Sparsely Vegetated Cond Water-Stained Leaves (e Salt Crust (B11) Aquatic Invertebrates (B1	cave Surface (B8 x cept MLRA 1, 2 13)) 2 , 4A & 4B) (B9)	Secondary Wat Drai Dry-	Indicators (2 or more requer-Stained Leaves (B9) (M nage Patterns (B10) Season Water Table (C2) Iration Visible on Aerial Im-	<i>ired):</i> LRA 1, 2, 4A & 4B) agery (C9)
 Surface watch High Wate Saturation Water Martic Sediment I 	ater (A1) r Table (A2) (A3) ks (B1) Deposits (B2)	guired: cho	eck all that apply): Sparsely Vegetated Cond Water-Stained Leaves (e Salt Crust (B11) Aquatic Invertebrates (B1 Hydrogen Sulfide Odor ((cave Surface (B8 x cept MLRA 1, 2 13) C1)) 2 , 4A & 4B) (B9)	Secondary Wat Drai Dry- Satu Geo	Indicators (2 or more requer-Stained Leaves (B9) (M nage Patterns (B10) Season Water Table (C2) Iration Visible on Aerial Im- morphic Position (D2)	<i>ired):</i> LRA 1, 2, 4A & 4B) agery (C9)
 Surface way High Wate Saturation Water Mar Sediment I Drift Deposition 	ater (A1) r Table (A2) (A3) ks (B1) Deposits (B2) sits (B3)	guired: che	eck all that apply): Sparsely Vegetated Cond Water-Stained Leaves (e Salt Crust (B11) Aquatic Invertebrates (B1 Hydrogen Sulfide Odor ((Oxidized Rhizospheres a	cave Surface (B8 x cept MLRA 1, 2 13) C1) llong Living Roots) 2 , 4A & 4B) (B9) s (C3)	Secondary Wat Drai Dry- Satu Geo Sha	Indicators (2 or more requer-Stained Leaves (B9) (M nage Patterns (B10) Season Water Table (C2) Iration Visible on Aerial Im- morphic Position (D2) Iow Aquitard (D3)	ired): LRA 1, 2, 4A & 4B) agery (C9)
Surface waithing Surface waithing Surface waithing Water Mare Mare Mare Sediment I Drift Depos	ater (A1) er Table (A2) (A3) ks (B1) Deposits (B2) sits (B3) or Crust (B4)	guired: che	eck all that apply): Sparsely Vegetated Cond Water-Stained Leaves (e Salt Crust (B11) Aquatic Invertebrates (B1 Hydrogen Sulfide Odor (0 Oxidized Rhizospheres a Presence of Reduced Iro	cave Surface (B8 x cept MLRA 1, 2 13) C1) Ilong Living Roots n (C4)) 2 , 4A & 4B) (B9) s (C3)	Secondary Wat Drai Dry- Satu Geo Shai FAC	Indicators (2 or more requer-Stained Leaves (B9) (M nage Patterns (B10) Season Water Table (C2) Iration Visible on Aerial Im- morphic Position (D2) Iow Aquitard (D3) -Neutral Test (D5)	ired): LRA 1, 2, 4A & 4B) agery (C9)
 Surface wait High Wate Saturation Water Mar Sediment I Drift Depose Algal Mat of Iron Depose 	ater (A1) er Table (A2) (A3) ks (B1) Deposits (B2) sits (B3) or Crust (B4) sits (B5)	guired: che	eck all that apply): Sparsely Vegetated Cond Water-Stained Leaves (e Salt Crust (B11) Aquatic Invertebrates (B1 Hydrogen Sulfide Odor (C Oxidized Rhizospheres a Presence of Reduced Iro Recent Iron Reduction in	cave Surface (B8 except MLRA 1, 2 13) C1) Ilong Living Roots In (C4) Tilled Soils (C6)) 2 , 4A & 4B) (B9) s (C3)	Secondary Wat Drai Dry- Satu Geo Sha FAC	Indicators (2 or more requer-Stained Leaves (B9) (M nage Patterns (B10) Season Water Table (C2) Iration Visible on Aerial Im- morphic Position (D2) Iow Aquitard (D3) -Neutral Test (D5) ed Ant Mounds (D6) (LRR	ired): LRA 1, 2, 4A & 4B) agery (C9) : A)
Surface w High Wate Saturation Water Mar Sediment I Drift Depos Algal Mat c Iron Depos Surface So	ater (A1) er Table (A2) (A3) ks (B1) Deposits (B2) sits (B3) or Crust (B4) sits (B5) oil Cracks (B6)	guired: che	eck all that apply): Sparsely Vegetated Cond Water-Stained Leaves (e Salt Crust (B11) Aquatic Invertebrates (B1 Hydrogen Sulfide Odor (C Oxidized Rhizospheres a Presence of Reduced Iro Recent Iron Reduction in Stunted or Stressed Plan	cave Surface (B8 xcept MLRA 1, 2 13) C1) long Living Roots n (C4) Tilled Soils (C6) tts (D1) (LRR A)) 2 , 4A & 4B) (B9) s (C3)	Secondary Wat Drai Dry- Satu Geo Shal FAC Rais	Indicators (2 or more requent er-Stained Leaves (B9) (M nage Patterns (B10) Season Water Table (C2) Iration Visible on Aerial Im- morphic Position (D2) Iow Aquitard (D3) -Neutral Test (D5) ed Ant Mounds (D6) (LRR t-Heave Hummocks	ired): LRA 1, 2, 4A & 4B; agery (C9) : A)
 Surface wait High Wate Saturation Water Mar Sediment I Drift Deposion Algal Mat of Iron Deposion Surface Social Inundation (B7) 	ater (A1) er Table (A2) (A3) eks (B1) Deposits (B2) sits (B3) or Crust (B4) sits (B5) bil Cracks (B6) • Visible on Aerial Imagery	yuired: chu	eck all that apply): Sparsely Vegetated Cond Water-Stained Leaves (e Salt Crust (B11) Aquatic Invertebrates (B1 Hydrogen Sulfide Odor (f Oxidized Rhizospheres a Presence of Reduced Iro Recent Iron Reduction in Stunted or Stressed Plan Other (explain in remarks	cave Surface (B8 xcept MLRA 1, 2 13) C1) Ilong Living Roots n (C4) Tilled Soils (C6) ots (D1) (LRR A) s)) 2 , 4A & 4B) (B9) s (C3)	Secondary Wat Drai Dry- Satu Geo Shai FAC Rais	Indicators (2 or more requer-Stained Leaves (B9) (M nage Patterns (B10) Season Water Table (C2) iration Visible on Aerial Im- morphic Position (D2) low Aquitard (D3) -Neutral Test (D5) ed Ant Mounds (D6) (LRR t-Heave Hummocks	ired): LRA 1, 2, 4A & 4B; agery (C9) : A)
 ☑ Surface wait ☑ High Wate ☑ Saturation ☑ Water Mar ☑ Sediment I ☑ Drift Deposition ☑ Algal Mat of ☑ Iron Deposition ☑ Surface So ☑ Inundation (B7) 	ater (A1) er Table (A2) (A3) tks (B1) Deposits (B2) sits (B3) or Crust (B4) sits (B5) pil Cracks (B6) Visible on Aerial Imagery tions	μυίτεα!: chu	eck all that apply): Sparsely Vegetated Cond Water-Stained Leaves (e Salt Crust (B11) Aquatic Invertebrates (B1 Hydrogen Sulfide Odor ((Oxidized Rhizospheres a Presence of Reduced Iro Recent Iron Reduction in Stunted or Stressed Plan Other (explain in remarks	cave Surface (B8 except MLRA 1, 2 13) C1) along Living Roots in (C4) Tilled Soils (C6) its (D1) (LRR A) s)) 2 , 4A & 4B) (B9) 6 (C3)	Secondary Wat Drai Drai Satu Geo Shal FAC Rais	Indicators (2 or more requer-Stained Leaves (B9) (M nage Patterns (B10) Season Water Table (C2) iration Visible on Aerial Im- morphic Position (D2) low Aquitard (D3) -Neutral Test (D5) ed Ant Mounds (D6) (LRR t-Heave Hummocks	ired): LRA 1, 2, 4A & 4B) agery (C9) : A)
Surface was High Wate Saturation Water Mar Sediment I Drift Depos Algal Mat of Iron Depos Surface So Inundation (B7) Field Observat Surface Water	ater (A1) er Table (A2) (A3) tks (B1) Deposits (B2) sits (B3) or Crust (B4) sits (B5) pil Cracks (B6) visible on Aerial Imagery tions Present? Yes 🖂	yuired: chu	ack all that apply): Sparsely Vegetated Cond Water-Stained Leaves (e Salt Crust (B11) Aquatic Invertebrates (B1 Hydrogen Sulfide Odor (f Oxidized Rhizospheres a Presence of Reduced Iro Recent Iron Reduction in Stunted or Stressed Plan Other (explain in remarks Depth (in):	cave Surface (B8 except MLRA 1, 2 13) C1) along Living Roots in (C4) Tilled Soils (C6) its (D1) (LRR A) s) +1/2") 2, 4A & 4B) (B9) 6 (C3)	Secondary Wat Drai Satu Satu Geo FAC Rais Fros	Indicators (2 or more requer-Stained Leaves (B9) (M nage Patterns (B10) Season Water Table (C2) iration Visible on Aerial Im- morphic Position (D2) low Aquitard (D3) -Neutral Test (D5) ed Ant Mounds (D6) (LRR t-Heave Hummocks	ired): LRA 1, 2, 4A & 4B) agery (C9) : A)
Surface was High Wate Saturation Water Mar Sediment I Drift Depos Algal Mat of Iron Depos Surface So Inundation (B7) Field Observat Surface Water Water Table Pr	ater (A1) er Table (A2) (A3) tks (B1) Deposits (B2) sits (B3) or Crust (B4) sits (B5) bil Cracks (B6) Visible on Aerial Imagery tions Present? Yes ⊠ resent? Yes ⊠	yuired: chu	ack all that apply): Sparsely Vegetated Cond Water-Stained Leaves (e Salt Crust (B11) Aquatic Invertebrates (B1 Hydrogen Sulfide Odor (t Oxidized Rhizospheres a Presence of Reduced Iro Recent Iron Reduction in Stunted or Stressed Plan Other (explain in remarks) Depth (in): Depth (in):	cave Surface (B8 except MLRA 1, 2 13) C1) along Living Roots on (C4) Tilled Soils (C6) its (D1) (LRR A) s) +1/2" At surface) 2, 4A & 4B) (B9) 5 (C3) Wetland Hydro	Secondary Wat Drai Satu Satu FAC Rais Fros	Indicators (2 or more requer-Stained Leaves (B9) (M nage Patterns (B10) Season Water Table (C2) iration Visible on Aerial Im- morphic Position (D2) low Aquitard (D3) -Neutral Test (D5) ed Ant Mounds (D6) (LRR t-Heave Hummocks	ired): LRA 1, 2, 4A & 4B) agery (C9) : A)
 Surface wait High Wate Saturation Water Mar Sediment I Drift Deposion Algal Mat of Iron Deposion Surface Social fundation (B7) Field Observat Surface Water I Water Table Pr Saturation Press (includes capillation (includes capillation)	ater (A1) r Table (A2) (A3) (A3) The posits (B2) sits (B3) por Crust (B4) sits (B5) poil Cracks (B6) Visible on Aerial Imagery tions Present? Yes ⊠ resent? Yes ⊠ sent? Yes ⊠ sent? Yes ⊠ ary fringe)	/ IIIIIIIIIIIIIIIIIIIIIIIIIIIIIIIIIIII	eck all that apply): Sparsely Vegetated Cond Water-Stained Leaves (e Salt Crust (B11) Aquatic Invertebrates (B1 Hydrogen Sulfide Odor (f Oxidized Rhizospheres a Presence of Reduced Iro Recent Iron Reduction in Stunted or Stressed Plan Other (explain in remarks) Depth (in): Depth (in): Depth (in):	cave Surface (B8 except MLRA 1, 2 13) C1) along Living Roots on (C4) Tilled Soils (C6) ots (D1) (LRR A) s) +1/2" At surface Throughout) 2, 4A & 4B) (B9) 5 (C3) Wetland Hydro	Secondary U Wat Drai Dry- Satu Geo Shai FAC Rais Fros	Indicators (2 or more requer-Stained Leaves (B9) (M nage Patterns (B10) Season Water Table (C2) Iration Visible on Aerial Im. morphic Position (D2) Iow Aquitard (D3) -Neutral Test (D5) ed Ant Mounds (D6) (LRR t-Heave Hummocks	ired): LRA 1, 2, 4A & 4B) agery (C9) : A)
 Surface way High Wate Saturation Water Mar Sediment I Drift Depose Algal Mat of Iron Depose Surface So Inundation (B7) Field Observat Surface Water I Water Table Press Surface Capital Describe Record	ater (A1) r Table (A2) (A3) (ks (B1) Deposits (B2) sits (B3) or Crust (B4) sits (B5) oil Cracks (B6) v Visible on Aerial Imagery tions Present? Yes ⊠ sent? Yes ⊠ sent? Yes ⊠ ary fringe) rded Data (stream gauge,	virred: chu	eck all that apply): Sparsely Vegetated Cond Water-Stained Leaves (e Salt Crust (B11) Aquatic Invertebrates (B1 Hydrogen Sulfide Odor ((Oxidized Rhizospheres a Presence of Reduced Iro Recent Iron Reduction in Stunted or Stressed Plan Other (explain in remarks Depth (in): Depth (in): g well, aerial photos, present	cave Surface (B8 except MLRA 1, 2 13) C1) along Living Roots on (C4) Tilled Soils (C6) ots (D1) (LRR A) s) +1/2" At surface Throughout vious inspections) 2, 4A & 4B) (B9) 5 (C3) Wetland Hydro), if available:	Secondary U Wat Drai Dry- Satu Geo Shai FAC Rais Fros	Indicators (2 or more requer-Stained Leaves (B9) (M nage Patterns (B10) Season Water Table (C2) iration Visible on Aerial Im. morphic Position (D2) low Aquitard (D3) -Neutral Test (D5) ed Ant Mounds (D6) (LRR t-Heave Hummocks nt? Yes	ired): LRA 1, 2, 4A & 4B) agery (C9) : A)
 ☑ Surface waits ☑ High Wate ☑ Saturation ☑ Water Mar ☑ Sediment I ☑ Drift Deposition ☑ Algal Mat of ☑ Iron Deposition ☑ Surface So ☑ Inundation (B7) Field Observat Surface Water I Water Table Pr Saturation Press (includes capilla Describe Record Remarks:	ater (A1) r Table (A2) (A3) (ks (B1) Deposits (B2) sits (B3) or Crust (B4) sits (B5) oil Cracks (B6) ↓ Visible on Aerial Imagery tions Present? Yes ⊠ sent? Yes ⊠ sent? Yes ⊠ ary fringe) rded Data (stream gauge, About a half an inch	No No No No	eck all that apply): Sparsely Vegetated Cond Water-Stained Leaves (e Salt Crust (B11) Aquatic Invertebrates (B1 Hydrogen Sulfide Odor ((Oxidized Rhizospheres a Presence of Reduced Iro Recent Iron Reduction in Stunted or Stressed Plan Other (explain in remarks Depth (in): Depth (in): Depth (in): Reg well, aerial photos, pre-	cave Surface (B8 except MLRA 1, 2 13) C1) along Living Roots on (C4) Tilled Soils (C6) ots (D1) (LRR A) s) +1/2" At surface Throughout vious inspections) 2, 4A & 4B) (B9) 5 (C3) Wetland Hydro), if available:	Secondary U Wat Drai Dry- Satu Geo Shai FAC Rais Fros	Indicators (2 or more requer-Stained Leaves (B9) (M nage Patterns (B10) Season Water Table (C2) iration Visible on Aerial Im. morphic Position (D2) low Aquitard (D3) -Neutral Test (D5) ed Ant Mounds (D6) (LRR t-Heave Hummocks nt? Yes	ired): LRA 1, 2, 4A & 4B) agery (C9) : A)
Surface waithin the second se	ater (A1) r Table (A2) (A3) (ks (B1) Deposits (B2) sits (B3) or Crust (B4) sits (B5) oil Cracks (B6) v Visible on Aerial Imagery tions Present? Yes ⊠ sent? Yes ⊠ sent? Yes ⊠ sent? Yes ⊠ ary fringe) rded Data (stream gauge, About a half an inch	No No No Mo No	eck all that apply): Sparsely Vegetated Cond Water-Stained Leaves (e Salt Crust (B11) Aquatic Invertebrates (B1 Hydrogen Sulfide Odor (f Oxidized Rhizospheres a Presence of Reduced Iro Recent Iron Reduction in Stunted or Stressed Plan Other (explain in remarks) Depth (in): Depth (in): Depth (in): reg well, aerial photos, presence ce water flow near th	cave Surface (B8 except MLRA 1, 2 13) C1) along Living Roots on (C4) Tilled Soils (C6) ots (D1) (LRR A) s) +1/2" At surface Throughout vious inspections) 2, 4A & 4B) (B9) 5 (C3) Wetland Hydro), if available:	Secondary U Wat Drai Dry- Satu Geo Shai FAC Rais Fros	Indicators (2 or more requer-Stained Leaves (B9) (M nage Patterns (B10) Season Water Table (C2) iration Visible on Aerial Im. morphic Position (D2) low Aquitard (D3) -Neutral Test (D5) ed Ant Mounds (D6) (LRR t-Heave Hummocks nt? Yes	ired): LRA 1, 2, 4A & 4B) agery (C9) : A)



Western Mountains, Valleys, and Coast Supplement to the 1987 COE Wetlands Delineation Manual

DP- 13

Project Site: Applicant/Owner: Investigator: Sect., Township, Range:	Segment E, parc Puget Sound En Katy Crandall, M S 34 T	342505 05E	9010	Sampling Date: Sampling Point: City/County: State:	6/3/2015 DP- 13 Bellevu WA	5 e							
Landform (hillslope, terrace,	etc): Hillslope					Slope (%): 1	0	Local relief (concave	, convex, no	one): Con	cave	
Subregion (LRR): A						Lat:			Long:		Datu	m:	
Soil Map Unit Name: AgC	 Alderwood grav 	elly sa	andy l	loam, 8	3-15%	slopes			NWI classification:	A			
Are climatic/hydrologic condi	itions on the site typica	al for thi	s time	of year	? [🛛 Yes		No	(If no, explain in rema	arks.)			
Are "Normal Circumstances"	present on the site?					🛛 Yes		No					
Are Vegetation□, Soil □, or Are Vegetation□, Soil □, or	Hydrology □ significa Hydrology □ naturall	antly dis y proble	turbed	1?					(If needed, explain a	ny answers	in Remarks	.)	
SUMMARY OF FINDING	S – Attach site m	ap shc	wing	samp	ling po	oint loca	tions	, trans	sects, important fea	atures, etc).		
Hydrophytic Vegetation Pres	sent?	Yes	\boxtimes	No									
Hydric Soils Present?		Yes	\boxtimes	No		Is the S	Sampli	ng Poi	nt within a Wetland?	Yes	\mathbf{X}	No	
Wetland Hydrology Present?	>	Yes	\boxtimes	No			•	0					

Remarks: Wetland EB04; depression adjacent to trail south of EB03.

VEGETATION – Use scientific names of pla	ints.			
Tree Stratum (Plot size: 5m diam.)	Absolute % Cover	Dominant Species?	Indicator Status	Dominance Test Worksheet
1.		•		Number of Dominant Species
2.				that are OBL, FACW, or FAC: (A)
3.				Total Number of Dominant
4.				Species Across All Strata: (B)
		= Total Cover		Percent of Dominant Species that are OBL, FACW, or FAC: 100
Sapling/Shrub Stratum (Plot size: 3m diam.)				(A/b)
1.				Prevalence Index Worksheet
2.				Total % Cover of Multiply by
3.				OBL species x 1 =
4.				FACW species x 2 =
5.				FAC species x 3 =
		= Total Cover		FACU species x 4 =
		-		UPL species x 5 =
Herb Stratum (Plot size: 1m diam.)				Column totals (A) (B)
1. Holcus lanatus	75	Y	FAC	
2. Equisetum telmateia	25	Ν	FACW	Prevalence Index = B / A =
3. Carex stipata	25	Ν	OBL	1
4. Phalaris arundinacea	20	Ν	FACW	Hydrophytic Vegetation Indicators
5. Juncus effusus	20	Ν	FACW	Dominance test is > 50%
6.				□ Prevalence test is $\leq 3.0^{*}$
7.				Morphological Adaptations * (provide supporting
8.				☐ data in remarks or on a separate sheet)
9				□ Wetland Non-Vascular Plants *
10				Problematic Hydrophytic Vegetation * (explain)
10.				
11.	465	- Total Cover		. * Indiantara of hudria poil and watland hudralagu must ha
	100			present unless disturbed or problematic
Woody Vine Stratum (Plot size:)				
1.				1
2				-
2.		= Total Cover		Present? Yes No
		_		
% Bare Ground in Herb Stratum:				
Pomarke:				
nemans.				

SOIL

Sampling Point – DP-13

Profile Descri	ption: (Describe to the	depth need	ded to document the indica	tor or conf	irm the a	absence o	of indicators	s.)			
Depth	Matrix			Redox Fea	tures						
(inches)	Color (moist)	%	Color (moist)	%	T	ype ¹	Loc ²	1	exture	Re	emarks
0-2	2.5Y 3/2	100						Sandy loam			
2-16	5Y 4/1	85	10YR 4/6	15	15 C		M		sandy clay		
¹ Type: C=Con	centration, D=Depletion,	, RM=Reduc	ed Matrix, CS=Covered or C	oated Sand	Grains	² Loc: Pl	_=Pore Linir	ig, M=Matrix			
Hydric Soil In	dicators: (Applicable t	o all LRRs,	unless otherwise noted.) Sandy Redox (S5)			Indicato	ors for Prob n Muck (A10	lematic Hyd	ric Soils ³		
Histic Epip	oedon (A2)		Stripped Matrix (S6)			🗌 Rec	d Parent Ma	terial (TF2)			
Black Hist	ic (A3)		Loamy Mucky Mineral (F1) (except MLI	RA 1)	Oth	er (explain i	n remarks)			
Hydrogen	Sulfide (A4)		Loamy Gleyed Matrix (F2)								
Depleted I	Below Dark Surface (A1	1) 🛛	Depleted Matrix (F3)								
Thick Dark	< Surface (A12)		Redox Dark Surface (F6)			³ Indicate	ors of hydro	phytic vegeta	ation and wetland	hydrold	ogy must
🔲 Sandy Mu	cky Mineral (S1)		Depleted Dark Surface (F7)			be prese	ent, unless d	listurbed or p	roblematic		
Sandy Gle	eyed Matrix (S4)		Redox Depressions (F8)								
Restrictive Lay	/er (if present):										
Туре:					н	ydric soil	present?	Yes	\boxtimes	No	
Depth (inches)):										
Remarks:					•						

HYDROLOGY		

Wetland Hydrology Indicators:	od: c	hook all that apply)	Secondary Indiactors /2 or more required):			
\square Surface water (A1)	Water-Stained Leaves (B9) (MLRA 1, 2, 4A & 4B)					
\square High Water Table (A2)	Water-Stained Leaves (excent MI RA 1 2 4A & 4B) (B9)	$\square \text{ Drainage Patterns (B10)}$				
\boxtimes Saturation (A3)		Salt Crust (B11)	Dru-Season Water Table (C2)			
Water Marks (B1)	\square Saturation Visible on Aerial Imagery (C9)					
Sediment Deposits (B2)	\square Geomorphic Position (D2)					
	Shallow Aquitard (D2)					
Algel Met er Cruet (P4)	Shallow Aquitald (D5) Shallow Aquitald (D5)					
	FAC-Neutral Test (D5) Paieed Art Meurole (D6) (LDD A)					
Sufface Soil Cracks (B6) Unudation Visible on Aerial Imageny		Stunted or Stressed Plants (D1) (LRR A)	Frost-Heave Hummocks			
(B7)		Other (explain in remarks)				
(=:)						
Field Observations						
Surface Water Present? Yes	No	Depth (in):				
Water Table Present? Yes	No	Depth (in): 15" BGS Wetland Hydro	blogy Present? Yes X No			
Saturation Present? Yes	No	Depth (in): surface				
(includes capillary fringe)						
Describe Recorded Data (stream gauge, mo	onitor	ing well, aerial photos, previous inspections), if available:				
Remarks: Standing water present	in n	earby depression.				



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Decident Citor				40505	-0040			Complian Data	C/2/2045				
Applicant/Owner:	Segment E, parce	Sampling Date:	6/3/2015										
Applicant/Owner.	Kety Crandall Mi	City/County:	Bellovue										
Sect Township Range	S 34 T	State	WA										
Landform (hillslope, terrace, etc): Hillslope Slope (%): 5-10								Local relief (concave	Local relief (concave, convex, none): NA				
Subregion (LRR): A						Lat:	<u> </u>	Long:	Datum:				
Soil Map Unit Name: AgC – Alderwood gravelly sandy loam, 8-15% slopes								NWI classification:	NA				
Are climatic/hydrologic condi	Are climatic/hydrologic conditions on the site typical for this time of year? Xes No								arks.)				
Are "Normal Circumstances"	present on the site?					Yes	🗆 No						
Are Vegetation \Box , Soil \Box , or Are Vegetation \Box , Soil \Box , or	Hydrology significa Hydrology naturally	ntly dis / proble	sturbed?	?				(If needed, explain any answers in Remarks.)					
SUMMARY OF FINDING	S – Attach site ma	ap sho	wing	samp	ling po	int loc	ations, trar	sects, important fea	atures, etc.				
Hydrophytic Vegetation Pres	ent?	Yes		No	\boxtimes								
Hydric Soils Present?		Yes		No	\boxtimes	Is the	Sampling Po	oint within a Wetland?	Yes No 🕅				
Wetland Hydrology Present?		Yes		No	\boxtimes	10 110	oumping -						
Remarks: EB03/EB0)4 out-pit												
VEGETATION – Use sci	entific names of p	lants.											
Tree Stratum (Plot size: 5m	diam.)	A	bsolute over	%	Domina Species	int s?	Indicator Status	Dominance Test	Worksheet				
		U	over		opecie) :	Olalus						

Tree Stratum (Flot size. Shi diam.)	Cover	Species?	Status	Dominance re	st worksheet		
1. 2.				Number of Domin that are OBL, FAC	ant Species CW, or FAC:	2	(A)
3. 4.				Total Number of I Species Across A	Dominant Il Strata:	4	(B)
		= Total Cover		Percent of Domin that are OBL, FA	ant Species CW, or FAC:	50	(A/B)
Sapling/Shrub Stratum (Plot size: 3m diam.)							
1.				Prevalence Inc	dex Worksheet		
2.				Total %	Cover of	Multiply	by
3.				OBL species		x 1 =	
4.				FACW species		x 2 =	
5.				FAC species		x 3 =	
		= Total Cover		FACU species		x 4 =	
		_		UPL species		x 5 =	
Herb Stratum (Plot size: 1m diam.)				Column totals	(A)	(B)	
1. Dactylis glomerata	30	Y	FACU				
2. Holcus lanatus	30	Y	FAC	Prevalence	Index = B / A =		
3. Other grass	30	Y	FAC*				
4. Rumex crispus	10	N	FAC	Hydrophytic V	egetation Indicat	ors	
5.				Dominance	e test is > 50%		
6.				Prevalence	e test is ≤ 3.0 *		
7.				Morphologi	ical Adaptations * (pr	ovide supporting	
8				□ data in rem	arks or on a separate	e sheet)	
0				Wetland No	on-Vascular Plants *	,	
9.					o Hydrophytic Vogota	ation * (ovalain)	
10.							
11.	100	Total Causer					
	100			present, unless di	isturbed or problemat	nydrology must t tic	be
Woody Vine Stratum (Plot size:)				-			
1. Rubus armeniacus	10	Y	FACU				
2.				Hydrophytic V	egetation		\square
	10	= Total Cover		Preser	nt?		
% Bare Ground in Herb Stratum: 0							
Remarks: *Presumed FAC							
i rodunica i Ad							

SOIL

Sampling Point – DP-14

								ground Di	••	
Profile Descri	iption: (Describe to the o	depth nee	eded to document the indi	cator or confirm	the absence o	of indicators	.)			
Depth	Matrix			Redox Features	3					
(inches)	Color (moist)	%	Color (moist)	%	Type ¹	Loc ²	Тех	kture	Re	emarks
0-8	10 YR 3/2	100					Gravelly s	andy loam		
¹ Type: C=Con	centration, D=Depletion, I	RM=Redu	ced Matrix, CS=Covered or	Coated Sand Gra	ins ² Loc: Pl	L=Pore Lining	g, M=Matrix			
	diastana (Annliashia ta					na (an Daah)		0 - 11 - 2		
	Annual of the second seco		Sandy Redox (S5)			Muck (A10)		: 50115"		
	pedon (A2)		Stripped Matrix (S6)			1 Parent Mat	, erial (TE2)			
Black Hist	ic (A3)		Loamy Mucky Mineral (F1)	(except MI RA 1) 🗌 Oth	er (explain ir	remarks)			
	Sulfide (A4)		Loamy Gleved Matrix (F2)		,		riomanto)			
	Below Dark Surface (A11)		Depleted Matrix (F3)							
Thick Dark	k Surface (A12)		Redox Dark Surface (F6)		³ Indicate	ors of hydror	hytic vegetatic	on and wetland	hydrolo	av must
Sandy Mu	cky Mineral (S1)		Depleted Dark Surface (F7	7)	be prese	ent, unless di	sturbed or prol	blematic	nyarolo	gy maor
Sandy Rid	eved Matrix (S4)		Redox Depressions (FR)	/	·		·			
Restrictive Lay	ver (if present):									
Туре:					Hydric soil	present?	Yes		No	\boxtimes
Depth (inches)):									
Remarks:	Soil very compact									
rternanter	Con very compact									
	,									
HIDKOLOGI										
Wetland Hydr	ology Indicators:									
Primary India	ators (minimum of one re	quired: ch	eck all that apply):			Secondary	Indicators (2 o	r more required	d):	
□ Surface w	vater (A1)		Sparsely Vegetated Conca	ive Surface (B8)			er-Stained Lea	ves (B9) (MLR	A 1, 2, 4	4A & 4B)
High Wate	er Table (A2)		Water-Stained Leaves (exc	cept MLRA 1, 2, 4	A & 4B) (B9)	🗌 Draii	nage Patterns	(B10)		
Saturation	n (A3)		Salt Crust (B11)			Dry-	Season Water	Table (C2)		
U Water Ma	urks (B1)		Aquatic Invertebrates (B13	3)		∐ Satu	ration Visible o	on Aerial Image	ery (C9)	
Sediment	Deposits (B2)		Hydrogen Sulfide Odor (C1	1)		Geo	morphic Positio	on (D2)		
Drift Depo	osits (B3)		Oxidized Rhizospheres alo	ong Living Roots (C	C3)	Shal	low Aquitard (I	D3)		
Algal Mat	or Crust (B4)		Presence of Reduced Iron	(C4)		FAC	-Neutral Test (D5)		
Iron Depo	osits (B5)		Recent Iron Reduction in T	illed Soils (C6)		🗌 Rais	ed Ant Mounds	s (D6) (LRR A)		
Surface S	Soil Cracks (B6)		Stunted or Stressed Plants	s (D1) (LRR A)		Fros	t-Heave Humn	nocks		
Inundation	n Visible on Aerial Imager	у 🗆	Other (explain in remarks)							
(67)										
Field Observa	ations									
Surface Water	Present? Yes	No	Depth (in):							
Water Table P	resent? Yes	No	Depth (in):		Netland Hvdro	ology Prese	nt? Yoo		No	\square
Saturation Pre	sent? Yes	No	Depth (in):				103		140	
(includes capil	lary fringe)									
Describo Poor	orded Data (stroom dougo	monitori	na well perial photos, provid		favailablo:					
Describe Rect	nueu Dala (sileani yauge	, monitori	ng wen, aenai priotos, previ		avaliaute.					
Remarks:										
1										



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Project Site:	Project Site: Segment E, parcel number 342505							Sampling Date:	6/3/2015	5		
Applicant/Owner:	Puget Sound Energy	1						Sampling Point:	DP- 15			
Investigator:	Katy Crandall, Mike I	oster						City/County:	Bellevue	e		
Sect., Township, Range:	S 34 T 25N	R 0)5E					State:	WA			
Landform (hillslope, terrace,	etc): Hillslope			;	Slope (%): 5			Local relief (concave, convex, none): Concave				
Subregion (LRR): A		I	Lat: Long: Dat				Datum:	Datum:				
Soil Map Unit Name: AgC	am, 8-15º	∕₀ sl	opes	NWI classification: NA								
Are climatic/hydrologic condi	year?	\boxtimes	Yes		No	(If no, explain in rema	arks.)					
Are "Normal Circumstances" present on the site?												
Are Vegetation□, Soil □, or	Hydrology significantly	disturbed?										Ì
Are Vegetation□, Soil □, or	Hydrology □ naturally pro	olematic						(If needed, explain ar	ny answers i	in Remarks.)		
SUMMARY OF FINDING	S – Attach site map s	howing s	ampling	poir	nt loca	tions	, trans	sects, important fea	itures, etc			
Hydrophytic Vegetation Pres	ent? Yes	, 🖂	No 🗆									
Hydric Soils Present?	Yes	; 🖂	No 🗌	I	Is the S	Sampli	ng Poi	nt within a Wetland?	Yes	\square	No	
Wetland Hydrology Present?			•	5								
Remarks: Wetland	EB05 in-pit											

VEGETATION – Use scientific names of pla	nts.						
Tree Stratum (Plot size: 5m diam.)	Absolute % Cover	Dominant Species?	Indicator Status	Dominance Te	est Worksheet		
1.		-		Number of Domin	ant Species	2	
2.				that are OBL, FA	CW, or FAC:	2	(A)
3.				Total Number of I Species Across A	Dominant III Strata:	2	(B)
One line (Obserb Obserburg (Dict sizes One discus)		= Total Cover		Percent of Domin that are OBL, FA	ant Species CW, or FAC:	100	(A/B)
Sapling/Shrub Stratum (Plot size: 3m diam.)							
1.				Prevalence Inc	dex Worksheet		
2.				Total %	<u>6 Cover of</u>	Multiply	<u>y by</u>
3.				OBL species		x 1 =	
4.				FACW species		x 2 =	
5.		=		FAC species		x 3 =	
		= Iotal Cover		FACU species		x 4 =	
				UPL species	(*)	x 5 =	
Herb Stratum (Plot size: 1m diam.)				Column totals	(A)	(B)	
1. Phalaris arundinacea	60	Y	FACW				
2. Holcus lanatus	60	Y	FAC	Prevalence	Index = B / A =		
3. Vicia sp.	5	N	FAC*				
4. Equisetum telmateia	5	N	FACW	Hydrophytic V	egetation Indicate	ors	
5.					e test is $> 50\%$		
6.					e test is ≤ 3.0 *		
7.				Morpholog	ical Adaptations * (pro	ovide supportin	g
8.				data in rem	arks or on a separate	e sheet)	
9.				Wetland N	on-Vascular Plants *		
10.				Problemati	c Hydrophytic Vegeta	tion * (explain)	
11.							
	130	= Total Cover		* Indicators of hyd present, unless d	dric soil and wetland h isturbed or problemat	nydrology must ic	be
Woody Vine Stratum (Plot size:)							
1.							
2.				Hydrophytic \	/egetation		
		= Total Cover		Preser	nt? Tes		
% Bare Ground in Herb Stratum:							
Remarks: *Presumed FAC							

SOIL							Sampling Point – DP	-15
Profile	e Description: (Describe to the de	epth nee	eded to document the indicat	or or confirm	n the absence o	f indica	itors.)	
Depth	Matrix		F	Redox Featu	res			
(inche	s) Color (moist)	%	Color (moist)	%	Type ¹	Loc	² Texture	Remarks
0-9	2.5Y 3/2	100					Loam	High organic content
9-16	5GY 4/1	100					Gravelly sandy loam	
¹ Type:	C=Concentration, D=Depletion, R	M=Redu	ced Matrix, CS=Covered or Co	ated Sand G	irains ² Loc: PL	.=Pore L	_ining, M=Matrix	
Hydri	Soil Indicators: (Applicable to a	ILLRRS	unless otherwise noted)		Indicato	rs for P	Problematic Hydric Soils ³	
	stosol (A1)		Sandy Redox (S5)			Muck (
Пні	stic Epipedon (A2)		Stripped Matrix (S6)		□ Red	Parent	Material (TF2)	
□ BI	ack Histic (A3)		Loamy Mucky Mineral (F1) (e	xcept MLRA	1) 🗌 Oth	er (expl	ain in remarks)	
⊠ H	vdrogen Sulfide (A4)		Loamy Gleved Matrix (E2)		□	. (,	
	epleted Below Dark Surface (A11)		Depleted Matrix (F3)					
	nick Dark Surface (A12)		Redox Dark Surface (F6)		³ Indicate	ors of hy	drophytic vegetation and wetland	hvdrology must
	andy Mucky Mineral (S1)		Depleted Dark Surface (F7)		be prese	nt, unle	ss disturbed or problematic	
	andy Gleved Matrix (S4)		Reday Depressions (F8)					
Restri	ctive Layer (if present):							
Type:					Hydric soil	presen	t? Yes 🔀	No
Depth	(inches):							
Rema	rks:							
IYDRO								
Wetla Prim	nd Hydrology Indicators: ary Indicators (minimum of one requ	uired: ch	eck all that apply):			Secon	dary Indicators (2 or more require	d):
⊔ s	urface water (A1)		Sparsely Vegetated Concave	Surface (B8))		Water-Stained Leaves (B9) (MLR	A 1, 2, 4A & 4B)
×Η	igh Water Table (A2)		Water-Stained Leaves (excep	ot MLRA 1, 2	, 4A & 4B) (B9)		Drainage Patterns (B10)	
⊠ S	aturation (A3)		Salt Crust (B11)				Dry-Season Water Table (C2)	
	/ater Marks (B1)		Aquatic Invertebrates (B13)				Saturation Visible on Aerial Image	ery (C9)
□ S	ediment Deposits (B2)	\boxtimes	Hydrogen Sulfide Odor (C1)			\boxtimes	Geomorphic Position (D2)	
D	rift Deposits (B3)		Oxidized Rhizospheres along	Living Roots	(C3)		Shallow Aquitard (D3)	
A	Igal Mat or Crust (B4)		Presence of Reduced Iron (C4	4)		\boxtimes	FAC-Neutral Test (D5)	
🗌 Ir	on Deposits (B5)		Recent Iron Reduction in Tille	d Soils (C6)			Raised Ant Mounds (D6) (LRR A))
🗆 S	urface Soil Cracks (B6)		Stunted or Stressed Plants (D	1) (LRR A)			Frost-Heave Hummocks	
□ Ir (E	nundation Visible on Aerial Imagery 37)		Other (explain in remarks)					

Field Observations										
Surface Water Prese	nt? Yes	\boxtimes	No		Depth (in):	+1/2				
Water Table Present	? Yes	\boxtimes	No		Depth (in):	At surface	Wetland Hydrology Present?	Yes	\square	No 🗌
Saturation Present? (includes capillary fri	Yes nge)	\boxtimes	No		Depth (in):	Throughout				
Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:										
Remarks: Shal	ow standin	g wate	r							



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Project Site:	Segment E, parcel nu		Sampling Date:	6/3/2015							
Applicant/Owner:	Puget Sound Energy						Sampling Point:	DP- 16			
Investigator:	Katy Crandall, Mike F	oster					City/County:	Bellevue			
Sect., Township, Range:	S 34 T 25N	R 05E					State:	WA			
Landform (hillslope, terrace,	etc): Hillslope			Slope (%): 5			Local relief (concave, convex, none): Concave				
Subregion (LRR): A				Lat:			Long:		Datum:		
Soil Map Unit Name: AgC	- Alderwood gravelly s	slopes			NWI classification:	A					
Are climatic/hydrologic cond	litions on the site typical for th	nis time of ye	ar?	🛛 Yes		No	(If no, explain in rem	arks.)			
Are "Normal Circumstances"	" present on the site?			🛛 Yes		No					
Are Vegetation□, Soil □, or	r Hydrology 🗆 significantly di	sturbed?									
Are Vegetation □, Soil □, or	r Hydrology naturally prob	lematic					(If needed, explain a	ny answers in	Remarks.)		
SUMMARY OF FINDING	GS – Attach site map sh	owing san	npling p	oint loc	ations	s, trans	sects, important fea	atures, etc.			
Hydrophytic Vegetation Pres	sent? Yes	⊠ N	₀ □								
Hydric Soils Present?	Yes	🛛 N	o 🗆	Is the	Sampl	ina Poi	nt within a Wetland?	Yes		No	
Wetland Hydrology Present	? Yes	⊠ N	o 🗌	10 110	oump	ing i oi		100		10	
Remarks: Wetland	Remarks: Wetland EB06										
VEGETATION – Use scientific names of plants.											

Tree Stratum (Plot size: 5m diam.)	Absolute % Cover	Dominant Species?	Indicator Status	Dominance Test	Worksheet		
1.				Number of Dominant that are OBL, FACW	Species	2	(4)
3.				Total Number of Dom	ninant	2	(A)
4.		Total Cover		Species Across Air S			(B)
		= Total Cover		that are OBL, FACW, or FAC:		100	(A/B)
Sapling/Shrub Stratum (Plot size: 3m diam.)							
1.				Prevalence Index	Worksheet		
2.				Total % Co	over of	Multiply	<u>by</u>
3.				OBL species		x 1 =	
4.				FACW species		x 2 =	
5.				FAC species		x 3 =	
		= Total Cover		FACU species		x 4 =	
		_		UPL species		x 5 =	
Herb Stratum (Plot size: 1m diam.)				Column totals (A	A)	(B)	
1. Phalaris arundinacea	90	Y	FACW				
2. Equisetum telmateia	50	Y	FACW	Prevalence Ind	lex = B / A =		
3. Vicia sp.	20	N	FAC*				
4. Cirsium arvense	5	N	FAC	Hydrophytic Veg	etation Indicato	rs	
5.				Dominance tes	st is > 50%		
6.				 Prevalence tes 	st is ≤ 3.0 *		
7.				Morphological	Adaptations * (prov	vide supporting	
8.				□ data in remark	s or on a separate	sheet)	
9.				 □ Wetland Non-\	Vascular Plants *		
10.				Problematic H	ydrophytic Vegetati	ion * (explain)	
11.							
	165	= Total Cover		* Indicators of hydric present, unless distu	soil and wetland hy	/drology must b	e
Woody Vine Stratum (Plot size:)						-	
1.							
2				Hydronhytic Veg	etation		_
		= Total Cover		Present?	Yes	No No	
		_					
% Bare Ground in Herb Stratum:							
Remarks: *Presumed FAC							

SOIL	
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SOIL								Sampling Point –	DP-16
Profile Descri	iption: (Describ	e to the de	pth need	ed to document the i	ndicator or confi	rm the absence	e of indicators	s.)	
Depth		Matrix			Redox Feat	ures			
(inches)	Color (moi	st)	%	Color (moist)	%	Type ¹	Loc ²	Texture	Remarks
0-5	2.5Y 3/2		100					Sandy loam	
5-14	10GY 4/1	1	90	10YR 4/8	10	С	M, PL	Loamy sand	
¹ Type: C=Con	centration, D=De	pletion, RN	/I=Reduce	ed Matrix, CS=Covered	d or Coated Sand	Grains ² Loc:	PL=Pore Linin	g, M=Matrix	
Hydric Soil In	dicators: (Appli	cable to a	ll LRRs, u	Inless otherwise note	ed.)	Indica	ators for Prob	ematic Hydric Soils ³	
Histosol (A)	41)			Sandy Redox (S5)		□ 2	cm Muck (A10)	
Histic Epip	oedon (A2)			Stripped Matrix (S6)			Red Parent Mat	erial (TF2)	
Black Hist	ic (A3)			oamy Mucky Mineral	(F1) (except MLF	XA1) □ C	Other (explain ii	n remarks)	
Hydrogen	Sulfide (A4)		XI	oamy Gleyed Matrix (F2)				
Depleted I	Below Dark Surfa	ace (A11)		Depleted Matrix (F3)					
Thick Dark	k Surface (A12)			Redox Dark Surface (F	6)	³ Indic	ators of hydrop	ohytic vegetation and wetla	and hydrology must
🗌 Sandy Mu	cky Mineral (S1)			Depleted Dark Surface	(F7)	be pre	esent, unless d	isturbed or problematic	
□ Sandy Gle	eyed Matrix (S4)			Redox Depressions (F8	B)				
Restrictive Lay	ver (if present):							_	_
Гуре:						Hydric s	oil present?	Yes 🔀	No
Depth (inches)):								
Remarks:									
HYDROLOGY	,								
Wetland Hydr	ology Indicator	S: of one requ	urad: aha	al all that apply):			Secondary	Indiantora (2 ar mara ragi	urad);
	ators (minimum) ator (A1)	or one requ		CK all lital apply). Sparsely Vegetated Co	ncave Surface (B	8)		ar-Stained Leaves (B9) (M	
Uidb Wat	or Table (A2)			Nator Stained Leaves	(oxcont MI BA 1	0) 2 4 4 2 4 B) (B(nago Pattorne (B10)	(1, 2, 4, 0, 4)
				Calt Cruct (B11)	(except MERA 1,	2, 4A & 4B) (B		Socon Water Table (C2)	
				au Clust (DTT)	24.0)			season water rable (C2)	agam ((CO)
				Aqualic Invertebrates (i	513) (01)			Iration visible on Aeriai im	agery (C9)
	Deposits (B2)			Hydrogen Sumae Odor	(01)	(00)	⊠ Geo	morphic Position (D2)	
	osits (B3)			Dxidized Rhizospheres	along Living Roo	ts (C3)		llow Aquitard (D3)	
☐ Algal Mat	or Crust (B4)			resence of Reduced I	ron (C4)		⊠ FAC	-Neutral Test (D5)	
Iron Depo	osits (B5)			Recent Iron Reduction	in Tilled Soils (C6)		sed Ant Mounds (D6) (LRF	R A)
Surface S	Soil Cracks (B6)			Stunted or Stressed Pla	ants (D1) (LRR A)	1	Fros	st-Heave Hummocks	
Inundation (B7)	n Visible on Aeria	al Imagery		Other (explain in remar	ks)				
Field Observa	ations								
Surface Water	r Present? ۲	′es 🗆	No 🛛	Depth (in):					
Water Table P	resent?	′es 🗆	No 🛛	Depth (in):		Wetland Hy	drology Prese	nt? Yes 🔀	No 🗌
Saturation Pre (includes capil	sent? ץ lary fringe)	′es ⊠	No [Depth (in):	Throughout				·· 🔟
Describe Reco	orded Data (strea	m gauge, r	nonitoring	g well, aerial photos, pr	revious inspection	s), if available:			
Remarks:	Water seepin	g into pit	at abou	it 5 inches below g	round surface	and pooling	in bottom o	t pit.	



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DP- 17

Project Site:	Segment E, parce	el nun	ıber 2	07770	0035		Sampling Date:	6/5/2015					
Applicant/Owner:	Puget Sound Ene	ergy							Sampling Point:	DP- 17			
Investigator:	Katy Crandall, Ro	Katy Crandall, Rose Whitson, Mike Foster								Bellevue	•		
Sect., Township, Range:	S 03 T 2	24N	R	05E			State:	WA					
Landform (hillslope, terrace,		Slope (%): 5		Local relief (concave	, convex, noi	ne): Concav	е					
Subregion (LRR): A									Long: Datum:				
Soil Map Unit Name: AgD	NWI classification: NA												
Are climatic/hydrologic condi	tions on the site typical	l for thi	s time o	of year?	۶ ا	🛾 Yes		No	(If no, explain in rema	arks.)			
Are "Normal Circumstances"	present on the site?				Σ	🛛 Yes		No					
Are Vegetation \Box , Soil \Box , or Are Vegetation \Box , Soil \Box , or	Hydrology □ significar Hydrology □ naturally	ntly dis [,] proble	turbed? matic	?					(If needed, explain a	ny answers i	n Remarks.)		
SUMMARY OF FINDING	S – Attach site ma	p sho	wing	sampl	ing po	oint loca	tions	, trans	sects, important fea	atures, etc.			
Hydrophytic Vegetation Pres	ent?	Yes	\boxtimes	No									
Hydric Soils Present?		Yes	\boxtimes	No		Is the S	ampli	ina Poir	nt within a Wetland?	Yes	\square	No	
Wetland Hydrology Present?		Yes	\boxtimes	No			ср.			100			

Remarks: Wetland EB11

VEGETATION – Use scientific names of plan	nts.			
Tree Stratum (Plot size: 5m diam.)	Absolute % Cover	Dominant Species?	Indicator Status	Dominance Test Worksheet
1.				Number of Dominant Species
2.				that are OBL, FACW, or FAC:
3.				Total Number of Dominant
4.				Species Across All Strata: (B)
		= Total Cover		Percent of Dominant Species that are OBL, FACW, or FAC: 100 (A/B)
Sapling/Shrub Stratum (Plot size: 3m diam.)				· · ·
1. Rubus spectabilis	15	Y	FAC	Prevalence Index Worksheet
2.				Total % Cover of Multiply by
3.				OBL species x 1 =
4.				FACW species x 2 =
5.				FAC species x 3 =
		= Total Cover		FACU species x 4 =
		-		UPL species x 5 =
Herb Stratum (Plot size: 1m diam.)				Column totals (A) (B)
1. Phalaris arundinacea	85	Y	FACW	
2. Juncus effusus	20	N	FACW	Prevalence Index = B / A =
3. Typha latifolia	15	N	OBL	
4. Galium sp.	10	N	FACU	Hydrophytic Vegetation Indicators
5. Stachys cooleyae	5	N	FACW	Dominance test is > 50%
6. Athyrium cyclosorum	5	N	FAC	Prevalence test is ≤ 3.0 *
7. Equisetum telmateia	Trace	N	FACW	Morphological Adaptations * (provide supporting
8.				☐ data in remarks or on a separate sheet)
9.	-			Wetland Non-Vascular Plants *
10.				Problematic Hydrophytic Vegetation * (explain)
11.				<u> </u>
	140	= Total Cover		* Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic
Woody Vine Stratum (Plot size:)				
1.				1
2.				Hydrophytic Vegetation
	-	= Total Cover		Present? Yes 📉 🗤 🗀
		-		
% Bare Ground in Herb Stratum:				
Remarks:	-			

SOIL	
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Point - DP-17

SOIL								Sampling Point – Di	2-17
Profile Descri	ption: (Describe to the	depth neede	ed to document the indica	tor or confi	rm the	e absence of	f indicators	s.)	
Depth	Matrix	-		Redox Feat	ures				Т
(inches)	Color (moist)	%	Color (moist)	%		Type ¹	Loc ²	Texture	Remarks
0-5	10YR 3/2	90	7.5YR 3/4	10	С		м	Sandy loam	
5-14	10Y 3/1	93	5YR 3/4	7	С		PL	Coarse sandy loam	
¹ Type: C=Con	centration, D=Depletion,	RM=Reduce	d Matrix, CS=Covered or C	oated Sand	Grains	² Loc: PL	=Pore Linin	g, M=Matrix	
Hydric Soil In	dicators: (Applicable to	all LRRs, u	nless otherwise noted.)				rs for Probl	ematic Hydric Soils ³	
Histosof (7	(A2)		tripped Matrix (S6)				Parent Mat) orial (TE2)	
Black Histi			oamy Mucky Mineral (E1)	avcont MI R	A 1)		ar (ovolain ir	remarke)	
	Sulfida (A.4)		comy Cloued Metrix (E2)	except mint	A 1)			Temarks	
	Sullide (A4)		vality Gleyeu Matrix (12)						
	Selow Dark Sullace (ATT)		epieleu Maliix (F3)			³ Indicate	ro of hudror		d hydrology must
	Sullace (A12)		euox Dark Surface (FO)			be prese	nt unless di	isturbed or problematic	i nyurology musi
	cky Mineral (ST)					20 0.000	,	iotalibea el presionado	
Sandy Gle	yed Matrix (S4)		edox Depressions (F8)						
Restrictive Lay	ver (if present):							_	_
туре:						Hydric soil	present?	Yes 🔀	No
Depth (inches)	:								
Remarks:									
Wetland Hydr	ology Indicators:						0	la dia a tana 70 amina amina amina	0
Primary Indic	ators (minimum of one re	quirea: cnec	k all that apply):	Surface (P	0)		Secondary	Indicators (2 or more require	<i>ia):</i>
	aler (AT)		later Steined Leaves (ave		0) 2 4 4			ei-Stailleu Leaves (D9) (WILF	(A 1, 2, 4A 0, 4D)
			aler-Stained Leaves (exce	ріміска і,	Z, 4A	& 4D) (D9)		Seese Water Table (C2)	
	1 (A3)		alt Crust (B11)				Dry-	Season water Table (C2)	(00)
	rks (B1)		quatic invertebrates (B13)					Iration Visible on Aerial Imag	ery (C9)
Sediment	Deposits (B2)		yarogen Sulfide Odor (C1)				Geo Geo	morphic Position (D2)	
Drift Depo	osits (B3)	⊠ 0	xidized Rhizospheres along	g Living Root	ts (C3))	□ Shal	llow Aquitard (D3)	
☐ Algal Mat	or Crust (B4)	∐ P	resence of Reduced Iron (C	(4)			⊠ FAC	-Neutral Test (D5)	
Iron Depo	sits (B5)	🗆 R	ecent Iron Reduction in Tille	ed Soils (C6))		🗌 Rais	ed Ant Mounds (D6) (LRR A	.)
Surface S	oil Cracks (B6)		tunted or Stressed Plants (I	D1) (LRR A)			Fros	t-Heave Hummocks	
Inundation	n Visible on Aerial Imager	у 🗌 О	ther (explain in remarks)						
(87)									
Field Observa	tions								
Surface Water	Present? Yes	No 🗵] Depth (in):						
Water Table P	resent? Yes	No 🗵] Depth (in):		We	tland Hydro	loav Prese	nt? Yes 🕅	No 🗌
Saturation Pre	sent? Yes 🛛	No 🗆] Depth (in): thr	oughout		·····,···			
(includes capil	iary IIIIige)				1				
Describe Reco	orded Data (stream gauge	e, monitoring	well, aerial photos, previou	s inspections	s), if a	vailable:			
Remarks:									



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Project Site:	Segment E, parcel nu	mber 2	07770	0035		Sampling Date:	6/5/2015					
Applicant/Owner:	Puget Sound Energy					Sampling Point:	DP- 18					
Investigator:	Katy Crandall, Rose V	Vhitsor	n, Mike	Fost	er	City/County:	Bellevue)				
Sect., Township, Range:	S 03 T 24N	R	05E		State:	WA						
Landform (hillslope, terrace,	etc): Hillslope	5	Local relief (concave, convex, none): None									
Subregion (LRR): A								Long:	Datum:			
Soil Map Unit Name: AgD	NWI classification:	A										
Are climatic/hydrologic condi	tions on the site typical for the	nis time	of year	2	🛛 Yes		No	(If no, explain in rema	arks.)			
Are "Normal Circumstances"	present on the site?				🛛 Yes		No					
Are Vegetation \Box , Soil \Box , or	Hydrology □ significantly d	sturbed	?									
Are Vegetation □, Soil □, or	Hydrology naturally prob	lematic						(If needed, explain a	ny answers i	n Remarks.)		
SUMMARY OF FINDING	S – Attach site map sh	owing	samp	ing po	oint loca	ations	s, trans	sects, important fea	atures, etc			
Hydrophytic Vegetation Pres	ent? Yes		No	\boxtimes								
Hydric Soils Present?	Yes		No	\boxtimes	Is the S	Sampl	ing Poi	nt within a Wetland?	Yes		No	\mathbf{X}
Wetland Hydrology Present?	Yes		No	\boxtimes		•	5					
Remarks: Wetland	EB11 out-pit											

VEGETATION – Use scientific names of pla	nts.			
Tree Stratum (Plot size: 5m diam.)	Absolute % Cover	Dominant Species?	Indicator Status	Dominance Test Worksheet
1.		·		Number of Dominant Species that are OBL, FACW, or FAC: 1
3.				(A) Total Number of Dominant
4.				Species Across All Strata: (B)
		= Total Cover		Percent of Dominant Species that are OBL, FACW, or FAC: 50 (A/B)
Sapling/Shrub Stratum (Plot size: 3m diam.)				、 ,
1.				Prevalence Index Worksheet
2.				Total % Cover of Multiply by
3.				OBL species x 1 =
4.				FACW species x 2 =
5.				FAC species x 3 =
		= Total Cover		FACU species x 4 =
				UPL species x 5 =
Herb Stratum (Plot size: 1m diam.)				Column totals (A) (B)
1. Various unknown grasses	80	Y	FAC*	
2. Equisetum telmateia	15	N	FACW	Prevalence Index = B / A =
3. Phalaris arundinacea	15	N	FACW	
4.				Hydrophytic Vegetation Indicators
5.				Dominance test is > 50%
6.				□ Prevalence test is $\leq 3.0^*$
7.				Morphological Adaptations * (provide supporting
8.				 data in remarks or on a separate sheet)
9.				Wetland Non-Vascular Plants *
10.				Problematic Hydrophytic Vegetation * (explain)
11.				
	110	= Total Cover		* Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic
Woody Vine Stratum (Plot size:)				
1. Rubus armeniacus	20	Y	FACU	
2. Rubus ursinus	Trace	N	FACU	Hydrophytic Vegetation
	20	= Total Cover		Present? Yes No 🛛
% Bare Ground in Herb Stratum:				
Remarks: *Presumed FAC				
i resumeu i Ao				

SOIL

Sampling Point – DP-18

Depth	Matri	x		Redox Featu	ires						
(inches)	Color (moist)	%	Color (moist)	%	Type ¹		nc^2	Texture			Remarks
0-9	10YR 2/2	100		70	1,900		00	Sandy l	oam		Romanto
17 0.0					2 . 2.						
'Type: C=Co	oncentration, D=Depletion	on, RM=Reduce	d Matrix, CS=Covered or Co	bated Sand (Fains Loc	: PL=Por	e Linin	g, M=Matrix			
Hydric Soil	Indicators: (Applicable	e to all LRRs, u	nless otherwise noted.)		Indic	ators for	Prob	lematic Hyd	dric Soils ³		
Histosol	(A1)		andy Redox (S5)			2cm Muc	k (A10)			
Histic Ep	pipedon (A2)		tripped Matrix (S6)			Red Pare	nt Mat	erial (TF2)			
Black Hi	istic (A3)		oamy Mucky Mineral (F1) (e	except MLR	A1) 🗌 (Other (ex	plain iı	n remarks)			
Hydroge	en Sulfide (A4)		oamy Gleyed Matrix (F2)								
Depleted	d Below Dark Surface (A	A11) 🗌 D	epleted Matrix (F3)								
Thick Date	ark Surface (A12)	🗆 F	edox Dark Surface (F6)		³ Indi	cators of	hydrop	phytic veget	ation and wet	land hyd	rology must
Sandy N	/lucky Mineral (S1)		epleted Dark Surface (F7)		be pr	esent, ur	less d	isturbed or p	problematic		
Sandy G	Gleyed Matrix (S4)	🗆 F	edox Depressions (F8)								
Restrictive L	ayer (if present):										
Туре:					Hydric s	oil prese	ent?	Yes		N	o 🛛
Depth (inche	es):										
Remarks:	Soils contain son	ne cobbles ar	d is compact.		•						
HYDROLOG	SY										
Wetland Hv	drology Indicators:										
Primary Inc	dicators (minimum of on	e required: chec	k all that apply):			Seco	ondary	Indicators (2 or more req	uired):	
Surface	e water (A1)	□ S	parsely Vegetated Concave	Surface (B8	5)		Wat	er-Stained L	eaves (B9) (I	MLRA 1,	2, 4A & 4B)
🗌 High W	ater Table (A2)		ater-Stained Leaves (exce	pt MLRA 1, 3	2, 4A & 4B) (B	9) 🗌	Drai	nage Patter	ns (B10)		
Saturati	ion (A3)	🗆 S	alt Crust (B11)				Dry-	Season Wa	ter Table (C2)	
Water M	Marks (B1)		quatic Invertebrates (B13)				Sati	ration Visib	la on Aarial Ir	nagery ((201

Saturation visible on Aeria
Geomorphic Position (D2)

	Geo	JUIOI	priic	FU	511	1011	(D
_							

- □ Shallow Aquitard (D3)
- □ FAC-Neutral Test (D5)
- Raised Ant Mounds (D6) (LRR A)
- □ Frost-Heave Hummocks

 Surface Soil Cracks (B6) Inundation Visible on Aerial Imagery (B7) 			Stunted or Stressed Plants (D1) (LRR Other (explain in remarks)	Frost-Heave Hummocks							
Field Observations											
Surface Water Present?	Yes 🗆	No	Depth (in):								
Water Table Present?	Yes 🗆	No	Depth (in):	Wetland Hydrology Present? Yes No							
Saturation Present? (includes capillary fringe)	Yes 🗆	No	Depth (in):								
Describe Recorded Data (str	eam gauge, m	onitori	ing well, aerial photos, previous inspecti	ons), if available:							
Remarks: dry											
(includes capillary fringe) Describe Recorded Data (str <i>Remarks:</i> dry	eam gauge, mo	onitori	ing well, aerial photos, previous inspecti	ons), if available:							

Hydrogen Sulfide Odor (C1)

Presence of Reduced Iron (C4)

□ Oxidized Rhizospheres along Living Roots (C3)

Recent Iron Reduction in Tilled Soils (C6)

Sediment Deposits (B2)

□ Algal Mat or Crust (B4)

Drift Deposits (B3)

Iron Deposits (B5)



Western Mountains, Valleys, and Coast Supplement to the 1987 COE Wetlands Delineation Manual

Project Site:	Segment E, parcel n	umber	207770	00042				Sampling Date:	6/5/201	5		
Applicant/Owner:	Puget Sound Energy							Sampling Point:	DP- 19			
Investigator:	vestigator: Katy Crandall, Rose Whitson, Mike Foster									Ie		
Sect., Township, Range:	State:	WA		-								
Landform (hillslope, terrace,	Slope	Slope (%): <5 Local relief (concave, convex, none): Non				one): None						
Subregion (LRR): A								Long:		Datum:		
Soil Map Unit Name: AgD	Soil Map Unit Name: AgD - Alderwood gravelly sandy loam, 15-30%							NWI classification:	١A			
Are climatic/hydrologic cond	itions on the site typical for	this time	of year	? 🛛	🛛 Yes		No	(If no, explain in rem	arks.)			
Are "Normal Circumstances'	present on the site?				🛛 Yes		No					
Are Vegetation □. Soil □. or	Hvdrology □ significantly	disturbed	1?									
Are Vegetation \Box , Soil \Box , or	Hvdrology \Box naturally pro	olematic						(If needed, explain a	ny answers	in Remarks.)		
	<u>, , , , , , , , , , , , , , , , , , , </u>											
SUMMARY OF FINDING	S – Attach site map s	nowing	samp	ling po	oint loc	ation	s, trans	sects, important fea	atures, etc	c.		
Hydrophytic Vegetation Pres	ent? Yes		No									
Hydric Soils Present?	Yes		No		ls the	Samn	lina Poi	nt within a Wetland?	Ves	\square	No	
Wetland Hydrology Present	Yes		No		15 110	oump	ing i oi		103	\bigtriangleup	NO	
Remarks: Wetland	EB12											
<u> </u>												
VEGETATION – Use sc	ientific names of plant	s.						-				
Tree Stratum (Plot size: 5m	diam.)	Absolut	e %	Domina	ant	Ind	icator	Dominance Test	Workshe	e t		

Tree Stratum (Plot size: 5m diam.)	Absolute % Cover	Dominant Species?	Indicator Status	Dominance Test Worksheet					
 Salix scouleriana 2. 	100	Y	FAC	Number of Dominant Species that are OBL, FACW, or FAC:	4 (A)				
3.				Total Number of Dominant Species Across All Strata:	5 (B)				
		= Total Cover		Percent of Dominant Species that are OBL, FACW, or FAC:	80 (A/B)				
Sapling/Shrub Stratum (Plot size: 3m diam.)				—	、 ,				
1. Rubus spectabilis	45	Y	FAC	Prevalence Index Worksheet					
2.				Total % Cover of	Multiply by				
3.				OBL species	x 1 =				
4.				FACW species	x 2 =				
5.				FAC species	x 3 =				
	45	= I otal Cover		FACU species	x 4 =				
				UPL species	x 5 =				
Herb Stratum (Plot size: 1m diam.)			= 1 011/	Column totals (A)	(B)				
1. Equisetum telmateia	10	<u>Y</u>	FACW						
2.				Prevalence Index = B / A =					
3.									
				Uveranhytic Vegetation Indias	1				
4.				Hydrophytic Vegetation Indica	ators				
4. 5.				Hydrophytic Vegetation Indica	ators				
4. 5. 6.				Hydrophytic Vegetation Indica ☑ Dominance test is > 50% □ Prevalence test is ≤ 3.0 *	ators				
4. 5. 6. 7.				Hydrophytic Vegetation Indica ☑ Dominance test is > 50% □ Prevalence test is ≤ 3.0 * Morphological Adaptations * (prevalence test is ≤ 3.0 *	ators				
4. 5. 6. 7. 8.				Hydrophytic Vegetation Indica ☑ Dominance test is > 50% □ Prevalence test is ≤ 3.0 * Morphological Adaptations * (p □ data in remarks or on a separate	ators provide supporting ate sheet)				
4. 5. 6. 7. 8. 9.				Hydrophytic Vegetation Indica ☑ Dominance test is > 50% □ Prevalence test is ≤ 3.0 * Morphological Adaptations * (r □ data in remarks or on a separa □ Wetland Non-Vascular Plants	ators provide supporting ate sheet) *				
4. 5. 6. 7. 8. 9. 10.				Hydrophytic Vegetation Indica ☑ Dominance test is > 50% □ Prevalence test is ≤ 3.0 * Morphological Adaptations * (p □ data in remarks or on a separa □ Wetland Non-Vascular Plants □ Problematic Hydrophytic Vege	ators provide supporting ate sheet) * etation * (explain)				
4. 5. 6. 7. 8. 9. 10. 11.				Hydrophytic Vegetation Indica ☑ Dominance test is > 50% □ Prevalence test is ≤ 3.0 * Morphological Adaptations * (p □ data in remarks or on a separa □ Wetland Non-Vascular Plants □ Problematic Hydrophytic Vege	ators provide supporting ate sheet) * etation * (explain)				
4. 5. 6. 7. 8. 9. 10. 11.	10	= Total Cover		Hydrophytic Vegetation Indica ☑ Dominance test is > 50% □ Prevalence test is ≤ 3.0 * Morphological Adaptations * (p □ data in remarks or on a separa □ Wetland Non-Vascular Plants □ Problematic Hydrophytic Vege * Indicators of hydric soil and wetland present, unless disturbed or problem	ators provide supporting ate sheet) * etation * (explain) d hydrology must be atic				
4. 5. 6. 7. 8. 9. 10. 11. Woody Vine Stratum (Plot size:)	10	= Total Cover		Hydrophytic Vegetation Indica ☑ Dominance test is > 50% □ Prevalence test is ≤ 3.0 * Morphological Adaptations * (r □ data in remarks or on a separa □ Wetland Non-Vascular Plants □ Problematic Hydrophytic Vege * Indicators of hydric soil and wetland present, unless disturbed or problem	ators provide supporting ate sheet) * etation * (explain) d hydrology must be atic				
4. 5. 6. 7. 8. 9. 10. 11. Woody Vine Stratum (Plot size:) 1. Rubus armeniacus	10 50	= Total Cover	FACU	Hydrophytic Vegetation Indica ☑ Dominance test is > 50% □ Prevalence test is ≤ 3.0 * Morphological Adaptations * (p □ data in remarks or on a separa □ Wetland Non-Vascular Plants □ Problematic Hydrophytic Vege * Indicators of hydric soil and wetland present, unless disturbed or problem	ators provide supporting ate sheet) * etation * (explain) d hydrology must be atic				
4. 5. 6. 7. 8. 9. 10. 11. Woody Vine Stratum (Plot size:) 1. Rubus armeniacus 2. Solanum dulcamara	 	= Total Cover - Y Y	FACU	Hydrophytic Vegetation Indica ☑ Dominance test is > 50% □ Prevalence test is ≤ 3.0 * Morphological Adaptations * (r □ data in remarks or on a separa □ Wetland Non-Vascular Plants □ Problematic Hydrophytic Veget * Indicators of hydric soil and wetland present, unless disturbed or problem Hydrophytic Vegetation	ators provide supporting ate sheet) * etation * (explain) d hydrology must be atic				
4. 5. 6. 7. 8. 9. 10. 11. Woody Vine Stratum (Plot size:) 1. Rubus armeniacus 2. Solanum dulcamara	 	= Total Cover - Y Y = Total Cover	FACU FAC	Hydrophytic Vegetation Indica ☑ Dominance test is > 50% □ Prevalence test is ≤ 3.0 * Morphological Adaptations * (p □ data in remarks or on a separa □ Wetland Non-Vascular Plants □ Problematic Hydrophytic Veget * Indicators of hydric soil and wetland present, unless disturbed or problem Hydrophytic Vegetation Present?	ators provide supporting ate sheet) * etation * (explain) d hydrology must be atic es X No				
4. 5. 6. 7. 8. 9. 10. 11. Woody Vine Stratum (Plot size:) 1. Rubus armeniacus 2. Solanum dulcamara % Bare Ground in Herb Stratum: 70	10 	= Total Cover Y Y = Total Cover	FACU FAC	Hydrophytic Vegetation Indica ☑ Dominance test is > 50% □ Prevalence test is ≤ 3.0 * Morphological Adaptations * (g □ data in remarks or on a separa □ Wetland Non-Vascular Plants □ Problematic Hydrophytic Veget * Indicators of hydric soil and wetland present, unless disturbed or problem Hydrophytic Vegetation Present? Yet	ators provide supporting ate sheet) * station * (explain) d hydrology must be atic es X No				
4. 5. 6. 7. 8. 9. 10. 11. Woody Vine Stratum (Plot size:) 1. Rubus armeniacus 2. Solanum dulcamara % Bare Ground in Herb Stratum: 70 Remarks:	10 10 50 5 75	= Total Cover Y Y = Total Cover	FACU FAC	Hydrophytic Vegetation Indica ☑ Dominance test is > 50% □ Prevalence test is ≤ 3.0 * Morphological Adaptations * (p □ data in remarks or on a separa □ Wetland Non-Vascular Plants □ Problematic Hydrophytic Veget * Indicators of hydric soil and wetland present, unless disturbed or problem Hydrophytic Vegetation Present? Yet	ators provide supporting ate sheet) * tation * (explain) d hydrology must be atic es X No				
4. 5. 6. 7. 8. 9. 10. 11. Woody Vine Stratum (Plot size:) 1. Rubus armeniacus 2. Solanum dulcamara % Bare Ground in Herb Stratum: 70 Remarks:	10 	= Total Cover Y Y = Total Cover	FACU FAC	Hydrophytic Vegetation Indica ☑ Dominance test is > 50% □ Prevalence test is ≤ 3.0 * Morphological Adaptations * (p □ data in remarks or on a separa □ Wetland Non-Vascular Plants □ Problematic Hydrophytic Veget * Indicators of hydric soil and wetland present, unless disturbed or problem Hydrophytic Vegetation Present?	ators provide supporting ate sheet) * station * (explain) d hydrology must be atic es X No				
4. 5. 6. 7. 8. 9. 10. 11. Woody Vine Stratum (Plot size:) 1. Rubus armeniacus 2. Solanum dulcamara % Bare Ground in Herb Stratum: 70 Remarks:	10 	= Total Cover Y Y = Total Cover	FACU FAC	Hydrophytic Vegetation Indica ☑ Dominance test is > 50% □ Prevalence test is ≤ 3.0 * Morphological Adaptations * (p □ data in remarks or on a separa □ Wetland Non-Vascular Plants □ Problematic Hydrophytic Veget * Indicators of hydric soil and wetland present, unless disturbed or problem Hydrophytic Vegetation Present?	ators provide supporting ate sheet) * tation * (explain) d hydrology must be atic es X No				

SOIL

Sampling Point – DP-19

Profile Descri	ption: (Describe to the	e depth nee	eded to document the indica	tor or confirm	n the al	bsence of	indicators	s.)			
Depth	Matrix			Redox Featur	es						
(inches)	Color (moist)	%	Color (moist)	%	Ту	′pe¹	Loc ²	1	exture	Remarks	
0-10	10YR 3/1	100						Silt loam	ı		
10-14	2.5Y 3/1	100						Coarse I	oamy sand	Few cobbles	
¹ Type: C=Con	centration, D=Depletion	i, RM=Redu	ced Matrix, CS=Covered or Co	bated Sand G	rains	² Loc: PL:	=Pore Linin	g, M=Matrix			
Hydric Soil In	dicators: (Applicable	to all LRRs	, unless otherwise noted.)			Indicator	s for Prob	lematic Hyd	ric Soils ³		
Histosol (A)	(1)		Sandy Redox (S5)			🗌 2cm	Muck (A10)			
Histic Epip	edon (A2)		Stripped Matrix (S6)			🗌 Red	Parent Mat	erial (TF2)			
Black Hist	c (A3)		Loamy Mucky Mineral (F1)	except MLRA	1)	Othe	er (explain i	n remarks)			
🛛 Hydrogen	Sulfide (A4)		Loamy Gleyed Matrix (F2)								
Depleted I	Below Dark Surface (A1	1) 🗌	Depleted Matrix (F3)								
Thick Dark	Surface (A12)		Redox Dark Surface (F6)			³ Indicators of hydrophytic vegetation and wetland hydrology must					
Sandy Mu	cky Mineral (S1)		Depleted Dark Surface (F7)			be present, unless disturbed or problematic					
Sandy Gle	yed Matrix (S4)		Redox Depressions (F8)								
Restrictive Lay	er (if present):										
Туре:					Ну	/dric soil	present?	Yes	\boxtimes	No	
Depth (inches)	:										
Remarks:	Soils very saturate	d, no redo	ox visible at the time of s	ampling.							
1											

HYDROLOGY

Wetland Hydrology Indicators: Secondary Indicators (2 or more required: check all that apply):										
Surface water (A1)		Sparsely Vegetated Concave Surface (B8)	Water-Stained Leaves (B9) (MLRA 1,	2, 4A & 4B)						
High Water Table (A2)		Water-Stained Leaves (except MLRA 1, 2, 4A &	B) (B9) Drainage Patterns (B10)	Drainage Patterns (B10)						
Saturation (A3)		Salt Crust (B11)	Dry-Season Water Table (C2)	Dry-Season Water Table (C2)						
Water Marks (B1)		Aquatic Invertebrates (B13)	Saturation Visible on Aerial Imagery (C	(9)						
Sediment Deposits (B2)	\boxtimes	Hydrogen Sulfide Odor (C1)	Geomorphic Position (D2)	,						
Drift Deposits (B3)		Oxidized Rhizospheres along Living Roots (C3)	□ Shallow Aquitard (D3)							
Algal Mat or Crust (B4)		Presence of Reduced Iron (C4)	□ FAC-Neutral Test (D5)							
Iron Deposits (B5)		Recent Iron Reduction in Tilled Soils (C6)	Raised Ant Mounds (D6) (LRR A)							
Surface Soil Cracks (B6)		Stunted or Stressed Plants (D1) (LRR A)	Frost-Heave Hummocks							
Inundation Visible on Aerial Imagery		Other (explain in remarks)								
(B7)										
Field Observations										
Surface Water Present? Yes	No	Depth (in):								
Water Table Present? Yes	No	Depth (in): 5 BGS Wetla	nd Hydrology Present? Yes 🔀 1	No 🗌						
Saturation Present? Yes	No	Depth (in): throughout								
(includes capillary fringe)										
Describe Recorded Data (stream gauge, mo	nitor	ng well, aerial photos, previous inspections), if ava	able:							
Remarks: Surface soil visibly satu	rate	d due to groundwater seeps. BGS = belo	ground surface							
			-							



Western Mountains, Valleys, and Coast Supplement to the 1987 COE Wetlands Delineation Manual

Project Site:	Segment E, parcel nu	nber 34	125059	016		Sampling Date:	5					
Applicant/Owner:	Puget Sound Energy					Sampling Point:	DP- 20					
Investigator:	Katy Crandall, Nell Lu	nd, Clo	ver Mu	uters		City/County:	Bellevu	e				
Sect., Township, Range:	Township, Range: S 34 T 25N R 05E											
Landform (hillslope, terrace, etc): Hillslope						6): 5 -	-10	10 Local relief (concave, convex, none): None				
Subregion (LRR): A	Lat:			Long:		Datum:						
Soil Map Unit Name: AgD	 Alderwood gravelly s 	andy lo	am, 15	5-30%	% slopes			NWI classification: NA				
Are climatic/hydrologic cond	tions on the site typical for th	is time o	f year?		🛛 Yes		No	(If no, explain in remarks.)				
Are "Normal Circumstances"	present on the site?				🛛 Yes		No					
Are Vegetation \Box , Soil \Box , or	Hydrology	sturbed?										
Are Vegetation □, Soil □, or	Hydrology naturally probl	ematic						(If needed, explain any answers in Remarks.)				
SUMMARY OF FINDING	S – Attach site map sh	owing s	ampli	ng po	oint loca	tions	, trans	sects, important fea	atures, etc			
Hydrophytic Vegetation Pres	ent? Yes	\boxtimes	No									
Hydric Soils Present?	Yes	\boxtimes	No		ls the S	amnli	na Poi	nt within a Wetland?	Ves	\square	No	
Wetland Hydrology Present?	Yes	\boxtimes	No		13 116 0	ampi	ing i oi	ne wienin a Wetland :	163		110	
Remarks: Wetland	EB08											

VEGETATION – Use scientific names of pla	nts.				
Tree Stratum (Plot size: 5m diam.)	Absolute % Cover	Dominant Species?	Indicator Status	Dominance Test Worksheet	
1.		•		Number of Dominant Species	4
2.				that are OBL, FACW, or FAC:	• (A)
3. 4.				Total Number of Dominant Species Across All Strata:	4 (B)
		= Total Cover		Percent of Dominant Species that are OBL, FACW, or FAC:	100 (A/B)
Sapling/Shrub Stratum (Plot size: 3m diam.)					、 .
1. Populus balsamifera (sapling)	5	Y	FAC	Prevalence Index Worksheet	
2.				Total % Cover of	Multiply by
3.				OBL species	x 1 =
4.				FACW species	x 2 =
5.				FAC species	x 3 =
	5	= Total Cover		FACU species	x 4 =
				UPL species	x 5 =
Herb Stratum (Plot size: 1m diam.)				Column totals (A)	(B)
1. Phalaris arundinacea	90	Y	FACW		
2. Juncus effusus	35	Y	FACW	Prevalence Index = B / A =	
3. Carex stipata	5	<u>N</u>	OBL		
4.				Hydrophytic Vegetation Indicators	\$
5.				☑ Dominance test is > 50%	
6.				□ Prevalence test is \leq 3.0 *	
7.				Morphological Adaptations * (provid	de supporting
8.				data in remarks or on a separate sh	neet)
9.				- □ Wetland Non-Vascular Plants *	
10.				 Problematic Hydrophytic Vegetation 	n * (explain)
11.					<u> </u>
	130	= Total Cover		* Indicators of hydric soil and wetland hyd	rology must be
Woody Vine Stratum (Plot size: 3m diam)				·····	
1. Solanum dulcamara	15	Y	FAC	1	
2.				Hydrophytic Vegetation	
	15	= Total Cover		Present?	
% Bare Ground in Herb Stratum					
Remarks:				-4	
r ternanto.					

SOIL	
------	--

nnling Point - DP-20 _

SOIL								Sampling Point – D	P-20
Profile Descri	ption: (Descri	be to the d	lepth need	ed to document the indica	ator or confi	rm the absence o	f indicators	s.)	
Dopth		Motrix			Podov Foot			, T	
Depth (inchoo)	Color (m	oiot)	0/	Color (moint)			1.002	Toxturo	Bomorko
(Inches) 0-4	10YR 3/2	0151)	100		-70	туре	LUC	Sandy loam	Remarks
0-4	10111 3/2		100						
4-12	10GY 4/1		90	7.5YR 4/6	10	С	M, PL	Sandy clay loam	
¹ Type: C=Con	centration, D=D	Depletion, R	RM=Reduce	d Matrix, CS=Covered or C	Coated Sand	I Grains ² Loc: PL	=Pore Linin	q, M=Matrix	
	,	• *		,					
Hydric Soil In	dicators: (App	olicable to	all LRRs, u	inless otherwise noted.)		Indicato	rs for Prob	lematic Hydric Soils ³	
	A1)			Sandy Redox (S5)		∐ 2cm	Muck (A10)	
Histic Epip	bedon (A2)			Stripped Matrix (S6)		∐ Red	Parent Mat	terial (TF2)	
Black Histi	ic (A3)			.oamy Mucky Mineral (F1)	except MLR	A 1) ∐ Oth	er (explain i	n remarks)	
∐ Hydrogen	Sulfide (A4)			.oamy Gleyed Matrix (F2)					
Depleted E	Below Dark Sur	face (A11)		Depleted Matrix (F3)		2			
Thick Dark	< Surface (A12)		🗆 F	Redox Dark Surface (F6)		³ Indicato	ors of hydror	phytic vegetation and wetlar	nd hydrology must
Sandy Mu	cky Mineral (S1	1)		Depleted Dark Surface (F7)		be prese	nt, uniess a	isturbed or problematic	
Sandy Gle	eyed Matrix (S4)	🗆 F	Redox Depressions (F8)					
Restrictive Lav	ver (if present):								
Type [.]	, or (in proceed).								
турс						Hydric soil	present?	Yes 🔀	No
Depth (inches)):								
Remarks:									
	,								
TIDKOLOGI									
Wetland Hydr	ology Indicato	ors:							
Primary Indic	ators (minimun	n of one red	quired: chec	ck all that apply):			Secondary	Indicators (2 or more requir	red):
Surface w	/ater (A1)		🗆 S	parsely Vegetated Concav	e Surface (B	8)	Wat	er-Stained Leaves (B9) (ML	.RA 1, 2, 4A & 4B)
High Wate	er Table (A2)		□ V	Vater-Stained Leaves (exce	ept MLRA 1,	2, 4A & 4B) (B9)	🗌 Drai	nage Patterns (B10)	
Saturation	ו (A3)		🗆 S	alt Crust (B11)			Dry-	Season Water Table (C2)	
Water Ma	ırks (B1)		A	quatic Invertebrates (B13)			🗌 Satu	uration Visible on Aerial Ima	gery (C9)
Sediment	Deposits (B2)		🗆 Н	lydrogen Sulfide Odor (C1)			🛛 Geo	morphic Position (D2)	
Drift Depo	osits (B3)			xidized Rhizospheres alon	g Living Root	ts (C3)	🗌 Sha	llow Aquitard (D3)	
Algal Mat	or Crust (B4)		🗆 P	resence of Reduced Iron (C4)		🛛 FAC	C-Neutral Test (D5)	
Iron Depo	sits (B5)		🗆 R	ecent Iron Reduction in Till	ed Soils (C6))	🗌 Rais	sed Ant Mounds (D6) (LRR	A)
Surface S	oil Cracks (B6)		🗆 S	tunted or Stressed Plants (D1) (LRR A)		Fros	st-Heave Hummocks	,
Inundation	n Visible on Ae	rial Imagery	y _ C	ther (explain in remarks)	,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,				
(B7)									
Field Observe	tions								
Surface Weter	Drocont?			7 Donth (in);					
Mater Table D		Yes 🗆	NO 🖄	Depth (in).					_
	resent?	Yes 🗆	No 🖄			Wetland Hydro	logy Prese	nt? Yes 🔀	No
Saturation Pre	sent?	Yes 🛛	No	Depth (in): 4-	12 BGS				
(includes capit	ary mige)								
Describe Reco	orded Data (stre	eam gauge	, monitoring	well, aerial photos, previou	us inspection	s), if available:			
Remarks:	BGS - below	w around	surface						
rternanter	500 - 50101	n ground	Junuoc						



Western Mountains, Valleys, and Coast Supplement to the 1987 COE Wetlands Delineation Manual

DP- 21

3

4

75

(A)

(B)

(A/B)

Project Site:	Segment E, parce	el nur	nber 3	42505	9016				Sampling Date:	6/8/2015			
Applicant/Owner:	Puget Sound Ene	ergy							Sampling Point:	DP- 21			
Investigator:	Katy Crandall, Ne	ell Lui	nd, Clo	over N	luters				City/County:	Bellevue			
Sect., Township, Range:	S 34 T	25N	R	05E					State:	WA			
Landform (hillslope, terrace,	etc): Terrace					Slope (%): ~	5	Local relief (concave	, convex, none):	None		
Subregion (LRR): A						Lat:			Long:		Datum:		
Soil Map Unit Name: AgD	 Alderwood grave 	elly sa	andy le	oam, 1	5-30%	% slopes	i		NWI classification:	A			
Are climatic/hydrologic condi	tions on the site typica	l for th	is time	of year'	? 🛛	🛛 Yes		No	(If no, explain in rema	arks.)			
Are "Normal Circumstances"	present on the site?					🛛 Yes		No					
Are Vegetation□, Soil □, or	Hydrology signification	ntly dis	sturbed	?									
Are Vegetation□, Soil □, or	Hydrology naturally	/ proble	ematic						(If needed, explain a	ny answers in Re	emarks.)		
SUMMARY OF FINDING	S – Attach site ma	ıp sho	owing	samp	ling po	oint loca	itions	, trans	sects, important fea	atures, etc.			
Hydrophytic Vegetation Pres	ent?	Yes	\boxtimes	No									
Hydric Soils Present?		Yes		No	\boxtimes	Is the S	Sampli	na Poi	nt within a Wetland?	Yes	7	No	\square
Wetland Hydrology Present?		Yes		No	\boxtimes			5.00					

Remarks: Former wetland per GeoEngineers' 2008 delineation

VEGETATION – Use scientific names of p	lants.			
Tree Stratum (Plot size: 5m diam.)	Absolute % Cover	Dominant Species?	Indicator Status	Dominance Test Worksheet
1.				Number of Dominant Species
2.				that are OBL, FACW, or FAC:
3.				Total Number of Dominant
4.				Species Across All Strata:
		= Total Cover		Percent of Dominant Species that are OBL, FACW, or FAC:
Sapling/Shrub Stratum (Plot size: 3m diam.)				
1. Alnus rubra	5	Y	FAC	Prevalence Index Worksheet
2.				Total % Cover of

Sapling/Shrub Stratum (Plot size: 3m diam.)					(;;;;)
1. Alnus rubra	5	Y	FAC	Prevalence Index Wo	orksheet
2.				Total % Cover	of Multiply by
3.				OBL species	x 1 =
4.				FACW species	x 2 =
5.				FAC species	x 3 =
	5	= Total Cover		FACU species	x 4 =
				UPL species	x 5 =
Herb Stratum (Plot size: 1m diam.)				Column totals (A)	(B)
1. Juncus effusus	75	Y	FACW	· ·	
2. Phalaris arundinacea	40	Y	FACW	Prevalence Index =	= B / A =
3.					
4.				Hydrophytic Vegetat	ion Indicators
5.				Dominance test is	> 50%
6.				Prevalence test is	≤ 3.0 *
7.				Morphological Ada	ptations * (provide supporting
8.				□ data in remarks or	on a separate sheet)
9				U Wetland Non-Vaso	cular Plants *
10				Problematic Hydro	nhytic Vegetation * (explain)
10.					
11.	115	- Total Cover		* Indiactors of hydric coil	and watland bydrology must be
				present, unless disturbed	l or problematic
Woody Vine Stratum (Plot size:)					
1. Rubus armeniacus	20	Y	FACU		
2.				Hydrophytic Vegetati	ion yr 🔽 Na 🗖
	20	= Total Cover		Present?	Yes X No
% Bare Ground in Herb Stratum:					
Remarks:				•	

SOIL							Sampl	ing Point – DI	P-21	
Profile Desci	ription: (Describe to the	depth need	ded to document the indicate	or or confirm	the absence	of indicators	5.)			
Depth	Matrix		F	Redox Feature	es					
(inches)	Color (moist)	%	Color (moist)	%	Type ¹	Loc ²	· ·	Texture	R	emarks
0-5	10 YR 3/2	100					Gravelly loam	/ sandy clay		
									_	
¹ Type: C=Cor	ncentration, D=Depletion,	RM=Reduc	ed Matrix, CS=Covered or Co	ated Sand Gr	ains ² Loc: F	PL=Pore Linir	ng, M=Matrix			
Hydric Soil I	ndicators: (Applicable to	all LRRs,	unless otherwise noted.)		Indicat	tors for Prob	lematic Hyd	Iric Soils ³		
Histosol ((A1)		Sandy Redox (S5)		□ 2c	m Muck (A10))			
Histic Epi	ipedon (A2)		Stripped Matrix (S6)		🗌 Re	ed Parent Ma	terial (TF2)			
Black His	stic (A3)		Loamy Mucky Mineral (F1) (ex	ccept MLRA	1) 🗌 Ot	her (explain i	n remarks)			
Hydroger	n Sulfide (A4)		Loamy Gleyed Matrix (F2)							
Depleted	Below Dark Surface (A11))	Depleted Matrix (F3)							
Thick Da	rk Surface (A12)		Redox Dark Surface (F6)		³ Indica	ators of hydro	phytic vegeta	ation and wetland	d hydrolo	logy mus
Sandy M	ucky Mineral (S1)		Depleted Dark Surface (F7)		be pres	sent, unless c	listurbed or p	problematic	-	
□ Sandy GI	leyed Matrix (S4)		Redox Depressions (F8)							
Restrictive La	aver (if present):									
Туре:					Hydric so	il present?	Yes		No	\boxtimes
	s):									

HYDROLOGY

Wetland Hydrology Indicat Primary Indicators (minimu	ors: m of one reauir	ed: ci	heck all that apply):		Seco	ndarv Indicators (2 or more required):
□ Surface water (A1)			Sparsely Vegetated Concave Surface (B8)	1		Water-Stained Leaves (B9) (MLRA 1, 2, 4A & 4B)
High Water Table (A2)			Water-Stained Leaves (except MLRA 1, 2	, 4A & 4B) (B9)		Drainage Patterns (B10)
□ Saturation (A3)			Salt Crust (B11)			Dry-Season Water Table (C2)
Water Marks (B1)			Aquatic Invertebrates (B13)			Saturation Visible on Aerial Imagery (C9)
Sediment Deposits (B2)			Hydrogen Sulfide Odor (C1)			Geomorphic Position (D2)
Drift Deposits (B3)			Oxidized Rhizospheres along Living Roots	(C3)		Shallow Aquitard (D3)
Algal Mat or Crust (B4)			Presence of Reduced Iron (C4)	. ,		FAC-Neutral Test (D5)
□ Iron Deposits (B5)			Recent Iron Reduction in Tilled Soils (C6)			Raised Ant Mounds (D6) (LRR A)
□ Surface Soil Cracks (B6)		Stunted or Stressed Plants (D1) (LRR A)			Frost-Heave Hummocks
Inundation Visible on Ae (B7)	erial Imagery		Other (explain in remarks)			
Field Observations						
Surface Water Present?	Yes 🗆	No	Depth (in):			
Water Table Present?	Yes 🗆	No	Depth (in):	Wetland Hydro	ology	Present? Yes No 🕅
Saturation Present?	Yes 🗆	No	Depth (in):			
(includes capillary fringe)						
Describe Recorded Data (str	eam gauge, mo	onitor	ing well, aerial photos, previous inspections)), if available:		
Remarks:						



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DP- 22

Project Site:	Segment E, parc	el nur	nber 3	842505	9017				Sampling Date:	6/8/2015	5		
Applicant/Owner:	Puget Sound En	ergy							Sampling Point:	DP- 22			
Investigator:	Katy Crandall, N	ell Lu	nd, Clo	over N	luters				City/County:	Bellevue	e		
Sect., Township, Range:	S 34 T	25N	R	05E					State:	WA			
Landform (hillslope, terrace,	etc): Depression					Slope (%): 2		Local relief (concave	, convex, no	ne): Concav	е	
Subregion (LRR): A						Lat:			Long:		Datum:		
Soil Map Unit Name: AgD	 Alderwood grav 	elly sa	andy l	oam, 1	5-30%	5 slopes			NWI classification:	A			
Are climatic/hydrologic condi	tions on the site typic	al for th	is time	of year'	? [🛛 Yes		No	(If no, explain in rema	arks.)			
Are "Normal Circumstances"	present on the site?					🛛 Yes		No					
Are Vegetation□, Soil □, or	Hydrology signification	antly dis	sturbed	?									
Are Vegetation \Box , Soil \Box , or	Hydrology 🗆 naturall	y probl	ematic						(If needed, explain a	ny answers i	in Remarks.)		
SUMMARY OF FINDING	S – Attach site m	ap sho	owing	samp	ling po	oint loca	tions	, trans	sects, important fea	atures, etc			
Hydrophytic Vegetation Pres	ent?	Yes	\boxtimes	No									
Hydric Soils Present?		Yes	\boxtimes	No		Is the S	Sampli	na Poi	nt within a Wetland?	Yes	\square	No	
Wetland Hydrology Present?		Yes	\boxtimes	No				J					

Remarks: Wetland EB09 – Stream EB07 present within boundaries.

VEGETATION – Use scientific names of pla	nts.			
Tree Stratum (Plot size: 5m diam.)	Absolute % Cover	Dominant Species?	Indicator Status	Dominance Test Worksheet
1. Thuja plicata	30	Y	FAC	Number of Dominant Species
2. Acer macrophllyum (rooted out)				that are OBL, FACW, or FAC: 3 (A)
3.				Total Number of Dominant
4.				Species Across All Strata: 4 (B)
	30	= Total Cover		Percent of Dominant Species that are OBL_FACW, or FAC: 75
Sapling/Shrub Stratum (Plot size: 3m diam.)				(A/B)
1. Rubus spectabilis	90	Y	FAC	Prevalence Index Worksheet
2.				Total % Cover of Multiply by
3.				OBL species x 1 =
4.				FACW species x 2 =
5.				FAC species x 3 =
	90	= Total Cover		FACU species x 4 =
		_		UPL species x 5 =
Herb Stratum (Plot size: 1m diam.)				Column totals (A) (B)
1. Equisetum telmateia	20	Y	FACW	
2.				Prevalence Index = B / A =
3.				1
4.				Hydrophytic Vegetation Indicators
5.				☑ Dominance test is > 50%
6.				□ Prevalence test is $\leq 3.0^{*}$
7.				 Morphological Adaptations * (provide supporting
8.				☐ data in remarks or on a separate sheet)
9.				─ Wetland Non-Vascular Plants *
10				 Problematic Hydrophytic Vegetation * (explain)
11				
	20	= Total Cover		* Indicators of hydric soil and wetland hydrology must be
		_		present, unless disturbed or problematic
Woody Vine Stratum (Plot size:)				
1. Rubus armeniacus	10	Y	FACU	
2.				Hydrophytic Vegetation
	10	= Total Cover		Present? Yes No
% Bare Ground in Herb Stratum:				
Remarks:				1
• • • • • • • • • • • • • • • • • • •				

Denth	Matri	Y	F	edox Featu	res					1	
(inches)	Color (moist)	~ %	Color (moist)	%	Type	e ¹	L oc ²	т	exture	R	emarks
0-10	10YR 3/1	100		70	- Typ		200	Gravelly loam	sandy clay		omano
10-16	5GY 5/1	100						Gravelly	clay loam		
¹ Type: C=C	oncentration, D=Depletion	on, RM=Redu	ced Matrix, CS=Covered or Co	ated Sand C	Grains ²	² Loc: PL=	Pore Linin	g, M=Matrix			
Hydric Soil	Indicators: (Applicable	e to all LRRs	, unless otherwise noted.)		I		for Prob	lematic Hyd	ric Soils ³		
Histic F	ininedon (A2)		Stripped Matrix (S6)		ſ		Parent Mat	/ erial (TF2)			
	listic (A3)		Loamy Mucky Mineral (E1)	cent MI R	۱ ۱۱ آ			n romarke)			
	en Sulfide (A4)		Loamy Gleved Matrix (F2)		· · /		(cxpiairi i	in remarks)			
	ed Below Dark Surface (A	A11)	Depleted Matrix (F3)		L	_					
	ark Surface (A12)	,	Redox Dark Surface (F6)		3	Indicator	s of hydro	ohvtic vegeta	tion and wetland	hvdrolo	oav mu
□ Sandy I	Mucky Mineral (S1)		Depleted Dark Surface (F7)		t	e presen	t, unless d	isturbed or p	roblematic	, a. o.	
□ Sandy (Gleyed Matrix (S4)		Redox Depressions (F8)								
Restrictive I	Layer (if present):										
Туре:					Hyd	ric soil p	resent?	Yes	\boxtimes	No	
Depth (inch	es):										
Remarks:											

Wetland Hydrology Indicate	ors:								
Primary Indicators (minimur	n of o	ne requ	ired: cl	heck al	l that apply):			Seco	ndary Indicators (2 or more required):
Surface water (A1)				Spars	sely Vegetated Co	oncave Surface (B8)		Water-Stained Leaves (B9) (MLRA 1, 2, 4A & 4B)
High Water Table (A2)				Wate	r-Stained Leaves	(except MLRA 1, 2	2, 4A & 4B) (B9)	\boxtimes	Drainage Patterns (B10)
Saturation (A3)				Salt (Crust (B11)			\boxtimes	Dry-Season Water Table (C2)
Water Marks (B1)				Aqua	tic Invertebrates (B13)			Saturation Visible on Aerial Imagery (C9)
Sediment Deposits (B2)				Hydro	ogen Sulfide Odor	· (C1)		\boxtimes	Geomorphic Position (D2)
 Drift Deposits (B3) 				Oxidi	zed Rhizospheres	along Living Roots	s (C3)		Shallow Aquitard (D3)
Algal Mat or Crust (B4)				Prese	ence of Reduced I	lron (C4)			FAC-Neutral Test (D5)
Iron Deposits (B5)				Rece	nt Iron Reduction	in Tilled Soils (C6)			Raised Ant Mounds (D6) (LRR A)
Surface Soil Cracks (B6))			Stunt	ed or Stressed Pl	ants (D1) (LRR A)			Frost-Heave Hummocks
 Inundation Visible on Ae (B7) 	rial Im	nagery		Othe	r (explain in remai	rks)			
Field Observations									
Surface Water Present?	Yes		No	\boxtimes	Depth (in):				
Water Table Present?	Yes	\boxtimes	No		Depth (in):	15" BGS	Wetland Hydro	oloav	Present? Yes 🛛 No
Saturation Present? (includes capillary fringe)	Yes	\boxtimes	No		Depth (in):	throughout	·····,		
Describe Recorded Data (str	eam g	jauge, r	nonitor	ing we	ll, aerial photos, p	revious inspections), if available:		
Remarks: Surface wa	ter (S	Stream	EB07	7) loca	ted nearby. B	GS = below gro	und surface		



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Project Site:	Segment E, parcel nur	Sampling Date:	6/8/2015	5							
Applicant/Owner:	Puget Sound Energy						Sampling Point:	DP- 23			
Investigator:	Katy Crandall, Nell Lui	nd, Clover Mute	ers				City/County:	Bellevu	е		
Sect., Township, Range:	S 34 T 25N				State:	WA					
Landform (hillslope, terrace,	etc): Hillslope		Slope (%): 5	-10	Local relief (concave	ncave, convex, none): Concave				
Subregion (LRR): A			Lat:			Long:		Datum:			
Soil Map Unit Name: AgD	- Alderwood gravelly sa	andy loam, 15-3	60 %	slopes	5		NWI classification:	A			
Are climatic/hydrologic cond	itions on the site typical for th	is time of year?	\geq	🛛 Yes		No	(If no, explain in rema	arks.)			
Are "Normal Circumstances"	' present on the site?	🛛 Yes		No							
Are Vegetation□, Soil □, or	· Hydrology □ significantly dis	sturbed?									
Are Vegetation□, Soil □, or	Hydrology naturally proble	ematic					(If needed, explain a	ny answers	in Remarks.)		
SUMMARY OF FINDING	S – Attach site map sho	owing sampling	ро	oint loca	ations	, trans	sects, important fea	atures, etc).		
Hydrophytic Vegetation Pres	sent? Yes	No C]								
Hydric Soils Present?	Yes	🛛 No 🗆]	Is the S	Sampli	ina Poi	nt within a Wetland?	Yes	\square	No	
Wetland Hydrology Present	Yes	No 🗆]		Jampi			100		No	
Remarks: Wetland	EB10										

VEGETATION – Use scientific names of pla	nts.									
Tree Stratum (Plot size: 5m diam.)	Absolute % Cover	Dominant Species?	Indicator Status	Dominance Te	est Worksheet					
1.		•		Number of Domin	ant Species	3				
2.				Total Number of I	Dominant		(A)			
4.				Species Across A	3	(B)				
		= Total Cover		Percent of Domin that are OBL, FA	ant Species CW, or FAC:	100	(A/B)			
Sapling/Shrub Stratum (Plot size: 3m diam.)										
1.				Prevalence Inc	dex Worksheet					
2.				Total %	<u>6 Cover of</u>	Multi	oly by			
3.				OBL species		x 1 =				
4.				FACW species		x 2 =				
5.				FAC species		x 3 =				
		= Total Cover		FACU species		x 4 =				
				UPL species		x 5 =				
Herb Stratum (Plot size: 1m diam.)				Column totals	(A)	(B)				
1. Scirpus microcarpus	25	Y	OBL							
2. Juncus effusus	25	Y	FACW	Prevalence	Index = B / A =					
3. Phalaris arundinacea	20	Y	FACW							
4. Carex stipata	10	N	OBL	Hydrophytic V	egetation Indic	cators				
5. Athyrium cyclosorum	10	Ν	FAC	☑ Dominance	e test is > 50%					
6.				Prevalence	e test is ≤ 3.0 *					
7.				Morpholog	ical Adaptations *	(provide support	ing			
8.				data in rem	arks or on a sepa	rate sheet)				
9.				Wetland Netland N	on-Vascular Plant	s *				
10.				Problemati	c Hydrophytic Veg	getation * (explair	ר)			
11.										
	90	= Total Cover		* Indicators of hyd present, unless d	dric soil and wetlar isturbed or probler	nd hydrology mu matic	st be			
Woody Vine Stratum (Plot size:)										
1.										
2.				Hydrophytic V	/egetation 、					
		= Total Cover		Preser	nt?					
% Bare Ground in Herb Stratum:										
Remarks:										

SOIL	

Sampling Point – DP-23

Profile Descri	ption: (Describe to the	depth need	ded to document the indica	tor or conf	irm the	absence o	findicators	5.)				
Depth	Matrix			Redox Fea	itures							
(inches)	Color (moist)	%	Color (moist)	%	-	Type ¹	Loc ²	Texture	Remarks			
0-8	2.5Y 3/1	95	2.5Y 3/3	5	С		м	Sandy clay loam				
8-14	10Y 4/1	70	7.5YR 4/6	30	С		Μ	Gravelly sandy clay loam				
¹ Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered or Coated Sand Grains ² Loc: PL=Pore Lining, M=Matrix												
Hydric Soil In	dicators: (Applicable to	all LRRs,	unless otherwise noted.)			Indicato	rs for Prob	lematic Hydric Soils ³				
Histosol (A	A1)		Sandy Redox (S5)		\square 2cm Muck (A10)							
Histic Epip	edon (A2)		Stripped Matrix (S6)			🗌 Red	Parent Mat	terial (TF2)				
Black Hist	ic (A3)		Loamy Mucky Mineral (F1)	except MLI	RA 1)	Other	er (explain i	n remarks)				
Hydrogen	Sulfide (A4)		Loamy Gleyed Matrix (F2)									
Depleted I	Below Dark Surface (A11)	Depleted Matrix (F3)									
Thick Dark	s Surface (A12)	\boxtimes	Redox Dark Surface (F6)			³ Indicate	ors of hydro	phytic vegetation and wetland	hydrology must			
Sandy Mu	cky Mineral (S1)		Depleted Dark Surface (F7)			be prese	nt, unless d	listurbed or problematic				
Sandy Gle	eyed Matrix (S4)		Redox Depressions (F8)									
Restrictive Lay	ver (if present):											
Туре:						Hvdric soil	present?	Yes 🕅	No 🗌			
Depth (inches)	:					,,						
Remarks:												

HYDROLOGY				
HYDROLOGY Wetland Hydrology Indicators: Primary Indicators (minimum of one required) 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)	uired: c	heck all that apply): Sparsely Vegetated Concave Surface (B8) Water-Stained Leaves (except MLRA 1, 2, 4A 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)	Secon	dary Indicators (2 or more required): 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)
 Surface Soil Cracks (B6) Inundation Visible on Aerial Imagery (B7) 			Frost-Heave Hummocks	
Field Observations				
Surface Water Present? Yes Water Table Present? Yes Saturation Present? Yes (includes capillary fringe) Yes	No No No	☑ Depth (in): ☑ Depth (in): ☑ Depth (in): throughout	tland Hydrology P	r esent? Yes 🔀 No 🗌
Describe Recorded Data (stream gauge,	monito	ring well, aerial photos, previous inspections), if a	vailable:	
Remarks:				



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Project Site:	Sampling Date:	6/8/2015											
Applicant/Owner:	Puget Sound En	ergy							Sampling Point:	DP- 24			
Investigator:	Katy Crandall, N	ell Lu	nd, Clo	over M	uters				City/County:	Bellevue	•		
Sect., Township, Range:	S 34 T	25N	R	05E					State:	WA			
Landform (hillslope, terrace,	Local relief (concave	, convex, nor	ne): None										
Subregion (LRR): A						Lat:			Long:		Datum:		
Soil Map Unit Name: AgD – Alderwood gravelly sandy loam, 15-30% slopes									NWI classification: NA				
Are climatic/hydrologic cond	itions on the site typic	al for th	is time o	of year	? [🛛 Yes		No	(If no, explain in rema	arks.)			
Are "Normal Circumstances"	present on the site?					🛛 Yes		No					
Are Vegetation \Box , Soil \Box , or	Hydrology 🗆 signification	antly dis	sturbed	?									
Are Vegetation□, Soil □, or	Hydrology natural	y probl	ematic						(If needed, explain a	ny answers ii	n Remarks.)		
SUMMARY OF FINDING	S – Attach site m	ap sho	owing	sampl	ing po	oint loca	ations	s, trans	sects, important fea	atures, etc.			
Hydrophytic Vegetation Pres	ent?	Yes	\boxtimes	No									
Hydric Soils Present?		Yes	\boxtimes	No		ls the S	Samnli	ina Poi	nt within a Wetland?	Ves		No	\square
Wetland Hydrology Present)	Yes		No	\boxtimes	13 110 0	Jampi	ing i oi		103		NO	
Remarks: Wetland	EB10 out-pit												

VEGETATION – Use scientific names of plan	nts.			
Tree Stratum (Plot size: 5m diam.)	Absolute % Cover	Dominant Species?	Indicator Status	Dominance Test Worksheet
1.		•		Number of Dominant Species
2.				that are OBL, FACW, or FAC:
3.				Total Number of Dominant
4.				Species Across All Strata: (B)
		= Total Cover		Percent of Dominant Species that are OBL, FACW, or FAC: 67
Sapling/Shrub Stratum (Plot size: 3m diam.)				((0))
1.				Prevalence Index Worksheet
2.				Total % Cover of Multiply by
3.				OBL species x 1 =
4.				FACW species x 2 =
5.				FAC species x 3 =
		= Total Cover		FACU species x 4 =
		_		UPL species x 5 =
Herb Stratum (Plot size: 1m diam.)				Column totals (A) (B)
1. Unknown grass	30	Y	FAC*	
2. Equisetum telmateia	15	Y	FACW	Prevalence Index = B / A =
3. Phalaris arundinacea	5	Ν	FACW	
4.				Hydrophytic Vegetation Indicators
5.				Dominance test is > 50%
6.				□ Prevalence test is $\leq 3.0^{*}$
7.				 Morphological Adaptations * (provide supporting
8.				data in remarks or on a separate sheet)
9				
10.				Problematic Hydrophytic Vegetation * (explain)
11.				
	50	= Total Cover		* Indicators of hydric soil and wetland hydrology must be
		_		present, unless disturbed or problematic
Woody Vine Stratum (Plot size:)				
1. Rubus armeniacus	5	Y	FACU	
2.				Hydrophytic Vegetation
	5	= Total Cover		Present?
% Bare Ground in Herb Stratum:				
Remarks:				

SOIL

Sampling Point – DP-24

inches))-8	Color (moist)			TICUOX T CULUIC	5		_			
9-8		%	Color (moist)	%	Type ¹	Loc ²	Tex	xture	Rema	arks
	2.5Y 3/2	90	10YR 3/4	10 0	;	м	Sandy loa	m		
	centration D-Depletio	n RM-Redu	ced Matrix, CS-Covered or (Coated Sand Gra	ains ² l.oc: Pl	-Pore Linin	a M-Matrix			
							g, m=matrix			
lydric Soil Ind	dicators: (Applicable	e to all LRRs	, unless otherwise noted.)			rs for Prob	lematic Hydric	c Soils ³		
	(1) adap (A2)		Sanuy Redux (SS)) arial (TEQ)			
☐ HISUC EPIP ☐ Block Histi			Supped Matrix (S6)			Parent Mat				
	C (AS) Sulfido (A4)		Loamy Gloved Matrix (E2)	except MERA		ei (explain ii	Tremarks)			
	Sullide (A4) Solow Dark Surface (A	.11)	Doploted Matrix (E2)							
Depieted E Thick Dark	Surface (A12)	(II) 🗆	Redox Dark Surface (F6)		³ Indicate	ore of hydror	obytic vegetatio	on and wetland	hydrology	muc
	Sullace (A12)		Deploted Dark Surface (F7)		be prese	nt. unless d	isturbed or pro	blematic	nyurology	mua
	ved Matrix (S1)		Reday Depressions (EP)		50 F. 500	,				
	yeu Matrix (34)		Redux Depressions (Fo)							
estrictive Lay	er (if present):						.,			_
ypo					Hydric soil	present?	Yes	X	No	
eptn (inches)	•									
Vetland Hvdr	ology Indicators:									
Primary Indic	ators (minimum of one	e required: ch	eck all that apply):			Secondary	Indicators (2 o	r more require	d):	
Surface w	ater (A1)		Sparsely Vegetated Concav	e Surface (B8)		Wat	er-Stained Lea	ves (B9) (MLR	A 1, 2, 4A	& 4I
High Wate	er Table (A2)		Water-Stained Leaves (exce	ept MLRA 1, 2,	4A & 4B) (B9)	🗌 Drai	nage Patterns	(B10)		
Saturation	i (A3)		Salt Crust (B11)			Dry-	Season Water	Table (C2)		
Water Mai	rks (B1)		Aquatic Invertebrates (B13)			Satu	ration Visible of	on Aerial Image	ery (C9)	
Sediment	Deposits (B2)		Hydrogen Sulfide Odor (C1)			Geo	morphic Positi	on (D2)		
Drift Depo	sits (B3)		Oxidized Rhizospheres alon	g Living Roots (C3)	□ Sha	llow Aquitard (I	D3)		
Algal Mat	or Crust (B4)		Presence of Reduced Iron (C4)		∐ FAC	-Neutral Test ((D5)		
☐ Iron Depo:	sits (B5)		Recent Iron Reduction in Til	led Soils (C6)			sed Ant Mound	s (D6) (LRR A))	
Surface S	oil Cracks (B6)		Stunted or Stressed Plants (D1) (LRR A)		Fros	st-Heave Humn	nocks		
B7)	VISIBLE ON AERIALIMA	gery	Other (explain in remarks)							
ield Observa	tions			I						
Surface Water	Present? Yes	No	Depth (in):							
Nater Table P	resent? Yes		Depth (in):		Wetland Hydro		nt? Voo		No	\bigtriangledown
Saturation Pres	sent? Yes [ary fringe)	□ No	Depth (in):		wedana nyaro	logy i rese	103	· [_]	NU	
includes capill		uga monitori	ng well, aerial photos, previor	us inspections),	if available:					
ncludes capill Describe Reco	rded Data (stream ga	uge, monitori								
includes capill Describe Reco	rded Data (stream ga	uge, moniton								
includes capill Describe Reco Remarks:	rded Data (stream ga									



Western Mountains, Valleys, and Coast Supplement to the 1987 COE Wetlands Delineation Manual

DP- 24A

Project Site:	Segment E – parcel nu	umber 34250	59010			Sampling Date:	6/15/201	15			
Applicant/Owner:	Puget Sound Energy						Sampling Point:	DP- 24	Α		
Investigator:	K. Crandall, R. Whitso	n			City/County:	Bellevu	е				
Sect., Township, Range:		State:	WA								
Landform (hillslope, terrace,	etc): Hillslope		Slope (%): 1	5	Local relief (concave	, convex, no	one): Conca	ve		
Subregion (LRR): A			Lat:			Long:		Datum:			
Soil Map Unit Name: EwC	- Everett-Alderwood gr	avelly sandy	/ loam	ns, 6-15%	% slop	oes	NWI classification:	A			
Are climatic/hydrologic cond	itions on the site typical for th	is time of year?	' [Yes	\boxtimes	No	(If no, explain in rema	arks.)			
Are "Normal Circumstances"	present on the site?		No								
Are Vegetation□, Soil □, or	Hydrology	sturbed?									
Are Vegetation □, Soil □, or	Hydrology naturally proble	ematic					(If needed, explain a	ny answers	in Remarks.)		
SUMMARY OF FINDING	S – Attach site map sho	owing sampl	ing po	oint loca	ations	, trans	sects, important fea	atures, etc			
Hydrophytic Vegetation Pres	ent? Yes	🛛 No									
Hydric Soils Present?	Yes	🖾 No		la tha t		ne Dei	nt within a MatlandQ	Vee		No	
Wetland Hydrology Present	Yes	No No		is the a	Sampi	ing Poi		Tes	\square	INU	
Weiland Hydrology Frederic	103										
Remarks: Wetland	FB07 inpit										
in the second se	2201 mp.u										

VEGETATION – Use scientific names of pla	nts.			
Tree Stratum (Plot size: 5m diam.)	Absolute % Cover	Dominant Species?	Indicator Status	Dominance Test Worksheet
1.				Number of Dominant Species
2.				(A)
3.				Species Across All Strata: 1
		= Total Cover		Percent of Dominant Species that are OBL, FACW, or FAC: 100 (A/B)
Sapling/Shrub Stratum (Plot size: 3m diam.)				
1.				Prevalence Index Worksheet
2.				Total % Cover of Multiply by
3.				OBL species x 1 =
4.				FACW species x 2 =
5.				FAC species x 3 =
		= Total Cover		FACU species x 4 =
				UPL species x 5 =
Herb Stratum (Plot size: 1m diam.)				Column totals (A) (B)
1. Phalaris arundinacea	100	Y	FACW	
2. Scirpus microcarpus	10	N	OBL	Prevalence Index = B / A =
3.				
4.				Hydrophytic Vegetation Indicators
5.				\boxtimes Dominance test is > 50%
6.				□ Prevalence test is $\leq 3.0^{*}$
7.				Morphological Adaptations * (provide supporting
8.				 data in remarks or on a separate sheet)
9.				Wetland Non-Vascular Plants *
10.				Problematic Hydrophytic Vegetation * (explain)
11.				
	110	= Total Cover		* Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic
Woody Vine Stratum (Plot size:)				
1.				
2.				Hydrophytic Vegetation
		= Total Cover		Present? Tes A NU
% Bare Ground in Herb Stratum:				
Remarks: Herbaceous vegetation is move	d			•
nerbaceous vegetation is mowe	ч.			

OIL									Sampli	ng Point – DP	-24A
Profile Descr	iption: (Desci	ibe to the de	epth need	ed to document the in	dicator or cor	nfirm t	the absence o	of indicators	s.)		
Depth		Matrix			Redox Fe	atures	3				
(inches)	Color (r	noist)	%	Color (moist)	%		Type ¹	Loc ²	Т	exture	Remark
0-18	2.5Y 3/1		100						Coarse le	oamy sand	
18-24	5GY 5/1		90	7.5YR 3/2	10	С	:	м	Gravelly	loamy sand	Round small pe
											gravel
Type: C=Cor	centration, D=	Depletion, RI	M=Reduce	ed Matrix, CS=Covered	or Coated San	nd Grai	ins ² Loc: Pl	_=Pore Linin	g, M=Matrix		
Hydric Soil h	dicators: (An	nlicable to a		inlass otherwise note	d)		Indicato	re for Brob	Iomatic Hyd		
Histosol (A1)	plicable to a		Sandy Redox (S5)	u.)			n Muck (A10		10 30115	
Histic Eni	nedon (A2)			Stripped Matrix (S6)				l Parent Mat	terial (TF2)		
Black His	tic (A3)			oamy Mucky Mineral (F	=1) (except MI	RA 1) 🗌 Oth	er (explain i	n remarks)		
Hvdrogen	Sulfide (A4)			oamy Gleved Matrix (F	(2)		,		, , ,		
Depleted	Below Dark Si	urface (A11)		Depleted Matrix (F3)	_/						
Depicted Thick Dar	k Surface (A12	2)		Redox Dark Surface (F6	5)		³ Indicat	ors of hydro	phytic vegeta	tion and wetland	hydrology mi
Sandy Mi	icky Mineral (S	-, (1)		Depleted Dark Surface ((F7)		be prese	ent, unless d	isturbed or pr	oblematic	
Sandy Gl	eved Matrix (S	4)		Redox Depressions (F8))						
	/// (-	,	_								
Restrictive La	yer (if present)	:									_
rype:							Hydric soil	present?	Yes	\boxtimes	No
Depth (inches):										
YDROLOG	(
Wetland Hyd	rology Indica	ors:									
Primary Indi	cators (minimu	m of one requ	uired: che	ck all that apply):				Secondary	Indicators (2	or more required	d):
Surface v	vater (A1)		£	Sparsely Vegetated Con	icave Surface ((B8)		∐ Wat	er-Stained Le	eaves (B9) (MLR	A 1, 2, 4A &
☐ High Wat	er Table (A2)			Vater-Stained Leaves (except MLRA	1, 2, 4	A & 4B) (B9)	∐ Drai	inage Pattern	s (B10)	
Saturatio	n (A3)			Salt Crust (B11)				∐ Dry-	-Season Wate	er Table (C2)	
Water Ma	arks (B1)			Aquatic Invertebrates (B	13)			∐ Satu	uration Visible	on Aerial Image	ery (C9)
Sedimen	t Deposits (B2)			Hydrogen Sulfide Odor (C1)			⊠ Geo	morphic Pos	tion (D2)	
Drift Dep	osits (B3)			Dxidized Rhizospheres	along Living Ro	oots (C	23)	□ Sha	llow Aquitard	(D3)	
Algal Ma	t or Crust (B4)			Presence of Reduced Ire	on (C4)			⊠ FAC	C-Neutral Tes	t (D5)	
Iron Dep	osits (B5)			Recent Iron Reduction ir	n Tilled Soils (C	26)			sed Ant Moun	ds (D6) (LRR A)	
Surface S	Soil Cracks (B6	5) · · · ·		Stunted or Stressed Plai	nts (D1) (LRR .	A)		Fros	st-Heave Hun	nmocks	
(B7)	IN VISIDIE ON A	enai imagery		other (explain in remark	S)						
Field Observ	ations										
Surface Wate	r Present?	Yes 🗌	No 🛛	Depth (in):							
Water Table F	Present?	Yes 🗌	No 🛛	Depth (in):		v	Netland Hydro	ology Prese	ent? Ye	es 🛛	No
Saturation Pre (includes capi	esent? llary fringe)	Yes 🛛	No [Depth (in):	0 BGS					<u> </u>	
Describe Rec	orded Data (st	ream gauge,	monitoring	g well, aerial photos, pre	evious inspection	ons), if	f available:				
Remarks:	BGS = held	w around	surface								
-		5. 5									

Some surface water upslope from test pit



Western Mountains, Valleys, and Coast Supplement to the 1987 COE Wetlands Delineation Manual

Project Site:	Segment E – parce	er 03240	59066		Sampling Date:	6/15/201	5					
Applicant/Owner:	Puget Sound Energ	ЭУ						Sampling Point:	DP- 25			
Investigator:	K. Crandall, R. Whi	tson						City/County:	Bellevue			
Sect., Township, Range:	Sect., Township, Range: S 03 T 24N R 05E											
Landform (hillslope, terrace,	Local relief (concave,	, convex, nor	ne): Concav	е								
Subregion (LRR): A Lat:								Long:		Datum:		
Soil Map Unit Name: AgD	NWI classification:	IA										
Are climatic/hydrologic condi	tions on the site typical for	or this tim	ne of year	'	Yes	\boxtimes	No	(If no, explain in rema	arks.)			
Are "Normal Circumstances"	present on the site?				🛛 Yes		No	Below avg precipita	tion			
Are Vegetation \Box , Soil \Box , or	Hydrology	y disturb	ed?									
Are Vegetation \Box , Soil \Box , or	Hydrology naturally p	roblemat	ic					(If needed, explain ar	ny answers ir	n Remarks.)		
SUMMARY OF FINDING	S – Attach site map	showir	ng sampl	ing po	oint loca	ations	, trans	ects, important fea	atures, etc.	1		
Hydrophytic Vegetation Pres	ent? Y	es 🖂	No									
Hydric Soils Present?	Y	es 🛛	No		Is the S	Sampl	ina Poi	nt within a Wetland?	Yes	\square	No	
Wetland Hydrology Present?	Y	es 🖂	No			p.			100		110	
Remarks: Wetland	EB13 in-pit											

VEGETATION - Use scientific names of pi	lants.					
Tree Stratum (Plot size: 5m diam.)	Absolute % Cover	Dominant Species?	Indicator Status	Dominance Test Worksheet		
1. Alnus rubra	100	Y	FAC	Number of Dominant Species	2	
2.				that are OBL, FACW, or FAC:	L	(A)
3.				Total Number of Dominant Species Across All Strata:	2	(B)
	100	= Total Cover		Percent of Dominant Species that are OBL, FACW, or FAC:	100	(A/B)
Sapling/Shrub Stratum (Plot size: 3m diam.)						
1.				Prevalence Index Worksheet		
2.				Total % Cover of	Multiply b	<u> </u>
3.				OBL species	x 1 =	
4.				FACW species	x 2 =	
5.				FAC species	x 3 =	
		= Total Cover		FACU species	x 4 =	
				UPL species	x 5 =	
Herb Stratum (Plot size: 1m diam.)				Column totals (A)	(B)	
1. Phalaris arundinacea	85	Y	FACW	4		
2. Equisetum telmateia	15	N	FACW	Prevalence Index = B / A =		
3. Cardamine oligosperma	5	N	FAC			
4.				Hydrophytic Vegetation Indic	ators	
				\square Dominance test is > 50%		
5.						
5. 6.				$\square \text{Prevalence test is } \leq 3.0 \text{ *}$		
5. 6. 7.				 □ Prevalence test is ≤ 3.0 * Morphological Adaptations * (provide supporting	
5. 6. 7. 8.				 □ Prevalence test is ≤ 3.0 * Morphological Adaptations * (□ data in remarks or on a separ 	provide supporting ate sheet)	
5. 6. 7. 8. 9.				 □ Prevalence test is ≤ 3.0 * □ Morphological Adaptations * (□ data in remarks or on a separ □ Wetland Non-Vascular Plants 	provide supporting ate sheet) *	
5. 6. 7. 8. 9. 10.				 □ Prevalence test is ≤ 3.0 * □ Morphological Adaptations * (□ data in remarks or on a separ □ Wetland Non-Vascular Plants □ Problematic Hydrophytic Vege 	provide supporting ate sheet) * etation * (explain)	
5. 6. 7. 8. 9. 10. 11.				 □ Prevalence test is ≤ 3.0 * □ Morphological Adaptations * (□ data in remarks or on a separ □ Wetland Non-Vascular Plants □ Problematic Hydrophytic Vega 	provide supporting ate sheet) * etation * (explain)	
5. 6. 7. 8. 9. 10. 11.		= Total Cover		 □ Prevalence test is ≤ 3.0 * □ Morphological Adaptations * (□ data in remarks or on a separ □ Wetland Non-Vascular Plants □ Problematic Hydrophytic Vegat * Indicators of hydric soil and wetlan present, unless disturbed or problem 	provide supporting ate sheet) * etation * (explain) d hydrology must be natic	e
5. 6. 7. 8. 9. 10. 11. Woody Vine Stratum (Plot size:)	105	= Total Cover		 □ Dominance test is ≤ 3.0 * □ Prevalence test is ≤ 3.0 * ■ Morphological Adaptations * (□ data in remarks or on a separ □ Wetland Non-Vascular Plants □ Problematic Hydrophytic Vegat * Indicators of hydric soil and wetlan present, unless disturbed or problem 	provide supporting ate sheet) * etation * (explain) d hydrology must be natic	e
5. 6. 7. 8. 9. 10. 11. Woody Vine Stratum (Plot size:) 1.	105	= Total Cover		 □ Prevalence test is ≤ 3.0 * □ Morphological Adaptations * (□ data in remarks or on a separ □ Wetland Non-Vascular Plants □ Problematic Hydrophytic Vegat * Indicators of hydric soil and wetlan present, unless disturbed or problem 	provide supporting ate sheet) * etation * (explain) d hydrology must be natic	Ð
5. 6. 7. 8. 9. 10. 11. Woody Vine Stratum (Plot size:) 1. 2.		= Total Cover		 □ Prevalence test is ≤ 3.0 * □ Prevalence test is ≤ 3.0 * □ Morphological Adaptations * (□ data in remarks or on a separ □ Wetland Non-Vascular Plants □ Problematic Hydrophytic Vege * Indicators of hydric soil and wetlan present, unless disturbed or problem Hydrophytic Vegetation 	provide supporting ate sheet) * etation * (explain) d hydrology must be hatic	•
5. 6. 7. 8. 9. 10. 11. Woody Vine Stratum (Plot size:) 1. 2.	105	= Total Cover		□ Prevalence test is ≤ 3.0 * □ Morphological Adaptations * (□ data in remarks or on a separ □ Wetland Non-Vascular Plants □ Problematic Hydrophytic Vege * Indicators of hydric soil and wetlan present, unless disturbed or problem Hydrophytic Vegetation Present? Y	provide supporting ate sheet) * etation * (explain) d hydrology must be atic wes X No	ə —
5. 6. 7. 8. 9. 10. 11. Woody Vine Stratum (Plot size:) 1. 2. % Bare Ground in Herb Stratum:	105	= Total Cover		□ Prevalence test is ≤ 3.0 * □ Morphological Adaptations * (□ data in remarks or on a separ □ Wetland Non-Vascular Plants □ Problematic Hydrophytic Vegation * Indicators of hydric soil and wetlan present, unless disturbed or problem Hydrophytic Vegetation Present? Y	provide supporting ate sheet) * etation * (explain) d hydrology must be natic	•
5. 6. 7. 8. 9. 10. 11. Woody Vine Stratum (Plot size:) 1. 2. % Bare Ground in Herb Stratum: Remarks:		= Total Cover		 □ Dominance test is > 0078 □ Prevalence test is ≤ 3.0 * Morphological Adaptations * (□ data in remarks or on a separ □ Wetland Non-Vascular Plants □ Problematic Hydrophytic Vegetation Present? 	provide supporting ate sheet) * etation * (explain) d hydrology must be natic	•
5. 6. 7. 8. 9. 10. 11. Woody Vine Stratum (Plot size:) 1. 2. % Bare Ground in Herb Stratum: Remarks:		= Total Cover		 □ Dominance test is > 000% □ Prevalence test is ≤ 3.0 * Morphological Adaptations * (□ data in remarks or on a separ □ Wetland Non-Vascular Plants □ Problematic Hydrophytic Vegetation Present? 	provide supporting ate sheet) * etation * (explain) d hydrology must be natic	•

SOIL

Sampling Point – DP-25

Depth	Matrix		F	Redox Fea	tures							
(inches)	Color (moist)	%	Color (moist)	%	Type ¹	Loc ²	Texture	Remarks				
0-6	10YR 3/2	100					Gravelly sandy loam					
6-16	2.5Y 3/1	85	7.5YR 3/3	15	С	Μ	Gravelly sandy loam	With large cobbles				
¹ Type: C=C	oncentration, D=Depletion	n, RM=Reduce	d Matrix, CS=Covered or Co	ated Sand	Grains ² Lo	c: PL=Pore Lini	ng, M=Matrix					
Hydric Soi	I Indicators: (Applicable	to all LRRs, u	Inless otherwise noted.) Sandy Redox (S5)		Indi	icators for Prol	blematic Hydric Soils ³					
Histic F	ninedon (A2)		Stripped Matrix (S6)			Ded Parent Material (TE2)						
	listic (A3)		oamy Mucky Mineral (F1) (e	xcent MI		Other (explain	in remarks)					
	en Sulfide (A4)		oamy Gleved Matrix (F2)	xoopt me		Curor (explain	in formatio)					
	ed Below Dark Surface (A	11) 🗆 🗆	Depleted Matrix (F3)									
	ark Surface (A12)	, 🖂 =	Redox Dark Surface (F6)		³ Inc	dicators of hydro	phytic vegetation and wetlan	d hvdroloav must				
□ Sandv	Mucky Mineral (S1)		Depleted Dark Surface (F7)		be p	present, unless	disturbed or problematic					
□ Sandy	Gleyed Matrix (S4)	□ F	Redox Depressions (F8)									
Restrictive	Layer (if present):											
Туре:					Hydric	soil present?	Yes 🔀	No				
Depth (inch	es):											
Remarks:												

HIDKOLOGI											
Wetland Hydrology Indicato	ors:	ne reau	ired: c	heck al	that apply):			Seco	ndary Indicators (2 or more required):		
□ Surface water (A1)	10101	io ioqui		Spars	elv Vegetated C	oncave Surface (B8	3)		Water-Stained Leaves (B9) (MLRA 1, 2, 4A & 4B)		
High Water Table (A2)				Wate	r-Stained Leaves	(except MLRA 1,	, 4A & 4B) (B9)		Drainage Patterns (B10)		
Saturation (A3)				Salt C	Crust (B11)	· · · ·	, , , ,		Drv-Season Water Table (C2)		
Water Marks (B1)				Aquat	tic Invertebrates	(B13)			Saturation Visible on Aerial Imagery (C9)		
Sediment Deposits (B2)				Hydro	ogen Sulfide Odo	r (C1)		\boxtimes	Geomorphic Position (D2)		
Drift Deposits (B3)				Oxidia	zed Rhizosphere	s along Living Root	s (C3)		Shallow Aquitard (D3)		
Algal Mat or Crust (B4)				Prese	ence of Reduced	Iron (C4)		\boxtimes	FAC-Neutral Test (D5)		
☑ Iron Deposits (B5)				Rece	nt Iron Reduction	in Tilled Soils (C6)			Raised Ant Mounds (D6) (LRR A)		
Surface Soil Cracks (B6)				Stunt	ed or Stressed P	lants (D1) (LRR A)			Frost-Heave Hummocks		
 Inundation Visible on Aer (B7) 	rial Im	agery		Other	(explain in rema	rks)					
Field Observations											
Surface Water Present?	Yes		No	\boxtimes	Depth (in):						
Water Table Present?	Yes		No	\boxtimes	Depth (in):		Wetland Hydro	oloav	Present? Yes No		
Saturation Present? (includes capillary fringe)	Yes	\boxtimes	No		Depth (in):	throughout					
Describe Recorded Data (stre	Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:										
Remarks: Groundwate	er see	eps in	pit at	6 inc	hes below gro	und surface. Ire	on deposits ne	ar tes	st pit.		



Western Mountains, Valleys, and Coast Supplement to the 1987 COE Wetlands Delineation Manual

Project Site: S Applicant/Owner: P Investigator: K Sect., Township, Range: S	Project Site: Segment E – parcel number 0324059066 Applicant/Owner: Puget Sound Energy nvestigator: K. Crandall, R. Whitson Sect., Township, Range: S 03 T 24N R 05E Sect/Withington termine tother billington Site of the sector termine tother billington									15 e		
Landform (hillslope, terrace, etc): Hillslope Slope (%): 5							Local relief (concave	, convex, no	one): Concav	e		
Subregion (LRR): A					Lat:			Long:		Datum:		
Soil Map Unit Name: AgD –	Alderwood gravelly sa	andy l	oam, 8	8-15%	slopes			NWI classification:	IA			
Are climatic/hydrologic condition	ns on the site typical for thi	s time	of year	? [Yes	\boxtimes	No	(If no, explain in rema	arks.)			
Are "Normal Circumstances" pre	esent on the site?				🛛 Yes		No	Below avg precipita	tion			
Are Vegetation \Box , Soil \Box , or Hy Are Vegetation \Box , Soil \Box , or Hy	/drology □ significantly dis /drology □ naturally proble	turbed ematic	?					(If needed, explain a	ny answers	in Remarks.)		
SUMMARY OF FINDINGS	 Attach site map sho 	wing	samp	ing po	oint loca	ations	s, trans	sects, important fea	atures, etc			
Hydrophytic Vegetation Present	t? Yes	\boxtimes	No									
Hydric Soils Present?	Yes	\boxtimes	No		Is the S	Sampl	ina Poi	nt within a Wetland?	Yes	\square	No	
Wetland Hydrology Present?	Yes	\boxtimes	No			- ap.			100		110	
Remarks: Wetland EB	14 in-pit											
VEGETATION – Use scien	tific names of plants.							<u> </u>				

Tree Stratum (Plot size: 5m diam.)	Absolute % Cover	Dominant Species?	Indicator Status	Dominance Test Worksheet
1. Alnus rubra	100	Y	FAC	Number of Dominant Species
2.				that are OBL, FACW, or FAC: (A)
3.				Total Number of Dominant
4.				Species Across All Strata: (B)
	100	= Total Cover		Percent of Dominant Species that are OBL, FACW, or FAC:(A/B)
Sapling/Shrub Stratum (Plot size: 3m diam.)				
1.				Prevalence Index Worksheet
2.				Total % Cover of Multiply by
3.				OBL species x 1 =
4.				FACW species x 2 =
5.				FAC species x 3 =
		= Total Cover		FACU species x 4 =
				UPL species x 5 =
Herb Stratum (Plot size: 1m diam.)				Column totals (A) (B)
1. Phalaris arundinacea	100	Y	FACW	
2. Athyrium cyclosorum	25	N	FAC	Prevalence Index = B / A =
3. Urtica dioica	5	N	FAC	
4.				Hydrophytic Vegetation Indicators
5.				\square Dominance test is > 50%
6.				□ Prevalence test is $\leq 3.0^{*}$
7.				Morphological Adaptations * (provide supporting
8.				 data in remarks or on a separate sheet)
9.				Wetland Non-Vascular Plants *
10.				Problematic Hydrophytic Vegetation * (explain)
11.				
	130	= Total Cover		* Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic
Woody Vine Stratum (Plot size:)				
1.				
2.				Hydrophytic Vegetation
		= Total Cover		Present? Yes No
% Bare Ground in Herb Stratum:				
Remarks: Equipatium talmataia and Duture		n a a r h v		
Equisetum termatera and Rubus	armeniacus I	nearby.		

Profile Desc			· · · · · · · · · · · · · · · · · · ·								· · · · · · · · · · · · · · · · · · ·
110110 2000	cription: (Descri	ibe to the c	lepth neede	ed to document the ind	icator or confi	rm the absence	of indicator:	s.)			
Depth		Matrix		T	Redox Feat	ures		Τ			
(inches)	Color (m	noist)	%	Color (moist)	%	Type ¹	Loc ²	- <u> </u>	exture	F	emarks
0-5	10YR 3/1		100				T	Sandy si	It loam	Mo	ist
5-18	10YR 4/1		80	10YR 4/6	20	с	M, PL	Sandy lo	am	Me larç gra	dium to ge sized vel
¹ Type: C=Co	Dincentration, D=I	Depletion, f	RM=Reduce	d Matrix, CS=Covered o	r Coated Sand	Grains ² Loc: P	L=Pore Linir	ng, M=Matrix			
Hydric Soil I Histosol Histic Er Black Hi	Indicators: (App (A1) bipedon (A2) istic (A3)	plicable to	all LRRs, u	nless otherwise noted. andy Redox (S5) atripped Matrix (S6) oamy Mucky Mineral (F1	.) 1) (except MLF	Indicate ☐ 2cr ☐ Re A 1) ☐ Ot!	ors for Prob n Muck (A10 d Parent Ma ner (explain i	l ematic Hydr I) terial (TF2) n remarks)	ric Soils³		
Hydroge Depletec Thick Da Sandy N Sandy C	In Suride (A4) d Below Dark Su ark Surface (A12 Aucky Mineral (S Bleyed Matrix (S4	rface (A11)) 1) 4)	□ □ □ □ R □ C □ R	epleted Matrix (F3) epleted Matrix (F3) edox Dark Surface (F6) epleted Dark Surface (F6) tedox Depressions (F8)) 7)	□ ³ Indica be pres	tors of hydro ent, unless c	phytic vegeta listurbed or pr	tion and we roblematic	tland hydrol	logy must
Restrictive La	ayer (if present):	:									
Type: Depth (inche Remarks:):					Hydric soi	I present?	Yes		No	
Type: Depth (inche Remarks:						Hydric soi	I present?	Yes		No	
Type: Depth (inche Remarks: TYDROLOG Wetland Hyr Primary Inc Surface High Wa Saturatio Water N Sedimen Drift Dep Algal Ma Iron Dep Surface Inundati (B7) Field Obser	drology Indicate dicators (minimut water (A1) ater Table (A2) ion (A3) Marks (B1) nt Deposits (B2) posits (B3) at or Crust (B4) posits (B5) Soil Cracks (B6 ion Visible on Ae	ors: m of one re) :rial Imager	quired: chec □ S □ W □ A □ A □ H ○ P □ R □ P 0 □ P 0 0 0 0 0 9 0 0 0 0 0 0 0 0 0 0 0 0 0	<i>k all that apply):</i> parsely Vegetated Conca /ater-Stained Leaves (ex alt Crust (B11) quatic Invertebrates (B13 ydrogen Sulfide Odor (C xidized Rhizospheres ald resence of Reduced Iron ecent Iron Reduction in ⁻ tunted or Stressed Plants ther (explain in remarks)	ave Surface (B ccept MLRA 1, 3) 1) ong Living Roo 1 (C4) Tilled Soils (C6 s (D1) (LRR A))	B) 2, 4A & 4B) (B9) ts (C3)	Secondarı, U Wa Dra Dra Satı Sha Sha FAC Rai: Fro:	Yes <i>Indicators (2</i> ter-Stained Le inage Pattern -Season Wate uration Visible morphic Posi illow Aquitard 2-Neutral Tesi sed Ant Moun st-Heave Hum	or more rec eaves (B9) (s (B10) er Table (C2 e on Aerial In ition (D2) (D3) t (D5) ids (D6) (LR nmocks	No quired): MLRA 1, 2, 2) magery (C9 !R A)	, 4A & 4 I

Remarks: BGS = below ground surface.



Western Mountains, Valleys, and Coast Supplement to the 1987 COE Wetlands Delineation Manual

DP- 27

No

 \boxtimes

Yes

Project Site:	Segment E – parcel number 1024059089							Sampling Date:		
Applicant/Owner:	Puget Sound	Energy						Sampling Point:	DP- 27	
Investigator:	K. Crandall, I	K. Crandall, R. Whitson						City/County:	Bellevue	
Sect., Township, Range:	S 10	T 24N	R 05 E					State:	WA	
Landform (hillslope, terrace,	etc): Hillslope				Slope (%): 5		Local relief (concave	, convex, none): N	A
Subregion (LRR): A					Lat:			Long:	Da	atum:
Soil Map Unit Name: RdE	– Ragnar-India	anola asso	ciation, n	noderate	ely steep)		NWI classification:	A	
Are climatic/hydrologic condi	tions on the site t	ypical for this	s time of yea	ar? [Yes	\boxtimes	No	(If no, explain in rem	arks.)	
Are "Normal Circumstances"	present on the si	te?			🛛 Yes		No			
Are Vegetation□, Soil □, or	Hydrology 🗆 sig	nificantly dist	urbed?							
Are Vegetation□, Soil □, or	Hydrology nat	urally proble	matic					(If needed, explain a	ny answers in Rema	rks.)
SUMMARY OF FINDINGS – Attach site map showing sampling point locations, transects, important features, etc.										
Hydrophytic Vegetation Pres	ent?	Yes		, 🗆						

Is the Sampling Point within a Wetland?

No

No 🗌

 \boxtimes

 \boxtimes

Yes

Yes

Remarks: Wetland EB20 in-pit.

Wetland Hydrology Present?

Hydric Soils Present?

VEGETATION - Use scientific names of plants.

Tree Stratum (Plot size: 5m diam.)	Absolute % Cover	Dominant Species?	Indicator Status	Dominance Test Worksheet	
1.				Number of Dominant Species	
2.				that are OBL, FACW, or FAC:	(A)
3.				Total Number of Dominant	
4.				Species Across All Strata:	(B)
		= Total Cover		Percent of Dominant Species that are OBL, FACW, or FAC: 67	(A/B)
Sapling/Shrub Stratum (Plot size: 3m diam.)					
1. Salix lasiandra	50	Y	FACW	Prevalence Index Worksheet	
2.				Total % Cover of Multipl	<u>y by</u>
3.				OBL species x 1 =	
4.				FACW species x 2 =	
5.				FAC species x 3 =	
	50	= Total Cover		FACU species x 4 =	
				UPL species x 5 =	
Herb Stratum (Plot size: 1m diam.)				Column totals (A) (B)	
1. Phalaris arundinacea	100	Y	FACW		
2. Cirsium arvense	10	N	FAC	Prevalence Index = B / A =	
3.					
4.				Hydrophytic Vegetation Indicators	
5.				Dominance test is > 50%	
5. 6.				\boxtimes Dominance test is > 50% \square Prevalence test is < 3.0 *	
5. 6. 7.				 ☑ Dominance test is > 50% ☑ Prevalence test is ≤ 3.0 * Morphological Adaptations * (provide supportin 	g
5. 6. 7. 8.				 ☑ Dominance test is > 50% ☑ Prevalence test is ≤ 3.0 * Morphological Adaptations * (provide supportin ☑ data in remarks or on a separate sheet) 	g
5. 6. 7. 8. 9.				 ☑ Dominance test is > 50% □ Prevalence test is ≤ 3.0 * Morphological Adaptations * (provide supportin □ data in remarks or on a separate sheet) □ Wetland Non-Vascular Plants * 	g
5. 6. 7. 8. 9. 10				 ☑ Dominance test is > 50% □ Prevalence test is ≤ 3.0 * Morphological Adaptations * (provide supportin □ data in remarks or on a separate sheet) □ Wetland Non-Vascular Plants * □ Problematic Hydrophytic Vegetation * (explain) 	g
5. 6. 7. 8. 9. 10. 11				 ☑ Dominance test is > 50% □ Prevalence test is ≤ 3.0 * Morphological Adaptations * (provide supportin □ data in remarks or on a separate sheet) □ Wetland Non-Vascular Plants * □ Problematic Hydrophytic Vegetation * (explain) 	g
5. 6. 7. 8. 9. 10. 11.	110	= Total Cover		 ☑ Dominance test is > 50% □ Prevalence test is ≤ 3.0 * Morphological Adaptations * (provide supportin □ data in remarks or on a separate sheet) □ Wetland Non-Vascular Plants * □ Problematic Hydrophytic Vegetation * (explain) * Indicators of hydric soil and wetland hydrology must present, unless disturbed or problematic 	g
5. 6. 7. 8. 9. 10. 11. Woody Vine Stratum (Plot size:)	110	= Total Cover		 ☑ Dominance test is > 50% □ Prevalence test is ≤ 3.0 * Morphological Adaptations * (provide supportin □ data in remarks or on a separate sheet) □ Wetland Non-Vascular Plants * □ Problematic Hydrophytic Vegetation * (explain) * Indicators of hydric soil and wetland hydrology must present, unless disturbed or problematic 	g be
5. 6. 7. 8. 9. 10. 11. Woody Vine Stratum (Plot size:) 1. Rubus armeniacus		= Total Cover	FACU	 ☑ Dominance test is > 50% □ Prevalence test is ≤ 3.0 * Morphological Adaptations * (provide supportin □ data in remarks or on a separate sheet) □ Wetland Non-Vascular Plants * □ Problematic Hydrophytic Vegetation * (explain) * Indicators of hydric soil and wetland hydrology must present, unless disturbed or problematic 	g be
5. 6. 7. 8. 9. 10. 11. Woody Vine Stratum (Plot size:) 1. Rubus armeniacus 2.	110	= Total Cover	FACU	 ☑ Dominance test is > 50% □ Prevalence test is ≤ 3.0 * Morphological Adaptations * (provide supportin □ data in remarks or on a separate sheet) □ Wetland Non-Vascular Plants * □ Problematic Hydrophytic Vegetation * (explain) * Indicators of hydric soil and wetland hydrology must present, unless disturbed or problematic 	g be
5. 6. 7. 8. 9. 10. 11. Woody Vine Stratum (Plot size:) 1. Rubus armeniacus 2.	110 20 20	= Total Cover Y = Total Cover	FACU	☑ Dominance test is > 50% ☑ Prevalence test is ≤ 3.0 * Morphological Adaptations * (provide supportin ☑ data in remarks or on a separate sheet) ☑ Wetland Non-Vascular Plants * ☑ Problematic Hydrophytic Vegetation * (explain) * Indicators of hydric soil and wetland hydrology must present, unless disturbed or problematic Hydrophytic Vegetation Present? Yes	g be o
5. 6. 7. 8. 9. 10. 11. Woody Vine Stratum (Plot size:) 1. Rubus armeniacus 2. % Bare Ground in Herb Stratum:	110 20 20	= Total Cover Y = Total Cover	FACU	 ☑ Dominance test is > 50% □ Prevalence test is ≤ 3.0 * Morphological Adaptations * (provide supportin □ data in remarks or on a separate sheet) □ Wetland Non-Vascular Plants * □ Problematic Hydrophytic Vegetation * (explain) * Indicators of hydric soil and wetland hydrology must present, unless disturbed or problematic Hydrophytic Vegetation Present? Yes N 	g be o
5. 6. 7. 8. 9. 10. 11. Woody Vine Stratum (Plot size:) 1. Rubus armeniacus 2. % Bare Ground in Herb Stratum: Remarks:	110 20 20	= Total Cover Y = Total Cover	FACU	 ☑ Dominance test is > 50% □ Prevalence test is ≤ 3.0 * Morphological Adaptations * (provide supportin □ data in remarks or on a separate sheet) □ Wetland Non-Vascular Plants * □ Problematic Hydrophytic Vegetation * (explain) * Indicators of hydric soil and wetland hydrology must present, unless disturbed or problematic Hydrophytic Vegetation Present? Yes N 	g be o
5. 6. 7. 8. 9. 10. 11. Woody Vine Stratum (Plot size:) 1. Rubus armeniacus 2. % Bare Ground in Herb Stratum: Remarks:	 	= Total Cover Y = Total Cover	FACU	☑ Dominance test is > 50% ☑ Prevalence test is ≤ 3.0 * Morphological Adaptations * (provide supportin ☑ data in remarks or on a separate sheet) ☑ Wetland Non-Vascular Plants * ☑ Problematic Hydrophytic Vegetation * (explain) * Indicators of hydric soil and wetland hydrology must present, unless disturbed or problematic Hydrophytic Vegetation Present? Yes	g be o

SOIL	
------	--

SOIL							Sampling Point – I	DP-27
Profile Descri	ption: (Describe to the o	depth neede	ed to document the indicat	or or confi	rm the absence o	f indicators	s.)	
Depth	Matrix	-		Redox Feat	ures		1	
(inches)	Color (moist)	%	Color (moist)	%	Type ¹	Loc ²	Texture	Remarks
0-8	10YR 2/2	100					Silt loam	
8-16	5YR 2.5/1	85	5YR 3/4	15	С	M, PL	Silt loam	
¹ Type: C=Con	centration, D=Depletion, F	RM=Reduce	d Matrix, CS=Covered or Co	ated Sand	Grains ² Loc: PL	.=Pore Linin	g, M=Matrix	•
Hydric Soil In	dicators: (Applicable to	all LRRs, u	nless otherwise noted.)		Indicato	rs for Prob	lematic Hydric Soils ³	
	(1) (10)		andy Redox (S5)) 	
	bedon (A2) $(A2)$		tripped Matrix (S6)			Parent Mat	erial (TFZ)	
	0::/fiele.(A.4)		oarny Mucky Mineral (F1) (e	хсерт мінк		er (explain ir	Tremarks)	
Hydrogen			oamy Gleyed Matrix (F2)					
	Below Dark Surface (A11)		epieted Matrix (F3)		31	<i>.</i>		
	Surface (A12)		edox Dark Surface (F6)		- Indicato	ors or nyarop ont unless d	isturbed or problematic	na nyarology must
	uky Mineral (S1)		vepieted Dark Surface (F7)		50 bie36	, unicoo u		
□ Sandy Gle	eyed Matrix (S4)		edox Depressions (F8)					
Restrictive Lay	ver (if present):							
Туре:					Hydric soil	present?	Yes 🔀	No
Depth (inches)	:							
Remarks:								
HYDROLOGY	,							
Wetland Hydr	ology Indicators:							
Primary Indic	ators (minimum of one re	quired: chec	k all that apply):	Curfage (D	0)	Secondary	Indicators (2 or more requi	
	ater (A1)		parsely vegetated Concave	Surrace (B			er-Stained Leaves (B9) (MI	RA 1, 2, 4A & 4B)
	er Table (A2)		ater-Stained Leaves (excep	DT MLRA 1,	2, 4A & 4B) (B9)		nage Patterns (B10)	
	n (A3)		alt Crust (B11)			Dry-	Season Water Table (C2)	(00)
	rks (B1)		quatic invertebrates (B13)				Iration Visible on Aerial Ima	igery (C9)
Sediment	Deposits (B2)	⊔ H	ydrogen Sulfide Odor (C1)			🖂 Geo	morphic Position (D2)	
Drift Depo	osits (B3)	⊠ 0	xidized Rhizospheres along	Living Root	ts (C3)	∐ Sha	llow Aquitard (D3)	
☐ Algal Mat	or Crust (B4)		resence of Reduced Iron (C	4)		⊠ FAC	-Neutral Test (D5)	
Iron Depo	sits (B5)	🗆 R	ecent Iron Reduction in Tille	d Soils (C6))		sed Ant Mounds (D6) (LRR	A)
Surface S	oil Cracks (B6)		tunted or Stressed Plants (D	01) (LRR A)		Fros	st-Heave Hummocks	
Inundation (B7)	n Visible on Aerial Imager	у 🗌 О	ther (explain in remarks)					
Field Observa	ations							
Surface Water	Present? Voc □	No 🔽	Depth (in)					
Water Table P	resent?		Depth (in):					
Soturation Dra		NO 🗵			Wetland Hydro	ology Prese	nt? Yes 🔀	No 📋
(includes capil	lary fringe)	No 🗵						
Describe Reco	orded Data (stream gauge	, monitoring	well, aerial photos, previous	s inspection	s), if available:			
Remarks:	Damp, not saturated							



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Project Site: Segment E - p Applicant/Owner: Puget Sound E Investigator: K. Crandall, R. Sect., Township, Range: S 10	barcel number 1024059089 Energy . Whitson T 24N R 05E	Sampling Date: Sampling Point: City/County: State:	6/17/2015 DP- 28 Bellevue WA	
Landform (hillslope, terrace, etc): Hillslope	Local relief (concave	, convex, none): None		
Subregion (LRR): A		Lat:	Long:	Datum:
Soil Map Unit Name: RdE – Ragnar-Indian	nola association, moderate	ly steep	NWI classification:	NA
Are climatic/hydrologic conditions on the site typ	bical for this time of year?	Yes 🛛 No	(If no, explain in rem	arks.)
Are "Normal Circumstances" present on the site	? 🛛 🛛	🛛 Yes 🗌 No		
Are Vegetation \Box , Soil \Box , or Hydrology \Box signi Are Vegetation \Box , Soil \Box , or Hydrology \Box nature	ficantly disturbed? rally problematic		(If needed, explain a	ny answers in Remarks.)
SUMMARY OF FINDINGS – Attach site	map showing sampling po	int locations, trans	sects, important fea	atures, etc.
Hydrophytic Vegetation Present?	Yes 🗆 No 🖾			
Hydric Soils Present?	Yes 🗆 No 🖾	Is the Sampling Poi	nt within a Wetland?	
Wetland Hydrology Present?	Yes 🗌 No 🖂	is the outphing i of		
Remarks: Out-pit near wetland EB2	20.			

Tree Stratum (Plot size: 5m diam.)	Absolute % Cover	Dominant Species?	Indicator Status	Dominance Test Worksheet			
1.		•		Number of Dominant Species			
2.				that are OBL, FACW, or FAC: (A)			
3.				Total Number of Dominant			
4.				Species Across All Strata: (B)			
Scaling/Chrub Stratum (Distairs: 2m diam)		= Total Cover		Percent of Dominant Species that are OBL, FACW, or FAC: 50 (A/B			
1.				Prevalence Index Worksheet			
2.				<u>I otal % Cover or</u> <u>Multiply by</u>			
3.				OBL species X 1 =			
4.				FACW species X 2 =			
5.		- Total Covor		FAC species X 3 =			
				FACO Species X 4 =			
Herb Stratum (Plot size: 1m diam)				Column totals (A) (D)			
1 Dectylis glomerate	15	v	FACU				
2 Holcus Janatus	15	<u> </u>	FAC	Prevalence Index – B / A –			
3 Convolvulus sp (bindweed)	15	<u> </u>	FACU*				
4 Phalaris arundinacea	15	Y	FACW	Hydrophytic Vegetation Indicators			
5 Galium aparine	10	 N	FACIL	\Box Dominance test is > 50%			
e culturi aparitto	10		TAGO	$\Box = \text{Prevalence test is } < 3.0 *$			
7				Morphological Adaptations * (provide supporting			
o				data in remarks or on a separate sheet)			
o.				Wotland Non Vascular Plants *			
9.				Problematic Hydrophytic Vegetation * (explain)			
11							
	70	= Total Cover		* Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic			
Woody Vine Stratum (Plot size:)							
1.							
2.				Hydrophytic Vegetation			
		= Total Cover		Present?			
% Bare Ground in Herb Stratum:							
Remarks: *Presumed FACU.							
Other dead/brown unidentifiable grasses and weeds make up 50% absolute cover in herbaceous stratum.							

SOIL			Sampling Point – DP-28									
Profile Des	cription: (Describe to the	e depth nee	eded to document the indicate	or or confirm	n the abs	sence of indicator	s.)					
Depth	Matrix		F	Redox Features								
(inches)	Color (moist)	%	Color (moist)	%	Туре	e ¹ Loc ²		Texture	R	Remarks		
0-10	10YR 2/2	100					Gravelly sandy loam		With cob	With cobbles		
¹ Type: C=Co	oncentration, D=Depletion	, RM=Redu	ced Matrix, CS=Covered or Co	ated Sand G	rains ²	² Loc: PL=Pore Linii	ng, M=Matri	ĸ				
Hydric Soil	Indicators: (Applicable t	o all LRRs	, unless otherwise noted.) Sandy Redox (S5)		lı C	ndicators for Prob	olematic Hy	dric Soils³				
□ Histic Epipedon (A2) □ Stripped Matrix (S6)					[Red Parent Material (TF2)						
Black H	istic (A3)		Loamy Mucky Mineral (F1) (except MLRA 1))						
🗌 Hydroge	en Sulfide (A4)		Loamy Gleyed Matrix (F2)	[
Deplete	d Below Dark Surface (A1	1) 🗌	Depleted Matrix (F3)									
Thick D	ark Surface (A12)	Redox Dark Surface (F6)				³ Indicators of hydrophytic vegetation and wetland hydrology mu						
□ Sandy M	/lucky Mineral (S1)		Depleted Dark Surface (F7)	b	be present, unless disturbed or problematic							
□ Sandy C	Gleyed Matrix (S4)		Redox Depressions (F8)									
Restrictive L	ayer (if present):											
Type:Fill	material				Hyd	Iric soil present?	Yes		No	\boxtimes		
Dopth (inch	es):10" BGS											

HYDROLOGY

Wetland Hydrology Indicators: Primary Indicators (minimum of one required: check all that apply): Secondary Indicators (2 or more required):										
Surface water (A1) Sparsely Vegetated Concave Surface (B8))	Water-Stained Leaves (B9) (MLRA 1, 2, 4A & 4B)				
High Water Table (A2) Water-Stained Leaves (except MLRA 1, 2, 4A				Water-Stained Leaves (except MLRA 1, 2	2, 4A & 4B) (B9)	Drainage Patterns (B10)				
Salt Crust (B11)					Dry-Season Water Table (C2)					
Water Marks (B1)	□ Water Marks (B1) □ Aquatic Invertebrates (B13)					Saturation Visible on Aerial Imagery (C9)				
Sediment Deposits (B2)			Hydrogen Sulfide Odor (C1)		Geomorphic Position (D2)					
Drift Deposits (B3)				Oxidized Rhizospheres along Living Roots (C3)			□ Shallow Aquitard (D3)			
□ Algal Mat or Crust (B4)		[Presence of Reduced Iron (C4)			□ FAC-Neutral Test (D5)			
□ Iron Deposits (B5)	Deposits (B5) Recent Iron Reduction in Tilled Soils (C6)					Raised Ant Mounds (D6) (LRR A)				
Surface Soil Cracks (B6) Stunted or Stressed Plants (D1) (LRR A)						Frost-Heave Hummocks				
 Inundation Visible on Ae (B7) 	rial Imag	gery [Other (explain in remarks)						
Field Observations										
Surface Water Present?	Yes 🗌	<u> </u>	١o	Depth (in):						
Water Table Present? Yes		- N	١o	Depth (in):	Wetland Hydrolo		Present? Yes No 🕅			
Saturation Present?	Yes 🗌	٦ L	١o	Depth (in):						
(includes capillary fringe)										
Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:										
Demarka										
Remarks:										


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DP- 29

Project Site: Segment E – par Applicant/Owner: Puget Sound End Investigator: K. Crandall, B. K.		Sampling Date: Sampling Point:	6/19/201 DP- 29 Bellevu	15								
Sect., Township, Range: S 03 T	24N	R 05	E					State:	WA			
Landform (hillslope, terrace, etc): Hillslope					Slope (%): 1	0	Local relief (concave, convex, none): Concave				
Subregion (LRR): A					Lat:			Long:		Datum:		
Soil Map Unit Name: AgD – Alderwood gravelly sandy loam, 8-15% slopes								NWI classification: NA				
Are climatic/hydrologic conditions on the site typica	No	(If no, explain in rema	arks.)									
Are "Normal Circumstances" present on the site?												
Are Vegetation□, Soil □, or Hydrology □ significantly disturbed? Are Vegetation□, Soil □, or Hydrology □ naturally problematic								(If needed, explain a	ny answers	in Remarks.)		
SUMMARY OF FINDINGS – Attach site ma	ap show	ing sa	npling	g po	oint loca	tions	s, trans	sects, important fea	atures, etc	c.		
Hydrophytic Vegetation Present?	Yes [lo [
Hydric Soils Present?	Yes [lo [Is the S	Sampl	ina Poi	nt within a Wetland?	Yes	\square	No	
Wetland Hydrology Present?	Yes [1 🛛	lo [
Remarks: Wetland EB15 inpit												
VEGETATION – Use scientific names of plants.												

Tree Stratum (Plot size: 5m diam.)	Absolute % Cover	Dominant Species?	Indicator Status	Dominance Test Worksheet
1.				Number of Dominant Species
2.				that are OBL, FACW, or FAC: (A)
3.				Total Number of Dominant
4.				Species Across All Strata: (B)
		= Total Cover		Percent of Dominant Species that are OBL, FACW, or FAC: 100 (A/B)
Sapling/Shrub Stratum (Plot size: 3m diam.)				
1.				Prevalence Index Worksheet
2.				Total % Cover of Multiply by
3.				OBL species x 1 =
4.				FACW species x 2 =
5.		Tatal Osuan		FAC species x 3 =
		= Total Cover		FACU species x 4 =
				UPL species X 5 =
Herb Stratum (Plot size: 1m diam.)	400	N N	FA0W	Column totals (A) (B)
1. Phalaris arundinacea	100	Y	FACW	
2. Scirpus microcarpus	25	<u>N</u>	OBL	Prevalence Index = B / A =
3. Gallum sp.	25	N	FAC	Inducularia Venetation Indicatore
4.				Bydrophytic vegetation indicators
5.				$\square \text{Dominiance test is } 50\%$
6.				\square Prevalence test is $\leq 3.0^{\circ}$
7.				Morphological Adaptations * (provide supporting
8.				data in remarks or on a separate sheet)
9.				Wetland Non-Vascular Plants *
10.				Problematic Hydrophytic Vegetation * (explain)
11.				
	150	= Total Cover		* Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic
Woody Vine Stratum (Plot size:)				
1.				
2.				Hydrophytic Vegetation
		= Total Cover		Present? Yes No
% Bare Ground in Herb Stratum:				
Remarks: *Presumed				•
Fiesunieu				

SOIL	
------	--

SOIL								Sampling Point – DF	-29
Profile Descri	ption: (Descri	be to the d	lepth need	ed to document the ind	licator or confi	rm the absence o	f indicators	.)	
Depth		Matrix	•		Redox Feat	ures		<i>,</i>	
(inches)	Color (m	oist)	%	Color (moist)	%	Tvpe ¹	Loc ²	Texture	Remarks
0-8	10YR 3/2		100					Sandy loam	
						•			
8-16	5GY 3/1		90	7.5YR 4/4	10	С	M, PL	Loamy coarse sand	
¹ Type: C=Con	centration, D=[Depletion, R	M=Reduce	d Matrix, CS=Covered o	or Coated Sand	Grains ² Loc: PL	=Pore Linin	g, M=Matrix	
Hydric Soil In	dicators: (App	blicable to	all LRRs, u	Inless otherwise noted	.)		rs for Probl	ematic Hydric Soils ³	
	(A2)			Stripped Metrix (SS)			Derent Met) oriol (TE2)	
	(A2)			opped Matrix (30)			r arent iviat	romarka)	
	Sulfido (A4)			.oamy Gloved Matrix (E2				rienarks)	
	Suillue (A4)	face (111)		Dalliy Gleyeu Matrix (F2)	.)				
	Selow Dark Su			Depleted Matrix (FS)		³ Indiaata	are of hudror	butio vogotation and watland	hydrology must
)		Redux Dark Surface (F6)		he prese	nt unless di	sturbed or problematic	nyarology must
	cky Mineral (S	1)		Depleted Dark Surface (F	-7)	50 01000	ni, uniceo u		
Sandy Gle	eyed Matrix (S4	-)		Redox Depressions (F8)					
Restrictive Lay	ver (if present):								
Туре:						Hvdric soil	present?	Yes 🔀	No 🗌
Depth (inches)	:								
Remarks:									
Remarks.									
	,								
HIDROLOGI									
Wetland Hydr	ology Indicate	ors:							
Primary Indic	ators (minimur	n of one rec	quired: cheo	ck all that apply):			Secondary	Indicators (2 or more require	d):
Surface w	ater (A1)			parsely Vegetated Conc	ave Surface (B8	3)	Wate	er-Stained Leaves (B9) (MLR	A 1, 2, 4A & 4B)
High Wate	er Table (A2)		🗆 V	Vater-Stained Leaves (ex	xcept MLRA 1,	2, 4A & 4B) (B9)	Drai	nage Patterns (B10)	
Saturation	n (A3)			alt Crust (B11)			🛛 Dry-	Season Water Table (C2)	
Water Ma	rks (B1)		□ A	quatic Invertebrates (B1	3)		Satu	ration Visible on Aerial Image	ery (C9)
Sediment	Deposits (B2)		🗆 H	lydrogen Sulfide Odor (C	21)		🛛 Geo	morphic Position (D2)	
Drift Depo	osits (B3)		XC	xidized Rhizospheres al	long Living Root	s (C3)	Shall	low Aquitard (D3)	
Algal Mat	or Crust (B4)		🗆 P	resence of Reduced Iror	n (C4)		🛛 FAC	-Neutral Test (D5)	
Iron Depo	sits (B5)		🗆 R	ecent Iron Reduction in	Tilled Soils (C6)	1	🗌 Rais	ed Ant Mounds (D6) (LRR A)
Surface S	oil Cracks (B6)	🗆 S	tunted or Stressed Plant	ts (D1) (LRR A)		Fros	t-Heave Hummocks	
Inundation	n Visible on Ae	rial Imagery	/ 🗆 C	ther (explain in remarks))				
(B7)									
Field Observa	ations								
Surface Water	Present?	Voc 🗆	No D	Depth (in):					
Water Table P	resent?		No ⊑	Depth (in):	14 BGS				
Saturation Bro	sont?			Dopth (in):	throughout	Wetland Hydro	ology Prese	nt? Yes 🔀	No 🔄
(includes capil	lary fringe)	Yes 🖂	No L	Depth (in):	linoughoul				
(includee capit									
Describe Reco	orded Data (str	eam gauge,	, monitoring	well, aerial photos, prev	vious inspections	s), if available:			
Remarks:	BGS = belo	w ground	surface						



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DP-30

Project Site:	Segment E – par	cel nu	mber	03240	59066			Sampling Date:	6/19/2015				
Applicant/Owner:	Puget Sound En	ergy							Sampling Point:	DP- 30			
Investigator:	K. Crandall, R. K	ahlo							City/County:	Bellevue			
Sect., Township, Range:	S 03 T	03 T 24N R 05E							State:	WA			
Landform (hillslope, terrace, etc): terrace							Slope (%): 0 Local relief (concave, convex, none): Co): Concave		
Subregion (LRR): A	Subregion (LRR): A								Long: Datum:				
Soil Map Unit Name: AgD – Alderwood gravelly sandy loam, 8-15% slopes									NWI classification:	A			
Are climatic/hydrologic conditions on the site typical for this time of year? Q Yes Are site typical for this time of year?								No	(If no, explain in rema	arks.)			
Are "Normal Circumstances"	present on the site?					🛛 Yes		No					
Are Vegetation \Box , Soil \Box , or Are Vegetation \Box , Soil \Box , or	Hydrology □ significa Hydrology □ naturall	intly dis / proble	turbed? matic	?					(If needed, explain ar	ny answers in I	Remarks.)		
SUMMARY OF FINDING	S – Attach site ma	ap sho	wing	sampl	ing po	oint loca	tions	, trans	sects, important fea	atures, etc.			
Hydrophytic Vegetation Pres	ent?	Yes	\boxtimes	No									
Hydric Soils Present?		Yes	\boxtimes	No		Is the S	Sampli	ina Poir	nt within a Wetland?	Yes	\mathbf{X}	No	
Wetland Hydrology Present?	,	Yes	\boxtimes	No									

Remarks: Wetland EB16 in-pit

VEGETATION – Use scientific names of plan	nts.							
Tree Stratum (Plot size: 5m diam.)	Absolute % Cover	Dominant Species?	Indicator Status	Dominance Test Worksheet				
1.				Number of Dominant Species	3			
2.				that are OBL, FACW, or FAC:	3	(A)		
3.				Total Number of Dominant	4			
4.				Species Across All Strata:	7	(B)		
		= Total Cover		Percent of Dominant Species that are OBL, FACW, or FAC:	75	(A/B)		
Sapling/Shrub Stratum (Plot size: 3m diam.)						- ` ` `		
1. Rubus spectabilis	25	Y	FAC	Prevalence Index Worksheet				
2. Ribes lacustre	15	Y	FAC	Total % Cover of Multiply b				
3.				OBL species	x 1 =	-		
4.				FACW species x 2 =				
5.				FAC species	x 3 =			
	40	= Total Cover		FACU species x 4 =				
		-		UPL species	x 5 =			
Herb Stratum (Plot size: 1m diam.)				Column totals (A)	(B)			
1. Phalaris arundinacea	80	Y	FACW					
2. Pteridium aquilinum	10	N	FACU	Prevalence Index = B / A =				
3.								
4.				Hydrophytic Vegetation Indicat	ors			
5.				Dominance test is > 50%				
6.				□ Prevalence test is $\leq 3.0^{*}$				
7.				Morphological Adaptations * (pr	rovide supporting			
8.				data in remarks or on a separat	e sheet)			
9.				□ Wetland Non-Vascular Plants *				
10.				Problematic Hydrophytic Veget	ation * (explain)			
11.					· · ·			
	90	= Total Cover		* Indicators of hydric soil and wetland	hydrology must t	ю		
Woody Vine Stratum (Plot size:)								
1 Rubus armeniacus	20	Y	FACU	1				
2.				Hydrophytic Vegetation				
	20	= Total Cover		Present? Yes X No				
% Bare Ground in Herb Stratum:								
Remarks:			-	•				

SOIL

Sampling Point – DP-30

							Sampling Point – D	7-30
Profile Descr	iption: (Describe to the	depth neede	ed to document the i	ndicator or confi	m the absence o	f indicators	5.)	
Denth	Matriv			Redox Feat			···,	
(inches)	Color (moist)	0/_	Color (moist)			1 oc^2	Texture	Remarks
0-8	10YR 2/2	100		/0	туре	LUC	Sandy loam	Remarks
	101112/2							
8-16	5Y 4/1	100					Gravelly loamy sand	
¹ Type ⁻ C=Con	centration D=Depletion I	RM=Reduce	d Matrix CS=Covered	d or Coated Sand (Grains ² Loc [.] PL	=Pore Linin	a M=Matrix	
1990. 0-001							g, m=manx	
Hydric Soil In	dicators: (Applicable to	all LRRs, u	nless otherwise note	ed.)	Indicato	rs for Prob	lematic Hydric Soils ³	
☐ Histosol (A	A1)	⊔s	andy Redox (S5)			Muck (A10)	
Histic Epip	bedon (A2)		stripped Matrix (S6)			Parent Mat	terial (TF2)	
□ Black Hist	ic (A3)		oamy Mucky Mineral	(F1) (except MLR)	A 1) ∐ Oth	er (explain ir	n remarks)	
Hydrogen	Sulfide (A4)		oamy Gleyed Matrix (F2)				
Depleted I	Below Dark Surface (A11)		Pepleted Matrix (F3)		3			
Thick Darl	k Surface (A12)		edox Dark Surface (F	6)	⁹ Indicate	ors of hydrop	phytic vegetation and wetlar	nd hydrology must
Sandy Mu	cky Mineral (S1)		epleted Dark Surface	(F7)	be prese	int, unless a	isturbed or problematic	
Sandy Gle	eyed Matrix (S4)		edox Depressions (F8	8)				
Restrictive La	ver (if present):							
Туре:					Hydric soil	present?	Yes 🕅	No 🗌
Denth (inches).				Tryane son	presenti		
	/·							
Remarks:								
<u> </u>								
HYDROLOGY	1							
Wetlend Llud	alamy Indiantara							
Primary India	cators (minimum of one re	auired: chec	k all that apply).			Secondary	Indicators (2 or more requi	red).
Surface w	vater (A1)		parsely Vegetated Co	ncave Surface (B8	3)	□ Wat	er-Stained Leaves (B9) (ML	.RA 1, 2, 4A & 4B)
High Wat	er Table (A2)		ater-Stained Leaves	except MLRA 1.	2. 4A & 4B) (B9)	Drai	nage Patterns (B10)	, , ,
Saturation	n (A3)		alt Crust (B11)	(,,,,,,,,	_,, (,	Drv-	Season Water Table (C2)	
Water Ma	irks (B1)		quatic Invertebrates (F	313)		□ Sati	ration Visible on Aerial Ima	gery (C9)
Sediment	Deposits (B2)	X H	vdrogen Sulfide Odor	(C1)		Geo	morphic Position (D2)	3
	neite (B3)		vidized Rhizospheres	along Living Root	s (C3)		llow Aquitard (D3)	
	or Crust (B4)		resence of Reduced I	ron (C4)	3 (00)		-Neutral Test (D5)	
	eite (B5)		ecent Iron Reduction	in Tilled Soils (C6)			ed Ant Mounds (D6) (I PP	Δ)
	coil Cracks (B6)		tunted or Stressed Pla	ante (D1) (I PP \mathbf{A})			st Hoovo Hummocks	n)
	n Visible on Aerial Imager		ther (explain in remar	ks)			St-Heave Hummocks	
(B7)	n visible on Aenai imagei	, _ 0		N3)				
<u></u>					1			
			Denth (in):					
Surrace water	Present? Yes	No 🗵		40.000				
vvater Table P	resent? Yes 🛛	No 🗆	Depth (in):	12 865	Wetland Hydro	ology Prese	nt? Yes 🔀	No
Saturation Pre	esent? Yes X	No 🗆	Depth (in):	throughout				
(includes capil	iary iiiige)							
Describe Reco	orded Data (stream gauge	e, monitoring	well, aerial photos, pr	revious inspections	s), if available:			
Remarks:	BGS = below around	d surface						



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DP- 31

Project Site:	Segment E – parcel nu		Sampling Date:	6/19/201	5						
Applicant/Owner:	Puget Sound Energy						Sampling Point:	DP- 31			
Investigator:	K. Crandall, R. Kahlo						City/County:	Bellevue	e		
Sect., Township, Range:	S 03 T 24N	R 05E					State:	WA			
Landform (hillslope, terrace,	etc): Hillslope			Slope (%): 10	0	Local relief (concave, convex, none): Concave			e	
Subregion (LRR): A				Lat:			Long: Datum:				
Soil Map Unit Name: AgD			NWI classification:	IA							
Are climatic/hydrologic cond	itions on the site typical for th	Yes	\boxtimes	No	(If no, explain in rema	arks.)					
Are "Normal Circumstances"	' present on the site?	No									
Are Vegetation□, Soil □, or	· Hydrology □ significantly di	sturbed?									
Are Vegetation□, Soil □, or	Hydrology naturally probl	ematic					(If needed, explain ar	ny answers i	in Remarks.)		
SUMMARY OF FINDING	S – Attach site map sh	owing sam	oling po	oint loca	ations	, trans	sects, important fea	itures, etc			
Hydrophytic Vegetation Pres	sent? Yes	⊠ No									
Hydric Soils Present?	Yes	🛛 No		Is the	Sampli	na Poi	int within a Wetland?	Yes	\square	No	
Wetland Hydrology Present?	Yes	🛛 No				J					
Remarks: Wetland	EB17 in-pit.										

VEGETATION – Use scientific names of plan	nts.							
Tree Stratum (Plot size: 5m diam.)	Absolute % Cover	Dominant Species?	Indicator Status	Dominance Test Worksheet				
1.		·		Number of Dominant Species				
2.				that are OBL, FACW, of FAC. (A)				
3. 4				Total Number of Dominant Species Across All Strata: 1				
		= Total Cover		Percent of Dominant Species that are OBL, FACW, or FAC: 100 (A/B)				
Sapling/Shrub Stratum (Plot size: 3m diam.)								
1.				Prevalence Index Worksheet				
2.				Total % Cover of Multiply by				
3.				OBL species x 1 =				
4.				FACW species x 2 =				
5.		= : :		FAC species x 3 =				
		= I otal Cover		FACU species x 4 =				
				UPL species x 5 =				
Herb Stratum (Plot size: 1m diam.)				Column totals (A) (B)				
1. Phalaris arundinacea	95	Y	FACW					
2. Galium sp.	15	N	FAC*	Prevalence Index = B / A =				
3. Scirpus microcarpus	15	N	OBL					
4. Typha latifolia	10	N	OBL	Hydrophytic Vegetation Indicators				
5. Juncus effusus	5	N	FACW	☑ Dominance test is > 50%				
6.				□ Prevalence test is $\leq 3.0^*$				
7.				Morphological Adaptations * (provide supporting				
8.				data in remarks or on a separate sheet)				
9.				─ Wetland Non-Vascular Plants *				
10				 Problematic Hvdrophytic Vegetation * (explain) 				
11								
	140	= Total Cover		* Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic				
Woody Vine Stratum (Plot size:)								
1.								
2.				Hydrophytic Vegetation				
		= Total Cover		Present? Yes No				
% Bare Ground in Herb Stratum:								
Remarks: *presumed FAC								
presument Ao								

SOIL								Sampling Point – DP	-31
Profile Descri	iption: (Descri	be to the d	lepth need	led to document the i	indicator or conf	irm the abse	nce of indicators	5.)	
Depth		Matrix			Redox Fea	tures			
(inches)	Color (m	oist)	%	Color (moist)	%	Type ¹	Loc ²	Texture	Remarks
0-9	10YR 2/2		100					Loam	
<u>0</u> +	107 4/1		93	10VR 4/3	7	C	м	Gravelly loamy sand	
54	101 4/1		33	1011(4/5	'	U	141	Graveny loanty sand	
¹ Type: C=Con	centration, D=I	Depletion, R	RM=Reduce	ed Matrix, CS=Covere	d or Coated Sand	Grains ² Lo	oc: PL=Pore Linin	g, M=Matrix	
Hydric Soil In	dicators: (Ap	licable to	all LRRs.	unless otherwise not	ed.)	Ind	licators for Prob	ematic Hydric Soils ³	
Histosol (A	A1)			Sandy Redox (S5)			2cm Muck (A10)	
Histic Epip	bedon (A2)			Stripped Matrix (S6)			Red Parent Mat	erial (TF2)	
Black Hist	ic (A3)			Loamy Mucky Mineral	(F1) (except MLF	RA 1) 🗌	Other (explain ir	n remarks)	
🛛 Hydrogen	Sulfide (A4)			Loamy Gleyed Matrix ((F2)				
Depleted B	Below Dark Su	rface (A11)		Depleted Matrix (F3)					
Thick Dark	k Surface (A12)		Redox Dark Surface (F	-6)	³ In	dicators of hydrop	phytic vegetation and wetland	hydrology must
🗌 Sandy Mu	cky Mineral (S	1)		Depleted Dark Surface	e (F7)	be	present, unless d	isturbed or problematic	
Sandy Gle	eyed Matrix (S4	.)		Redox Depressions (F	8)				
Restrictive Lav	ver (if present):								
Type: Fill r	naterial					Under	a coil procent?	Vac 🕅	
Dopth (inchoo)); 0 inchos					nyaria	son present?	res 🔀	
Depth (inches))9 Inches								
Remarks:									
HIDROLOGI									
Wetland Hydr	ology Indicate	ors:							
Primary Indic	ators (minimur	n of one red	quired: che	ck all that apply):			Secondary	Indicators (2 or more required	<i>l):</i>
Surface w	vater (A1)			Sparsely Vegetated Co	oncave Surface (E	88)	□ Wat	er-Stained Leaves (B9) (MLR	A 1, 2, 4A & 4B)
High Wate	er Table (A2)			Nater-Stained Leaves	(except MLRA 1	, 2, 4A & 4B)	(B9) ∐ Drai	nage Patterns (B10)	
Saturation	n (A3)			Salt Crust (B11)			∐ Dry-	Season Water Table (C2)	
U Water Ma	irks (B1)			Aquatic Invertebrates (B13)		∐ Satu	iration Visible on Aerial Image	ry (C9)
Sediment	Deposits (B2)			Hydrogen Sulfide Odor	· (C1)	(00)	🛛 Geo	morphic Position (D2)	
	osits (B3)			Oxidized Rhizospheres	s along Living Roo	ots (C3)		llow Aquitard (D3)	
	or Crust (B4)			Presence of Reduced I	iron (C4)		I FAC	-Neutral Test (D5)	
	Sits (B5)			Recent Iron Reduction	In Tilled Soils (Ce	5) \		ed Ant Mounds (D6) (LRR A)	
Surface S	Soil Cracks (B6) rial Imagan		Stunted or Stressed Pl	ants (D1) (LRR A)		t-Heave Hummocks	
(B7)	IT VISIBLE OIT AE	nai inagery	у <u> </u>	Julei (explain in remai	K5)				
. ,									
Field Observa	ations								
Surface Water	Present?	Yes 🗆	No	Depth (in):					
Water Table P	resent?	Yes 🛛	No [Depth (in):	9 BGS	Wetland I	Hydrology Prese	nt? Yes 🔀	No 🗌
Saturation Pre	esent?	Yes 🛛	No [Depth (in):	throughout				
(includes capit	ary mige)								
Describe Reco	orded Data (str	eam gauge	, monitorin	g well, aerial photos, p	revious inspectior	ns), if available	9:		



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DP- 32

Project Site: Applicant/Owner: Investigator:	Segment E – par Puget Sound End K. Crandall	cel numbo ergy	er 0324	059066	i		Sampling Date: Sampling Point: City/County:	6/19/2015 DP- 32 Bellevue			
Landform (hillslope, terrace)	otc): Hillslone	24IN F	USE		Slope	(0/.). 5	State.		Convex		
Subragion (LPP):					Siope ((<i>1</i> 0). J		e, convex, none).	Dotum		
	Aldorwood grav	ally candy	loam	9-15%					Datum.		
Soli Map Unit ivarrie: Ayu		elly Saliuy		0-15%			NVVI classification:				
Are climatic/nydrologic condi	tions on the site typica	al for this tim	e of year	r? L	_ Yes		(If no, explain in rem	iarks.)			
Are "Normal Circumstances" present on the site? Are Ves No											
Are Vegetation , Soil , or Hydrology a significantly disturbed?											
	tre Vegetation , Soil , or Hydrology in naturally problematic										
SUMMARY OF FINDINGS – Attach site map showing sampling point locations, transects, important features, etc.											
Hydrophytic Vegetation Pres	ent?	Yes 🗆	No	\boxtimes							
Hydric Soils Present?			No	\boxtimes	1-414	0	i della e Madan do	Vaa 🗖	٦	Nia	
Wetland Hydrology Present?	,		No		is the a	Sampling P	oint within a wetland?	res		INO	X
Welland Hydrology Fresent:			NU								
Remarks: Out-pit ne	ear EB17										
- · · · •											
	antific nomes of n	lanta									
VEGETATION – Use sci	entific names of p	lants.									
Tree Stratum (Plot size: 5m	diam.)	Absolı Cover	ute %	Domina Specie	ant s?	Indicator Status	Dominance Test	t Worksheet			
1.							Number of Dominar that are OBL, FACV	nt Species V, or FAC:	1		(A)
-							T (1)1 (D				,

2.				that are OBL, FACW, o	r FAC:	1	(A)
3. 4.				Total Number of Domin Species Across All Stra	ant ita:	2	(B)
		= Total Cover		Percent of Dominant Sp that are OBL, FACW, o	r FAC:	50	(A/B)
Sapling/Shrub Stratum (Plot size: 3m diam.)							
1.				Prevalence Index V	Vorksheet		
2.				Total % Cov	<u>er of</u>	Multi	<u>ply by</u>
3.				OBL species		x 1 =	
4.				FACVV species		x 2 =	
5.		- Total Covor		FAC species		x 3 =	
				FACU species		x 4 =	
Herb Stratum (Plot size: 1m diam)				Column totals (A)		(P)	
1 Unknown field grass(as)	80	v	FAC*			(D)	
2 Holcus lanatus	20	N	FAC	Prevalence Index	(-		
3. Plantago lanceolata	5	N	FACU				
4.				Hydrophytic Veget	ation Indicato	rs	
5.				Dominance test i	s > 50%	-	
6.				 Prevalence test i 	s ≤ 3.0 *		
7.				Morphological Ad	daptations * (prov	/ide support	ina
8.				□ data in remarks of	or on a separate	sheet)	5
9				□ Wetland Non-Va	scular Plants *	<i>.</i>	
10				Problematic Hvd	rophytic Vegetati	on * (explai	n)
11					iophijao i ogotaa	on (onpion	.,
	105	= Total Cover		* Indicators of hydric so	il and wetland hy	/drology mu	st be
Woody Vine Stratum (Plot size:)						-	
1. Rubus armeniacus	50	Y	FACU				
2.				Hydrophytic Vegeta	ation		
	50	= Total Cover		Present?	Yes		No 📉
% Bare Ground in Herb Stratum:							
Remarks: *Presumed							

	arintian. (Decariba to the	donth noo	dad to document the indicat	or or confirm	n the sheepee	of indicator	Sampling Point – D	0P-32
Depth	Matrix	depth need	F	Redox Featur	es		5.)	
(inches)	Color (moist)	%	Color (moist)	%	Type ¹	Loc ²	Texture	Remarks
0-10	2.5Y 3/2	100					Gravelly sandy loam	Very compact
¹ Type: C=Co	Display to the second s	RM=Reduc	ed Matrix, CS=Covered or Co	ated Sand G	rains ² Loc: P	L=Pore Linir	Ing, M=Matrix	
	(A1)		Sandy Redox (S5)			m Muck (A10		
Histic Er	oipedon (A2)		Stripped Matrix (S6)			d Parent Ma	terial (TF2)	
Black Hi	istic (A3)		Loamy Mucky Mineral (F1) (ex	cept MLRA	1) 🗌 Ot	her (explain i	in remarks)	
□ Hydroge	en Sulfide (A4)		Loamy Gleyed Matrix (F2)			、	,	
Deplete	d Below Dark Surface (A11)	Depleted Matrix (F3)					
Thick Da	ark Surface (A12)		Redox Dark Surface (F6)		³ Indica	tors of hydro	phytic vegetation and wetlar	nd hydrology mu
Sandy N	/lucky Mineral (S1)		Depleted Dark Surface (F7)		be pres	ent, unless o	disturbed or problematic	
□ Sandy G	Bleyed Matrix (S4)		Redox Depressions (F8)					
Restrictive L	ayer (if present):							
Туре:					Hydric so	il present?	Yes	No 🔀
Dopth (inch	es):						_	

HYDROLOGY

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



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DP- 33

Project Site:	Segment E, parcel nur	nber 032405906	66				Sampling Date:	6/24/201	15		
Applicant/Owner:	Puget Sound Energy						Sampling Point:	DP- 33			
Investigator:	K. Crandall, R. Kahlo						City/County:	Bellevu	e		
Sect., Township, Range:	S 03 T 24N	R 05E					State:	WA			
Landform (hillslope, terrace,	etc): Hillslope			Slope (%): 1	0	Local relief (concave,	, convex, no	one): Concave	e	
Subregion (LRR): A				Lat:			Long:		Datum:		
Soil Map Unit Name: AgD	 Alderwood gravelly sa 	andy loam, 15-3	30%	, 0			NWI classification:	IA			
Are climatic/hydrologic cond	itions on the site typical for th	is time of year?	\sum	🛛 Yes		No	(If no, explain in rema	arks.)			
Are "Normal Circumstances"	present on the site?		\square	🛛 Yes		No					
Are Vegetation \Box , Soil \Box , or	Hydrology significantly dis	sturbed?									
Are Vegetation □, Soil □, or	Hydrology naturally proble	ematic					(If needed, explain ar	ny answers i	in Remarks.)		
SUMMARY OF FINDING	S – Attach site map sho	owing sampling	j po	oint loca	ations	s, trans	sects, important fea	itures, etc			
Hydrophytic Vegetation Pres	ent? Yes	No C									
Hydric Soils Present?	Yes		٦					Maa		N	
Watland Ludrala av Dragant	Yee Yee		-	is the s	Sampi	ing Poi	nt within a wetland?	Yes		INO	
vvetiand Hydrology Present	Yes	K NO L									
Remarks [.] Wetland	FB18 in-nit										
richandr Tretland											

VEGETATION – Use scientific names of pla	ants.			
Tree Stratum (Plot size: 5m diam.)	Absolute % Cover	Dominant Species?	Indicator Status	Dominance Test Worksheet
1. Alnus rubra	75	Y	FAC	Number of Dominant Species
2.				that are OBL, FACW, or FAC: (A)
3. 4.				Total Number of Dominant Species Across All Strata: 6 (B)
	75	= Total Cover		Percent of Dominant Species that are OBL_FACW_or FAC* 83
Sapling/Shrub Stratum (Plot size: 3m diam.)				(A/B)
1. Populus balsamifera (sapling)	15	Y	FAC	Prevalence Index Worksheet
2. Alnus rubra (sapling)	10	Y	FAC	Total % Cover of Multiply by
3.				OBL species x 1 =
4.				FACW species x 2 =
5.				FAC species x 3 =
	25	= Total Cover		FACU species x 4 =
		-		UPL species x 5 =
Herb Stratum (Plot size: 1m diam.)				Column totals (A) (B)
1. Athyrium cyclosorum	5	Y	FAC	
2.				Prevalence Index = B / A =
3.				1
4.				Hydrophytic Vegetation Indicators
5.				Dominance test is > 50%
6.				Prevalence test is $\leq 3.0^*$
7.				 Morphological Adaptations * (provide supporting
8				data in remarks or on a separate sheet)
9				□ Wetland Non-Vascular Plants *
3.				
11				
11.	5	= Total Cover		* Indicators of hydric soil and wetland hydrology must be
		-		present, unless disturbed or problematic
Woody Vine Stratum (Plot size:)				
1. Rubus armeniacus	50	Y	FACU	
2. Solanum dulcamara	80	Y	FAC	Hydrophytic Vegetation
	130	= Total Cover		Present?
% Bare Ground in Herb Stratum:				
Remarks:				

Fiolite Desc	inplion. (Describe to th	e deptil need				of mulcator	5.)	
Depth	Matrix			Redox Fea	atures			
(inches)	Color (moist)	%	Color (moist)	%	Type ¹	Loc ²	Texture	Remarks
0-7	7.5YR 2/1	100					Loam	
7-11	2.5Y 3/2	95	10YR 4/6	5	С	м	Gravelly sandy clay loam	
11-16	2.5Y 3/2	80	7.5YR3/4	20	C	М	Gravelly sandy clay loam	With more gravel than previous layer
Hydric Soil I Histosol Histic Ep Black His Hydroge Depletec Thick Da Sandy M Sandy G	Indicators: (Applicable (A1) ipedon (A2) stic (A3) In Sulfide (A4) I Below Dark Surface (A1 Irk Surface (A12) ucky Mineral (S1) leved Matrix (S4)	to all LRRs, (5 5 5 5 5 5 5 5 5 5 5 5 5	Inless otherwise noted.) Sandy Redox (S5) Stripped Matrix (S6) Loamy Mucky Mineral (F1) (Loamy Gleyed Matrix (F2) Depleted Matrix (F3) Redox Dark Surface (F6) Depleted Dark Surface (F7) Redox Depressions (F8)	except ML	Indica 2 RA 1) C 3 Indic be pre	ators for Prol cm Muck (A10 and Parent Ma Other (explain ators of hydro esent, unless of	Dematic Hydric Soils ³ 0) aterial (TF2) in remarks) pphytic vegetation and wetland disturbed or problematic	hydrology must
Restrictive La	ayer (if present):				Hydric se	oil present?	Yes 🔀	No 🗌

HYDROLOGY

Wetland Hydrology Indicators:					
Primary Indicators (minimum of one require	ed: c	neck all that apply):		Secol	ndary Indicators (2 or more required):
Surface water (A1)		Sparsely Vegetated Concave Surface (B8)			Water-Stained Leaves (B9) (MLRA 1, 2, 4A & 4B)
High Water Table (A2)		Water-Stained Leaves (except MLRA 1, 2	, 4A & 4B) (B9)		Drainage Patterns (B10)
Saturation (A3)		Salt Crust (B11)			Dry-Season Water Table (C2)
Water Marks (B1)		Aquatic Invertebrates (B13)			Saturation Visible on Aerial Imagery (C9)
Sediment Deposits (B2)		Hydrogen Sulfide Odor (C1)		\boxtimes	Geomorphic Position (D2)
Drift Deposits (B3)		Oxidized Rhizospheres along Living Roots	(C3)		Shallow Aquitard (D3)
Algal Mat or Crust (B4)		Presence of Reduced Iron (C4)			FAC-Neutral Test (D5)
□ Iron Deposits (B5)		Recent Iron Reduction in Tilled Soils (C6)			Raised Ant Mounds (D6) (LRR A)
□ Surface Soil Cracks (B6)		Stunted or Stressed Plants (D1) (LRR A)			Frost-Heave Hummocks
 Inundation Visible on Aerial Imagery (B7) 		Other (explain in remarks)			
Field Observations					
Surface Water Present? Yes 🖂	No	Depth (in): 0.5 AGS *			
Water Table Present? Yes	No	Depth (in):	Wetland Hvdro	loav I	Present? Yes 🛛 No 🗌
Saturation Present? Yes X (includes capillary fringe)	No	Depth (in): throughout		. 35	
Describe Recorded Data (stream gauge, m	onitor	ing well, aerial photos, previous inspections)	, if available:		
Remarks: AGS = Above ground s	urfa	e			
*Appears to be coming	fron	shallow groundwater seeps.			



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DP- 34

Project Site: Segment E, pa Applicant/Owner: Puget Sound E Investigator: K. Crandall, R. Sect., Township, Range: S 03	cel numb nergy Kahlo 24N	er 03240 R 05E	59066				Sampling Date: Sampling Point: City/County: State:	6/24/201 DP- 34 Bellevue WA	e		
Landform (hillslope, terrace, etc): Hillslope				Slope (%): 5		Local relief (concave	, convex, no	one): Concav	'e	
Subregion (LRR): A				Lat:			Long:		Datum:		
Soil Map Unit Name: AgD – Alderwood gra	velly sand	dy loam,	1 5-30 %	, 0			NWI classification:	NA			
Are climatic/hydrologic conditions on the site typ	cal for this ti	time of year	? [🛛 Yes		No	(If no, explain in rem	arks.)			
Are "Normal Circumstances" present on the site			[🛛 Yes		No					
Are Vegetation□, Soil □, or Hydrology □ signif Are Vegetation□, Soil □, or Hydrology □ natura	cantly distur	rbed? atic					(If needed, explain a	ny answers i	in Remarks.)		
SUMMARY OF FINDINGS – Attach site I	nap showi	ing samp	ling po	oint loca	ations	, trans	sects, important fea	atures, etc			
Hydrophytic Vegetation Present?	Yes 🛛	⊠ No									
Hydric Soils Present?	Yes 🛛	🛛 No		Is the S	Samnli	ina Poi	nt within a Wetland?	Yes	\square	No	
Wetland Hydrology Present?	Yes 🛛	⊠ No			bampi	ing i oi		100		110	
Remarks: Wetland EB19 in-pit.											
VEGETATION – Use scientific names of	plants.										

Tree Stratum (Plot size: 5m diam.)	Absolute % Cover	Dominant Species?	Indicator Status	Dominance Test V	Worksheet		
1.		•		Number of Dominant	Species	1	
2.				that are OBL, FACW,	, of FAC:	•	(A)
3.				Total Number of Dom	ninant trata:	1	
4.				Species Across All St	liala.	-	(B)
		= Total Cover		that are OBL, FACW,	Species , or FAC:	100	(A/B)
Sapling/Shrub Stratum (Plot size: 3m diam.)							
1.				Prevalence Index	Worksheet		
2.				Total % Co	over of	Multiply	by
3.				OBL species		x 1 =	
4.				FACW species		x 2 =	
5.				FAC species		x 3 =	
		= Total Cover		FACU species		x 4 =	
				UPL species		x 5 =	
Herb Stratum (Plot size: 1m diam.)				Column totals (A	4)	(B)	
1. Phalaris arundinacea	100	Y	FACW		- / .		
2.				Prevalence Inde	ex = B / A =		
3.							
4.				Hydrophytic Vege	etation Indicato	ors	
5.				Dominance tes	st is > 50%		
6.				Prevalence tes	st is ≤ 3.0 *		
7.				Morphological	Adaptations * (pro	vide supporting	1
8.				data in remarks	s or on a separate	sheet)	
9.				Wetland Non-V	/ascular Plants *		
10.				Problematic Hy	ydrophytic Vegeta	tion * (explain)	
11.							
	100	= Total Cover		* Indicators of hydric present, unless distur	soil and wetland h rbed or problemati	ydrology must l c	be
Woody Vine Stratum (Plot size:)							
1.							
2.				Hydrophytic Vege	etation Var		
		= Total Cover		Present?	Yes		, П
		-					
% Bare Ground in Herb Stratum:							
Remarks:				-			

SOI	
-----	--

nnling Doint - DD-24 _

SOIL							Sampling Point – DP	-34
Profile Descri	ption: (Describe to the	depth neede	ed to document the indi	icator or confi	rm the absence o	f indicators	i.)	
Depth	Matrix			Redox Feat	ures			
(inches)	Color (moist)	%	Color (moist)	%	Type ¹	Loc ²	Texture	Remarks
0-4	10YR 2/2	100					Gravelly sandy loam	
4-9	2.5Y 3/2	85	7.5YR 3/3	15	С	м	Loam	
9-14	2.5Y 3/2	75	5YR 3/4	25	С	м	Gravelly sandy loam	
¹ Type: C=Con	centration, D=Depletion,	RM=Reduce	d Matrix, CS=Covered or	Coated Sand	Grains ² Loc: PL	_=Pore Linin	g, M=Matrix	
Hydric Soil In	dicators: (Applicable to	o all LRRs, u	nless otherwise noted.)	Indicato	rs for Prob	lematic Hydric Soils ³	
Histosol (A	(1)	⊡່s	andy Redox (S5)		□ 2cm	Muck (A10)	
Histic Epip	edon (A2)	🗆 S	tripped Matrix (S6)		Red	Parent Mat	erial (TF2)	
Black Histi	c (A3)	🗆 L	oamy Mucky Mineral (F1) (except MLR	A 1) 🗌 Oth	er (explain ir	n remarks)	
Hydrogen	Sulfide (A4)	🗆 L	oamy Gleved Matrix (F2)		, D	· ·		
	Below Dark Surface (A11		epleted Matrix (F3)					
☐ Thick Dark	Surface (A12)	, R	edox Dark Surface (F6)		³ Indicate	ors of hydror	phytic vegetation and wetland	hvdroloav must
Sandy Mu	cky Mineral (S1)		epleted Dark Surface (F	7)	be prese	ent, unless d	isturbed or problematic	,
□ Sandy Gle	yed Matrix (S4)		edox Depressions (F8)	.,				
Restrictive Lay	ver (if present):							
Туре:	· · · ·				Hydric soil	present?	Yes 🕅	No 🗌
Depth (inches)	:				i iyano oon	procentri		
Remarks:								
HYDROLOGY								
Wetland Hydr	ology Indicators:							
Primary Indic	ators (minimum of one r	equired: chec	k all that apply):			Secondary	Indicators (2 or more required):
□ Surface w	ater (A1)		parsely Vegetated Conca	ave Surface (B	B)	∐ Wat	er-Stained Leaves (B9) (MLR	A 1, 2, 4A & 4B)
High Wate	er Table (A2)		/ater-Stained Leaves (ex	cept MLRA 1,	2, 4A & 4B) (B9)	∐ Drai	nage Patterns (B10)	
Saturation	n (A3)		alt Crust (B11)			Dry-	Season Water Table (C2)	
Water Ma	rks (B1)	□ A	quatic Invertebrates (B13	3)		Satu	ration Visible on Aerial Image	ry (C9)
Sediment	Deposits (B2)	🗆 H	ydrogen Sulfide Odor (C	1)		🛛 Geo	morphic Position (D2)	
Drift Depo	sits (B3)		xidized Rhizospheres alo	ong Living Roo	ts (C3)	Sha	llow Aquitard (D3)	
Algal Mat	or Crust (B4)	🗆 P	resence of Reduced Iron	(C4)		🛛 FAC	-Neutral Test (D5)	
Iron Depo	sits (B5)	🗆 R	ecent Iron Reduction in 7	Filled Soils (C6)	🗌 Rais	ed Ant Mounds (D6) (LRR A)	
Surface S	oil Cracks (B6)	□ S	tunted or Stressed Plants	s (D1) (LRR A)		Fros	t-Heave Hummocks	
Inundation	N Visible on Aerial Image	ery 🗌 O	ther (explain in remarks)					
(B7)								
Field Observa	tions							
Surface Water	Present? Ves	No 🕅	Depth (in):					
Water Table P	resent? Yes		Depth (in):					
Saturation Bro	cont?		Dopth (in):	NO BOS	wetland Hydro	blogy Prese	nt? Yes 🔀	No 🔄
(includes capil	lary fringe)	NO L		-9 000				
Describe Reco	rded Data (stream gaug	e, monitoring	well, aerial photos, previ	ious inspection	s), if available:			
Remarks:								
l								



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DP-1E

Project Site: PSE Lakeside Applicant/Owner: Puget Sound Ene Investigator: N. Lund, K. Crand Sect., Township, Range S 10 T 2 Landform (hillslope, terrace, etc) Hillslope Subregion (LRR) A Soil Map Unit Name Ur – Urban Land Are climatic/hydrologic conditions on the site typical Are Vegetation [], Soil, [], or Hydrology [] signific Are Vegetation [], Soil, [], or Hydrology [] natura SUMMARY OF FINDINGS – Attach site map	rgy all 24N R 05E Lat for this time of yea antly disturbed? ly problematic? p showing sam	Slope (%) 2- ar? X Yes X Yes pling point loc	5	Sampling Sampling City/Cou State: Local relie Long (If no, exp (If needed	Date: Point: nty: f (concave NWI cla lain in rem , explain a	5/2/2014 DP- 1E Bellevue WA a, convex, none) Datur assification N aarks.) any answers in Re atures, etc.	Slightly n /A emarks.)	concave
Hydrophytic Vegetation Present? Hydric Soils Present? Wetland Hydrology Present? Remarks: Wetland E in-pit	X Yes □ X Yes □ Yes □	No Is this S No No	Sampling Point	t within a W	/etland?	Yes	No	
VEGETATION – Use scientific names of pla	ants.							
Tree Stratum (Plot size 5m diam.)	Absolute % Cover	Dominant Species?	Indicator Status	Domina	nce Tes	t Worksheet		
1. Pinus contorta (rooted upslope)	5	Y	FAC	Number that are (of Dominal	nt Species	4	()
3.				Total Nu	nber of Do	ominant		(A)
4.		Tatal Queen		Species /	Across All	Strata:	4	(B)
Sapling/Shrub Stratum (Plot size 3m diam.)		= Total Cover		that are 0	Dominar DBL, FACV	N, or FAC:	100	(A/B)
1. Salix sitchensis	2	Y	FACW	Prevale	nce Inde	x Worksheet		
2. Salix lucida	2	Y	FACW		Total % C	<u>Cover of</u>	Mul	<u>tiply by</u>
3. 4.				FACW st	cies becies		x 1 =	
5.				FAC spe	cies		x 3 =	
		= Total Cover		FACU sp	ecies		x 4 =	
Herb Stratum (Plot size 1m diam)				UPL spe	cies otals		x 5 =	(P)
1. Poa sp.	80	Y	FAC*	Column	otais		(^)	(D)
2. Holcus lanatus	25	Ν	FAC	Preva	alence Ind	dex = B / A =		
3. Juncus effuses	10	N	FACW					
4. Equisetum arvense	5	N	FAC	Hydrop	hytic Ve	getation Indica	ators	
Kanunculus repens Trifolium repens	5	N	FAC FAC	^	Prevaler	ice test is $\geq 50\%$		
7. Carex sp.	1	N			Morphole	ogical Adaptation	s * (provide su	upporting
8.					data in re	emarks or on a se	eparate sheet)
9. 10					Wetland	Non-Vascular Pla	ants *	evolain)
11.					FIUDIEIII		vegetation (ехріант)
	131	= Total Cover		* Indicato present,	ors of hydri unless dist	c soil and wetland urbed or problem	d hydrology m atic	iust be
Woody Vine Stratum (Plot size)				-				
2.		= Total Cover		Hydroph Present	ytic Vege	tation Yes	\boxtimes	No
% Bare Ground in Herb Stratum								
Remarks: *Presumed FAC								

Tender Matrix Notice Reduce Pretures Type Loc ² Texture Remarks 0-4 10 VR 3/1 95 7.5 VR % 5 C PL Sandy Loam Remarks 4-12 10 VR 3/1 80 7.5 VR 3//4 20 C PL Grady loam with cobbles 1*Type: C-Concentration, D-Depietion, RM-Reduced Matrix, CS-Covered or Coated Sand Grains *Loc: PL=Pore Lining, M=Matrix High cost indicators: (Applicable to all LR8; unless otherwise noted.) Indicators of Problematic Hydri Cost ³ Endicators (Applicable Cost 3) Histic Explored (A2) Sandy Reduce (SS) Sandy Reduce (SS) Indicators of Problematic Hydri Cost ³ Endicators of Problematic Hydri Cost ³ Hydrig Solit Medie (A3) Experime Matrix (S3) Depleted Batrix (F2) Other (ceptian in remarks) Sandy Matrix (S4) Red az Depressions (F9) *Indicators of hydrophydic segletion and wetland hydrology must be present, unless disturbed or problematic Problematic Hydric Cost 7 No Problematic Hydric Cost 7 Problematic Hydric Cost 7 Problematic Hydri	Profile Descri	ption: (Describe to the	depth neede	ed to document the indicat	or or confi	m the absence of	of indicato	rs.)	
Inches) Color (moist) % Color (moist) % Type Loc Texture Remarks 0-4 10 YR 3/1 95 7.5 YR 3/4 20 C PL Sandy Joan Remarks 1*1ype: Color (moist) % 7.5 YR 3/4 20 C PL Gravely sandy Joan Remarks 1*1ype: Color (moist) 95 7.5 YR 3/4 20 C PL Gravely sandy Joan Remarks 1*1ype: Color (moist) 95 Color (moist) 96 Color (moist) 96 <td>Depth</td> <td>Matrix</td> <td></td> <td>R</td> <td>edox Featu</td> <td>res</td> <td></td> <td>- ,</td> <td></td>	Depth	Matrix		R	edox Featu	res		- ,	
0-4 10 YR 3/1 95 7.5 YR 3/.4 5 C PL Sandy loam 4-12 10 YR 3/1 80 7.5 YR 3/.4 20 C PL Sandy loam ************************************	(inches)	Color (moist)	%	Color (moist)	%	Type ¹	Loc ²	Texture	Remarks
4-12 10 YR 3/1 80 7.5 YR 3/4 20 C PL Gravely sandy loam with cobbles Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered or Coated Sand Grains *Loc: PL=Pore Lining, M=Matrix *Itoos (A(1)) Histos (A(1)) Histos (A(1)) Histos (A(1)) Histos (A(1)) Histos (A(1)) Back Helds (A) Histos (A(1)) Histos (A(1)) Histos (A(1)) Histos (A(1)) Back Helds (A) Histos (A(1)) Histos (A(1)) Histos (A(1)) Histos (A(1)) Back Helds (A) Histos (A(1)) Histos (A(1)) Histos (A(1)) Histos (A(1)) Back Helds (A) Histos (A(1)) Histos (A(1)) Red watrix (Sb) Histos (A(1)) Back Helds (A) Histos (A(1)) Red watrix (Sb) Histos (A(1)) Red watrix (Sb) Back Helds (A) Histos (A(1)) Red watrix (Sb) Histos (A(1)) Histos (A(1)) Back Helds (A) Histos (A(1)) Red watrix (Sb) Histos (A(1)) Histos (A(1)) Back Helds (A) Histos (A(1)) Histos (A(1)) Histos (A(1)) Histos (A(1)) Histos (A(1)) Back Helds (A) Histos (A(1)) Histos (A(1)) <td< td=""><td>0-4</td><td>10 YR 3/1</td><td>95</td><td>7.5 YR ¾</td><td>5</td><td>c</td><td>PL</td><td>Sandy loam</td><td></td></td<>	0-4	10 YR 3/1	95	7.5 YR ¾	5	c	PL	Sandy loam	
Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered or Coated Sand Grains *Loc: PL=Pore Lining, M=Matrix Hydro Soli Indicators: (Applicable to all LRBs, unless otherwise noted, Histosol (A1) Indicators for Problematic Hydro Solis* Stripped Matrix (S0) Black Histis (A3) Depleted Matrix (S1) Coarry Moreky Materia (F1) (except MLRA 1) Indicators for Problematic Hydro Solis* Stripped Matrix (F2) Depleted Below Dark Surface (A11) Depleted Matrix (F2) Indicators of hydrophytic vegetation and wetland hydrology must bepresent, unless disturbed or problematic Restrictive Lupy(If present): Predex Dark Surface (F5) Indicators of hydrophytic vegetation and wetland hydrology must bepresent, unless disturbed or problematic Restrictive Lupy(If present): Predex Dark Surface (F5) Indicators (MLRA 1, 2, 4 & 8 4E) Protectors (m41) Depleted Matrix (T2) Indicators (MLRA 1, 2, 4 & 8 4E) Mydro Robitor (A3) Sparsely Wigners Milles A (Dark (F1)) Indicators (MLRA 1, 2, 4 & 8 4E) Protectors (m41) Depleted Matrix (Dark (T3)) Secondary Indicators (MLRA 1, 2, 4 & 8 4E) Secondary Indicators (MLRA 1, 2, 4 & 8 4E) Dift Deposits (F3) Indicator (MLRA 1, 2, 4 & 8 4E) Secondary Indicators (MLRA 1, 2, 4 & 8 4E) Dift Deposits (F3) Dift Deposits (F3) Dift Deposits (F3) Secondary Matris (F5) Dift Depos	4-12	10 YR 3/1	80	7.5 YR 3//4	20	С	PL	Gravelly sandy loam with cobbles	
Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered or Coated Sand Grains *Lo: PL=Pore Lining, M=Matrix Hydric Soli Indicators: (Applicable to all LRRs, unless otherwise noted.) Indicators for Poblematic Hydric Solis* Histosci (A1) Stripped Matrix (S5) Stripped Matrix (S1) Red Parent Material (TF2) Depleted Below Dark Surface (A1) Depleted Matrix (S2) *Derived Material (TF2) Depleted Matrix (S4) Depleted Matrix (S4) *Derived Material (TF2) Sandy Muky Mneral (S1) Redox Dark Surface (F5) *Indicators of hydrophytic vegetation and wetland hydrology must be present; Type:									
Hydricsolin Indicators: (Applicable to all LRRs, unless otherwise noted.) Indicators for Problematic Hydro Solis ² Histos (Pipedon (A2) Stripped Matrix (S5) Image Matrix (S1) Back Histic (A2) Depleted Matrix (F2) Image Matrix (F2) Depleted Matrix (S1) Depleted Matrix (F3) Image Matrix (F3) Sandy Bedow Dark Surface (A12) Depleted Matrix (F3) Image Matrix (F3) Sandy Micky Mineral (F1) Depleted Matrix (F3) Image Matrix (F3) Pesticitive Layer (if present): Type: Image Matrix (F3) Depleted Matrix (S4) Depleted Matrix (F3) Image Matrix (F3) Present: No Depleted Matrix (F3) Patrix (F1) Redox Depressions (F8) Image Matrix (F3) Present: No Image Matrix (F3) Patrix (F1) Redox Depressions (F8) Image Matrix (F3) Present: No Image Matrix (F3) Depted Matrix (F3) Image Matrix (F3) Image Matrix (F3) Present: No Image Matrix (F3) Image Matrix (F3) Present: No No Image Matrix (F3) Image Matrix (F3) Present: No No No <td>¹Type: C=Con</td> <td>centration, D=Depletion,</td> <td>RM=Reduce</td> <td>d Matrix, CS=Covered or Co</td> <td>ated Sand</td> <td>Grains ²Loc: P</td> <td>L=Pore Lini</td> <td>ing, M=Matrix</td> <td></td>	¹ Type: C=Con	centration, D=Depletion,	RM=Reduce	d Matrix, CS=Covered or Co	ated Sand	Grains ² Loc: P	L=Pore Lini	ing, M=Matrix	
Restrictive Layer (if present): Type:	Hydric Soil In Histosol (Histic Ep Black His Hydroger Depleted Thick Da Sandy M	dicators: (Applicable to A1) pedon (A2) titic (A3) n Sulfide (A4) Below Dark Surface (A1 rk Surface (A12) ucky Mineral (S1) eved Matrix (S4)	all LRRs, u 	nless otherwise noted.) Sandy Redox (S5) Stripped Matrix (S6) Loamy Mucky Mineral (F1) (Loamy Gleyed Matrix (F2) Depleted Matrix (F3) Redox Dark Surface (F6) Depleted Dark Surface (F7) Redox Depressions (F8)	except MLI	Indicate 20 RA 1) 0 3 Indicate be present	ors for Pro cm Muck (A ed Parent N ther (explain tors of hydro ent, unless	blematic Hydric Soils ³ 10) Material (TF2) n in remarks) ophytic vegetation and wetland disturbed or problematic	hydrology must
Depth (inches):	Restrictive Lay	ver (if present):		T (-)		lludria a sil		Yes 🕅	No 🗍
Remarks: HYDROLOGY Wetland Hydrology Indicators: Primary Indicators (Iminimum of one required: check all that apply): Static Classe water (A1) High Water Table (A2) Batt Crust (B1) Water-Stained Leaves (except MLRA 1, 2, 4A & 4B) (B9) Drainage Patterns (B10) Water-Stained Leaves (R00) Diff Deposits (B2) Water Marks (B1) Aquatic Invertebrates (B13) Aquatic Invertebrates (B13) Aquatic Invertebrates (B13) Agaid Mat or Crust (B4) Crust (B1) Surface Soli Cracks (B6) Drainage Patterns (D2) Inundation Visible on Aerial Dresesed Plants (D1) (LRR A) Surface Soli Cracks (B6) Depth (in): Imagery (B7) Yes Field Observations No Surface Soli Cracks (B6) No Incudes capillary fringe) Yes No Depth (in): Vater Table Present? No Surface Vater Present? No Depth (in): No Depth (in): No Depth (in): No Depth (in): No <td< td=""><td>Depth (inches</td><td>):</td><td></td><td></td><td></td><td>Hydric soil</td><td>present?</td><td></td><td></td></td<>	Depth (inches):				Hydric soil	present?		
HYDROLOGY Wetland Hydrology Indicators: Primary Indicators (minimum of one required: check all that apply): Secondary Indicators (2 or more required): High Water Table (A2) Saturation (A3) Battration (A3) Saturation (A3) Aqual Mator Crust (B1) Aqual Charter Stained Leaves (B13) Hydrogen Suffde Odor (C1) Driviagean Suffde Odor (C1) Data Crust (B1) Oxiticate Atter (A1) Algal Mator Crust (B4) Presence of Reduced from (C44) Rescent from Reduction in Tilled Solis (C6) Sturated visible on Aerial Inundation Visible on Aerial Other (explain in remarks) Field Observations No Surface Water Present? Yes Yes No Depth (in): Yes Saturation Present? Yes No Depth (in): Saturation Present? Yes No Depth (in): Saturation Present? Yes Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available: Remarks:	Remarks:					I			
HYDROLOGY Wetland Hydrology Indicators: Primary Indicators (Initimum of one required: check all that apply): B Surface water (A1) Sparsely Vegetated Concave Surface (B8) Water Table (A2) Water-Stained Leaves (except MLRA 1, 2, 4A & 4B) (B9) Water-Stained Leaves (B2) (MLRA 1, 2, 4A & 4B) B Surface water (A1) Aquatic Invertebrates (B13) Dry-Season Water Table (C2) Water Marks (B1) Aquatic Invertebrates (B13) Dry-Season Water Table (C2) Saturation (A3) Aquatic Invertebrates (B13) Dry-Season Water Table (C2) Algal Mat or Crust (B4) Presence of Reduced from (C4) Staturation Visible on Aerial Imagery (C9) Geomorphic Position (D2) Shallow Aquitard (D3) Raised Ant Mounds (D6) (LRR A) Field Observations Sturate Soil Cracks (B6) Other (explain in remarks) Resent 1 non Reduction in Tilled Soils (C6) Saturation Present? Yes No Depth (in): No Peth (in): Nater Present? Yes No Depth (in): No No Saturation Present? Yes No Depth (in): No No No Depth (in): No Depth (
Wetland Hydrology Indicators: Primary Indicators (minum of one required: check all that apply): Surface water (A1) High Water Table (A2) Water-Stained Leaves (except MLRA 1, 2, 4A & 4B) (B9) Saturation (A3) Water Marks (B1) Sediment Deposits (B2) Diff Deposits (B3) Agal Mat or Crust (B4) Induction Infibution of Solid Cracks (B6) Induction Infibution of Solid Cracks (B6) Induction Infibution of Solid Cracks (B6) Surface Water Present? Yes No Depth (in): Saturation Present? Yes No Depth (in): Saturation Present? Yes No Depth (in): Saturation Present? Yes No Depth (in): No Depth (in): Saturation Present? Yes No Depth (in): No Depth (in): No Depth (in): Yes		~~							
Wetland Hydrology Indicators: Primary Indicators (minimum of one required: check all that apply): Secondary Indicators (2 or more required): B Staturation (A3) Sparsely Vegetated Concave Surface (B8) Water-Stained Leaves (B9) (MLRA 1, 2, 4A & 4B) (B9) B Saturation (A3) Aquatic Invertebrates (B13) Water-Stained Leaves (B1) Water-Stained Leaves (B1) B Sediment Deposits (B2) Hydrogen Sufide Odor (C1) Aquatic Invertebrates (B13) Saturation (A3) B Sediment Deposits (B2) Hydrogen Sufide Odor (C1) Saturation Visible on Aerial Imagery (C9) Geomorphic Position (D2) B Staturation C(A4) Presence of Reduced Iron (C4) Presence of Site (C2) Saturation (A3) B Surface Soil Cracks (B6) Stunted or Stressed Plants (D1) (LRR A) Recent Iron Reduction in Tilled Soils (C6) Raised Ant Mounds (D6) (LRR A) Surface Water Present? Yes No Depth (in): No Peth (in): Water Table Present? Yes No Depth (in): No Peth (in): Surface Water Present? Yes No Depth (in): No Depth (in): No Depth (in): Yes No Depth (in): Yes <td>HIDROLOG</td> <td>ίΥ</td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td>	HIDROLOG	ίΥ							
Surface Water Present? Yes No Depth (in): Water Table Present? Yes No Depth (in): Saturation Present? Yes No Depth (in): Yes No Depth (in): No Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:	Wetland Hydr Primary Indic Surfac High V Satura Sedim Drift D Algal I Surfac Surfac Surfac Inunda Inunda	ology Indicators: ators (minimum of one r e water (A1) Vater Table (A2) tition (A3) Marks (B1) ent Deposits (B2) eposits (B3) Mat or Crust (B4) eposits (B5) es Soil Cracks (B6) ation Visible on Aerial ry (B7)	equired: chec S C C C C C C C C C C C C C C C C C C	k all that apply): parsely Vegetated Concave /ater-Stained Leaves (excep alt Crust (B11) quatic Invertebrates (B13) ydrogen Sulfide Odor (C1) xidized Rhizospheres along resence of Reduced Iron (C4 ecent Iron Reduction in Tille tunted or Stressed Plants (D ther (explain in remarks)	Surface (B8 t MLRA 1, Living Root 4) d Soils (C6) 1) (LRR A)	ⁱ⁾ 2, 4A & 4B) (B9) s (C3)	Second D D S S S S S S S S S S S S S S S S S	ary Indicators (2 or more requin /ater-Stained Leaves (B9) (MLI rainage Patterns (B10) ry-Season Water Table (C2) aturation Visible on Aerial Imag reomorphic Position (D2) hallow Aquitard (D3) AC-Neutral Test (D5) aised Ant Mounds (D6) (LRR A rost-Heave Hummocks	red): RA 1, 2, 4A & 4B) lery (C9)
Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available: Remarks:	Field Observa Surface Water Water Table P Saturation Pre (includes capil	ations Present? resent? sent? lary fringe)	es 🛛 I es 🖾 I	No Depth (in): No Depth (in): No Depth (in): 7" E	GS	Wetland Hydro	ology Pres	ent? Yes 🔀	No
Remarks:	Describe Reco	orded Data (stream gaug	e, monitoring	well, aerial photos, previous	inspections), if available:			
	Remarks:								



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DP-2E

Project Site: Applicant/Owner: Investigator: Sect., Township, Range Landform (hillslope, terrace, el Subregion (LRR) A Soil Map Unit Name Ur – Are climatic/hydrologic conditic Are "Normal Circumstances" p Are Vegetation [], Soil, [], or Are Vegetation [], Soil, [], or SUMMARY OF FINDINGS Hydrophytic Vegetation Present? Wetland Hydrology Present? Remarks: Wetland E of	PSE Lakeside Puget Sound Energy N. Lund, K. Crandall S 10 T 24N tc) Hillslope Urban Land ons on the site typical for t resent on the site? Hydrology □ significantly r Hydrology □ naturally pr G – Attach site map sh sent? □ c put-pit	R 05E	Slope (%) 5- ar? Xes Yes pling point loc No Is this S No No	10 No No ations, trans Gampling Point	Sampling Sampling City/Cou State: Local relie Long (If no, exp (If needed sects, imp t within a W	y Date: y Point: nty: f (concar f (concar NWI c lain in re , explain ortant f	5/2/2014 DP- 2E Bellevue WA ve, convex, none Dat classification marks.)) None um N/A Remarks.) s X	0
VEGETATION – Use scie	ntific names of plants	i.							
Tree Stratum (Plot size 5r	n diam.)	Absolute % Cover	Dominant Species?	Indicator Status	Domina	nce Te	st Worksheet		
1. Pinus contorta		5	Y	FAC	Number of that are (of Domin	ant Species	3	
2. 3. 4.					Total Nur Species	nber of E Across A	Dominant Il Strata:	3	(A) (B)
Sapling/Shrub Stratum (Plot	: size 3m diam.)		= Total Cover		Percent of that are 0	of Domina OBL, FAC	ant Species CW, or FAC:	100	(A/B)
1.					Prevale	nce Ind	lex Worksheet		
2.						<u>Total %</u>	Cover of	<u>Mu</u>	<u>ltiply by</u>
3.					OBL spec	cies		x 1 =	
5.					FAC spec	cies		x 3 =	
			= Total Cover		FACU sp	ecies		x 4 =	
	—		-		UPL spec	cies		x 5 =	
Herb Stratum (Plot size 1n	n diam.)				Column t	otals		(A)	(B)
Image:	le	80 70 30	Y Y N	FAC* FAC FACU	Preva	lence li	ndex = B / A =		
4. Ranunculus repens	6	20	N	FAC	Hydrop	hytic V	egetation Indi	cators	
5. Holcus lanatus		5	N	FAC	X	Domina	ance test is > 50%	6	
6. Vicia sp.		5	N			Prevale	ence test is ≤ 3.0	*	
^{7.} Equisetum arvense)	5	N	FAC	-	Norpho data in	remarks or on a	ons " (provide s separate sheet	upporting
9.						Wetlan	id Non-Vascular F	Plants *	1
10.						Probler	matic Hydrophytic	vegetation *	(explain)
11.									
			= Total Cover		* Indicato	rs of hyd Inless di	tric soil and wetla	nd hydrology n matic	nust be
Woody Vine Stratum (Plot s	ize)							indio	
2.			= Total Cover		Hydroph Present?	ytic Veg	jetation Yes		No
<u>% Bare Ground in Herb Stratu</u> Remarks: *Presumed FA	mC				I				

Profile Descri	ption: (Describe to the	depth neede	d to document the indicate	or or confi	rm th	e absence of	f indicator	·s.)	
Depth	Matrix	-	R	edox Featu	ires				
(inches)	Color (moist)	%	Color (moist)	%		Type ¹	Loc ²	Texture	Remarks
0-10	10 YR 2/2	100						Gravelly sandy loam	
10-12	10 YR 2/2	70						Gravelly sandy loam with cobbles	Mixed matrix
	7.5 YR 3/4	30							Mixed matrix
¹ Type: C=Cont Hydric Soil In Histosol (Histic Epi Black His Hydroger Depleted	¹ Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered or Coated Sand Grains ² Loc: PL=Pore Lining, M=Matrix Hydric Soil Indicators: (Applicable to all LRRs, unless otherwise noted.) Indicators for Problematic Hydric Soils ³ Histosol (A1) Sandy Redox (S5) Histic Epipedon (A2) Stripped Matrix (S6) Black Histic (A3) Loamy Mucky Mineral (F1) (except MLRA 1) Hydrogen Sulfide (A4) Depleted Matrix (F2) Depleted Below Dark Surface (A11) Depleted Matrix (F3)								
Thick Dai Sandy Mi	Depleted Below Dark Surface (A11) Depleted Matrix (F3) Thick Dark Surface (A12) Redox Dark Surface (F6) Sandy Mucky Mineral (S1) Depleted Dark Surface (F7) Sandy Gleyed Matrix (S4) Redox Depressions (F8)								
Restrictive Lay Type: Depth (inches)	ver (if present):					Hydric soil p	present?	Yes	No 🔀
Remarks:									
HYDROLOG	iΥ								
Wetland Hydr Primary Indic Surfac High V Satura Water Sedim Drift D Algal M Iron D Surfac Inunda Image	ology Indicators: ators (minimum of one re se water (A1) Vater Table (A2) tition (A3) Marks (B1) ent Deposits (B2) eposits (B3) Mat or Crust (B4) eposits (B5) se Soil Cracks (B6) ation Visible on Aerial ry (B7)	quired: check	c all that apply): barsely Vegetated Concave S ater-Stained Leaves (excep alt Crust (B11) quatic Invertebrates (B13) ydrogen Sulfide Odor (C1) kidized Rhizospheres along I esence of Reduced Iron (C4 ecent Iron Reduction in Tillec unted or Stressed Plants (D her (explain in remarks)	Surface (Bł t MLRA 1, Living Roof) ł Soils (C6) 1) (LRR A)	8) 2, 4A ts (C3)	& 4B) (B9)	Second.	ary Indicators (2 or more requir vater-Stained Leaves (B9) (MLI rainage Patterns (B10) ry-Season Water Table (C2) aturation Visible on Aerial Imag eomorphic Position (D2) hallow Aquitard (D3) AC-Neutral Test (D5) aised Ant Mounds (D6) (LRR A rost-Heave Hummocks	ed): R A 1, 2, 4A & 4B) ery (C9) .)
Field Observa Surface Water Water Table P Saturation Pre (includes capil	ttions Present? resent? resent	s 🛛 M s 🖾 M s 🖾 M	lo Depth (in): lo Depth (in): lo Depth (in):		We	etland Hydro	logy Prese	ent? Yes	No 🔀
Describe Reco	orded Data (stream gauge	, monitoring	well, aerial photos, previous	inspection	s), if a	available:			
Remarks:	Damp, not saturated								



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COMPAN	Y 1987 COE	Wetlands Deline	ation Manu	ial	DP- 4	watershedco.com		
Designet Cites				Comunities of D	E/0/0044			
Project Site: P	SE Lakeside			Sampling D	ate: <u>5/2/2014</u>			
Applicant/Owner: P	uget Sound Energy			Sampling P	OINT: <u>DP-4</u>			
Investigator: N	Lund, K. Crandall	-		City/County	Bellevue			
Sect., Township, Range	<u>5 10 24N R 05</u>			State:	WA			
Cubragian (LDD)) Hillslope	Slope (%) <5			concave, convex, none	e) Concave		
	Lai			Long	Da	aum		
Soil Map Unit Name Ur – U	rban Land				NWI classification	N/A		
Are climatic/hydrologic condition	is on the site typical for this time of ye	ear? 🛛 Yes	□ No	(If no, explain	n in remarks.)			
Are "Normal Circumstances" pre	sent on the site?	🛛 Yes	□ No					
Are Vegetation [], Soil, [], or H	lydrology is significantly disturbed?			(If pooded or	volain any answers in	Pomarks)		
SUMMARY OF FINDINGS	- Attach site map showing san	npling point locat	tions, trans	ects, import	ant features, etc.			
Hydrophytic Vegetation Prese	nt? Xes	No Is this Sa	mpling Point	within a Wetl	and?	es 🗌 No		
Hydric Soils Present?		No						
Wetland Hydrology Present?	Yes _	No						
Remarks: Wetland Lin-ni	*							
Nemarks. Wettand I m-pr	ι							
VEGETATION – Use scien	tific names of plants.							
Tree Stratum (Plot size 5m	diam.) Absolute %	Dominant	Indicator	Dominanc	e Test Worksheet	t		
	Cover	Species?	Status					
^{1.} Salix babylonica	55	Y	FACW	Number of D	Dominant Species	4		
2. Pinus contorta	10	Y	FAC	that are OBL	_, FACW, of FAC:	(A)		
3.				Total Numbe	er of Dominant	5		
4.				Species Acr	oss All Strata:	(B)		
		= Total Cover		Percent of D	ominant Species	80		
				that are OBL	_, FACW, or FAC:	(A/B)		
Sapling/Shrub Stratum (Plot s	ize 3m diam.)							
1. Alnus rubra (sapling) 3	Y	FAC	Prevalenc	e Index Workshee	et		
2.				<u>Tc</u>	otal % Cover of	Multiply by		
3.				OBL species	s	x 1 =		
4.				FACW spec	ies	x 2 =		
5.				FAC species	S	x 3 =		
		= Total Cover		FACU speci	es	x 4 =		
				UPL species	3	x 5 =		
Herb Stratum (Plot size 1m	diam.)			Column tota	ls	(A) (B)		
1. Meadow grass	99	Y	FAC					
2. Equisetum arvense	3	N	FAC	Prevaler	nce Index = B / A =			
3.								
4.				Hydrophy	tic Vegetation Ind	icators		
5.				X D	ominance test is > 50	1%		
6.				P	revalence test is ≤ 3.0) *		
7.				N	lorphological Adaptati	ions * (provide supporting		
8.				d	ata in remarks or on a	a separate sheet)		
9.				V	Vetland Non-Vascular	Plants *		
10.				P	roblematic Hydrophyt	ic Vegetation * (explain)		
11.				1				
		= Iotal Cover		* Indicators	of hydric soil and weth	and hydrology must be		
Woody Vine Stratum (Dist	10			present, uni	ess disturbed of probl	emauc		
1. Rubus armoniacus	<u> </u>	v	FACU	1				
2.	20		1 400	Hydrophyti	c Vegetation			
		= Total Cover		Present?	Ye	es 📈 No		
		_						
% Bare Ground in Herb Stratum	I							
Remarks:								

Profile Descri	ption: (Describe to the	depth neede	d to document the indicat	or or confi	rm the absence of	of indicato	ors.)	
Depth	Matrix		R	ledox Featu	res		1	
(inches) 0-12	Color (moist) 10 YR 3/1	% 100	Color (moist)	%	Type ¹	Loc ²	Texture Gravelly sandy clay Ioam	Remarks
¹ Type: C=Con Hydric Soil In Histosol (Histic Ep Black Hig Depleted Thick Da Sandy M Sandy G Restrictive Lab	centration, D=Depletion, I dicators: (Applicable to (A1) ipedon (A2) ttic (A3) n Sulfide (A4) Below Dark Surface (A1 rk Surface (A12) ucky Mineral (S1) leyed Matrix (S4)	RM=Reduced all LRRs, ur C S C S C C C S C C C S C S C C C S C S	Matrix, CS=Covered or Co Mess otherwise noted.) Sandy Redox (S5) Stripped Matrix (S6) oamy Mucky Mineral (F1) (oamy Gleyed Matrix (F2) Depleted Matrix (F3) Redox Dark Surface (F6) Depleted Dark Surface (F7) Redox Depressions (F8)	except MLI	Grains ² Loc: P Indicate RA 1) 3 Indicat be pres	L=Pore Lin ors for Pro cm Muck (A ed Parent I ther (expla cors of hydri ent, unless	ning, M=Matrix oblematic Hydric Soils ³ A10) Material (TF2) in in remarks) rophytic vegetation and wetland disturbed or problematic	l hydrology must
Type: Depth (inches)):				Hydric soil	present?	Yes 🔀	No
HYDROLOG Wetland Hydr Primary Indic Sui Hig Sai Wa Sei Drin Alg Inroi	rology Indicators: eators (minimum of one re rface water (A1) In Water Table (A2) turation (A3) ter Marks (B1) diment Deposits (B2) ft Deposits (B3) al Mat or Crust (B4) n Deposits (B5)		: all that apply): Sparsely Vegetated Conca Water-Stained Leaves (ex Salt Crust (B11) Aquatic Invertebrates (B13 Hydrogen Sulfide Odor (C' Oxidized Rhizospheres alc Presence of Reduced Iron Recent Iron Reduction in T	ive Surface cept MLRA) 1) ng Living R (C4) illed Soils (i	(B8) 1, 2, 4A & 4B) (E oots (C3) C6)	39)	ondary Indicators (2 or more re Water-Stained Leaves (B9) (Drainage Patterns (B10) Dry-Season Water Table (C2 Saturation Visible on Aerial II Geomorphic Position (D2) Shallow Aquitard (D3) FAC-Neutral Test (D5) Raised Ant Mounds (D6) (LR	<i>quired):</i> MLRA 1, 2, 4A & ?) magery (C9) RR A)
Field Observa Surface Water Water Table P Saturation Pre (includes capil	rface Soil Cracks (B6) ndation Visible on Aerial agery (B7) ations Present?	Yes Xes Ves Ves	Stunted or Stressed Plants Other (explain in remarks) No Depth (in): No Depth (in): 9 No Depth (in): 0	" BGS " BGS	A)	drology P	Frost-Heave Hummocks	No
Describe Reco	orded Data (stream gauge	e, monitoring v	well, aerial photos, previous	inspection	s), if available:			
Remarks:								



Western Mountains, Valleys, and Coast Supplement to the 1987 COE Wetlands Delineation Manual

750 Sixth Street South Kirkland, Washington 98033 (425) 822-5242 watershedco.com

Сомра	NY 1987	tains, Valleys, and COE Wetlands Deli	neation Manu	ament to th ual)P- 5		waters	hedco	o.com
Project Site:	PSE Lakosido			Sampling	Data	5/2/201/				
Applicant/Owner:	PSE Lakeside			Sampling	Date.	DP- 5	ł			
Investigator:	N Lund K Crandall			City/Coun	FUIII.	Bellevu	0			
Sect Township Range		05E		State	ity.	WA	c			
Landform (hillslope terrace	etc) Hillslone	Slope (%)	10	l ocal relief	(concav		ne) N	ono		
Subregion (LRR)		at	10	Long			Datum	one		
				Long			Jatum			
Soil Map Unit Name Ur	- Urban Land				NWI C	assification	N/A			
Are climatic/hydrologic condi Are "Normal Circumstances" Are Vegetation	tions on the site typical for this time present on the site? or Hydrology	of year? Xes Xes Ves tic?	No No	(If no, explain in remarks.) (If needed, explain any answers in Remarks.)						
SUMMARY OF FINDING	S – Attach site map showing	sampling point loo	cations, trans	ects, impo	ortant fe	eatures, etc				1
Hydrophytic Vegetation Pro Hydric Soils Present? Wetland Hydrology Presen Remarks: Wetland I	>sent? Xes Yes Yes t? Yes out-pit Yes	□ No Is this ⊠ No ⊠ No	Sampling Point	t within a We	etland?		Yes	No		
VEGETATION – Use sci	entific names of plants.									
	i									
Tree Stratum (Plot size	5m diam.) Absolut Cover	e % Dominant Species?	Indicator Status	Dominar	nce Tes	t Workshe	et			
1. Pinus contorta	40	Y	FAC	Number of	f Domina	Int Species		3		
2.						w, or r AC.		-	((A)
4.				Species A	cross All	Strata:		4	((B)
Sapling/Shrub Stratum (Pl	ot size 3m diam.)	= Total Cover		Percent of that are O	f Domina BL, FAC	nt Species W, or FAC:		75	((A/B)
1.				Prevaler	nce Inde	ex Worksh	eet			
2.				1	Total %	Cover of		<u>Multi</u>	ply by	
3.				OBL spec	ies		х	1 =		
4.				FACW spe	ecies		х	2 =		
5.				FAC spec	ies		Х	3 =		
		= Total Cover		FACU spe	ecies		X	4 =		
				UPL speci	ies		х	5 =		
Herb Stratum (Plot size	Im diam.)			Column to	otals		(A	N)	((B)
1. Meadow grass	60	Y	FAC*							
2. Phalaris arundina	cea 45	Y	FACW	Preval	lence In	dex = B / A	=			
3. Equisetum arvens	se 15	N	FAC							
^{4.} Solanum dulcama	ira 5	N	FAC	Hydroph	nytic Ve	getation In	dicators			
5. Taracacum officir	ale 5	N	FACU	x	Domina	nce test is > {	50%			
6.	<u> </u>				Prevale	nce test is ≤ 3	3.0 *			
7.				1 1	Morpho	logical Adapta	ations * (pr	ovide sup	oporting	g
8.				1	data in i	remarks or or	n a separat	e sheet)		
9.					Wetland	Non-Vascul	ar Plants *	,		
10.					Problem	natic Hydroph	ytic Veget	ation * (ex	kplain)	
11.										
		= Total Cover		* Indicator present, u	s of hydr nless dis	ic soil and we turbed or pro	etland hydr blematic	rology mu	st be	
Woody Vine Stratum (Plot	size)									
Rubus armeniacu	<u>is 15</u>	Y	FACU	.				_		
۷.		- Total O		Hydrophy	tic Vege	etation 、	Yes	$\overline{\langle}$	No	
		= I otal Cover		Present?						
% Bare Ground in Harb Street	tum			1						
Remarks:				1						
*Presumed F	AC									

Depth Matrix Redox Features (Inches) Color (moist) % Color (moist) % Type! Loc2 Texture Remarks 0-10 7.5 YR 3/2 100 % Color (moist) % Type! Loc2 Sandy loam ** Yage: 100 Sandy loam Sandy loam ** ** Yage: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered or Coated Sand Grains ** ** Locar ** Indicators for Problematic Hydric Soils³ ** Hydric Soil Indicators: (Applicable to all LRRs, unless otherwise noted.) Indicators for Problematic Hydric Soils³ * Sandy Red/s (S5) 2cm Muck (A10) 2cm Muck (A10) * Sandy Gleyed Matrix (F2) Other (explain in remarks) Other (explain in remarks) * * * * * *	Profile Descri	ption: (Describe to the	depth neede	d to document the indicate	or or confi	rm the absence o	f indicato	rs.)		
Inches) Color (moist) % Type ¹ Loc ² Texture Remarks 0-10 7.5 YR 3/2 100 Image: start	Depth	Matrix		R	edox Featu	res		T .		
0-10 7.5 YR 3/2 100 Sandy loam 0-10 7.5 YR 3/2 100 Sandy loam 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 1'Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered or Coated Sand Grains *Loc: PL=Pore Lining, M=Matrix Hydrics Soil Indicators: (Applicable to all LRS, unless otherwise noted.) Indicators for Problematic Hydric Soils ³ 0 1 0 2cm Muck (A10) Parent Material (TF2) 0 1 0 0 2cm Muck (A10) 1 1 0 0 0 1 1 0 0 0 1 1 0 0 0 0 1 1 0 0 0 0 0 1 1 0 0 0 0 0 0 1 1 0 0 0 0 0 0 0 0 0 0 0 <td< td=""><td>(inches)</td><td>Color (moist)</td><td>%</td><td>Color (moist)</td><td>%</td><td>Type¹</td><td>Loc²</td><td>Texture</td><td>Remarks</td></td<>	(inches)	Color (moist)	%	Color (moist)	%	Type ¹	Loc ²	Texture	Remarks	
Image: Secondary Indicators:	0-10	7.5 YR 3/2	100					Sandy loam		
'Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered or Coated Sand Grains 'Loc: PL=Pore Lining, M=Matrix ''Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered or Coated Sand Grains 'Loc: PL=Pore Lining, M=Matrix ''Histo Soil Indicators: (Applicable to all LRRs, unless otherwise noted.) Indicators for Problematic Hydric Soils ³ ''Histo Epipedon (A2) Sandy Redox (S5) Comm Muck (A10) Back Histo (A3) Comm You Ky Mineral (F1) (except MLRA 1) Red Parent Material (TF2) Depleted Below Dark Surface (A11) Depleted Matrix (F3) Comm You Ky Mineral (S1) Comm You Ky Mineral (S1) Sandy Mucky Mineral (S1) Depleted Dark Surface (F7) a 'Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic Restrictive Layer (if present):: Redox Depressions (F8) Hydric soil present? Yes No Remarks: Remarks: Remarks: Secondary Indicators (2 or more required): Secondary Indicators (2 or more required):										
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Restrictive Layer (if present): Type:	Sandy Gl	leyed Matrix (S4)	F	Redox Depressions (F8)						
Type: Depth (inches): Remarks: Hydric soil present? Yes No Remarks: HyDROLOGY Wetland Hydrology Indicators: Primary Indicators (minimum of one required: check all that apply): Primary Indicators (2 or more required): Surface water (A1) Surface water (A1) Surface water (A1)	Restrictive Lay	/er (if present):								
Depth (inches): Remarks: HYDROLOGY Wetland Hydrology Indicators: Primary Indicators (minimum of one required: check all that apply): Primary Indicators (minimum of one required: check all that apply): Surface water (A1) Surface water (A1) Surface water (A1) Surface (B8)	Туре:					Hydric soil	present?	Yes	No 🔀	
Remarks: HYDROLOGY Wetland Hydrology Indicators: Primary Indicators (minimum of one required: check all that apply): Surface water (A1) Surface water (A1)	Depth (inches)):								
HYDROLOGY Wetland Hydrology Indicators: Primary Indicators (minimum of one required: check all that apply): Surface water (A1) Sparsely Vegetated Concave Surface (B8)	Remarks:	Remarks:								
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Primary indicators (minimum of one required: check all that apply): Secondary indicators (2 or more required):	Wetland Hydr	ology Indicators:					0			
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High Water Table (A2) 🔲 Water-Stained Leaves (except MLRA 1, 2, 4A & 4B) (B9) 🔲 Drainage Patterns (B10)	High V	Vater Table (A2)	Ū Ŵ	ater-Stained Leaves (excep	t MLRA 1,	2, 4A & 4B) (B9)		rainage Patterns (B10)	,_,	
Saturation (A3) Salt Crust (B11) Dry-Season Water Table (C2)	Satura	ation (A3)		alt Crust (B11)				ry-Season Water Table (C2)		
Water Marks (B1) Aquatic Invertebrates (B13) Saturation Visible on Aerial Imagery (C9)		Marks (B1)		uatic Invertebrates (B13)				aturation Visible on Aerial Imag	jery (C9)	
		enosits (B3)		kidized Rhizospheres along	l iving Root	s (C3)		hallow Aguitard (D3)		
□ Algal Mat or Crust (B4) □ Presence of Reduced Iron (C4) □ FAC-Neutral Test (D5)	Algal N	Mat or Crust (B4)	D Pr	esence of Reduced Iron (C4	L	0 (00)		AC-Neutral Test (D5)		
Iron Deposits (B5)	Iron D	eposits (B5)		ecent Iron Reduction in Tilleo	d Soils (C6)			aised Ant Mounds (D6) (LRR A	N)	
Surface Soil Cracks (B6)		e Soil Cracks (B6)		unted or Stressed Plants (D	1) (LRR A)		LL F	rost-Heave Hummocks		
Imagery (B7)		ry (B7)								
Field Observations	Field Observa	ations	— .							
Surface Water Present?	Surface Water	Present?	es 🔟 N	lo Depth (in):						
Water Table Present?	Water Table F					Wetland Hydro	logy Pres	ent? Yes	No	
Saturation Present?	Saturation Pre	sent?	es 🛛 N	lo Depth (in):						
	(includes capil	lary minge)								
Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:	Describe Reco	orded Data (stream gaug	e, monitoring	well, aerial photos, previous	inspections	s), if available:				
Remarks: Damp, not saturated	Remarks:	Damp, not saturate	d							
		-								

Attachment C

UPDATED WETLAND RATING FORMS AND FIGURES

PSE Energize Eastside Project – North Bellevue **WETLAND RATING FORMS**

September 2020

List of Rating Forms (hyperlinks):

Wetland A Rating Form Wetland CB01 Rating Form Wetland EB01 Rating Form Wetland EB02 Rating Form Wetland EB03 Rating Form Wetland EB04 Rating Form Wetland EB05 Rating Form Wetland EB06 Rating Form Wetland EB07 Rating Form Wetland EB08 Rating Form Wetland EB09 Rating Form Wetland EB10 Rating Form Wetland EB11 Rating Form Wetland EB12 Rating Form Wetland EB13 Rating Form Wetland EB14 Rating Form Wetland EB15 Rating Form Wetland EB16 Rating Form Wetland EB17 Rating Form Wetland EB18 Rating Form Wetland EB19 Rating Form Wetland EB20 Rating Form Wetland EB21 Rating Form Wetland EE Rating Form Wetland I Rating Form "Categorization based on special characteristics" pages for all wetlands rated in this document

Rating Form Notes and Assumptions

The following special notes and assumptions have been relied upon for classifying all wetlands in the North Bellevue portion of the PSE Energize Eastside Project area corridor to consistently rate wetland units.

General:

- Rating forms should be reviewed in conjunction with the associated wetland rating figures (separate document).
- Where only part of a wetland unit was delineated, off-site portions have been estimated to the extent feasible using best professional judgement. Off-site areas have not been field-assessed.
- Figures for 303(d) list, TMDL, and habitat have been consolidated to the extent feasible.
- No wetlands included in this document met criteria for categorization based on special characteristics. Rather than including redundant rating form pages for each wetland rated, the 'categorization based on special characteristics' section of the rating form has been included only once at the end of this document. It applies to all wetlands rated.

Rating Form Questions S1.3 and S4.1:

• In regard to "uncut" vegetation, it is presumed that emergent vegetation in the utility corridor is mowed on an approximately annual basis in the dryer summer months and that vegetation has re-grown and reached a height of greater than six inches when the wetter, early growing season arrives. This is consistent with field observations.

Rating Form Question S2.1:

- The north-south gravel trail located both north and south of Lake Hills Connector is not considered pollutant-generating.
- The PSE utility corridor is not considered pollutant-generating.

Rating Form Question S3.1:

• Per Ecology guidance, "within 1 mile" is to be measured as the crow flies.

Rating Form Question S6.1:

Per Ecology guidance, the term "sub-basin" refers to hydrologic cataloging units (12-digit HUC), which is different from the Bellevue-defined sub-basins. The North Bellevue wetlands are in the Lake Washington-Sammamish River sub-basin (HUC: 171100120400). All wetlands were awarded 2 points for "the sub-basin immediately down-gradient of the site has flooding problems that result in damage to human or natural resource (e.g., houses or salmon redds)." This determination is based on Bellevue's 2012 Storm and Surface Water System Plan that documents structural flooding and salmonid use in the Lake Washington-Sammamish River sub-basin.

Rating Form Question D2.1, D5.1, S2.2

- D2.1 and D5.1 ask if the wetland receives stormwater discharges. The rating form guidance document states "Stormwater may come into the unit by way of a stream or ditch as well as a pipe." Therefore, when depressional wetlands include a stream channel that drains urban areas (all instances), these questions were answered "yes."
- Similarly, question S2.2 asks if there are other of pollutants coming into the wetland that are not listed in question S2.1 (which focuses on land uses within 150 feet of the wetland unit). When slope wetlands include a stream channel that drains urban areas (all instances), this question was answered "yes."

Wetland A Rating Form

RATING SUMMARY – Western Washington

Name of wetland (or ID #): Wetland ADate of site visit: 3/29/2013Rated by: K. Crandall, R. KahloTrained by Ecology? \square Y \square NDate of training: 9/2014

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

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

OVERALL WETLAND CATEGORY (based on functions \boxtimes or special characteristics \square)

1. Category of wetland based on FUNCTIONS

- **Category I** Total score = 23 27
- **Category II** Total score = 20 22
- **Category III** Total score = 16 19
- Category IV Total score = 9 15

FUNCTION	Im Wat	nproving er Quality	H	ydrolo	ogic		Habit	at	
				Circle	the app	prop	riate ra	tings	
Site Potential	Н	M (L)	Н	Μ	(L)	Н	(M)	L	
Landscape Potential	(H)	M L	Н	(M)	L	Н	M		
Value	H	ML	H	M	L	Н	Μ	$\overline{(}$	ΤΟΤΑ
Score Based on Ratings		5		6			4		15

Score for each function based on three ratings (order of ratings is not *important*) 9 = H, H, H8 = H, H, M7 = H, H, L7 = H,M,M 6 = H, M, L6 = M, M, M5 = H,L,L5 = M,M,L 4 = M,L,L 3 = L,L,L

2. Category based on SPECIAL CHARACTERISTICS of wetland

CHARACTERISTIC	CATEGORY		
Estuarine	Ι	II	
Wetland of High Conservation Value	Ι		
Bog	Ι		
Mature Forest	I		
Old Growth Forest	I		
Coastal Lagoon	Ι	II	
Interdunal	I II	III IV	
None of the above		\boxtimes	

Wetland A

Maps and figures required to answer questions correctly for Western Washington

Depressional Wetlands

Map of:	To answer questions:	Figure #
Cowardin plant classes	D 1.3, H 1.1, H 1.4	A-1
Hydroperiods	D 1.4, H 1.2	A-2
Location of outlet (can be added to map of hydroperiods)	D 1.1, D 4.1	A-2
Boundary of area within 150 ft of the wetland (can be added to another figure)	D 2.2, D 5.2	A-2
Map of the contributing basin	D 4.3, D 5.3	A-3
1 km Polygon: Area that extends 1 km from entire wetland edge - including polygons for accessible habitat and undisturbed habitat	H 2.1, H 2.2, H 2.3	2 to 5
Screen capture of map of 303(d) listed waters in basin (from Ecology website)	D 3.1, D 3.2	6
Screen capture of list of TMDLs for WRIA in which unit is found (from web)	D 3.3	1

HGM Classification of Wetlands in Western Washington

For questions 1-7, the criteria described must apply to the entire unit being rated.

If the hydrologic criteria listed in each question do not apply to the entire unit being rated, you probably have a unit with multiple HGM classes. In this case, identify which hydrologic criteria in questions 1-7 apply, and go to Question 8.

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

 \boxtimes NO – go to 2 □ **YES** – the wetland class is **Tidal Fringe** – go to 1.1

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

□ NO – Saltwater Tidal Fringe (Estuarine) □ YES – Freshwater Tidal Fringe If your wetland can be classified as a Freshwater Tidal Fringe use the forms for **Riverine** wetlands. If it is Saltwater Tidal Fringe it is an **Estuarine** wetland and is not scored. This method **cannot** be used to score functions for estuarine wetlands.

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

YES – The wetland class is **Flats** \boxtimes NO – go to 3 If your wetland can be classified as a Flats wetland, use the form for **Depressional** wetlands.

3. Does the entire wetland unit **meet all** of the following criteria? □ The vegetated part of the wetland is on the shores of a body of permanent open water (without any plants on the surface at any time of the year) at least 20 ac (8 ha) in size;

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

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

⊠ NO – go to 4

- 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**.

 \boxtimes NO – go to 5

□ **YES** – The wetland class is **Slope**

NOTE: Surface water does not pond in these type of wetlands except occasionally in very small and shallow depressions or behind hummocks (depressions are usually <3 ft diameter and less than 1 ft deep).

- 5. Does the entire wetland unit **meet all** of the following criteria?
 - □ The unit is in a valley, or stream channel, where it gets inundated by overbank flooding from that stream or river,
 - □ The overbank flooding occurs at least once every 2 years.

NO − go to 6
YES − The wetland class is Riverine
NOTE: The Riverine unit can contain depressions that are filled with water when the river is not flooding

6. Is the entire wetland unit in a topographic depression in which water ponds, or is saturated to the surface, at some time during the year? *This means that any outlet, if present, is higher than the interior of the wetland.*

⊠ NO – go to 7

□ YES – The wetland class is Depressional

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

⊠ NO – go to 8

□ YES – The wetland class is Depressional

8. Your wetland unit seems to be difficult to classify and probably contains several different HGM classes. For example, seeps at the base of a slope may grade into a riverine floodplain, or a small stream within a Depressional wetland has a zone of flooding along its sides. GO BACK AND IDENTIFY WHICH OF THE HYDROLOGIC REGIMES DESCRIBED IN QUESTIONS 1-7 APPLY TO DIFFERENT AREAS IN THE UNIT (make a rough sketch to help you decide). Use the following table to identify the appropriate class to use for the rating system if you have several HGM classes present within the wetland unit being scored.

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

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

If you are still unable to determine which of the above criteria apply to your wetland, or if you have **more than 2 HGM classes** within a wetland boundary, classify the wetland as Depressional for the rating.

□ More than 2 HGM classes

DEPRESSIONAL AND FLATS WETLANDS	
Water Quality Functions - Indicators that the site functions to improve water quality	
D 1.0. Does the site have the potential to improve water quality?	
D 1.1. Characteristics of surface water outflows from the wetland:	
\Box Wetland is a depression or flat depression (QUESTION 7 on key) with no surface water leaving it (no outlet). points = 3	
Wetland has an intermittently flowing stream or ditch, OR highly constricted permanently flowing outlet. points = 2	2
\Box Wetland has an unconstricted, or slightly constricted, surface outlet that is permanently flowing points = 1 \Box Wetland is a flat depression (QUESTION 7 on key), whose outlet is a permanently flowing ditch points = 1	
D 1.2 The soil 2 in below the surface (or duff layer) is true clay or true organic (use NRCS definitions) \Box Yes = 4 \boxtimes No = 0.	0
D 1.2. The solid 2 in below the surface (of durhaver) is the end of the organic (use twice definitions) \Box it is $-4 \Box$ in $0 = 0$	
\square Wetland has persistent, ungrazed, plants > 95% of area points = 5	
\boxtimes Wetland has persistent, ungrazed, plants > 1/2 of area points = 3	3
\Box Wetland has persistent, ungrazed plants > 1/10 of area points = 1	Ŭ
\Box Wetland has persistent, ungrazed plants < 1/10 of area points = 0	
D 1.4. Characteristics of seasonal ponding or inundation:	
This is the area that is ponded for at least 2 months. See description in manual.	
\Box Area seasonally ponded is > $\frac{1}{2}$ total area of wetland points = 4	0
\Box Area seasonally ponded is > $\frac{1}{4}$ total area of wetland points = 2	
\boxtimes Area seasonally ponded is < $\frac{1}{4}$ total area of wetland points = 0	
Total for D 1 Add the points in the boxes above	5
Rating of Site Potential If score is: \Box 12-16 = H \Box 6-11 = M \boxtimes 0-5 = LRecord the rating on the f	first page
D 2.0. Does the landscape have the potential to support the water quality function of the site?	
D 2.1. Does the wetland unit receive stormwater discharges? \Box Yes = 1 \boxtimes No = 0	0
D 2.2. Is > 10% of the area within 150 ft of the wetland in land uses that generate pollutants? \square Yes = 1 \square No = 0	1
D 2.3. Are there septic systems within 250 ft of the wetland?* \square Yes = 1 \square No = 0	1
D 2.4. Are there other sources of pollutants coming into the wetland that are not listed in questions D 2.1-D 2.3?	1
Source: grazing in/adjacent to wetland \square Yes = 1 \square No = 0	
Total for D 2Add the points in the boxes above	3
Rating of Landscape Potential If score is: \square 3 or 4 = H \square 1 or 2 = M \square 0 = L <i>Record the rating on the fir</i>	st page
D 3.0. Is the water quality improvement provided by the site valuable to society?	
D 3.1. Does the wetland discharge directly (i.e., within 1 mi) to a stream, river, lake, or marine water that is on the 303(d) list?	0
D 3.2. Is the wetland in a basin or sub-basin where an aquatic resource is on the 303(d) list?	0
D 3.3. Has the site been identified in a watershed or local plan as important for maintaining water quality (<i>answer YES if there is a TMDL for the basin in which the unit is found</i>)?	0
Total for D 3 Add the points in the boxes above	0

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

Record the rating on the first page

*Three properties to west on septic based on KC assessor (Sewer/septic = PRIVATE)

DEPRESSIONAL AND FLATS WETLANDS	
Hydrologic Functions - Indicators that the site functions to reduce flooding and stream degradation	on
D 4.0. Does the site have the potential to reduce flooding and erosion?	
 D 4.1. <u>Characteristics of surface water outflows from the wetland</u>: □ Wetland is a depression or flat depression with no surface water leaving it (no outlet) points = 4 ○ Wetland has an intermittently flowing stream or ditch, OR highly constricted permanently flowing outlet points = 2 □ Wetland is a flat depression (QUESTION 7 on key), whose outlet is a permanently flowing ditch points = 1 □ Wetland has an unconstricted, or slightly constricted, surface outlet that is permanently flowing points = 0 	2
D 4.2. Depth of storage during wet periods: Estimate the height of ponding above the bottom of the outlet. For wetlands with no outlet, measure from the surface of permanent water or if dry, the deepest part. □ Marks of ponding are 3 ft or more above the surface or bottom of outlet points = 7 □ Marks of ponding between 2 ft to < 3 ft from surface or bottom of outlet	3
 D 4.3. <u>Contribution of the wetland to storage in the watershed</u>: <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 the unit points = 5 □ The area of the basin is 10 to 100 times the area of the unit points = 3 □ The area of the basin is more than 100 times the area of the unit points = 0 □ Entire wetland is in the Flats class 	0
Total for D 4Add the points in the boxes above	5
Rating of Site Potential If score is: \Box 12-16 = H \Box 6-11 = M \boxtimes 0-5 = LRecord the rating on the f	first page
D 5.0. Does the landscape have the potential to support hydrologic functions of the site?	
D 5.1. Does the wetland receive stormwater discharges? \Box Yes = 1 \boxtimes No = 0	0
D 5.2. Is >10% of the area within 150 ft of the wetland in land uses that generate excess runoff? \square Yes = 1 \square No = 0	1
D 5.3. Is more than 25% of the contributing basin of the wetland covered with intensive human land uses (residential at >1 residence/ac, urban, commercial, agriculture, etc.)?	1
Total for D 5Add the points in the boxes above	2
Rating of Landscape Potential If score is: $\Box 3 = H \boxtimes 1 \text{ or } 2 = M \square 0 = L$ Record the rating on the f	first page
D 6.0. Are the hydrologic functions provided by the site valuable to society?	
 D 6.1. <u>The unit is in a landscape that has flooding problems</u>. Choose the description that best matches conditions around the wetland unit being rated. Do not add points. <u>Choose the highest score if more than one condition is met</u>. The wetland captures surface water that would otherwise flow down-gradient into areas where flooding has damaged human or natural resources (e.g., houses or salmon redds): ■ Flooding occurs in a sub-basin that is immediately down-gradient of unit. ■ Surface flooding problems are in a sub-basin farther down-gradient. ■ Flooding from groundwater is an issue in the sub-basin. ■ The existing or potential outflow from the wetland is so constrained by human or natural conditions that the water stored by the wetland cannot reach areas that flood. <i>Explain why</i> ■ There are no problems with flooding downstream of the wetland. 	2
D 6.2. Has the site been identified as important for flood storage or flood conveyance in a regional flood control plan?	0
Total for D 6 Add the points in the boxes above	2
	2

These questions apply to wetlands of all HGM classes.	
Habitat Functions - Indicators that site functions to provide important habitat	
H 1.0. Does the site have the potential to provide habitat: H 1.1. Structure of plant community: Indicators are Cowardin classes and strata within the Forested class. Check the Cowardin plant classes in the wetland. Up to 10 patches may be combined for each class to meet the threshold of % ac or more than 10% of the unit if it is smaller than 2.5 ac. Add the number of structures checked.	
$\Box \text{ Aquatic bed} \qquad \qquad 4 \text{ structures or more: points = 4}$	
□ Emergent 3 structures: points = 2	
Scrub-shrub (areas where shrubs have > 30% cover) 2 structures: points = 1	2
\boxtimes Forested (areas where trees have > 30% cover) 1 structure: points = 0	
If the unit has a Forested class, check if:	
☑ The Forested class has 3 out of 5 strata (canopy, sub-canopy, shrubs, herbaceous, moss/ground-cover) that each cover 20% within the Forested polygon	
H 1.2. Hydroperiods	
Check the types of water regimes (hydroperiods) present within the wetland. The water regime has to cover more than 10% of the wetland or ¼ ac to count (<i>see text for descriptions of hydroperiods</i>).	
Permanently flooded or inundated 4 or more types present: points = 3	
Seasonally flooded or inundated 3 types present: points = 2	
 Occasionally flooded or inundated 2 types present: points = 1 	1
Saturated only 1 type present: points = 0	
□ Permanently flowing stream or river in, or adjacent to, the wetland	
□ Seasonally flowing stream in, or adjacent to, the wetland	
□ Lake Fringe Wetland 2 points 2 points	
H 1.3 Pickness of plant species	
Count the number of plant species in the wetland that cover at least 10 ft^2 .	
Different patches of the same species can be combined to meet the size threshold and you do not have to name	
the species. Do not include Eurasian milfoil, reed canarygrass, purple loosestrife, Canadian thistle	1
If you counted: $\square > 19$ species points = 2	
\boxtimes 5 - 19 species points = 1	
\Box < 5 species points = 0	
H 1.4. Interspersion of habitats	
the classes and unvegetated areas (can include open water or mudflats) is high, moderate, low, or none. If you	
have four or more plant classes or three classes and open water, the rating is always high.	
	2
\Box None = 0 points \Box Low = 1 point \boxtimes Moderate = 2 points	Z
All three diagrams in this row are HIGH = 3 points	

Wetland A

H 1.5. Special habitat features:	
Check the habitat features that are present in the wetland. The number of checks is the number of points.	
$oxedsymbol{\boxtimes}$ Large, downed, woody debris within the wetland (> 4 in diameter and 6 ft long).	
\boxtimes Standing snags (dbh > 4 in) within the wetland	
Undercut banks are present for at least 6.6 ft (2 m) and/or overhanging plants extends at least 3.3 ft (1 m) over a stream (or ditch) in, or contiguous with the wetland, for at least 33 ft (10 m)	
Stable steep banks of fine material that might be used by beaver or muskrat for denning (> 30 degree slope) OR signs of recent beaver activity are present (cut shrubs or trees that have not yet weathered where wood is exposed)	3
At least ¼ ac of thin-stemmed persistent plants or woody branches are present in areas that are permanently or seasonally inundated (structures for egg-laying by amphibians)	
☑ Invasive plants cover less than 25% of the wetland area in every stratum of plants (see H 1.1 for list of strata)	
Total for H 1Add the points in the boxes above	9
Rating of Site Potential If score is: \Box 15-18 = H \boxtimes 7-14 = M \Box 0-6 = L Record the rating on a	the first page

H 2.0. Does the landscape have the potential to support the habitat functions of the site? H 2.1. Accessible habitat (include only habitat that directly abuts wetland unit). Calculate: % undisturbed habitat + [(% moderate and low intensity land uses)/2] = see Figs. 2-5 If total accessible habitat is: 0 \Box > 1/3 (33.3%) of 1 km Polygon points = 3 □ 20-33% of 1 km Polygon points = 2 □ 10-19% of 1 km Polygon points = 1 \boxtimes < 10% of 1 km Polygon points = 0 H 2.2. Undisturbed habitat in 1 km Polygon around the wetland. Calculate: % undisturbed habitat + [(% moderate and low intensity land uses)/2] = see Figs. 2-5 □ Undisturbed habitat > 50% of Polygon points = 3 2 Undisturbed habitat 10-50% and in 1-3 patches points = 2 \Box Undisturbed habitat 10-50% and > 3 patches points = 1 □ Undisturbed habitat < 10% of 1 km Polygon points = 0 H 2.3. Land use intensity in 1 km Polygon: If -2 ⊠ > 50% of 1 km Polygon is high intensity land use points = (-2) $\Box \leq 50\%$ of 1 km Polygon is high intensity points = 0 Total for H 2 Add the points in the boxes above 0

Rating of Landscape Potential If score is: \Box 4-6 = H \Box 1-3 = M \boxtimes < 1 = L

Record the rating on the first page

Rating of ValueIf score is: $\Box 2 = H$ $\Box 1 = M$ $\boxtimes 0 = L$ Record the rating on the first page	
\boxtimes Site does not meet any of the criteria above points = 0	
a Shoreline Master Plan, or in a watershed plan □ Site has 1 or 2 priority habitats (listed on next page) within 100 m points = 1	
□ It has been categorized as an important habitat site in a local or regional comprehensive plan, in	
□ It is a Wetland of High Conservation Value as determined by the Department of Natural Resources	
It is mapped as a location for an individual WDFW priority species	0
It provides habitat for Threatened or Endangered species (any plant or animal on the state or federal lists)	
It has 3 or more priority habitats within 100 m (see next page)	
Site meets ANY of the following criteria: points = 2	
that applies to the wetland being rated.	
H 3.1. Does the site provide habitat for species valued in laws, regulations, or policies? Choose only the highest score	
H 3.0. Is the habitat provided by the site valuable to society?	

Wetland Rating System for Western WA: 2014 Update Rating Form – Effective January 1, 2015

WDFW Priority Habitats

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

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

- □ **Aspen Stands:** Pure or mixed stands of aspen greater than 1 ac (0.4 ha).
- □ **Biodiversity Areas and Corridors**: Areas of habitat that are relatively important to various species of native fish and wildlife (*full descriptions in WDFW PHS report*).
- □ **Herbaceous Balds:** Variable size patches of grass and forbs on shallow soils over bedrock.
- □ **Old-growth/Mature forests:** <u>Old-growth west of Cascade crest</u> Stands of at least 2 tree species, forming a multilayered canopy with occasional small openings; with at least 8 trees/ac (20 trees/ha) > 32 in (81 cm) dbh or > 200 years of age. <u>Mature forests</u> – Stands with average diameters exceeding 21 in (53 cm) dbh; crown cover may be less than 100%; decay, decadence, numbers of snags, and quantity of large downed material is generally less than that found in old-growth; 80-200 years old west of the Cascade crest.
- □ **Oregon White Oak:** Woodland stands of pure oak or oak/conifer associations where canopy coverage of the oak component is important (*full descriptions in WDFW PHS report p. 158 see web link above*).
- □ **Riparian**: The area adjacent to aquatic systems with flowing water that contains elements of both aquatic and terrestrial ecosystems which mutually influence each other.
- □ Westside Prairies: Herbaceous, non-forested plant communities that can either take the form of a dry prairie or a wet prairie (*full descriptions in WDFW PHS report p. 161 see web link above*).
- □ **Instream:** The combination of physical, biological, and chemical processes and conditions that interact to provide functional life history requirements for instream fish and wildlife resources.
- □ **Nearshore**: Relatively undisturbed nearshore habitats. These include Coastal Nearshore, Open Coast Nearshore, and Puget Sound Nearshore. (*full descriptions of habitats and the definition of relatively undisturbed are in WDFW report see web link on previous page).*
- □ **Caves:** A naturally occurring cavity, recess, void, or system of interconnected passages under the earth in soils, rock, ice, or other geological formations and is large enough to contain a human.
- □ **Cliffs:** Greater than 25 ft (7.6 m) high and occurring below 5000 ft elevation.
- □ **Talus:** Homogenous areas of rock rubble ranging in average size 0.5 6.5 ft (0.15 2.0 m), composed of basalt, andesite, and/or sedimentary rock, including riprap slides and mine tailings. May be associated with cliffs.
- □ Snags and Logs: Trees are considered snags if they are dead or dying and exhibit sufficient decay characteristics to enable cavity excavation/use by wildlife. Priority snags have a diameter at breast height of > 20 in (51 cm) in western Washington and are > 6.5 ft (2 m) in height. Priority logs are > 12 in (30 cm) in diameter at the largest end, and > 20 ft (6 m) long.

Note: All vegetated wetlands are by definition a priority habitat but are not included in this list because they are addressed elsewhere.

Wetland Rating System for Western WA: 2014 Update Rating Form – Effective January 1, 2015 This page left blank intentionally
Wetland CBO1 Rating Form

RATING SUMMARY – Western Washington

Name of wetland (or ID #): Wetland CB01Date of site visit: 6/1/2015, 3/2018, 5/26/2020Rated by: K. Crandall, N. LundTrained by Ecology? \square Y \square NDate of training: 9/2014

HGM Class used for rating: <u>Slope</u> Wetland has multiple HGM classes? □ Y ⊠ N

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

OVERALL WETLAND CATEGORY (based on functions ⊠ or special characteristics □)

Category of wetland based on FUNCTIONS

- **Category I** Total score = 23 27
- **Category II** Total score = 20 22
- Category III Total score = 16 19
- **Category IV** Total score = 9 15

FUNCTION	lı Wa	mprov Iter Q	/ing uality	H	ydrolo	ogic		Habita	ıt	
					Circle	the ap	prop	riate rat	ings	
Site Potential	Н	М	(L)	Н	Μ	(l)	Н	(M)	L	
Landscape Potential	Н	M	Ľ	Н	M	Ľ	Н	M (
Value	H	M	L	H	M	L	Н	M	L	TOTAL
Score Based on Ratings		6			6			5		17

Score for each function based on three ratings (order of ratings is not important) 9 = H,H,H 8 = H,H,M 7 = H,H,L 7 = H,H,L 7 = H,M,M 6 = H,M,L 6 = M,M,M 5 = H,L,L

5 = M,M,L 4 = M,L,L 3 = L,L,L

Category based on SPECIAL CHARACTERISTICS of wetland

CHARACTERISTIC	CATEGORY		
Estuarine	I II		
Wetland of High Conservation Value		I	
Bog	I		
Mature Forest	I		
Old Growth Forest		I	
Coastal Lagoon	Ι	II	
Interdunal	III	III IV	
None of the above		\boxtimes	

Maps and figures required to answer questions correctly for Western Washington

Slope Wetlands

Map of:	To answer questions:	Figure #
Cowardin plant classes	Н 1.1, Н 1.4	CB01-1
Hydroperiods	H 1.2	CB01-3
Plant cover of dense trees, shrubs, and herbaceous plants	S 1.3	CB01-2
Plant cover of dense, rigid trees, shrubs, and herbaceous plants (can be added to figure above)	S 4.1	CB01-2
Boundary of 150 ft buffer (can be added to another figure)	S 2.1, S 5.1	CB01-2
1 km Polygon: Area that extends 1 km from entire wetland edge - including polygons for accessible habitat and undisturbed habitat	H 2.1, H 2.2, H 2.3	2 to 5
Screen capture of map of 303(d) listed waters in basin (from Ecology website)	S 3.1, S 3.2	CB01-4
Screen capture of list of TMDLs for WRIA in which unit is found (from web)	S 3.3	1

HGM Classification of Wetlands in Western Washington

For questions 1-7, the criteria described must apply to the entire unit being rated.

If the hydrologic criteria listed in each question do not apply to the entire unit being rated, you probably have a unit with multiple HGM classes. In this case, identify which hydrologic criteria in questions 1-7 apply, and go to Question 8.

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

 \boxtimes NO – go to 2 \square YES – the wetland class is **Tidal Fringe** – go to 1.1

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

□ NO - Saltwater Tidal Fringe (Estuarine) □ YES - Freshwater Tidal Fringe If your wetland can be classified as a Freshwater Tidal Fringe use the forms for **Riverine** wetlands. If it is Saltwater Tidal Fringe it is an **Estuarine** wetland and is not scored. This method **cannot** be used to score functions for estuarine wetlands.

10. 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.

 \boxtimes NO – go to 3 \square YES – The wetland class is Flats *If your wetland can be classified as a Flats wetland, use the form for* **Depressional** *wetlands.*

- 11. Does the entire wetland unit **meet all** of the following criteria?
 - □ The vegetated part of the wetland is on the shores of a body of permanent open water (without any plants on the surface at any time of the year) at least 20 ac (8 ha) in size;
 - \Box At least 30% of the open water area is deeper than 6.6 ft (2 m).

⊠ NO – go to 4 □ YES – The wetland class is Lake Fringe (Lacustrine Fringe)

- 12. Does the entire wetland unit **meet all** of the following criteria?
 - ⊠ The wetland is on a slope (*slope can be very gradual*),
 - ☑ The water flows through the wetland in one direction (unidirectional) and usually comes from seeps. It may flow subsurface, as sheetflow, or in a swale without distinct banks,
 - ⊠ The water leaves the wetland **without being impounded**.

□ NO – go to 5

⊠ **YES** – The wetland class is **Slope**

NOTE: Surface water does not pond in these type of wetlands except occasionally in very small and shallow depressions or behind hummocks (depressions are usually <3 ft diameter and less than 1 ft deep).

- 13. Does the entire wetland unit **meet all** of the following criteria?
 - □ The unit is in a valley, or stream channel, where it gets inundated by overbank flooding from that stream or river,
 - □ The overbank flooding occurs at least once every 2 years.

□ NO – go to 6 □ YES – The wetland class is **Riverine NOTE**: The Riverine unit can contain depressions that are filled with water when the river is not flooding

14. 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

15. 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

16. Your wetland unit seems to be difficult to classify and probably contains several different HGM classes. For example, seeps at the base of a slope may grade into a riverine floodplain, or a small stream within a Depressional wetland has a zone of flooding along its sides. GO BACK AND IDENTIFY WHICH OF THE HYDROLOGIC REGIMES DESCRIBED IN QUESTIONS 1-7 APPLY TO DIFFERENT AREAS IN THE UNIT (make a rough sketch to help you decide). Use the following table to identify the appropriate class to use for the rating system if you have several HGM classes present within the wetland unit being scored.

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

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

If you are still unable to determine which of the above criteria apply to your wetland, or if you have **more than 2 HGM classes** within a wetland boundary, classify the wetland as Depressional for the rating.

□ More than 2 HGM classes

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

S 2.0. Does the landscape have the potential to support the water quality function of the site?1S 2.1. Is > 10% of the area within 150 ft on the uphill side of the wetland in land uses that generate pollutants?
 \boxtimes Yes = 1 \square No = 01S 2.2. Are there other sources of pollutants coming into the wetland that are not listed in question S 2.1?
Other sources: homeless encampment debris1Total for S 2Add the points in the boxes above2

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

Record the rating on the first page

S 3.0. Is the water quality improvement provided by the site valuable to society?	
S 3.1. Does the wetland discharge directly (i.e., within 1 mi) to a stream, river, lake, or marine water that is on the 303(d) list?	1
S 3.2. Is the wetland in a basin or sub-basin where water quality is an issue? At least one aquatic resource in the basin is on the 303(d) list. Xes = 1 No = 0	1
S 3.3. Has the site been identified in a watershed or local plan as important for maintaining water quality? Answer YES if there is a TMDL for the basin in which unit is found.	0
Total for S 3Add the points in the boxes above	2

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

Record the rating on the first page

SLOPE WETLANDS

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

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

S 4.1. Characteristics of plants that reduce the velocity of surface flows during storms: Choose the points appropriate for the description that best fits conditions in the wetland. Stems of plants should be thick enough (usually >1/8, in), or dense enough, to remain erect during surface flows.
 □ Dense, uncut, rigid plants cover > 90% of the area of the wetland

⊠ All other conditions

Rating of Site Potential If score is: \Box **1** = **M** \boxtimes **0** = **L**

Record the rating on the first page

points = 0

0

S 5.0. Does the landscape have the potential to support the hydrologic functions of the site?	
S 5.1. Is more than 25% of the area within 150 ft upslope of wetland in land uses or cover that generate excess	
surface runoff? \square Yes = 1 \square No = 0	T

Rating of Landscape Potential If score is: 🛛 1 = M 🗌 0 = L

Record the rating on the first page

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

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

Record the rating on the first page

NOTES and FIELD OBSERVATIONS:

These questions apply to wetlands of all HGM classes. Habitat Functions - Indicators that site functions to provide important habitat	
H 1.0. Does the site have the potential to provide habitat?	
 H 1.1. Structure of plant community: Indicators are Cowardin classes and strata within the Forested class. Check the Cowardin plant classes in the wetland. Up to 10 patches may be combined for each class to meet the threshold of ¼ ac or more than 10% of the unit if it is smaller than 2.5 ac. Add the number of structures checked. □ Aquatic bed 4 structures or more: points = 4 ○ Emergent 3 structures: points = 2 ○ Scrub-shrub (areas where shrubs have > 30% cover) 2 structures: points = 1 ○ Forested (areas where trees have > 30% cover) 1 structure: points = 0 If the unit has a Forested class, check if: □ The Forested class has 3 out of 5 strata (canopy, sub-canopy, shrubs, herbaceous, moss/ground-cover) that each cover 20% within the Forested polygon 	2
H 1.2. Hydroperiods	
Check the types of water regimes (hydroperiods) present within the wetland. The water regime has to cover more than 10% of the wetland or ¼ ac to count (see text for descriptions of hydroperiods). □ Permanently flooded or inundated 4 or more types present: points = 3 □ Seasonally flooded or inundated 3 types present: points = 2 □ Occasionally flooded or inundated 2 types present: points = 1 □ Saturated only 1 type present: points = 0 □ Permanently flowing stream or river in, or adjacent to, the wetland 2 points □ Seasonally flowing stream in, or adjacent to, the wetland 2 points □ Lake Fringe wetland 2 points □ Freshwater tidal wetland 2 points	0
 H 1.3. Richness of plant species Count the number of plant species in the wetland that cover at least 10 ft². Different patches of the same species can be combined to meet the size threshold and you do not have to name the species. Do not include Eurasian milfoil, reed canarygrass, purple loosestrife, Canadian thistle If you counted: □ > 19 species points = 2 □ ≤ 5 species points = 0 	1
H 1.4. Interspersion of habitats Decide from the diagrams below whether interspersion among Cowardin plants classes (described in H 1.1), or the classes and unvegetated areas (can include open water or mudflats) is high, moderate, low, or none. <i>If you</i> <i>have four or more plant classes or three classes and open water, the rating is always high.</i> ■ None = 0 points All three diagrams in this row are ⊠ HIGH = 3points	3

Wetland CB01

H 1.5. Special habitat features:	
Check the habitat features that are present in the wetland. The number of checks is the number of points.	
☑ Large, downed, woody debris within the wetland (> 4 in diameter and 6 ft long).	
\boxtimes Standing snags (dbh > 4 in) within the wetland	
Undercut banks are present for at least 6.6 ft (2 m) and/or overhanging plants extends at least 3.3 ft (1 m) over a stream (or ditch) in, or contiguous with the wetland, for at least 33 ft (10 m)	
Stable steep banks of fine material that might be used by beaver or muskrat for denning (> 30 degree slope) OR signs of recent beaver activity are present (cut shrubs or trees that have not yet weathered where wood is exposed)	2
At least ¼ ac of thin-stemmed persistent plants or woody branches are present in areas that are permanently or seasonally inundated (structures for egg-laying by amphibians)	
□ Invasive plants cover less than 25% of the wetland area in every stratum of plants (<i>see H 1.1 for list of strata</i>)	
Total for H 1Add the points in the boxes above	8

Rating of Site Potential If score is: \Box **15-18 = H** \boxtimes **7-14 = M** \Box **0-6 = L**

Record the rating on the first page

H 2.0. Does the landscape have the potential to support the habitat functions of the site?		
H 2.1. Accessible habitat (include only habitat that directly abuts wetland unit).		
Calculate: % undisturbed habitat: + [(% moderate and low intensity land uses)/2] = see Figs. 2-5		
If total accessible habitat is:		
□ > 1/3 (33.3%) of 1 km Polygon	points = 3	0
20-33% of 1 km Polygon	points = 2	
🗆 10-19% of 1 km Polygon	points = 1	
⊠ < 10% of 1 km Polygon	points = 0	
H 2.2. Undisturbed habitat in 1 km Polygon around the wetland.		
Calculate: % undisturbed habitat: + [(% moderate and low intensity land uses)/2] = see Figs. 2-5		
\Box Undisturbed habitat > 50% of Polygon	points = 3	0
\Box Undisturbed habitat 10-50% and in 1-3 patches	points = 2	0
\Box Undisturbed habitat 10-50% and > 3 patches	points = 1	
🛛 Undisturbed habitat < 10% of 1 km Polygon	points = 0	
H 2.3. Land use intensity in 1 km Polygon: If		
\boxtimes > 50% of 1 km Polygon is high intensity land use	points = (- 2)	-2
□ ≤ 50% of 1 km Polygon is high intensity	points = 0	
Total for H 2 Add the points in the	boxes above	-2

Rating of Landscape Potential If score is: \Box 4-6 = H \Box 1-3 = M \boxtimes < 1 = L

Record the rating on the first page

H 3.0. Is the habitat provided by the site valuable to society?	
H 3.1. Does the site provide habitat for species valued in laws, regulations, or policies? Choose only the highest sco	ore
that applies to the wetland being rated.	
Site meets ANY of the following criteria: points	s = 2
\Box It has 3 or more priority habitats within 100 m (see next page)	
\Box It provides habitat for Threatened or Endangered species (any plant or animal on the state or federa	Il lists)
It is mapped as a location for an individual WDFW priority species	1
\Box It is a Wetland of High Conservation Value as determined by the Department of Natural Resources	
\Box It has been categorized as an important habitat site in a local or regional comprehensive plan, in	
a Shoreline Master Plan, or in a watershed plan	
⊠ Site has 1 or 2 priority habitats (listed on next page) within 100 m points	s = 1
□ Site does not meet any of the criteria above points	s = 0
Rating of Value If score is: $\Box 2 = H \boxtimes 1 = M \Box 0 = L$ Record the rate	ting on the first page

Wetland Rating System for Western WA: 2014 Update Rating Form – Effective January 1, 2015

WDFW Priority Habitats

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

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

- □ **Aspen Stands:** Pure or mixed stands of aspen greater than 1 ac (0.4 ha).
- □ **Biodiversity Areas and Corridors**: Areas of habitat that are relatively important to various species of native fish and wildlife (*full descriptions in WDFW PHS report*).
- □ **Herbaceous Balds:** Variable size patches of grass and forbs on shallow soils over bedrock.
- □ **Old-growth/Mature forests**: <u>Old-growth west of Cascade crest</u> Stands of at least 2 tree species, forming a multilayered canopy with occasional small openings; with at least 8 trees/ac (20 trees/ha) > 32 in (81 cm) dbh or > 200 years of age. <u>Mature forests</u> – Stands with average diameters exceeding 21 in (53 cm) dbh; crown cover may be less than 100%; decay, decadence, numbers of snags, and quantity of large downed material is generally less than that found in old-growth; 80-200 years old west of the Cascade crest.
- □ **Oregon White Oak:** Woodland stands of pure oak or oak/conifer associations where canopy coverage of the oak component is important (*full descriptions in WDFW PHS report p. 158 see web link above*).
- □ **Riparian**: The area adjacent to aquatic systems with flowing water that contains elements of both aquatic and terrestrial ecosystems which mutually influence each other.
- □ **Westside Prairies:** Herbaceous, non-forested plant communities that can either take the form of a dry prairie or a wet prairie (*full descriptions in WDFW PHS report p. 161 see web link above*).
- □ **Instream:** The combination of physical, biological, and chemical processes and conditions that interact to provide functional life history requirements for instream fish and wildlife resources.
- □ **Nearshore**: Relatively undisturbed nearshore habitats. These include Coastal Nearshore, Open Coast Nearshore, and Puget Sound Nearshore. (*full descriptions of habitats and the definition of relatively undisturbed are in WDFW report see web link on previous page*).
- □ **Caves:** A naturally occurring cavity, recess, void, or system of interconnected passages under the earth in soils, rock, ice, or other geological formations and is large enough to contain a human.
- □ **Cliffs:** Greater than 25 ft (7.6 m) high and occurring below 5000 ft elevation.
- □ **Talus:** Homogenous areas of rock rubble ranging in average size 0.5 6.5 ft (0.15 2.0 m), composed of basalt, andesite, and/or sedimentary rock, including riprap slides and mine tailings. May be associated with cliffs.
- Snags and Logs: Trees are considered snags if they are dead or dying and exhibit sufficient decay characteristics to enable cavity excavation/use by wildlife. Priority snags have a diameter at breast height of > 20 in (51 cm) in western Washington and are > 6.5 ft (2 m) in height. Priority logs are > 12 in (30 cm) in diameter at the largest end, and > 20 ft (6 m) long.

Note: All vegetated wetlands are by definition a priority habitat but are not included in this list because they are addressed elsewhere.

Wetland Rating System for Western WA: 2014 Update Rating Form – Effective January 1, 2015 This page left blank intentionally

Wetland EBO1 Rating Form

RATING SUMMARY – Western Washington

Name of wetland (or ID #): Wetland EB01Date of site visit: 5/29/2015, 5/26/2020Rated by: K. CrandallTrained by Ecology? \square Y \square NDate of training: 9/2014

HGM Class used for rating: Slope Wetland has multiple HGM classes? \Box Y \boxtimes N

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

OVERALL WETLAND CATEGORY (based on functions \square or special characteristics \square)

Category of wetland based on FUNCTIONS

- **Category I** Total score = 23 27
- **Category II** Total score = 20 22
- Category III Total score = 16 19
- **Category IV** Total score = 9 15

FUNCTION	l Wa	mprov ater Qu	ing Jality	Hy	/drolo	ogic	ŀ	labit	at	
					Circle	the ap	oroprie	ate ra	tings	
Site Potential	Н	м (<u> </u>	Н	(M)	L	Н	М	(L)	
Landscape Potential	Н	M	Ľ	Н	М	(\cdot)	Н	Μ	$\overline{(1)}$	
Value	Н	M	L	H	Μ	Ĺ	H	Μ	Ĺ	ΤΟΤΑ
Score Based on Ratings		5			6			6		17

Score for each function based on three ratings (order of ratings is not *important*) 9 = H, H, H8 = H, H, M7 = H, H, L7 = H, M, M6 = H, M, L6 = M, M, M5 = H, L, L5 = M,M,L 4 = M,L,L 3 = L,L,L

Category based on SPECIAL CHARACTERISTICS of wetland

CHARACTERISTIC	CATEGORY	
Estuarine	I II	
Wetland of High Conservation Value	Ι	
Bog	Ι	
Mature Forest	I	
Old Growth Forest	I	
Coastal Lagoon	Ι	II
Interdunal	I II	III IV
None of the above		\boxtimes

Maps and figures required to answer questions correctly for Western Washington

Slope Wetlands

Map of:	To answer questions:	Figure #
Cowardin plant classes	Н 1.1, Н 1.4	EB01-1
Hydroperiods	H 1.2	EB01-2
Plant cover of dense trees, shrubs, and herbaceous plants	S 1.3	EB01-1
Plant cover of dense, rigid trees, shrubs, and herbaceous plants (can be added to figure above)	S 4.1	EB01-1
Boundary of 150 ft buffer (can be added to another figure)	S 2.1, S 5.1	EB01-2
1 km Polygon: Area that extends 1 km from entire wetland edge - including polygons for accessible habitat and undisturbed habitat	H 2.1, H 2.2, H 2.3	2 to 5
Screen capture of map of 303(d) listed waters in basin (from Ecology website)	S 3.1, S 3.2	7
Screen capture of list of TMDLs for WRIA in which unit is found (from web)	S 3.3	1

HGM Classification of Wetlands in Western Washington

For questions 1-7, the criteria described must apply to the entire unit being rated.

If the hydrologic criteria listed in each question do not apply to the entire unit being rated, you probably have a unit with multiple HGM classes. In this case, identify which hydrologic criteria in questions 1-7 apply, and go to Question 8.

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

 \boxtimes NO – go to 2 \square YES – the wetland class is **Tidal Fringe** – go to 1.1

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

□ NO - Saltwater Tidal Fringe (Estuarine) □ YES - Freshwater Tidal Fringe If your wetland can be classified as a Freshwater Tidal Fringe use the forms for **Riverine** wetlands. If it is Saltwater Tidal Fringe it is an **Estuarine** wetland and is not scored. This method **cannot** be used to score functions for estuarine wetlands.

18. 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.

 \boxtimes NO – go to 3 \square YES – The wetland class is Flats *If your wetland can be classified as a Flats wetland, use the form for* **Depressional** *wetlands.*

- 19. Does the entire wetland unit **meet all** of the following criteria?
 - □ The vegetated part of the wetland is on the shores of a body of permanent open water (without any plants on the surface at any time of the year) at least 20 ac (8 ha) in size;
 - \Box At least 30% of the open water area is deeper than 6.6 ft (2 m).

⊠ NO – go to 4 □ YES – The wetland class is Lake Fringe (Lacustrine Fringe)

- 20. Does the entire wetland unit **meet all** of the following criteria?
 - ⊠ The wetland is on a slope (*slope can be very gradual*),
 - \boxtimes The water flows through the wetland in one direction (unidirectional) and usually comes from seeps. It may flow subsurface, as sheetflow, or in a swale without distinct banks,
 - ⊠ The water leaves the wetland **without being impounded**.

□ NO – go to 5

⊠ **YES** – The wetland class is **Slope**

NOTE: Surface water does not pond in these type of wetlands except occasionally in very small and shallow depressions or behind hummocks (depressions are usually <3 ft diameter and less than 1 ft deep).

- 21. 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,
 - \Box The overbank flooding occurs at least once every 2 years.

□ NO – go to 6 □ YES – The wetland class is **Riverine NOTE**: The Riverine unit can contain depressions that are filled with water when the river is not flooding

22. 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

23. 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

24. Your wetland unit seems to be difficult to classify and probably contains several different HGM classes. For example, seeps at the base of a slope may grade into a riverine floodplain, or a small stream within a Depressional wetland has a zone of flooding along its sides. GO BACK AND IDENTIFY WHICH OF THE HYDROLOGIC REGIMES DESCRIBED IN QUESTIONS 1-7 APPLY TO DIFFERENT AREAS IN THE UNIT (make a rough sketch to help you decide). Use the following table to identify the appropriate class to use for the rating system if you have several HGM classes present within the wetland unit being scored.

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

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

If you are still unable to determine which of the above criteria apply to your wetland, or if you have **more than 2 HGM classes** within a wetland boundary, classify the wetland as Depressional for the rating.

□ More than 2 HGM classes

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

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

Record the rating on the first page

S 2.0. Does the landscape have the potential to support the water	quality function of the site?	
S 2.1. Is > 10% of the area within 150 ft on the uphill side of the wetland i	n land uses that generate pollutants?	1
	\boxtimes Yes = 1 \square No = 0	T
S 2.2. Are there other sources of pollutants coming into the wetland that are not listed in question S 2.1?		0
Other sources:	□ Yes = 1 ⊠ No = 0	0
Total for S 2	Add the points in the boxes above	1

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

Record the rating on the first page

S 3.0. Is the water quality improvement provided by the site valuable to society?	
S 3.1. Does the wetland discharge directly (i.e., within 1 mi) to a stream, river, lake, or marine water that is on the 303(d) list?	0
S 3.2. Is the wetland in a basin or sub-basin where water quality is an issue? At least one aquatic resource in the basin is on the 303(d) list. Xes = 1 No = 0	1
S 3.3. Has the site been identified in a watershed or local plan as important for maintaining water quality? Answer YES if there is a TMDL for the basin in which unit is found.	0
Total for S 3Add the points in the boxes above	1

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

Record the rating on the first page

Hydrologic Functions - Indicators that the site functions to reduce flooding and stream erosion S 4.1. Characteristics of plants that reduce the velocity of surface flows during storms: Choose the points appropriate for the description that best fits conditions in the wetland. Stems of plants should be thick enough (usually >1/8, in), or dense enough, to remain erect during surface flows. 1 ☑ Dense, uncut, **rigid** plants cover > 90% of the area of the wetland points = 1 □ All other conditions points = 0 Record the rating on the first page

S 5.0. Does the landscape have the potential to support the hydrologic functions of the site?	
S 5.1. Is more than 25% of the area within 150 ft upslope of wetland in land uses or cover that generate excess	0
surface runoff? \Box Yes = 1 \boxtimes No = 0	0

Rating of Landscape Potential If score is: $\Box \mathbf{1} = \mathbf{M} \otimes \mathbf{0} = \mathbf{L}$

Record the rating on the first page

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

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

Record the rating on the first page

NOTES and FIELD OBSERVATIONS:

SLOPE WETLANDS

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

Rating of Site Potential If score is: \square 1 = M \square 0 = L

These questions apply to wetlands of all HGM classes. Habitat Functions - Indicators that site functions to provide important habitat	
H 1.0. Does the site have the potential to provide habitat?	
H 1.1. Structure of plant community: Indicators are Cowardin classes and strata within the Forested class. Check the Cowardin plant classes in the wetland. Up to 10 patches may be combined for each class to meet the threshold of ¼ ac or more than 10% of the unit if it is smaller than 2.5 ac. Add the number of structures checked. □ Aquatic bed 4 structures or more: points = 4 ⊠ Emergent 3 structures: points = 2 ⊠ Scrub-shrub (areas where shrubs have > 30% cover) 2 structures: points = 1 □ Forested (areas where trees have > 30% cover) 1 structure: points = 0 If the unit has a Forested class, check if: □ The Forested class has 3 out of 5 strata (canopy, sub-canopy, shrubs, herbaceous, moss/ground-cover) that each cover 20% within the Forested polygon 1 structure	1
H 1.2. Hydroperiods	
Check the types of water regimes (hydroperiods) present within the wetland. The water regime has to cover more than 10% of the wetland or ¼ ac to count (see text for descriptions of hydroperiods). Permanently flooded or inundated 4 or more types present: points = 3 Seasonally flooded or inundated 3 types present: points = 2 Occasionally flooded or inundated 2 types present: points = 1 Saturated only 1 type present: points = 0 Permanently flowing stream or river in, or adjacent to, the wetland 2 points Seasonally flowing stream in, or adjacent to, the wetland 2 points	1
 H 1.3. Richness of plant species Count the number of plant species in the wetland that cover at least 10 ft². Different patches of the same species can be combined to meet the size threshold and you do not have to name the species. Do not include Eurasian milfoil, reed canarygrass, purple loosestrife, Canadian thistle If you counted: □ > 19 species points = 2 □ < 5 species points = 0 	1
H 1.4. Interspersion of habitats Decide from the diagrams below whether interspersion among Cowardin plants classes (described in H 1.1), or the classes and unvegetated areas (can include open water or mudflats) is high, moderate, low, or none. <i>If you</i> <i>have four or more plant classes or three classes and open water, the rating is always high.</i> None = 0 points All three diagrams in this row are HIGH = 3 points HIGH = 3 points	2

Wetland EB01

H 1.5. Special habitat features:	
Check the habitat features that are present in the wetland. The number of checks is the number of points.	
□ Large, downed, woody debris within the wetland (> 4 in diameter and 6 ft long).	
\Box Standing snags (dbh > 4 in) within the wetland	
Undercut banks are present for at least 6.6 ft (2 m) and/or overhanging plants extends at least 3.3 ft (1 m) over a stream (or ditch) in, or contiguous with the wetland, for at least 33 ft (10 m)	
Stable steep banks of fine material that might be used by beaver or muskrat for denning (> 30 degree slope) OR signs of recent beaver activity are present (cut shrubs or trees that have not yet weathered where wood is exposed)	0
At least ¼ ac of thin-stemmed persistent plants or woody branches are present in areas that are permanently or seasonally inundated (structures for egg-laying by amphibians)	
□ Invasive plants cover less than 25% of the wetland area in every stratum of plants (<i>see H 1.1 for list of strata</i>)	
Total for H 1Add the points in the boxes above	5

Rating of Site Potential If score is: \Box 15-18 = H \Box 7-14 = M \boxtimes 0-6 = L

Record the rating on the first page

H 2.0. Does the landscape have the potential to support the habitat functions of the site?		
H 2.1. Accessible habitat (include only habitat that directly abuts wetland unit).		
Calculate: % undisturbed habitat + [(% moderate and low intensity land uses)/2] = see Figs. 2-5		
If total accessible habitat is:		
\Box > 1/3 (33.3%) of 1 km Polygon	points = 3	0
20-33% of 1 km Polygon	points = 2	
🗆 10-19% of 1 km Polygon	points = 1	
🖂 < 10% of 1 km Polygon	points = 0	
H 2.2. Undisturbed habitat in 1 km Polygon around the wetland.		
Calculate: % undisturbed habitat + [(% moderate and low intensity land uses)/2] = see Figs. 2-5		
\Box Undisturbed habitat > 50% of Polygon	points = 3	0
\Box Undisturbed habitat 10-50% and in 1-3 patches	points = 2	0
\Box Undisturbed habitat 10-50% and > 3 patches	points = 1	
🛛 Undisturbed habitat < 10% of 1 km Polygon	points = 0	
H 2.3. Land use intensity in 1 km Polygon: If		
\boxtimes > 50% of 1 km Polygon is high intensity land use	points = (- 2)	-2
$\Box \leq$ 50% of 1 km Polygon is high intensity	points = 0	
Total for H 2 Add the points in the	e boxes above	-2

Rating of Landscape Potential If score is: \Box **4-6 = H** \Box **1-3 = M** \boxtimes **< 1 = L**

Record the rating on the first page

H 3.0. Is the habitat provided by the site valuable to society?		
H 3.1. Does the site provide habitat for species valued in laws, regulations, or policies? Choose	e only the highest score	
that applies to the wetland being rated.		
Site meets ANY of the following criteria:	points = 2	
🛛 It has 3 or more priority habitats within 100 m (see next page)		
It provides habitat for Threatened or Endangered species (any plant or animal o	n the state or federal lists)	
It is mapped as a location for an individual WDFW priority species		2
It is a Wetland of High Conservation Value as determined by the Department of	Natural Resources	
It has been categorized as an important habitat site in a local or regional compression	ehensive plan, in	
a Shoreline Master Plan, or in a watershed plan		
\square Site has 1 or 2 priority habitats (listed on next page) within 100 m	points = 1	
\square Site does not meet any of the criteria above	points = 0	
Rating of Value If score is: \boxtimes 2 = H \square 1 = M \square 0 = L	Record the rating on	the first page

Wetland Rating System for Western WA: 2014 Update Rating Form – Effective January 1, 2015

WDFW Priority Habitats

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

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

- □ **Aspen Stands:** Pure or mixed stands of aspen greater than 1 ac (0.4 ha).
- □ **Biodiversity Areas and Corridors**: Areas of habitat that are relatively important to various species of native fish and wildlife (*full descriptions in WDFW PHS report*).
- □ **Herbaceous Balds:** Variable size patches of grass and forbs on shallow soils over bedrock.
- □ **Old-growth/Mature forests**: <u>Old-growth west of Cascade crest</u> Stands of at least 2 tree species, forming a multilayered canopy with occasional small openings; with at least 8 trees/ac (20 trees/ha) > 32 in (81 cm) dbh or > 200 years of age. <u>Mature forests</u> – Stands with average diameters exceeding 21 in (53 cm) dbh; crown cover may be less than 100%; decay, decadence, numbers of snags, and quantity of large downed material is generally less than that found in old-growth; 80-200 years old west of the Cascade crest.
- □ **Oregon White Oak:** Woodland stands of pure oak or oak/conifer associations where canopy coverage of the oak component is important (*full descriptions in WDFW PHS report p. 158 see web link above*).
- **Riparian**: The area adjacent to aquatic systems with flowing water that contains elements of both aquatic and terrestrial ecosystems which mutually influence each other.
- □ **Westside Prairies:** Herbaceous, non-forested plant communities that can either take the form of a dry prairie or a wet prairie (*full descriptions in WDFW PHS report p. 161 see web link above*).
- ⊠ **Instream:** The combination of physical, biological, and chemical processes and conditions that interact to provide functional life history requirements for instream fish and wildlife resources.
- □ **Nearshore**: Relatively undisturbed nearshore habitats. These include Coastal Nearshore, Open Coast Nearshore, and Puget Sound Nearshore. (*full descriptions of habitats and the definition of relatively undisturbed are in WDFW report see web link on previous page*).
- □ **Caves:** A naturally occurring cavity, recess, void, or system of interconnected passages under the earth in soils, rock, ice, or other geological formations and is large enough to contain a human.
- □ **Cliffs:** Greater than 25 ft (7.6 m) high and occurring below 5000 ft elevation.
- □ **Talus:** Homogenous areas of rock rubble ranging in average size 0.5 6.5 ft (0.15 2.0 m), composed of basalt, andesite, and/or sedimentary rock, including riprap slides and mine tailings. May be associated with cliffs.
- Snags and Logs: Trees are considered snags if they are dead or dying and exhibit sufficient decay characteristics to enable cavity excavation/use by wildlife. Priority snags have a diameter at breast height of > 20 in (51 cm) in western Washington and are > 6.5 ft (2 m) in height. Priority logs are > 12 in (30 cm) in diameter at the largest end, and > 20 ft (6 m) long.

Note: All vegetated wetlands are by definition a priority habitat but are not included in this list because they are addressed elsewhere.

Wetland Rating System for Western WA: 2014 Update Rating Form – Effective January 1, 2015 This page left blank intentionally

Wetland EBO2 Rating Form

RATING SUMMARY – Western Washington

Name of wetland (or ID #): <u>Wetland EB02</u> Date of site visit: <u>6/3/2015</u>

Rated by: <u>K. Crandall</u> Trained by Ecology? X Y C N Date of training: <u>9/2014</u>

HGM Class used for rating: Slope Wetland has multiple HGM classes? \Box Y \boxtimes N

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

OVERALL WETLAND CATEGORY (based on functions \square or special characteristics \square)

Category of wetland based on FUNCTIONS

- **Category I** Total score = 23 27
- **Category II** Total score = 20 22
- Category III Total score = 16 19
- **Category IV** Total score = 9 15

FUNCTION	Improving Water Quality		Ну	drolo	ogic		Habita	at		
				(Circle	the ap	propr	iate ra	tings	
Site Potential	Н	М	(L)	Н	Μ	(l)	Н	(M)	L	
Landscape Potential	Н	M	ĩ	Н	(M)	Ľ	Н	M	()	
Value	H	Μ	L	H	Μ	L	H	Μ	L	TOTAL
Score Based on Ratings		6			6			6		18

Score for each function based on three ratings (order of ratings is not *important*) 9 = H, H, H8 = H, H, M7 = H, H, L7 = H,M,M 6 = H, M, L6 = M, M, M5 = H, L, L5 = M,M,L 4 = M,L,L

3 = L,L,L

Category based on SPECIAL CHARACTERISTICS of wetland

CHARACTERISTIC	CATEGORY	
Estuarine	I	II
Wetland of High Conservation Value	I	
Bog	I	
Mature Forest	I	
Old Growth Forest		Ι
Coastal Lagoon	Ι	II
Interdunal	I II	III IV
None of the above		\boxtimes

Maps and figures required to answer questions correctly for Western Washington

Slope Wetlands

Map of:	To answer questions:	Figure #
Cowardin plant classes	H 1.1, H 1.4	EB02-1
Hydroperiods	H 1.2	EB02-2
Plant cover of dense trees, shrubs, and herbaceous plants	S 1.3	EB02-1
Plant cover of dense, rigid trees, shrubs, and herbaceous plants (can be added to figure above)	S 4.1	EB02-1
Boundary of 150 ft buffer (can be added to another figure)	S 2.1, S 5.1	EB02-2
1 km Polygon: Area that extends 1 km from entire wetland edge - including polygons for accessible habitat and undisturbed habitat	H 2.1, H 2.2, H 2.3	2 to 5
Screen capture of map of 303(d) listed waters in basin (from Ecology website)	S 3.1, S 3.2	7
Screen capture of list of TMDLs for WRIA in which unit is found (from web)	S 3.3	1

HGM Classification of Wetlands in Western Washington

For questions 1-7, the criteria described must apply to the entire unit being rated.

If the hydrologic criteria listed in each question do not apply to the entire unit being rated, you probably have a unit with multiple HGM classes. In this case, identify which hydrologic criteria in questions 1-7 apply, and go to Question 8.

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

 \boxtimes NO – go to 2 \square YES – the wetland class is **Tidal Fringe** – go to 1.1

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

□ NO - Saltwater Tidal Fringe (Estuarine) □ YES - Freshwater Tidal Fringe If your wetland can be classified as a Freshwater Tidal Fringe use the forms for **Riverine** wetlands. If it is Saltwater Tidal Fringe it is an **Estuarine** wetland and is not scored. This method **cannot** be used to score functions for estuarine wetlands.

26. 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.

 \boxtimes NO – go to 3 \square YES – The wetland class is Flats *If your wetland can be classified as a Flats wetland, use the form for* **Depressional** *wetlands.*

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

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

⊠ NO – go to 4 □ YES – The wetland class is Lake Fringe (Lacustrine Fringe)

- 28. Does the entire wetland unit **meet all** of the following criteria?
 - ⊠ The wetland is on a slope (*slope can be very gradual*),
 - \boxtimes The water flows through the wetland in one direction (unidirectional) and usually comes from seeps. It may flow subsurface, as sheetflow, or in a swale without distinct banks,
 - ⊠ The water leaves the wetland **without being impounded**.

□ NO – go to 5

⊠ **YES** – The wetland class is **Slope**

NOTE: Surface water does not pond in these type of wetlands except occasionally in very small and shallow depressions or behind hummocks (depressions are usually <3 ft diameter and less than 1 ft deep).

- 29. 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,
 - \Box The overbank flooding occurs at least once every 2 years.

□ NO – go to 6 □ YES – The wetland class is **Riverine NOTE**: The Riverine unit can contain depressions that are filled with water when the river is not flooding

30. 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.*

 \Box NO – go to 7

□ YES – The wetland class is Depressional

31. 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

32. Your wetland unit seems to be difficult to classify and probably contains several different HGM classes. For example, seeps at the base of a slope may grade into a riverine floodplain, or a small stream within a Depressional wetland has a zone of flooding along its sides. GO BACK AND IDENTIFY WHICH OF THE HYDROLOGIC REGIMES DESCRIBED IN QUESTIONS 1-7 APPLY TO DIFFERENT AREAS IN THE UNIT (make a rough sketch to help you decide). Use the following table to identify the appropriate class to use for the rating system if you have several HGM classes present within the wetland unit being scored.

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

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

If you are still unable to determine which of the above criteria apply to your wetland, or if you have **more than 2 HGM classes** within a wetland boundary, classify the wetland as Depressional for the rating.

□ More than 2 HGM classes

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

S 2.0. Does the landscape have the potential to support the water quality function of the site?		
S 2.1. Is > 10% of the area within 150 ft on the uphill side of the wetland in land uses that generate pollutants?		
\boxtimes Yes = 1 \square No = 0	-	
S 2.2. Are there other sources of pollutants coming into the wetland that are not listed in question S 2.1?		
Other sources: golf course stream/ditch \Box Yes = 1 \boxtimes No = 0	0	
Total for S 2Add the points in the boxes above	1	

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

Record the rating on the first page

S 3.0. Is the water quality improvement provided by the site valuable to society?	
S 3.1. Does the wetland discharge directly (i.e., within 1 mi) to a stream, river, lake, or marine water that is on the 303(d) list?	1
S 3.2. Is the wetland in a basin or sub-basin where water quality is an issue? At least one aquatic resource in the basin is on the 303(d) list. Xes = 1 No = 0	1
S 3.3. Has the site been identified in a watershed or local plan as important for maintaining water quality? Answer YES if there is a TMDL for the basin in which unit is found.	0
Total for S 3Add the points in the boxes above	2

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

Record the rating on the first page

SLOPE WETLANDS

Hydrologic Functions - Indicators that the site functions to reduce flooding and stream erosion S 4.0. Does the site have the potential to reduce flooding and stream erosion? S 4.1. Characteristics of plants that reduce the velocity of surface flows during storms: Choose the points appropriate for the description that best fits conditions in the wetland. Stems of plants should be thick enough (usually >1/8, in), or dense enough, to remain erect during surface flows. 0 Dense, uncut, rigid plants cover > 90% of the area of the wetland points = 1 All other conditions points = 0

Rating of Site Potential If score is: $\Box \mathbf{1} = \mathbf{M} \otimes \mathbf{0} = \mathbf{L}$

Record the rating on the first page

S 5.0. Does the landscape have the potential to support the hydrologic functions of the site?	
S 5.1. Is more than 25% of the area within 150 ft upslope of wetland in land uses or cover that generate excess	
surface runoff? \square Yes = 1 \square No = 0	T

Rating of Landscape Potential If score is: 🛛 1 = M 🗆 0 = L

Record the rating on the first page

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

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

Record the rating on the first page

NOTES and FIELD OBSERVATIONS:

These questions apply to wetlands of all HGM classes.	
Habitat Functions - Indicators that site functions to provide important habitat	
H 1.1. Structure of plant community: <i>Indicators are Cowardin classes and strata within the Forested class.</i> Check the Cowardin plant classes in the wetland. Up to 10 patches may be combined for each class to meet the threshold of % ac or more than 10% of the unit if it is smaller than 2.5 ac. Add the number of structures checked	
$\Box \text{ Aguatic bed} \qquad \qquad 4 \text{ structures or more: points = 4}$	
⊠ Emergent 3 structures: points = 2	
Scrub-shrub (areas where shrubs have > 30% cover) 2 structures: points = 1	2
\boxtimes Forested (areas where trees have > 30% cover) 1 structure: points = 0	
If the unit has a Forested class, check if:	
The Forested class has 3 out of 5 strata (canopy, sub-canopy, shrubs, herbaceous, moss/ground-cover) that each cover 20% within the Forested polygon	
H 1.2. Hydroperiods	
Check the types of water regimes (hydroperiods) present within the wetland. The water regime has to cover more than 10% of the wetland or ¼ ac to count (<i>see text for descriptions of hydroperiods</i>).	
Permanently flooded or inundated 4 or more types present: points = 3	
□ Seasonally flooded or inundated 3 types present: points = 2	
\boxtimes Occasionally flooded or inundated 2 types present: points = 1	1
Saturated only 1 type present: points = 0	
Permanently flowing stream or river in, or adjacent to, the wetland	
□ Seasonally flowing stream in, or adjacent to, the wetland	
Lake Fringe wetland 2 points Strochwater tidal wetland 3 points	
Li Freshwater tuda wetianu 2 points	
Count the number of plant species in the wetland that cover at least 10 ft^2 .	
Different patches of the same species can be combined to meet the size threshold and you do not have to name	
the species. Do not include Eurasian milfoil, reed canarygrass, purple loosestrife, Canadian thistle	2
If you counted: $\square > 19$ speciespoints = 2	
$\Box 5 - 19 \text{ species} \qquad \text{points} = 1$	
□ < 5 species points = 0	
H 1.4. Interspersion of habitats	
Decide from the diagrams below whether interspersion among Cowardin plants classes (described in H 1.1), or the classes and unvegetated areas (can include open water or mudflats) is high moderate, low, or none if you	
have four or more plant classes or three classes and open water, the rating is always high.	
	3
□ None = 0 points □ Low = 1 point □ Moderate = 2 points	
All three diagrams in this row are \bowtie HIGH = 3 points	

Wetland EB02

H 1.5. Special habitat features:	
Check the habitat features that are present in the wetland. The number of checks is the number of points.	
Large, downed, woody debris within the wetland (> 4 in diameter and 6 ft long).	
\Box Standing snags (dbh > 4 in) within the wetland	
Undercut banks are present for at least 6.6 ft (2 m) and/or overhanging plants extends at least 3.3 ft (1 m) over a stream (or ditch) in, or contiguous with the wetland, for at least 33 ft (10 m)	
Stable steep banks of fine material that might be used by beaver or muskrat for denning (> 30 degree slope) OR signs of recent beaver activity are present (cut shrubs or trees that have not yet weathered where wood is exposed)	1
At least ¼ ac of thin-stemmed persistent plants or woody branches are present in areas that are permanently or seasonally inundated (structures for egg-laying by amphibians)	
Invasive plants cover less than 25% of the wetland area in every stratum of plants (see H 1.1 for list of strata)	
Total for H 1Add the points in the boxes above	9
Rating of Site Potential If score is: \Box 15-18 = H \boxtimes 7-14 = M \Box 0-6 = LRecord the rating on	the first page

H 2.0. Does the landscape have the potential to support the habitat functions of the site?		
H 2.1. Accessible habitat (include only habitat that directly abuts wetland unit).		
Calculate: % undisturbed habitat + [(% moderate and low intensity land uses)/2] = see Figs. 2-5		
If total accessible habitat is:		
\Box > 1/3 (33.3%) of 1 km Polygon p	oints = 3	0
🗆 20-33% of 1 km Polygon p	oints = 2	
🗆 10-19% of 1 km Polygon p	oints = 1	
⊠ < 10% of 1 km Polygon p	oints = 0	
H 2.2. Undisturbed habitat in 1 km Polygon around the wetland.		
Calculate: % undisturbed habitat + [(% moderate and low intensity land uses)/2] = see Figs. 2-5		
Undisturbed habitat > 50% of Polygon	oints = 3	
Undisturbed habitat 10-50% and in 1-3 patches	oints = 2	0
Undisturbed habitat 10-50% and > 3 patches	oints = 1	
⊠ Undisturbed habitat < 10% of 1 km Polygon p	oints = 0	
H 2.3. Land use intensity in 1 km Polygon: If		
☑ > 50% of 1 km Polygon is high intensity land use poir	nts = (- 2)	-2
□ ≤ 50% of 1 km Polygon is high intensity p	oints = 0	
Total for H 2 Add the points in the box	es above	-2

Rating of Landscape Potential If score is: \Box **4-6 = H** \Box **1-3 = M** \boxtimes **< 1 = L**

Record the rating on the first page

H 3.0. Is the habitat provided by the site valuable to society?		
H 3.1. Does the site provide habitat for species valued in laws, regulations, or policies? <i>Choose that applies to the wetland being rated.</i>	only the highest score	
Site meets ANY of the following criteria:	points = 2	
It has 3 or more priority habitats within 100 m (see next page)		
It provides habitat for Threatened or Endangered species (any plant or animal or	the state or federal lists)	
It is mapped as a location for an individual WDFW priority species		2
\Box It is a Wetland of High Conservation Value as determined by the Department of N	Natural Resources	
\Box It has been categorized as an important habitat site in a local or regional compre	hensive plan, in	
a Shoreline Master Plan, or in a watershed plan		
\square Site has 1 or 2 priority habitats (listed on next page) within 100 m	points = 1	
\square Site does not meet any of the criteria above	points = 0	
Rating of Value If score is: \square 2 = H \square 1 = M \square 0 = L	Record the rating on	the first page

WDFW Priority Habitats

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

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

- □ **Aspen Stands:** Pure or mixed stands of aspen greater than 1 ac (0.4 ha).
- □ **Biodiversity Areas and Corridors**: Areas of habitat that are relatively important to various species of native fish and wildlife (*full descriptions in WDFW PHS report*).
- □ **Herbaceous Balds:** Variable size patches of grass and forbs on shallow soils over bedrock.
- □ **Old-growth/Mature forests**: <u>Old-growth west of Cascade crest</u> Stands of at least 2 tree species, forming a multilayered canopy with occasional small openings; with at least 8 trees/ac (20 trees/ha) > 32 in (81 cm) dbh or > 200 years of age. <u>Mature forests</u> – Stands with average diameters exceeding 21 in (53 cm) dbh; crown cover may be less than 100%; decay, decadence, numbers of snags, and quantity of large downed material is generally less than that found in old-growth; 80-200 years old west of the Cascade crest.
- □ **Oregon White Oak:** Woodland stands of pure oak or oak/conifer associations where canopy coverage of the oak component is important (*full descriptions in WDFW PHS report p. 158 see web link above*).
- **Riparian**: The area adjacent to aquatic systems with flowing water that contains elements of both aquatic and terrestrial ecosystems which mutually influence each other.
- □ **Westside Prairies:** Herbaceous, non-forested plant communities that can either take the form of a dry prairie or a wet prairie (*full descriptions in WDFW PHS report p. 161 see web link above*).
- ⊠ **Instream:** The combination of physical, biological, and chemical processes and conditions that interact to provide functional life history requirements for instream fish and wildlife resources.
- □ **Nearshore**: Relatively undisturbed nearshore habitats. These include Coastal Nearshore, Open Coast Nearshore, and Puget Sound Nearshore. (*full descriptions of habitats and the definition of relatively undisturbed are in WDFW report see web link on previous page*).
- □ **Caves:** A naturally occurring cavity, recess, void, or system of interconnected passages under the earth in soils, rock, ice, or other geological formations and is large enough to contain a human.
- □ **Cliffs:** Greater than 25 ft (7.6 m) high and occurring below 5000 ft elevation.
- □ **Talus:** Homogenous areas of rock rubble ranging in average size 0.5 6.5 ft (0.15 2.0 m), composed of basalt, andesite, and/or sedimentary rock, including riprap slides and mine tailings. May be associated with cliffs.
- Snags and Logs: Trees are considered snags if they are dead or dying and exhibit sufficient decay characteristics to enable cavity excavation/use by wildlife. Priority snags have a diameter at breast height of > 20 in (51 cm) in western Washington and are > 6.5 ft (2 m) in height. Priority logs are > 12 in (30 cm) in diameter at the largest end, and > 20 ft (6 m) long.

Note: All vegetated wetlands are by definition a priority habitat but are not included in this list because they are addressed elsewhere.

Wetland Rating System for Western WA: 2014 Update Rating Form – Effective January 1, 2015 This page left blank intentionally

Wetland EBO3 Rating Form

RATING SUMMARY – Western Washington

Name of wetland (or ID #): Wetland EB03Date of site visit: 6/3/2015, 2/27/2020Rated by: K. CrandallTrained by Ecology? \boxtimes Y \square NDate of training: 9/2014

HGM Class used for rating: Slope Wetland has multiple HGM classes? \Box Y \boxtimes N

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

OVERALL WETLAND CATEGORY (based on functions \boxtimes or special characteristics \square)

Category of wetland based on FUNCTIONS

- **Category I** Total score = 23 27
- **Category II** Total score = 20 22
- Category III Total score = 16 19
- **Category IV** Total score = 9 15

FUNCTION	Improving Water Quality		Hydrologic		Habitat]	
			(Circle t	the app	propi	riate ratings	
Site Potential	H (M)	L	Н	(M)	L	Н	M (L)	
Landscape Potential	H (M)	L	Н	(M)	L	Н	M(L)	
Value	H M	L	H	М	L	н	ML	TOTAL
Score Based on Ratings	7			7			4	18

Score for each function based on three ratings (order of ratings is not important) 9 = H,H,H 8 = H,H,M 7 = H,H,L 7 = H,M,M 6 = H,M,L 6 = M,M,M

5 = H,L,L 5 = M,M,L 4 = M,L,L

3 = L,L,L

Category based on SPECIAL CHARACTERISTICS of wetland

	CATECODY	
CHARACTERISTIC	CATEGORY	
Estuarine	Ι	II
Wetland of High Conservation Value	I	
Bog		Ι
Mature Forest	I	
Old Growth Forest		Ι
Coastal Lagoon	Ι	II
Interdunal	I II	III IV
None of the above		\boxtimes

Maps and figures required to answer questions correctly for Western Washington

Slope Wetlands

Map of:	To answer questions:	Figure #
Cowardin plant classes	Н 1.1, Н 1.4	EB03-1
Hydroperiods	H 1.2	EB03-2
Plant cover of dense trees, shrubs, and herbaceous plants	S 1.3	EB03-1
Plant cover of dense, rigid trees, shrubs, and herbaceous plants (can be added to figure above)	S 4.1	EB03-1
Boundary of 150 ft buffer (can be added to another figure)	S 2.1, S 5.1	EB03-2
1 km Polygon: Area that extends 1 km from entire wetland edge - including polygons for accessible habitat and undisturbed habitat	H 2.1, H 2.2, H 2.3	2 to 5
Screen capture of map of 303(d) listed waters in basin (from Ecology website)	S 3.1, S 3.2	7
Screen capture of list of TMDLs for WRIA in which unit is found (from web)	S 3.3	1

HGM Classification of Wetlands in Western Washington

For questions 1-7, the criteria described must apply to the entire unit being rated.

If the hydrologic criteria listed in each question do not apply to the entire unit being rated, you probably have a unit with multiple HGM classes. In this case, identify which hydrologic criteria in questions 1-7 apply, and go to Question 8.

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

 \boxtimes NO – go to 2 \square YES – the wetland class is **Tidal Fringe** – go to 1.1

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

□ NO - Saltwater Tidal Fringe (Estuarine) □ YES - Freshwater Tidal Fringe If your wetland can be classified as a Freshwater Tidal Fringe use the forms for **Riverine** wetlands. If it is Saltwater Tidal Fringe it is an **Estuarine** wetland and is not scored. This method **cannot** be used to score functions for estuarine wetlands.

34. 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.

 \boxtimes NO – go to 3 \square YES – The wetland class is Flats *If your wetland can be classified as a Flats wetland, use the form for* **Depressional** *wetlands.*

- 35. Does the entire wetland unit **meet all** of the following criteria?
 - □ The vegetated part of the wetland is on the shores of a body of permanent open water (without any plants on the surface at any time of the year) at least 20 ac (8 ha) in size;
 - \Box At least 30% of the open water area is deeper than 6.6 ft (2 m).

⊠ NO – go to 4 □ YES – The wetland class is Lake Fringe (Lacustrine Fringe)

- 36. Does the entire wetland unit **meet all** of the following criteria?
 - ⊠ The wetland is on a slope (*slope can be very gradual*),
 - \boxtimes The water flows through the wetland in one direction (unidirectional) and usually comes from seeps. It may flow subsurface, as sheetflow, or in a swale without distinct banks,
 - ⊠ The water leaves the wetland **without being impounded**.

□ NO – go to 5

⊠ **YES** – The wetland class is **Slope**

NOTE: Surface water does not pond in these type of wetlands except occasionally in very small and shallow depressions or behind hummocks (depressions are usually <3 ft diameter and less than 1 ft deep).

- 37. Does the entire wetland unit **meet all** of the following criteria?
 - □ The unit is in a valley, or stream channel, where it gets inundated by overbank flooding from that stream or river,
 - □ The overbank flooding occurs at least once every 2 years.

□ NO – go to 6 □ YES – The wetland class is **Riverine NOTE**: The Riverine unit can contain depressions that are filled with water when the river is not flooding

38. 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

39. 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

40. Your wetland unit seems to be difficult to classify and probably contains several different HGM classes. For example, seeps at the base of a slope may grade into a riverine floodplain, or a small stream within a Depressional wetland has a zone of flooding along its sides. GO BACK AND IDENTIFY WHICH OF THE HYDROLOGIC REGIMES DESCRIBED IN QUESTIONS 1-7 APPLY TO DIFFERENT AREAS IN THE UNIT (make a rough sketch to help you decide). Use the following table to identify the appropriate class to use for the rating system if you have several HGM classes present within the wetland unit being scored.

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

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

If you are still unable to determine which of the above criteria apply to your wetland, or if you have **more than 2 HGM classes** within a wetland boundary, classify the wetland as Depressional for the rating.

□ More than 2 HGM classes

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

S 2.0. Does the landscape have the potential to support the water quality function of the site?	
S 2.1. Is > 10% of the area within 150 ft on the uphill side of the wetland in land uses that generate pollutants?	1
\boxtimes Yes = 1 \square No = 0	T
S 2.2. Are there other sources of pollutants coming into the wetland that are not listed in question S 2.1?	
Other sources: \Box Yes = 1 \boxtimes No = 0	0
Total for S 2Add the points in the boxes above	1

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

Record the rating on the first page

S 3.0. Is the water quality improvement provided by the site valuable to society?	
S 3.1. Does the wetland discharge directly (i.e., within 1 mi) to a stream, river, lake, or marine water that is on the 303(d) list?	1
S 3.2. Is the wetland in a basin or sub-basin where water quality is an issue? At least one aquatic resource in the basin is on the 303(d) list. Xes = 1 No = 0	1
S 3.3. Has the site been identified in a watershed or local plan as important for maintaining water quality? Answer YES if there is a TMDL for the basin in which unit is found.	0
Total for S 3Add the points in the boxes above	2

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

Record the rating on the first page

SLOPE WETLANDS

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

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

S 4.1. Characteristics of plants that reduce the velocity of surface flows during storms: Choose the points appropriate for the description that best fits conditions in the wetland. Stems of plants should be thick enough (usually >1/8, in), or dense enough, to remain erect during surface flows. ☑ Dense, uncut, **rigid** plants cover > 90% of the area of the wetland points = 1 points = 0

□ All other conditions

Rating of Site Potential If score is: \square **1** = **M** \square **0** = **L**

Record the rating on the first page

1

S 5.0. Does the landscape have the potential to support the hydrologic functions of the site?	
S 5.1. Is more than 25% of the area within 150 ft upslope of wetland in land uses or cover that generate excess	1
surface runoff? \square Yes = 1 \square No = 0	T

Rating of Landscape Potential If score is: \square **1** = **M** \square **0** = **L**

Record the rating on the first page

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

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

Record the rating on the first page

NOTES and FIELD OBSERVATIONS:
These questions apply to wetlands of all HGM classes.			
Habitat Functions - Indicators that site functions to provide important habitat			
H 1.1. Structure of plant community: Indicators are Cowardin classes and strata within the Forested class. Check the Cowardin plant classes in the wetland. Up to 10 patches may be combined for each class to meet the threshold of ¼ ac or more than 10% of the unit if it is smaller than 2.5 ac. Add the number of structures checked.			
□ Aquatic bed 4 structures or more: points = 4			
☐ Emergent 3 structures: points = 2	0		
\Box Scrub-shrub (areas where shrubs have > 30% cover) 2 structures: points = 1	0		
□ Forested (areas where trees have > 30% cover) 1 structure: points = 0 If the unit has a Forested class, check if:			
The Forested class has 3 out of 5 strata (canopy, sub-canopy, shrubs, herbaceous, moss/ground-cover) that each cover 20% within the Forested polygon			
H 1.2. Hydroperiods			
Check the types of water regimes (hydroperiods) present within the wetland. The water regime has to cover more than 10% of the wetland or ¼ ac to count (<i>see text for descriptions of hydroperiods</i>).			
Permanently flooded or inundated 4 or more types present: points = 3			
□ Seasonally flooded or inundated 3 types present: points = 2			
☑ Occasionally flooded or inundated 2 types present: points = 1	1		
Saturated only 1 type present: points = 0			
Permanently flowing stream or river in, or adjacent to, the wetland			
Seasonally flowing stream in, or adjacent to, the wetland			
Lake Fringe wetland 2 points			
Freshwater tidal wetland 2 points			
H 1.3. Richness of plant species			
Count the number of plant species in the wetland that cover at least 10 ft.			
the species. Do not include Eurasian milfoil, reed canarygrass, purple loosestrife, Canadian thistle	1		
If you counted: $\Box > 19$ species points = 2	-		
⊠ 5 - 19 species points = 1			
\Box < 5 species points = 0			
H 1.4. Interspersion of habitats			
Decide from the diagrams below whether interspersion among Cowardin plants classes (described in H 1.1), or			
the classes and unvegetated areas (can include open water or mudflats) is high, moderate, low, or none. If you			
have jour of more plant classes of three classes and open water, the rating is always high.			
	0		
☑ None = 0 points □ Low = 1 point □ Moderate = 2 points			
All three diagrams in this row are			
HIGH = 3 points			

Wetland EB03

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

Rating of Site Potential If score is: \Box **15-18 = H** \Box **7-14 = M** \boxtimes **0-6 = L**

Record the rating on the first page

H 2.0. Does the landscape have the potential to support the habitat functions of the site?		
H 2.1. Accessible habitat (include only habitat that directly abuts wetland unit).		
Calculate: % undisturbed habitat + [(% moderate and low intensity land uses)/2] = see Figs. 2-5		
If total accessible habitat is:		
□ > 1/3 (33.3%) of 1 km Polygon poir	nts = 3	0
🗆 20-33% of 1 km Polygon poir	nts = 2	
🗆 10-19% of 1 km Polygon poir	nts = 1	
⊠ < 10% of 1 km Polygon poir	nts = 0	
H 2.2. Undisturbed habitat in 1 km Polygon around the wetland.		
Calculate: % undisturbed habitat + [(% moderate and low intensity land uses)/2] = see Figs. 2-5		
Undisturbed habitat > 50% of Polygon	nts = 3	1
Undisturbed habitat 10-50% and in 1-3 patches	nts = 2	T
☑ Undisturbed habitat 10-50% and > 3 patches poir	nts = 1	
Undisturbed habitat < 10% of 1 km Polygon poir	nts = 0	
H 2.3. Land use intensity in 1 km Polygon: If		
☑ > 50% of 1 km Polygon is high intensity land use points	= (- 2)	-2
□ ≤ 50% of 1 km Polygon is high intensity poir	nts = 0	
Total for H 2Add the points in the boxes a	above	-1

Rating of Landscape Potential If score is: \Box 4-6 = H \Box 1-3 = M \boxtimes < 1 = L

Record the rating on the first page

H 3.0. Is the habitat provided by the site valuable to society?		
H 3.1. Does the site provide habitat for species valued in laws, regulations, or policies? Choose on	ly the highest score	
that applies to the wetland being rated.		
Site meets ANY of the following criteria:	points = 2	
\Box It has 3 or more priority habitats within 100 m (see next page)		
\Box It provides habitat for Threatened or Endangered species (any plant or animal on th	e state or federal lists)	
It is mapped as a location for an individual WDFW priority species		1
\Box It is a Wetland of High Conservation Value as determined by the Department of Nat	ural Resources	
\Box It has been categorized as an important habitat site in a local or regional comprehen	nsive plan, in	
a Shoreline Master Plan, or in a watershed plan		
Site has 1 or 2 priority habitats (listed on next page) within 100 m	points = 1	
\Box Site does not meet any of the criteria above	points = 0	
Rating of Value If score is: $\Box 2 = H \boxtimes 1 = M \Box 0 = L$	Record the rating on	the first page

WDFW Priority Habitats

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

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

- □ **Aspen Stands:** Pure or mixed stands of aspen greater than 1 ac (0.4 ha).
- □ **Biodiversity Areas and Corridors**: Areas of habitat that are relatively important to various species of native fish and wildlife (*full descriptions in WDFW PHS report*).
- □ **Herbaceous Balds:** Variable size patches of grass and forbs on shallow soils over bedrock.
- □ **Old-growth/Mature forests**: <u>Old-growth west of Cascade crest</u> Stands of at least 2 tree species, forming a multilayered canopy with occasional small openings; with at least 8 trees/ac (20 trees/ha) > 32 in (81 cm) dbh or > 200 years of age. <u>Mature forests</u> – Stands with average diameters exceeding 21 in (53 cm) dbh; crown cover may be less than 100%; decay, decadence, numbers of snags, and quantity of large downed material is generally less than that found in old-growth; 80-200 years old west of the Cascade crest.
- □ **Oregon White Oak:** Woodland stands of pure oak or oak/conifer associations where canopy coverage of the oak component is important (*full descriptions in WDFW PHS report p. 158 see web link above*).
- **Riparian**: The area adjacent to aquatic systems with flowing water that contains elements of both aquatic and terrestrial ecosystems which mutually influence each other.
- □ **Westside Prairies:** Herbaceous, non-forested plant communities that can either take the form of a dry prairie or a wet prairie (*full descriptions in WDFW PHS report p. 161 see web link above*).
- ⊠ **Instream:** The combination of physical, biological, and chemical processes and conditions that interact to provide functional life history requirements for instream fish and wildlife resources.
- □ **Nearshore**: Relatively undisturbed nearshore habitats. These include Coastal Nearshore, Open Coast Nearshore, and Puget Sound Nearshore. (*full descriptions of habitats and the definition of relatively undisturbed are in WDFW report see web link on previous page*).
- □ **Caves:** A naturally occurring cavity, recess, void, or system of interconnected passages under the earth in soils, rock, ice, or other geological formations and is large enough to contain a human.
- □ **Cliffs:** Greater than 25 ft (7.6 m) high and occurring below 5000 ft elevation.
- □ **Talus:** Homogenous areas of rock rubble ranging in average size 0.5 6.5 ft (0.15 2.0 m), composed of basalt, andesite, and/or sedimentary rock, including riprap slides and mine tailings. May be associated with cliffs.
- □ Snags and Logs: Trees are considered snags if they are dead or dying and exhibit sufficient decay characteristics to enable cavity excavation/use by wildlife. Priority snags have a diameter at breast height of > 20 in (51 cm) in western Washington and are > 6.5 ft (2 m) in height. Priority logs are > 12 in (30 cm) in diameter at the largest end, and > 20 ft (6 m) long.

Note: All vegetated wetlands are by definition a priority habitat but are not included in this list because they are addressed elsewhere.

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Wetland EBO4 Rating Form

RATING SUMMARY – Western Washington

Name of wetland (or ID #): Wetland EB04Date of site visit: 6/3/2015, 2/27/2020Rated by: K. CrandallTrained by Ecology? I Y I NDate of training: 9/2014

HGM Class used for rating: Depressional Wetland has multiple HGM classes? \boxtimes Y \square N

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

OVERALL WETLAND CATEGORY (based on functions \square or special characteristics \square)

Category of wetland based on FUNCTIONS

- **Category I** Total score = 23 27
- **Category II** Total score = 20 22
- Category III Total score = 16 19
- **Category IV** Total score = 9 15

FUNCTION	lr Wa	nprov ter Qı	ing Jality	H	ydrolo	ogic		Habitat		
					Circle	the ap	oropi	riate rating	<i>js</i>	
Site Potential	Н	(M)	L	Н	М	(L)	Н	M (L)	
Landscape Potential	Н	(M)	L	Н	M	L	Н	M (L)	
Value	H	M	L	H	М	L	Н	ML		ΤΟΤΑ
Score Based on Ratings		7			6			4		17

Score for each function based on three ratings (order of ratings ìs not *important*) 9 = H, H, H8 = H, H, M7 = H, H, L7 = H, M, M6 = H, M, L6 = M, M, M5 = H, L, L5 = M,M,L 4 = M,L,L

3 = L,L,L

Category based on SPECIAL CHARACTERISTICS of wetland

CHARACTERISTIC	CATEGORY		
Estuarine	I II		
Wetland of High Conservation Value	I		
Bog	I		
Mature Forest	I		
Old Growth Forest	I		
Coastal Lagoon	Ι	II	
Interdunal	ΙΙ	III IV	
None of the above		\boxtimes	

Maps and figures required to answer questions correctly for Western Washington

Depressional Wetlands

Map of:	To answer questions:	Figure #
Cowardin plant classes	D 1.3, H 1.1, H 1.4	EB04-1
Hydroperiods	D 1.4, H 1.2	EB04-2
Location of outlet (can be added to map of hydroperiods)	D 1.1, D 4.1	EB04-2
Boundary of area within 150 ft of the wetland (can be added to another figure)	D 2.2, D 5.2	EB04-2
Map of the contributing basin	D 4.3, D 5.3	EB04-3
1 km Polygon: Area that extends 1 km from entire wetland edge - including polygons for accessible habitat and undisturbed habitat	H 2.1, H 2.2, H 2.3	2 to 5
Screen capture of map of 303(d) listed waters in basin (from Ecology website)	D 3.1, D 3.2	7
Screen capture of list of TMDLs for WRIA in which unit is found (from web)	D 3.3	1

HGM Classification of Wetlands in Western Washington

For questions 1-7, the criteria described must apply to the entire unit being rated.

If the hydrologic criteria listed in each question do not apply to the entire unit being rated, you probably have a unit with multiple HGM classes. In this case, identify which hydrologic criteria in questions 1-7 apply, and go to Question 8.

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

 \boxtimes NO – go to 2 \square YES – the wetland class is **Tidal Fringe** – go to 1.1

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

□ NO - Saltwater Tidal Fringe (Estuarine) □ YES - Freshwater Tidal Fringe If your wetland can be classified as a Freshwater Tidal Fringe use the forms for **Riverine** wetlands. If it is Saltwater Tidal Fringe it is an **Estuarine** wetland and is not scored. This method **cannot** be used to score functions for estuarine wetlands.

42. 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.

 \boxtimes NO – go to 3 \square YES – The wetland class is Flats *If your wetland can be classified as a Flats wetland, use the form for* **Depressional** *wetlands.*

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

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

⊠ NO – go to 4 □ YES – The wetland class is Lake Fringe (Lacustrine Fringe)

44. 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**.

 \boxtimes NO – go to 5

□ **YES** – The wetland class is **Slope**

NOTE: Surface water does not pond in these type of wetlands except occasionally in very small and shallow depressions or behind hummocks (depressions are usually <3 ft diameter and less than 1 ft deep).

- 45. Does the entire wetland unit **meet all** of the following criteria?
 - □ The unit is in a valley, or stream channel, where it gets inundated by overbank flooding from that stream or river,
 - □ The overbank flooding occurs at least once every 2 years.

NO − go to 6
YES − The wetland class is Riverine
NOTE: The Riverine unit can contain depressions that are filled with water when the river is not flooding

46. 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

47. 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

48. Your wetland unit seems to be difficult to classify and probably contains several different HGM classes. For example, seeps at the base of a slope may grade into a riverine floodplain, or a small stream within a Depressional wetland has a zone of flooding along its sides. GO BACK AND IDENTIFY WHICH OF THE HYDROLOGIC REGIMES DESCRIBED IN QUESTIONS 1-7 APPLY TO DIFFERENT AREAS IN THE UNIT (make a rough sketch to help you decide). Use the following table to identify the appropriate class to use for the rating system if you have several HGM classes present within the wetland unit being scored.

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

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

If you are still unable to determine which of the above criteria apply to your wetland, or if you have **more than 2 HGM classes** within a wetland boundary, classify the wetland as Depressional for the rating.

□ More than 2 HGM classes

DEPRESSIONAL AND FLATS WETLANDS	
D 1.0. Deep the site have the potential to improve water quality	
D 1.0. Does the site have the potential to improve water quality?	-
D 1.1. Characteristics of surface water outflows from the wetland:	
☐ Wetland is a depression or flat depression (QUESTION 7 on key) with no surface water leaving it (no outlet). points = 3	
Wetland has an intermittently flowing stream or ditch, OR highly constricted permanently flowing outlet. points = 2	2
 Wetland has an unconstricted, or slightly constricted, surface outlet that is permanently flowing points = 1 Wetland is a flat depression (QUESTION 7 on key), whose outlet is a permanently flowing ditch. points = 1 	
D 1.2. The soil 2 in below the surface (or duff layer) is true clay or true organic (use NRCS definitions) \Box Yes = 4 \boxtimes No = 0	0
D 1.3. Characteristics and distribution of persistent plants (Emergent, Scrub-shrub, and/or Forested Cowardin classes):	
✓ Wetland has persistent, ungrazed, plants > 95% of area points = 5	
\Box Wetland has persistent, ungrazed, plants > 1/2 of area points = 3	5
\Box Wetland has persistent, ungrazed plants > 1/10 of area points = 1	J
\Box Wetland has persistent, ungrazed plants < 1/10 of area points = 0	
D 1.4. Characteristics of seasonal ponding or inundation:	
This is the area that is ponded for at least 2 months. See description in manual.	
\Box Area seasonally ponded is > $\frac{1}{2}$ total area of wetland points = 4	0
\Box Area seasonally ponded is > $\frac{1}{4}$ total area of wetland points = 2	Ū.
\boxtimes Area seasonally ponded is < 1/2 total area of wetland points = 0	
Total for D 1	7
Rating of Site Potential If score is: \Box 12-16 = H \boxtimes 6-11 = M \Box 0-5 = L <i>Record the rating on the fi</i>	irst page
D 2.0. Does the landscape have the potential to support the water quality function of the site?	
D 2.1. Does the wetland unit receive stormwater discharges? \Box Yes = 1 \boxtimes No = 0	0
D 2.2. Is > 10% of the area within 150 ft of the wetland in land uses that generate pollutants? \square Yes = 1 \square No = 0	1
D 2.3. Are there septic systems within 250 ft of the wetland? \Box Yes = 1 \boxtimes No = 0	0
D 2.4. Are there other sources of pollutants coming into the wetland that are not listed in questions D 2.1-D 2.3? Source	0
Total for D 2Add the points in the boxes above	1
Rating of Landscape Potential If score is: \Box 3 or 4 = H \boxtimes 1 or 2 = M \Box 0 = L <i>Record the rating on the first</i>	st page
D 3.0. Is the water quality improvement provided by the site valuable to society?	
D 3.1. Does the wetland discharge directly (i.e., within 1 mi) to a stream, river, lake, or marine water that is on the 303(d) list?	1
D 3.2. Is the wetland in a basin or sub-basin where an aquatic resource is on the 303(d) list?	1
D 3.3. Has the site been identified in a watershed or local plan as important for maintaining water quality (<i>answer YES if there is a TMDL for the basin in which the unit is found</i>)?	0
Total for D 3 Add the points in the boxes above	2

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

Record the rating on the first page

DEPRESSIONAL AND FLATS WETLANDS Hydrologic Functions - Indicators that the site functions to reduce flooding a	and stream degradation	מר
D 4.0. Does the site have the potential to reduce flooding and erosion?		511
D 4.1 Characteristics of surface water outflows from the wetland:		
Wetland is a depression or flat depression with no surface water leaving it (no outlet)	points = 4	
Wetland has an intermittently flowing stream or ditch. OR highly constricted permanent	ly flowing outlet	
	points = 2	2
Wetland is a flat depression (QUESTION 7 on key), whose outlet is a permanently flowing	ditch points = 1	
U Wetland has an unconstricted, or slightly constricted, surface outlet that is permanently	flowing points = 0	
D 4.2. Depth of storage during wet periods: Estimate the height of ponding above the bottom of th	e outlet. For wetlands	
with no outlet, measure from the surface of permanent water or if dry, the deepest part.		
☐ Marks of ponding are 3 ft or more above the surface or bottom of outlet	points = 7	
\Box Marks of ponding between 2 ft to < 3 ft from surface or bottom of outlet	points = 5	0
\Box Marks are at least 0.5 ft to < 2 ft from surface or bottom of outlet	points = 3	0
\Box The wetland is a "headwater" wetland	points = 3	
\Box Wetland is flat but has small depressions on the surface that trap water	points = 1	
⊠ Marks of ponding less than 0.5 ft (6 in)	points = 0	
D 4.3. Contribution of the wetland to storage in the watershed: Estimate the ratio of the area of up	ostream basin	
contributing surface water to the wetland to the area of the wetland unit itself.		
\Box The area of the basin is less than 10 times the area of the unit	points = 5	0
\Box The area of the basin is 10 to 100 times the area of the unit	points = 3	0
$oxedsymbol{\boxtimes}$ The area of the basin is more than 100 times the area of the unit	points = 0	
\Box Entire wetland is in the Flats class	points = 5	
Total for D 4 Add the points	in the boxes above	2
Rating of Site Potential If score is: \Box 12-16 = H \Box 6-11 = M \boxtimes 0-5 = L	Record the rating on the j	first page
D 5.0. Does the landscape have the potential to support hydrologic functions of the site?		
D 5.1. Does the wetland receive stormwater discharges?	\Box Yes = 1 \boxtimes No = 0	0
D 5.2. Is >10% of the area within 150 ft of the wetland in land uses that generate excess runoff?	\boxtimes Yes = 1 \square No = 0	1
D 5.3. Is more than 25% of the contributing basin of the wetland covered with intensive human la	nd uses (residential at	1
>1 residence/ac, urban, commercial, agriculture, etc.)?	⊠ Yes = 1 □ No = 0	T
Total for D 5Add the points	in the boxes above	2
Rating of Landscape Potential If score is: \Box 3 = H \boxtimes 1 or 2 = M \Box 0 = L	Record the rating on the j	first page
D 6.0. Are the hydrologic functions provided by the site valuable to society?		
D 6.1. The unit is in a landscape that has flooding problems. Choose the description that best mate	ches conditions around	
the wetland unit being rated. Do not add points. Choose the highest score if more than one	condition is met.	
The wetland captures surface water that would otherwise flow down-gradient into areas w	here flooding has	
damaged human or natural resources (e.g., houses or salmon redds):		
• If the second	points = 2	2
 Surface flooding problems are in a sub-basin farther down-gradient. 	points = 1	2
Flooding from groundwater is an issue in the sub-basin.	points = 1	
\Box The existing or potential outflow from the wetland is so constrained by human or natura	l conditions that	
the water stored by the wetland cannot reach areas that flood. <i>Explain why</i>	points = 0	
☐ There are no problems with flooding downstream of the wetland.	points = 0	
D 6.2. Has the site been identified as important for flood storage or flood conveyance in a regional	flood control plan?	0
	□ Yes = 2 🖾 No = 0	
Total for D 6 Add the points	in the boxes above	2

These questions apply to wetlands of all HGM classes. Habitat Functions - Indicators that site functions to provide important babitat	
H 1.0. Does the site have the potential to provide habitat?	
H 1.1. Structure of plant community: Indicators are Cowardin classes and strata within the Forested class. Check the Cowardin plant classes in the wetland. Up to 10 patches may be combined for each class to meet the threshold of ¼ ac or more than 10% of the unit if it is smaller than 2.5 ac. Add the number of structures checked. □ Aquatic bed 4 structures or more: points = 4 ⊠ Emergent 3 structures: points = 2 □ Scrub-shrub (areas where shrubs have > 30% cover) 2 structures: points = 1 ⊠ Forested (areas where trees have > 30% cover) 1 structure: points = 0 If the unit has a Forested class, check if: ∑ ∑ The Forested class has 3 out of 5 strata (canopy, sub-canopy, shrubs, herbaceous, moss/ground-cover)	2
H 1.2. Hydroperiods	
Check the types of water regimes (hydroperiods) present within the wetland. The water regime has to cover more than 10% of the wetland or ¼ ac to count (see text for descriptions of hydroperiods). □ Permanently flooded or inundated 4 or more types present: points = 3 ⊠ Seasonally flooded or inundated 3 types present: points = 2 □ Occasionally flooded or inundated 2 types present: points = 1 ⊠ Saturated only 1 type present: points = 0 □ Permanently flowing stream or river in, or adjacent to, the wetland 2 points □ Seasonally flowing stream in, or adjacent to, the wetland 2 points	1
H 1 3 Richness of plant species	
Count the number of plant species Different patches of the same species can be combined to meet the size threshold and you do not have to name the species. Do not include Eurasian milfoil, reed canarygrass, purple loosestrife, Canadian thistle If you counted: > 19 species \boxtimes 5 - 19 species points = 1 \square < 5 species	1
H 1.4. Interspersion of habitats Decide from the diagrams below whether interspersion among Cowardin plants classes (described in H 1.1), or the classes and unvegetated areas (can include open water or mudflats) is high, moderate, low, or none. <i>If you</i> <i>have four or more plant classes or three classes and open water, the rating is always high.</i> None = 0 points All three diagrams in this row are HIGH = 3 points HIGH = 3 points	1

Wetland EB04

H 1.5. Special habitat features:	
Check the habitat features that are present in the wetland. The number of checks is the number of points.	
□ Large, downed, woody debris within the wetland (> 4 in diameter and 6 ft long).	
\Box Standing snags (dbh > 4 in) within the wetland	
Undercut banks are present for at least 6.6 ft (2 m) and/or overhanging plants extends at least 3.3 ft (1 m) over a stream (or ditch) in, or contiguous with the wetland, for at least 33 ft (10 m)	
Stable steep banks of fine material that might be used by beaver or muskrat for denning (> 30 degree slope) OR signs of recent beaver activity are present (cut shrubs or trees that have not yet weathered where wood is exposed)	0
At least ¼ ac of thin-stemmed persistent plants or woody branches are present in areas that are permanently or seasonally inundated (structures for egg-laying by amphibians)	
□ Invasive plants cover less than 25% of the wetland area in every stratum of plants (<i>see H 1.1 for list of strata</i>)	
Total for H 1Add the points in the boxes above	5

Rating of Site Potential If score is: \Box **15-18 = H** \Box **7-14 = M** \boxtimes **0-6 = L**

Record the rating on the first page

H 2.0. Does the landscape have the potential to support the habitat functions of the site?	
H 2.1. Accessible habitat (include only habitat that directly abuts wetland unit).	
Calculate: % undisturbed habitat + [(% moderate and low intensity land uses)/2] = see Figs. 2-5	
If total accessible habitat is:	
□ > 1/3 (33.3%) of 1 km Polygon points = 3	1
20-33% of 1 km Polygon points = 2	
⊠ 10-19% of 1 km Polygon points = 1	
□ < 10% of 1 km Polygon points = 0	
H 2.2. Undisturbed habitat in 1 km Polygon around the wetland.	
Calculate: % undisturbed habitat + [(% moderate and low intensity land uses)/2] = see Figs. 2-5	
Undisturbed habitat > 50% of Polygon points = 3	1
Undisturbed habitat 10-50% and in 1-3 patches points = 2	T
☑ Undisturbed habitat 10-50% and > 3 patches points = 1	
Undisturbed habitat < 10% of 1 km Polygon points = 0	
H 2.3. Land use intensity in 1 km Polygon: If	
☑ > 50% of 1 km Polygon is high intensity land use points = (- 2)	-2
□ ≤ 50% of 1 km Polygon is high intensity points = 0	
Total for H 2Add the points in the boxes above	0

Rating of Landscape Potential If score is: \Box 4-6 = H \Box 1-3 = M \boxtimes < 1 = L

Record the rating on the first page

H 3.0. Is the habitat provided by the site valuable to society?		
H 3.1. Does the site provide habitat for species valued in laws, regulations, or policies? Choose only	y the highest score	
that applies to the wetland being rated.		
Site meets ANY of the following criteria:	points = 2	
\Box It has 3 or more priority habitats within 100 m (see next page)		
\Box It provides habitat for Threatened or Endangered species (any plant or animal on the	e state or federal lists)	
It is mapped as a location for an individual WDFW priority species		1
\Box It is a Wetland of High Conservation Value as determined by the Department of Natu	ural Resources	
\Box It has been categorized as an important habitat site in a local or regional comprehen	isive plan, in	
a Shoreline Master Plan, or in a watershed plan		
⊠ Site has 1 or 2 priority habitats (listed on next page) within 100 m	points = 1	
\square Site does not meet any of the criteria above	points = 0	
Rating of Value If score is: $\Box 2 = H \boxtimes 1 = M \Box 0 = L$	Record the rating on	the first page

WDFW Priority Habitats

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

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

- □ **Aspen Stands:** Pure or mixed stands of aspen greater than 1 ac (0.4 ha).
- □ **Biodiversity Areas and Corridors**: Areas of habitat that are relatively important to various species of native fish and wildlife (*full descriptions in WDFW PHS report*).
- □ **Herbaceous Balds:** Variable size patches of grass and forbs on shallow soils over bedrock.
- □ **Old-growth/Mature forests**: <u>Old-growth west of Cascade crest</u> Stands of at least 2 tree species, forming a multilayered canopy with occasional small openings; with at least 8 trees/ac (20 trees/ha) > 32 in (81 cm) dbh or > 200 years of age. <u>Mature forests</u> – Stands with average diameters exceeding 21 in (53 cm) dbh; crown cover may be less than 100%; decay, decadence, numbers of snags, and quantity of large downed material is generally less than that found in old-growth; 80-200 years old west of the Cascade crest.
- □ **Oregon White Oak:** Woodland stands of pure oak or oak/conifer associations where canopy coverage of the oak component is important (*full descriptions in WDFW PHS report p. 158 see web link above*).
- **Riparian**: The area adjacent to aquatic systems with flowing water that contains elements of both aquatic and terrestrial ecosystems which mutually influence each other.
- □ **Westside Prairies:** Herbaceous, non-forested plant communities that can either take the form of a dry prairie or a wet prairie (*full descriptions in WDFW PHS report p. 161 see web link above*).
- ⊠ **Instream:** The combination of physical, biological, and chemical processes and conditions that interact to provide functional life history requirements for instream fish and wildlife resources.
- □ **Nearshore**: Relatively undisturbed nearshore habitats. These include Coastal Nearshore, Open Coast Nearshore, and Puget Sound Nearshore. (*full descriptions of habitats and the definition of relatively undisturbed are in WDFW report see web link on previous page*).
- □ **Caves:** A naturally occurring cavity, recess, void, or system of interconnected passages under the earth in soils, rock, ice, or other geological formations and is large enough to contain a human.
- □ **Cliffs:** Greater than 25 ft (7.6 m) high and occurring below 5000 ft elevation.
- □ **Talus:** Homogenous areas of rock rubble ranging in average size 0.5 6.5 ft (0.15 2.0 m), composed of basalt, andesite, and/or sedimentary rock, including riprap slides and mine tailings. May be associated with cliffs.
- □ Snags and Logs: Trees are considered snags if they are dead or dying and exhibit sufficient decay characteristics to enable cavity excavation/use by wildlife. Priority snags have a diameter at breast height of > 20 in (51 cm) in western Washington and are > 6.5 ft (2 m) in height. Priority logs are > 12 in (30 cm) in diameter at the largest end, and > 20 ft (6 m) long.

Note: All vegetated wetlands are by definition a priority habitat but are not included in this list because they are addressed elsewhere.

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Wetland EBO5 Rating Form

RATING SUMMARY – Western Washington

Name of wetland (or ID #): Wetland EB05Date of site visit: 6/3/2015, 2/27/2020Rated by: K. CrandallTrained by Ecology? I T IDate of training: 9/2014

HGM Class used for rating: Slope Wetland has multiple HGM classes? \Box Y \boxtimes N

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

OVERALL WETLAND CATEGORY (based on functions \square or special characteristics \square)

Category of wetland based on FUNCTIONS

- **Category I** Total score = 23 27
- **Category II** Total score = 20 22
- Category III Total score = 16 19
- **Category IV** Total score = 9 15

FUNCTION	Improving Water Quality		Н	ydrolo	gic		Habitat		
					Circle t	he ap	propi	riate ratings	
Site Potential	Н	Μ	(L)	Н	M	L	Н	M (L)	
Landscape Potential	Н	M	Ľ	Н	M	L	Н	M	
Value	H	Μ	L	H	М	L	Н	ML	ΤΟΤΑ
Score Based on Ratings		6			7			4	17

Score for each function based on three ratings (order of ratings is not *important*) 9 = H, H, H8 = H, H, M7 = H, H, L7 = H, M, M6 = H, M, L6 = M, M, M5 = H, L, L5 = M,M,L 4 = M,L,L

3 = L,L,L

Category based on SPECIAL CHARACTERISTICS of wetland

CHARACTERISTIC	CATEGORY		
Estuarine	I II		
Wetland of High Conservation Value	I		
Bog	I		
Mature Forest	I		
Old Growth Forest	I		
Coastal Lagoon	Ι	II	
Interdunal	I II	III IV	
None of the above	\boxtimes		

Maps and figures required to answer questions correctly for Western Washington

Slope Wetlands

Map of:	To answer questions:	Figure #
Cowardin plant classes	H 1.1, H 1.4	EB05-1
Hydroperiods	H 1.2	EB05-2
Plant cover of dense trees, shrubs, and herbaceous plants	S 1.3	EB05-1
Plant cover of dense, rigid trees, shrubs, and herbaceous plants (can be added to figure above)	S 4.1	EB05-1
Boundary of 150 ft buffer (can be added to another figure)	S 2.1, S 5.1	EB05-2
1 km Polygon: Area that extends 1 km from entire wetland edge - including polygons for accessible habitat and undisturbed habitat	H 2.1, H 2.2, H 2.3	2 to 5
Screen capture of map of 303(d) listed waters in basin (from Ecology website)	S 3.1, S 3.2	7
Screen capture of list of TMDLs for WRIA in which unit is found (from web)	S 3.3	1

HGM Classification of Wetlands in Western Washington

For questions 1-7, the criteria described must apply to the entire unit being rated.

If the hydrologic criteria listed in each question do not apply to the entire unit being rated, you probably have a unit with multiple HGM classes. In this case, identify which hydrologic criteria in questions 1-7 apply, and go to Question 8.

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

 \boxtimes NO – go to 2 \square YES – the wetland class is **Tidal Fringe** – go to 1.1

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

□ NO - Saltwater Tidal Fringe (Estuarine) □ YES - Freshwater Tidal Fringe If your wetland can be classified as a Freshwater Tidal Fringe use the forms for **Riverine** wetlands. If it is Saltwater Tidal Fringe it is an **Estuarine** wetland and is not scored. This method **cannot** be used to score functions for estuarine wetlands.

50. 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.

 \boxtimes NO – go to 3 \square YES – The wetland class is Flats *If your wetland can be classified as a Flats wetland, use the form for* **Depressional** *wetlands.*

- 51. Does the entire wetland unit **meet all** of the following criteria?
 - □ The vegetated part of the wetland is on the shores of a body of permanent open water (without any plants on the surface at any time of the year) at least 20 ac (8 ha) in size;
 - \Box At least 30% of the open water area is deeper than 6.6 ft (2 m).

⊠ NO – go to 4 □ YES – The wetland class is Lake Fringe (Lacustrine Fringe)

- 52. Does the entire wetland unit **meet all** of the following criteria?
 - ⊠ The wetland is on a slope (*slope can be very gradual*),
 - \boxtimes The water flows through the wetland in one direction (unidirectional) and usually comes from seeps. It may flow subsurface, as sheetflow, or in a swale without distinct banks,
 - The water leaves the wetland **without being impounded**.

□ NO – go to 5

⊠ **YES** – The wetland class is **Slope**

NOTE: Surface water does not pond in these type of wetlands except occasionally in very small and shallow depressions or behind hummocks (depressions are usually <3 ft diameter and less than 1 ft deep).

- 53. Does the entire wetland unit **meet all** of the following criteria?
 - □ The unit is in a valley, or stream channel, where it gets inundated by overbank flooding from that stream or river,
 - □ The overbank flooding occurs at least once every 2 years.

□ NO – go to 6 □ YES – The wetland class is **Riverine NOTE**: The Riverine unit can contain depressions that are filled with water when the river is not flooding

54. 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

55. 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

56. Your wetland unit seems to be difficult to classify and probably contains several different HGM classes. For example, seeps at the base of a slope may grade into a riverine floodplain, or a small stream within a Depressional wetland has a zone of flooding along its sides. GO BACK AND IDENTIFY WHICH OF THE HYDROLOGIC REGIMES DESCRIBED IN QUESTIONS 1-7 APPLY TO DIFFERENT AREAS IN THE UNIT (make a rough sketch to help you decide). Use the following table to identify the appropriate class to use for the rating system if you have several HGM classes present within the wetland unit being scored.

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

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

If you are still unable to determine which of the above criteria apply to your wetland, or if you have **more than 2 HGM classes** within a wetland boundary, classify the wetland as Depressional for the rating.

□ More than 2 HGM classes

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

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

Record the rating on the first page

S 2.0. Does the landscape have the potential to support the water	quality function of the site?	
S 2.1. Is > 10% of the area within 150 ft on the uphill side of the wetland	in land uses that generate pollutants? \square Yes = 1 \square No = 0	1
S 2.2. Are there other sources of pollutants coming into the wetland that are not listed in question S 2.1? Other sources: urban stream Xes = 1 Xes = 1 Xes = 1		1
Total for S 2	Add the points in the boxes above	2
	Descud the metion and the	h - finat a same

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

Record the rating on the first page

S 3.0. Is the water quality improvement provided by the site valuable to society?	
S 3.1. Does the wetland discharge directly (i.e., within 1 mi) to a stream, river, lake, or marine water that is on the 303(d) list?	1
S 3.2. Is the wetland in a basin or sub-basin where water quality is an issue? At least one aquatic resource in the basin is on the 303(d) list. Xes = 1 No = 0	1
S 3.3. Has the site been identified in a watershed or local plan as important for maintaining water quality? Answer YES if there is a TMDL for the basin in which unit is found.	0
Total for S 3Add the points in the boxes above	2

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

Record the rating on the first page

SLOPE WETLANDS

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

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

S 4.1. Characteristics of plants that reduce the velocity of surface flows during storms: Choose the points appropriate for the description that best fits conditions in the wetland. Stems of plants should be thick enough (usually >1/8, in), or dense enough, to remain erect during surface flows. ☑ Dense, uncut, **rigid** plants cover > 90% of the area of the wetland points = 1 points = 0

□ All other conditions

Rating of Site Potential If score is: \square **1** = **M** \square **0** = **L**

Record the rating on the first page

1

S 5.0. Does the landscape have the potential to support the hydrologic functions of the site?	
S 5.1. Is more than 25% of the area within 150 ft upslope of wetland in land uses or cover that generate excess	
surface runoff? \square Yes = 1 \square No = 0	T

Rating of Landscape Potential If score is: \square **1** = **M** \square **0** = **L**

Record the rating on the first page

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

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

Record the rating on the first page

NOTES and FIELD OBSERVATIONS:

These questions apply to wetlands of all HGM classes.	
H 1.0. Does the site have the potential to provide habitat?	
H 1.1. Structure of plant community: <i>Indicators are Cowardin classes and strata within the Forested class</i> . Check the Cowardin plant classes in the wetland. <i>Up to 10 patches may be combined for each class to meet the threshold</i>	
of % dc or more than 10% of the unit if it is smaller than 2.5 dc. Add the number of structures checked.	
□ Aquate Sed 4 structures of more, points = 4	
\boxtimes Scrub-shrub (areas where shrubs have > 30% cover) 2 structures: points = 1	1
\Box Forested (areas where trees have > 30% cover) 1 structure: points = 0	
If the unit has a Forested class, check if:	
The Forested class has 3 out of 5 strata (canopy, sub-canopy, shrubs, herbaceous, moss/ground-cover) that each cover 20% within the Forested polygon	
H 1.2. Hydroperiods	
Check the types of water regimes (hydroperiods) present within the wetland. The water regime has to cover more than 10% of the wetland or ¼ ac to count (<i>see text for descriptions of hydroperiods</i>).	
 Permanently flooded or inundated 4 or more types present: points = 3 	
□ Seasonally flooded or inundated 3 types present: points = 2	
 Occasionally flooded or inundated 2 types present: points = 1 	1
Saturated only 1 type present: points = 0	
\Box Permanently flowing stream or river in, or adjacent to, the wetland	
\square seasonally howing scream in, or adjacent to, the wetland \square take Fringe wetland 2 points	
□ Lake Fringe wetland 2 points 2 points	
H 1 3 Richness of plant species	
Count the number of plant species in the wetland that cover at least 10 ft ² .	
Different patches of the same species can be combined to meet the size threshold and you do not have to name	
the species. Do not include Eurasian milfoil, reed canarygrass, purple loosestrife, Canadian thistle	1
If you counted: \Box > 19 speciespoints = 2	
\boxtimes 5 - 19 species points = 1	
$\Box < 5 \text{ species} \qquad \qquad \text{points} = 0$	
Decide from the diagrams below whether interspersion among Cowardin plants classes (described in H 1 1) or	
the classes and unvegetated areas (can include open water or mudflats) is high, moderate, low, or none. If you	
have four or more plant classes or three classes and open water, the rating is always high.	
	2
\Box None = 0 points \Box Low = 1 point \boxtimes Moderate = 2 points	
All three diagrams in this row are HIGH = 3 points	

Wetland EB05

H 1.5. Special habitat features:	
Check the habitat features that are present in the wetland. The number of checks is the number of points.	
□ Large, downed, woody debris within the wetland (> 4 in diameter and 6 ft long).	
\Box Standing snags (dbh > 4 in) within the wetland	
Undercut banks are present for at least 6.6 ft (2 m) and/or overhanging plants extends at least 3.3 ft (1 m) over a stream (or ditch) in, or contiguous with the wetland, for at least 33 ft (10 m)	
Stable steep banks of fine material that might be used by beaver or muskrat for denning (> 30 degree slope) OR signs of recent beaver activity are present (cut shrubs or trees that have not yet weathered where wood is exposed)	0
At least ¼ ac of thin-stemmed persistent plants or woody branches are present in areas that are permanently or seasonally inundated <i>(structures for egg-laying by amphibians)</i>	
□ Invasive plants cover less than 25% of the wetland area in every stratum of plants (<i>see H 1.1 for list of strata</i>)	
Total for H 1Add the points in the boxes above	4
Rating of Site Potential If score is: \Box 15-18 = H \Box 7-14 = M \boxtimes 0-6 = L Record the rating on	the first page

H 2.0. Does the landscape have the potential to support the habitat functions of the site? H 2.1. Accessible habitat (include only habitat that directly abuts wetland unit). Calculate: % undisturbed habitat + [(% moderate and low intensity land uses)/2] = see Figs. 2-5 If total accessible habitat is: 0 \Box > 1/3 (33.3%) of 1 km Polygon points = 3 □ 20-33% of 1 km Polygon points = 2 □ 10-19% of 1 km Polygon points = 1 \boxtimes < 10% of 1 km Polygon points = 0 H 2.2. Undisturbed habitat in 1 km Polygon around the wetland. Calculate: % undisturbed habitat + [(% moderate and low intensity land uses)/2] = see Figs. 2-5 □ Undisturbed habitat > 50% of Polygon points = 3 1 □ Undisturbed habitat 10-50% and in 1-3 patches points = 2 \boxtimes Undisturbed habitat 10-50% and > 3 patches points = 1 □ Undisturbed habitat < 10% of 1 km Polygon points = 0 H 2.3. Land use intensity in 1 km Polygon: If -2 ⊠ > 50% of 1 km Polygon is high intensity land use points = (-2) $\Box \leq 50\%$ of 1 km Polygon is high intensity points = 0 Total for H 2 Add the points in the boxes above -1

Rating of Landscape Potential If score is: \Box **4-6 = H** \Box **1-3 = M** \boxtimes **< 1 = L**

Record the rating on the first page

H 3.0. Is the habitat provided by the site valuable to society?		
H 3.1. Does the site provide habitat for species valued in laws, regulations, or policies? <i>Choose only</i>	<i>the highest score</i>	
that applies to the wetland being rated.		
Site meets ANY of the following criteria:	points = 2	
\Box It has 3 or more priority habitats within 100 m (see next page)		
\Box It provides habitat for Threatened or Endangered species (any plant or animal on the	state or federal lists)	
It is mapped as a location for an individual WDFW priority species		1
\Box It is a Wetland of High Conservation Value as determined by the Department of Natu	ral Resources	
It has been categorized as an important habitat site in a local or regional comprehension	sive plan, in	
a Shoreline Master Plan, or in a watershed plan		
$oxed{intermation}$ Site has 1 or 2 priority habitats (listed on next page) within 100 m	points = 1	
\Box Site does not meet any of the criteria above	points = 0	
Rating of Value If score is: $\Box 2 = H \boxtimes 1 = M \Box 0 = L$	Record the rating on	the first page

WDFW Priority Habitats

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

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

- □ **Aspen Stands:** Pure or mixed stands of aspen greater than 1 ac (0.4 ha).
- □ **Biodiversity Areas and Corridors**: Areas of habitat that are relatively important to various species of native fish and wildlife (*full descriptions in WDFW PHS report*).
- □ **Herbaceous Balds:** Variable size patches of grass and forbs on shallow soils over bedrock.
- □ **Old-growth/Mature forests:** <u>Old-growth west of Cascade crest</u> Stands of at least 2 tree species, forming a multilayered canopy with occasional small openings; with at least 8 trees/ac (20 trees/ha) > 32 in (81 cm) dbh or > 200 years of age. <u>Mature forests</u> – Stands with average diameters exceeding 21 in (53 cm) dbh; crown cover may be less than 100%; decay, decadence, numbers of snags, and quantity of large downed material is generally less than that found in old-growth; 80-200 years old west of the Cascade crest.
- □ **Oregon White Oak:** Woodland stands of pure oak or oak/conifer associations where canopy coverage of the oak component is important (*full descriptions in WDFW PHS report p. 158 see web link above*).
- **Riparian**: The area adjacent to aquatic systems with flowing water that contains elements of both aquatic and terrestrial ecosystems which mutually influence each other.
- □ **Westside Prairies:** Herbaceous, non-forested plant communities that can either take the form of a dry prairie or a wet prairie (*full descriptions in WDFW PHS report p. 161 see web link above*).
- ⊠ **Instream:** The combination of physical, biological, and chemical processes and conditions that interact to provide functional life history requirements for instream fish and wildlife resources.
- □ **Nearshore**: Relatively undisturbed nearshore habitats. These include Coastal Nearshore, Open Coast Nearshore, and Puget Sound Nearshore. (*full descriptions of habitats and the definition of relatively undisturbed are in WDFW report see web link on previous page*).
- □ **Caves:** A naturally occurring cavity, recess, void, or system of interconnected passages under the earth in soils, rock, ice, or other geological formations and is large enough to contain a human.
- □ **Cliffs:** Greater than 25 ft (7.6 m) high and occurring below 5000 ft elevation.
- □ **Talus:** Homogenous areas of rock rubble ranging in average size 0.5 6.5 ft (0.15 2.0 m), composed of basalt, andesite, and/or sedimentary rock, including riprap slides and mine tailings. May be associated with cliffs.
- □ Snags and Logs: Trees are considered snags if they are dead or dying and exhibit sufficient decay characteristics to enable cavity excavation/use by wildlife. Priority snags have a diameter at breast height of > 20 in (51 cm) in western Washington and are > 6.5 ft (2 m) in height. Priority logs are > 12 in (30 cm) in diameter at the largest end, and > 20 ft (6 m) long.

Note: All vegetated wetlands are by definition a priority habitat but are not included in this list because they are addressed elsewhere.

Wetland EB05

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Wetland EBO6 Rating Form

RATING SUMMARY – Western Washington

Name of wetland (or ID #): Wetland EB06Date of site visit: 6/3/2015, 2/27/2020Rated by: K. CrandallTrained by Ecology? \boxtimes Y \square NDate of training: 9/2014

HGM Class used for rating: Slope Wetland has multiple HGM classes? \Box Y \boxtimes N

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

OVERALL WETLAND CATEGORY (based on functions \square or special characteristics \square)

Category of wetland based on FUNCTIONS

- **Category I** Total score = 23 27
- **Category II** Total score = 20 22
- **Category III** Total score = 16 19
- Category IV Total score = 9 15

FUNCTION	Improving Water Quality		H	ydrol	ogic		Habitat		
					Circle	the ap	oropr	iate ratings	
Site Potential	Н	(M)	L	Н	(M)	L	Н	M (L)	
Landscape Potential	Н	м (D	Н	M		Н	M(L)	
Value	Н	M	L	H	Μ	L	Н	ML	ΤΟΤΑ
Score Based on Ratings		5			6			4	15

Score for each function based on three ratings (order of ratings is not *important*) 9 = H, H, H8 = H, H, M7 = H, H, L7 = H,M,M 6 = H, M, L6 = M, M, M5 = H,L,L5 = M,M,L 4 = M,L,L 3 = L,L,L

Category based on SPECIAL CHARACTERISTICS of wetland

CHARACTERISTIC	CATEGORY	
Estuarine	Ι	II
Wetland of High Conservation Value	I	
Bog	I	
Mature Forest	I	
Old Growth Forest		Ι
Coastal Lagoon	Ι	II
Interdunal	I II	III IV
None of the above		\boxtimes

Maps and figures required to answer questions correctly for Western Washington

Slope Wetlands

Map of:	To answer questions:	Figure #
Cowardin plant classes	Н 1.1, Н 1.4	EB05-1
Hydroperiods	H 1.2	EB06-2
Plant cover of dense trees, shrubs, and herbaceous plants	S 1.3	EB05-1
Plant cover of dense, rigid trees, shrubs, and herbaceous plants (can be added to figure above)	S 4.1	EB05-1
Boundary of 150 ft buffer (can be added to another figure)	S 2.1, S 5.1	EB06-2
1 km Polygon: Area that extends 1 km from entire wetland edge - including polygons for accessible habitat and undisturbed habitat	H 2.1, H 2.2, H 2.3	2 to 5
Screen capture of map of 303(d) listed waters in basin (from Ecology website)	S 3.1, S 3.2	7
Screen capture of list of TMDLs for WRIA in which unit is found (from web)	S 3.3	1

HGM Classification of Wetlands in Western Washington

For questions 1-7, the criteria described must apply to the entire unit being rated.

If the hydrologic criteria listed in each question do not apply to the entire unit being rated, you probably have a unit with multiple HGM classes. In this case, identify which hydrologic criteria in questions 1-7 apply, and go to Question 8.

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

 \boxtimes NO – go to 2 \square YES – the wetland class is **Tidal Fringe** – go to 1.1

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

□ NO - Saltwater Tidal Fringe (Estuarine) □ YES - Freshwater Tidal Fringe If your wetland can be classified as a Freshwater Tidal Fringe use the forms for **Riverine** wetlands. If it is Saltwater Tidal Fringe it is an **Estuarine** wetland and is not scored. This method **cannot** be used to score functions for estuarine wetlands.

58. 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.

 \boxtimes NO – go to 3 \square YES – The wetland class is Flats *If your wetland can be classified as a Flats wetland, use the form for* **Depressional** *wetlands.*

- 59. Does the entire wetland unit **meet all** of the following criteria?
 - □ The vegetated part of the wetland is on the shores of a body of permanent open water (without any plants on the surface at any time of the year) at least 20 ac (8 ha) in size;
 - \Box At least 30% of the open water area is deeper than 6.6 ft (2 m).

⊠ NO – go to 4 □ YES – The wetland class is Lake Fringe (Lacustrine Fringe)

- 60. Does the entire wetland unit **meet all** of the following criteria?
 - ⊠ The wetland is on a slope (*slope can be very gradual*),
 - \boxtimes The water flows through the wetland in one direction (unidirectional) and usually comes from seeps. It may flow subsurface, as sheetflow, or in a swale without distinct banks,
 - ⊠ The water leaves the wetland **without being impounded**.

□ NO – go to 5

⊠ **YES** – The wetland class is **Slope**

NOTE: Surface water does not pond in these type of wetlands except occasionally in very small and shallow depressions or behind hummocks (depressions are usually <3 ft diameter and less than 1 ft deep).

- 61. Does the entire wetland unit **meet all** of the following criteria?
 - □ The unit is in a valley, or stream channel, where it gets inundated by overbank flooding from that stream or river,
 - □ The overbank flooding occurs at least once every 2 years.

□ NO – go to 6 □ YES – The wetland class is **Riverine NOTE**: The Riverine unit can contain depressions that are filled with water when the river is not flooding

62. 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

63. 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

64. Your wetland unit seems to be difficult to classify and probably contains several different HGM classes. For example, seeps at the base of a slope may grade into a riverine floodplain, or a small stream within a Depressional wetland has a zone of flooding along its sides. GO BACK AND IDENTIFY WHICH OF THE HYDROLOGIC REGIMES DESCRIBED IN QUESTIONS 1-7 APPLY TO DIFFERENT AREAS IN THE UNIT (make a rough sketch to help you decide). Use the following table to identify the appropriate class to use for the rating system if you have several HGM classes present within the wetland unit being scored.

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

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

If you are still unable to determine which of the above criteria apply to your wetland, or if you have **more than 2 HGM classes** within a wetland boundary, classify the wetland as Depressional for the rating.

□ More than 2 HGM classes

SLOPE WETLANDS	
Water Quality Functions - Indicators that the site functions to improve water quality	
S 1.0. Does the site have the potential to improve water quality?	
S 1.1. Characteristics of the average slope of the wetland: (a 1% slope has a 1 ft vertical drop in elevation for every 100 ft of horizontal distance) □ Slope is 1% or less points = 3 □ Slope is > 1%-2% points = 2 □ Slope is > 2%-5% points = 1	0
Slope is greater than 5% points = 0 S 1.2. The soil 2 in below the surface (or duff layer) is true clay or true organic (use NBCS definitions): ∇ Yes = 3 ∇ No = 0	0
S 1.3. Characteristics of the plants in the wetland that trap sediments and pollutants: Choose the points appropriate for the description that best fits the plants in the wetland. Dense means you have trouble seeing the soil surface (>75% cover), and uncut means not grazed or mowed and plants are higher than 6 in. \[>\begin{bmatrix} Dense, uncut, herbaceous plants > 90% of the wetland area Dense, uncut, herbaceous plants > 90% of the wetland area Dense, uncut, herbaceous plants > ½ of area Does not meet any of the criteria above for plants	6
Total for S 1 Add the points in the boxes above	6

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

Record the rating on the first page

S 2.0. Does the landscape have the potential to support the water	quality function of the site?	
S 2.1. Is > 10% of the area within 150 ft on the uphill side of the wetland	in land uses that generate pollutants?	0
	□ Yes = 1 ⊠ No = 0	0
S 2.2. Are there other sources of pollutants coming into the wetland that are not listed in question S 2.1?		0
Other sources:	□ Yes = 1 ⊠ No = 0	U
Total for S 2	Add the points in the boxes above	0
	– 1.1	

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

Record the rating on the first page

S 3.0. Is the water quality improvement provided by the site valuable to society?	
S 3.1. Does the wetland discharge directly (i.e., within 1 mi) to a stream, river, lake, or marine water that is on the 303(d) list?	0
S 3.2. Is the wetland in a basin or sub-basin where water quality is an issue? At least one aquatic resource in the basin is on the 303(d) list. Xes = 1 Vec No = 0	1
S 3.3. Has the site been identified in a watershed or local plan as important for maintaining water quality? Answer YES if there is a TMDL for the basin in which unit is found.	0
Total for S 3Add the points in the boxes above	1

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

Record the rating on the first page

Hydrologic Functions - Indicators that the site functions to reduce flooding and stream erosion S 4.1. Characteristics of plants that reduce the velocity of surface flows during storms: Choose the points appropriate for the description that best fits conditions in the wetland. Stems of plants should be thick enough (usually >1/8, in), or dense enough, to remain erect during surface flows. 1 ☑ Dense, uncut, **rigid** plants cover > 90% of the area of the wetland points = 1 □ All other conditions points = 0

Rating of Site Potential If score is: \square **1** = **M** \square **0** = **L**

Record the rating on the first page

S 5.0. Does the landscape have the potential to support the hydrologic functions of the site?	
S 5.1. Is more than 25% of the area within 150 ft upslope of wetland in land uses or cover that generate excess	0
surface runoff? \Box Yes = 1 \boxtimes No = 0	0

Rating of Landscape Potential If score is: \Box 1 = M \boxtimes 0 = L

Record the rating on the first page

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

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

Record the rating on the first page

NOTES and FIELD OBSERVATIONS:

SLOPE WETLANDS

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

These questions apply to wetlands of all HGM classes.	
Habitat Functions - Indicators that site functions to provide important habitat	
H 1.0. Does the site have the potential to provide habitat! H 1.1. Structure of plant community: <i>Indicators are Cowardin classes and strata within the Forested class.</i> Check the Cowardin plant classes in the wetland. <i>Up to 10 patches may be combined for each class to meet the threshold</i>	
of ¼ ac or more than 10% of the unit if it is smaller than 2.5 ac. Add the number of structures checked.	
□ Aqualic bed 4 structures of more, points = 4	
 ✓ Entregent ✓ Scrub-shrub (areas where shrubs have > 30% cover) ✓ Structures: points = 1 	1
$\Box \text{ Forested (areas where trees have > 30% cover)} \qquad 1 \text{ structure: points = 0}$	
If the unit has a Forested class, check if:	
The Forested class has 3 out of 5 strata (canopy, sub-canopy, shrubs, herbaceous, moss/ground-cover) that each cover 20% within the Forested polygon	
H 1.2. Hydroperiods	
Check the types of water regimes (hydroperiods) present within the wetland. The water regime has to cover more than 10% of the wetland or ¼ ac to count (<i>see text for descriptions of hydroperiods</i>).	
Permanently flooded or inundated 4 or more types present: points = 3	
□ Seasonally flooded or inundated 3 types present: points = 2	
☑ Occasionally flooded or inundated 2 types present: points = 1	1
Saturated only 1 type present: points = 0	
Permanently flowing stream or river in, or adjacent to, the wetland	
□ Seasonally flowing stream in, or adjacent to, the wetland	
□ Lake Fringe wetland 2 points	
Li Freshwater tidal wetland 2 points	
H 1.3. Richness of plant species Count the number of plant species in the wetland that cover at least 10 ft ²	
Different natches of the same species can be combined to meet the size threshold and you do not have to name	
the species. Do not include Eurasian milfoil, reed canarygrass, purple loosestrife, Canadian thistle	1
If you counted: \Box > 19 species points = 2	
⊠ 5 - 19 species points = 1	
\Box < 5 species points = 0	
H 1.4. Interspersion of habitats	
Decide from the diagrams below whether interspersion among Cowardin plants classes (described in H 1.1), or	
the classes and unvegetated areas (can include open water of mudilats) is high, moderate, low, or hone. If you have four or more plant classes or three classes and open water, the rating is always high	
nave jour of more plant classes of three classes and open water, the rating is always high.	
	1
\Box None = 0 points \Box Low = 1 point \Box Moderate = 2 points	L
All three diagrams in this row are	

Wetland EB06

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

Rating of Site Potential If score is: \Box **15-18 = H** \Box **7-14 = M** \boxtimes **0-6 = L**

Record the rating on the first page

H 2.0. Does the landscape have the potential to support the habitat functions of the site?		
H 2.1. Accessible habitat (include only habitat that directly abuts wetland unit).		
Calculate: % undisturbed habitat + [(% moderate and low intensity land uses)/2] = see Figs. 2-5		
If total accessible habitat is:		
\square > 1/3 (33.3%) of 1 km Polygon	points = 3	1
\Box 20-33% of 1 km Polygon	points = 2	
🖂 10-19% of 1 km Polygon	points = 1	
\Box < 10% of 1 km Polygon	points = 0	
H 2.2. Undisturbed habitat in 1 km Polygon around the wetland.		
Calculate: % undisturbed habitat + [(% moderate and low intensity land uses)/2] = see Figs. 2-5		
\Box Undisturbed habitat > 50% of Polygon	points = 3	1
\Box Undisturbed habitat 10-50% and in 1-3 patches	points = 2	T
Undisturbed habitat 10-50% and > 3 patches	points = 1	
Undisturbed habitat < 10% of 1 km Polygon	points = 0	
H 2.3. Land use intensity in 1 km Polygon: If		
☑ > 50% of 1 km Polygon is high intensity land use poil	ints = (- 2)	-2
$\Box \leq$ 50% of 1 km Polygon is high intensity	points = 0	
Total for H 2 Add the points in the box	kes above	0

Rating of Landscape Potential If score is: \Box 4-6 = H \Box 1-3 = M \boxtimes < 1 = L

Record the rating on the first page

H 3.0. Is the habitat provided by the site valuable to society?			
H 3.1. Does the site provide habitat for species valued in laws, regulations, or policies? Choose only	y the highest score		
that applies to the wetland being rated.			
Site meets ANY of the following criteria:	points = 2		
\Box It has 3 or more priority habitats within 100 m (see next page)			
\Box It provides habitat for Threatened or Endangered species (any plant or animal on the	e state or federal lists)		
It is mapped as a location for an individual WDFW priority species		1	
\Box It is a Wetland of High Conservation Value as determined by the Department of Natu	ural Resources		
□ It has been categorized as an important habitat site in a local or regional comprehensive plan, in			
a Shoreline Master Plan, or in a watershed plan			
⊠ Site has 1 or 2 priority habitats (listed on next page) within 100 m	points = 1		
\square Site does not meet any of the criteria above	points = 0		
Rating of Value If score is: $\Box 2 = H \boxtimes 1 = M \Box 0 = L$	Record the rating on	the first page	

WDFW Priority Habitats

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

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

- □ **Aspen Stands:** Pure or mixed stands of aspen greater than 1 ac (0.4 ha).
- □ **Biodiversity Areas and Corridors**: Areas of habitat that are relatively important to various species of native fish and wildlife (*full descriptions in WDFW PHS report*).
- □ **Herbaceous Balds:** Variable size patches of grass and forbs on shallow soils over bedrock.
- □ **Old-growth/Mature forests:** <u>Old-growth west of Cascade crest</u> Stands of at least 2 tree species, forming a multilayered canopy with occasional small openings; with at least 8 trees/ac (20 trees/ha) > 32 in (81 cm) dbh or > 200 years of age. <u>Mature forests</u> – Stands with average diameters exceeding 21 in (53 cm) dbh; crown cover may be less than 100%; decay, decadence, numbers of snags, and quantity of large downed material is generally less than that found in old-growth; 80-200 years old west of the Cascade crest.
- □ **Oregon White Oak:** Woodland stands of pure oak or oak/conifer associations where canopy coverage of the oak component is important (*full descriptions in WDFW PHS report p. 158 see web link above*).
- **Riparian**: The area adjacent to aquatic systems with flowing water that contains elements of both aquatic and terrestrial ecosystems which mutually influence each other.
- □ **Westside Prairies:** Herbaceous, non-forested plant communities that can either take the form of a dry prairie or a wet prairie (*full descriptions in WDFW PHS report p. 161 see web link above*).
- ⊠ **Instream:** The combination of physical, biological, and chemical processes and conditions that interact to provide functional life history requirements for instream fish and wildlife resources.
- □ **Nearshore**: Relatively undisturbed nearshore habitats. These include Coastal Nearshore, Open Coast Nearshore, and Puget Sound Nearshore. (*full descriptions of habitats and the definition of relatively undisturbed are in WDFW report see web link on previous page*).
- □ **Caves:** A naturally occurring cavity, recess, void, or system of interconnected passages under the earth in soils, rock, ice, or other geological formations and is large enough to contain a human.
- □ **Cliffs:** Greater than 25 ft (7.6 m) high and occurring below 5000 ft elevation.
- □ **Talus:** Homogenous areas of rock rubble ranging in average size 0.5 6.5 ft (0.15 2.0 m), composed of basalt, andesite, and/or sedimentary rock, including riprap slides and mine tailings. May be associated with cliffs.
- □ Snags and Logs: Trees are considered snags if they are dead or dying and exhibit sufficient decay characteristics to enable cavity excavation/use by wildlife. Priority snags have a diameter at breast height of > 20 in (51 cm) in western Washington and are > 6.5 ft (2 m) in height. Priority logs are > 12 in (30 cm) in diameter at the largest end, and > 20 ft (6 m) long.

Note: All vegetated wetlands are by definition a priority habitat but are not included in this list because they are addressed elsewhere.

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Wetland EBO7 Rating Form

RATING SUMMARY – Western Washington

Name of wetland (or ID #): Wetland EB07Date of site visit: 6/15/2015, 2/27/2020Rated by: K. CrandallTrained by Ecology? \boxtimes Y \square NDate of training: 9/2014

HGM Class used for rating: Slope Wetland has multiple HGM classes? \Box Y \boxtimes N

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

OVERALL WETLAND CATEGORY (based on functions \square or special characteristics \square)

Category of wetland based on FUNCTIONS

- **Category I** Total score = 23 27
- **Category II** Total score = 20 22
- **Category III** Total score = 16 19
- Category IV Total score = 9 15

FUNCTION	Improving Water Quality			TION Improving Hydrologie Water Quality		ogic		Habita	t	
					Circle	the app	oropi	riate rati	ings	
Site Potential	Н	М (Н	Μ	(L)	Н	м (1)	
Landscape Potential	Н	M	Ľ	Н	M	Ľ	н	м (T)	
Value	Н	M	L	H	Μ	L	н	M	Ľ	ΤΟΤΑ
Score Based on Ratings		5			6			4		15

Score for each function based on three ratings (order of ratings is not *important*) 9 = H, H, H8 = H, H, M7 = H, H, L7 = H,M,M 6 = H, M, L6 = M, M, M5 = H,L,L5 = M,M,L 4 = M,L,L 3 = L,L,L

Category based on SPECIAL CHARACTERISTICS of wetland

CHARACTERISTIC	CATEGORY		
Estuarine	I	II	
Wetland of High Conservation Value	I		
Bog	I		
Mature Forest	I		
Old Growth Forest	I		
Coastal Lagoon	Ι	II	
Interdunal	I II	III IV	
None of the above		\boxtimes	

Maps and figures required to answer questions correctly for Western Washington

Slope Wetlands

Map of:	To answer questions:	Figure #
Cowardin plant classes	Н 1.1, Н 1.4	EB05-1
Hydroperiods	H 1.2	EB07-2
Plant cover of dense trees, shrubs, and herbaceous plants	S 1.3	EB05-1
Plant cover of dense, rigid trees, shrubs, and herbaceous plants (can be added to figure above)	S 4.1	EB05-1
Boundary of 150 ft buffer (can be added to another figure)	S 2.1, S 5.1	EB07-2
1 km Polygon: Area that extends 1 km from entire wetland edge - including polygons for accessible habitat and undisturbed habitat	H 2.1, H 2.2, H 2.3	2 to 5
Screen capture of map of 303(d) listed waters in basin (from Ecology website)	S 3.1, S 3.2	7
Screen capture of list of TMDLs for WRIA in which unit is found (from web)	S 3.3	1
HGM Classification of Wetlands in Western Washington

For questions 1-7, the criteria described must apply to the entire unit being rated.

If the hydrologic criteria listed in each question do not apply to the entire unit being rated, you probably have a unit with multiple HGM classes. In this case, identify which hydrologic criteria in questions 1-7 apply, and go to Question 8.

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

 \boxtimes NO – go to 2 \square YES – the wetland class is **Tidal Fringe** – go to 1.1

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

□ NO - Saltwater Tidal Fringe (Estuarine) □ YES - Freshwater Tidal Fringe If your wetland can be classified as a Freshwater Tidal Fringe use the forms for **Riverine** wetlands. If it is Saltwater Tidal Fringe it is an **Estuarine** wetland and is not scored. This method **cannot** be used to score functions for estuarine wetlands.

66. 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.

 \boxtimes NO – go to 3 \square YES – The wetland class is Flats *If your wetland can be classified as a Flats wetland, use the form for* **Depressional** *wetlands.*

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

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

⊠ NO – go to 4 □ YES – The wetland class is Lake Fringe (Lacustrine Fringe)

- 68. Does the entire wetland unit **meet all** of the following criteria?
 - ⊠ The wetland is on a slope (*slope can be very gradual*),
 - \boxtimes The water flows through the wetland in one direction (unidirectional) and usually comes from seeps. It may flow subsurface, as sheetflow, or in a swale without distinct banks,
 - ⊠ The water leaves the wetland **without being impounded**.

□ NO – go to 5

⊠ **YES** – The wetland class is **Slope**

NOTE: Surface water does not pond in these type of wetlands except occasionally in very small and shallow depressions or behind hummocks (depressions are usually <3 ft diameter and less than 1 ft deep).

- 69. 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,
 - \Box The overbank flooding occurs at least once every 2 years.

□ NO – go to 6 □ YES – The wetland class is **Riverine NOTE**: The Riverine unit can contain depressions that are filled with water when the river is not flooding

70. 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.*

 \Box NO – go to 7

□ YES – The wetland class is Depressional

71. 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

72. Your wetland unit seems to be difficult to classify and probably contains several different HGM classes. For example, seeps at the base of a slope may grade into a riverine floodplain, or a small stream within a Depressional wetland has a zone of flooding along its sides. GO BACK AND IDENTIFY WHICH OF THE HYDROLOGIC REGIMES DESCRIBED IN QUESTIONS 1-7 APPLY TO DIFFERENT AREAS IN THE UNIT (make a rough sketch to help you decide). Use the following table to identify the appropriate class to use for the rating system if you have several HGM classes present within the wetland unit being scored.

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

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

If you are still unable to determine which of the above criteria apply to your wetland, or if you have **more than 2 HGM classes** within a wetland boundary, classify the wetland as Depressional for the rating.

□ More than 2 HGM classes

SLOPE WETLANDS	
Water Quality Functions - Indicators that the site functions to improve water qualit	ty
S 1.0. Does the site have the potential to improve water quality?	
S 1.1. Characteristics of the average slope of the wetland: (a 1% slope has a 1 ft vertical drop in elevation for every 100 ft of horizontal distance) Slope is 1% or less points = 3	
□ Slope is > 1%-2% points = 2 □ Slope is > 2%-5% points = 1 ⊠ Slope is greater than 5% points = 0	0
S 1.2. The soil 2 in below the surface (or duff layer) is true clay or true organic (use NRCS definitions):□ Yes = 3⊠ No = 0	0
 S 1.3. Characteristics of the plants in the wetland that trap sediments and pollutants: Choose the points appropriate for the description that best fits the plants in the wetland. Dense means you have trouble seeing the soil surface (>75% cover), and uncut means not grazed or mowed and plants are higher than 6 in. □ Dense, uncut, herbaceous plants > 90% of the wetland area □ Dense, uncut, herbaceous plants > % of area □ Dense, uncut, herbaceous plants > % of area □ Dense, uncut, herbaceous plants > % of area □ Dense, uncut, herbaceous plants > % of area □ Dense, uncut, herbaceous plants > % of area □ Dense, uncut, herbaceous plants > % of area □ Dense, uncut, herbaceous plants > % of area □ Dense, uncut, herbaceous plants > % of area □ Dense, uncut, herbaceous plants > % of area □ Dense, uncut, herbaceous plants > % of area □ Dense, uncut, herbaceous plants > % of area □ Dense, uncut, herbaceous plants > % of area □ Dense, uncut, herbaceous plants > % of area □ Dense, uncut, herbaceous plants > % of area □ Dense, uncut, herbaceous plants > % of area □ Dense, uncut, herbaceous plants > % of area □ Dense, uncut, herbaceous plants > % of area 	0
Total for S 1 Add the points in the boxes above	0
Rating of Site Potential If score is: \Box 12 = H \Box 6-11 = M \boxtimes 0-5 = LRecord the rating on t	he first page
S 2.0. Does the landscape have the potential to support the water quality function of the site?	
S 2.1. Is > 10% of the area within 150 ft on the uphill side of the wetland in land uses that generate pollutants? \boxtimes Yes = 1 \square No = 0	1
S 2.2. Are there other sources of pollutants coming into the wetland that are not listed in question S 2.1? Other sources: <u>automobiles</u> \boxtimes Yes = 1 \square No = 0	1
Total for S 2Add the points in the boxes above	2
Rating of Landscape Potential If score is: \square 1-2 = M \square 0 = LRecord the rating on t	he first page
S 3.0. Is the water quality improvement provided by the site valuable to society?	
S 3.1. Does the wetland discharge directly (i.e., within 1 mi) to a stream, river, lake, or marine water that is on the 303(d) list?	0
S 3.2. Is the wetland in a basin or sub-basin where water quality is an issue? At least one aquatic resource in the basin is on the 303(d) list. Xerver State St	1

S 3.3. Has the site been identified in a watershed or local plan as important for maintaining water quality? Answer YES

if there is a TMDL for the basin in which unit is found.

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

Total for S 3

Record the rating on the first page

 \Box Yes = 2 \boxtimes No = 0

Add the points in the boxes above

0

1

SLOPE WETLANDS Hydrologic Functions - Indicators that the site functions to reduce flooding and stream erosion

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

S 4.1. Characteristics of plants that reduce the velocity of surface flows during storms: Choose the points appropriate for the description that best fits conditions in the wetland. Stems of plants should be thick enough (usually >1/8, in), or dense enough, to remain erect during surface flows. □ Dense, uncut, **rigid** plants cover > 90% of the area of the wetland points = 1

⊠ All other conditions

Rating of Site Potential If score is: $\Box \mathbf{1} = \mathbf{M} \otimes \mathbf{0} = \mathbf{L}$

Record the rating on the first page

points = 0

0

S 5.0. Does the landscape have the potential to support the hydrologic functions of the site?		
S 5.1. Is more than 25% of the area within 150 ft upslope of wetland in land uses or cover that generate excess		
surface runoff? \square Yes = 1 \square No = 0	T	

Rating of Landscape Potential If score is: 🛛 1 = M 🗌 0 = L

Record the rating on the first page

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

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

Record the rating on the first page

NOTES and FIELD OBSERVATIONS:

These questions apply to wetlands of all HGM classes.				
Habitat Functions - Indicators that site functions to provide important habitat				
H 1.0. Does the site have the potential to provide habitat?				
H 1.1. Structure of plant community: <i>Indicators are Cowardin classes and strata within the Forested class.</i> Check the Cowardin plant classes in the wetland. <i>Up to 10 patches may be combined for each class to meet the threshold</i> <i>of ¼ ac or more than 10% of the unit if it is smaller than 2.5 ac. Add the number of structures checked.</i>				
□ Aquatic bed 4 structures or more: points = 4				
⊠ Emergent 3 structures: points = 2	0			
\Box Scrub-shrub (areas where shrubs have > 30% cover) 2 structures: points = 1	U			
□ Forested (areas where trees have > 30% cover) 1 structure: points = 0				
If the unit has a Forested class, check if:				
□ The Forested class has 3 out of 5 strata (canopy, sub-canopy, shrubs, herbaceous, moss/ground-cover) that each cover 20% within the Forested polygon				
H 1.2. Hydroperiods				
Check the types of water regimes (hydroperiods) present within the wetland. The water regime has to cover more than 10% of the wetland or ¼ ac to count (<i>see text for descriptions of hydroperiods</i>).				
Permanently flooded or inundated 4 or more types present: points = 3				
□ Seasonally flooded or inundated 3 types present: points = 2				
□ Occasionally flooded or inundated 2 types present: points = 1	0			
Saturated only 1 type present: points = 0				
□ Permanently flowing stream or river in, or adjacent to, the wetland				
□ Seasonally flowing stream in, or adjacent to, the wetland				
□ Lake Fringe wetland 2 points				
L Treshwater that we tail 2 points				
Count the number of plant species in the wetland that cover at least 10 ft^2 .				
Different patches of the same species can be combined to meet the size threshold and you do not have to name				
the species. Do not include Eurasian milfoil, reed canarygrass, purple loosestrife, Canadian thistle	1			
If you counted: $\Box > 19$ speciespoints = 2				
\boxtimes 5 - 19 species points = 1				
□ < 5 species points = 0				
H 1.4. Interspersion of habitats				
Decide from the diagrams below whether interspersion among Cowardin plants classes (described in H 1.1), or the classes and unvegetated areas (can include onen water or mudflats) is high moderate low, or none if you				
have four or more plant classes or three classes and open water, the rating is always high.				
\boxtimes None = 0 points \Box Low = 1 point \Box Moderate = 2 points	0			
All three diagrams in this row are HIGH = 3 points				

Wetland EB07

H 1.5. Special habitat features:		
Check the habitat features that are present in the wetland. The number	of checks is the number of points.	
\Box Large, downed, woody debris within the wetland (> 4 in diameter and	6 ft long).	
\Box Standing snags (dbh > 4 in) within the wetland		
Undercut banks are present for at least 6.6 ft (2 m) and/or overhangin over a stream (or ditch) in, or contiguous with the wetland, for at lea	ng plants extends at least 3.3 ft (1 m) st 33 ft (10 m)	
Stable steep banks of fine material that might be used by beaver or slope) OR signs of recent beaver activity are present (cut shrubs or where wood is exposed)	muskrat for denning (> 30 degree trees that have not yet weathered	0
At least ¼ ac of thin-stemmed persistent plants or woody branches ar permanently or seasonally inundated (structures for egg-laying by ar	e present in areas that are nphibians)	
 Invasive plants cover less than 25% of the wetland area in every strat strata) 	um of plants (<i>see H 1.1 for list of</i>	
Total for H 1	Add the points in the boxes above	1
Rating of Site Potential If score is: \Box 15-18 = H \Box 7-14 = M \boxtimes 0-6 = L	Record the rating on t	he first page

H 2.0. Does the landscape have the potential to support the habitat functions of the site? H 2.1. Accessible habitat (include only habitat that directly abuts wetland unit). Calculate: % undisturbed habitat + [(% moderate and low intensity land uses)/2] = see Figs. 2-5 If total accessible habitat is: \Box > 1/3 (33.3%) of 1 km Polygon 0 points = 3 □ 20-33% of 1 km Polygon points = 2 □ 10-19% of 1 km Polygon points = 1 \boxtimes < 10% of 1 km Polygon points = 0 H 2.2. Undisturbed habitat in 1 km Polygon around the wetland. Calculate: % undisturbed habitat + [(% moderate and low intensity land uses)/2] = see Figs. 2-5 □ Undisturbed habitat > 50% of Polygon points = 3 1 □ Undisturbed habitat 10-50% and in 1-3 patches points = 2 \boxtimes Undisturbed habitat 10-50% and > 3 patches points = 1 □ Undisturbed habitat < 10% of 1 km Polygon points = 0 H 2.3. Land use intensity in 1 km Polygon: If -2 ⊠ > 50% of 1 km Polygon is high intensity land use points = (-2) $\Box \leq 50\%$ of 1 km Polygon is high intensity points = 0 Total for H 2 Add the points in the boxes above -1

Rating of Landscape Potential If score is: \Box 4-6 = H \Box 1-3 = M \boxtimes < 1 = L

Record the rating on the first page

H 3.0. Is the habitat provided by the site valuable to society?			
H 3.1. Does the site provide habitat for species valued in laws, regulations, or policies? <i>Choose only that applies to the wetland being rated.</i>	the highest score		
Site meets ANY of the following criteria:	points = 2		
It has 3 or more priority habitats within 100 m (see next page)			
\Box It provides habitat for Threatened or Endangered species (any plant or animal on the s	state or federal lists)		
It is mapped as a location for an individual WDFW priority species		1	
\Box It is a Wetland of High Conservation Value as determined by the Department of Natur	al Resources		
\Box It has been categorized as an important habitat site in a local or regional comprehension \Box	ive plan, in		
a Shoreline Master Plan, or in a watershed plan			
oxtimes Site has 1 or 2 priority habitats (listed on next page) within 100 m	points = 1		
\Box Site does not meet any of the criteria above	points = 0		
Rating of Value If score is: $\Box 2 = H \boxtimes 1 = M \Box 0 = L$ Record the rating on the			

WDFW Priority Habitats

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

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

- □ **Aspen Stands:** Pure or mixed stands of aspen greater than 1 ac (0.4 ha).
- □ **Biodiversity Areas and Corridors**: Areas of habitat that are relatively important to various species of native fish and wildlife (*full descriptions in WDFW PHS report*).
- □ **Herbaceous Balds:** Variable size patches of grass and forbs on shallow soils over bedrock.
- □ **Old-growth/Mature forests**: <u>Old-growth west of Cascade crest</u> Stands of at least 2 tree species, forming a multilayered canopy with occasional small openings; with at least 8 trees/ac (20 trees/ha) > 32 in (81 cm) dbh or > 200 years of age. <u>Mature forests</u> – Stands with average diameters exceeding 21 in (53 cm) dbh; crown cover may be less than 100%; decay, decadence, numbers of snags, and quantity of large downed material is generally less than that found in old-growth; 80-200 years old west of the Cascade crest.
- □ **Oregon White Oak:** Woodland stands of pure oak or oak/conifer associations where canopy coverage of the oak component is important (*full descriptions in WDFW PHS report p. 158 see web link above*).
- **Riparian**: The area adjacent to aquatic systems with flowing water that contains elements of both aquatic and terrestrial ecosystems which mutually influence each other.
- □ **Westside Prairies:** Herbaceous, non-forested plant communities that can either take the form of a dry prairie or a wet prairie (*full descriptions in WDFW PHS report p. 161 see web link above*).
- ⊠ **Instream:** The combination of physical, biological, and chemical processes and conditions that interact to provide functional life history requirements for instream fish and wildlife resources.
- □ **Nearshore**: Relatively undisturbed nearshore habitats. These include Coastal Nearshore, Open Coast Nearshore, and Puget Sound Nearshore. (*full descriptions of habitats and the definition of relatively undisturbed are in WDFW report see web link on previous page*).
- □ **Caves:** A naturally occurring cavity, recess, void, or system of interconnected passages under the earth in soils, rock, ice, or other geological formations and is large enough to contain a human.
- □ **Cliffs:** Greater than 25 ft (7.6 m) high and occurring below 5000 ft elevation.
- □ **Talus:** Homogenous areas of rock rubble ranging in average size 0.5 6.5 ft (0.15 2.0 m), composed of basalt, andesite, and/or sedimentary rock, including riprap slides and mine tailings. May be associated with cliffs.
- □ Snags and Logs: Trees are considered snags if they are dead or dying and exhibit sufficient decay characteristics to enable cavity excavation/use by wildlife. Priority snags have a diameter at breast height of > 20 in (51 cm) in western Washington and are > 6.5 ft (2 m) in height. Priority logs are > 12 in (30 cm) in diameter at the largest end, and > 20 ft (6 m) long.

Note: All vegetated wetlands are by definition a priority habitat but are not included in this list because they are addressed elsewhere.

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Wetland EBO8 Rating Form

RATING SUMMARY – Western Washington

Name of wetland (or ID #): Wetland EB08 Date of site visit: 6/8/2015, 2/27/2020

Rated by: <u>K. Crandall, N. Lund</u> Trained by Ecology? X Y I N Date of training: <u>9/2014, 6/2014</u>

HGM Class used for rating: <u>Slope</u> Wetland has multiple HGM classes? \Box Y \boxtimes N

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

OVERALL WETLAND CATEGORY (based on functions \square or special characteristics \square)

Category of wetland based on FUNCTIONS

- **Category I** Total score = 23 27
- **Category II** Total score = 20 22
- Category III Total score = 16 19
- **Category IV** Total score = 9 15

FUNCTION	Improving Water Quality		Hydrologic		Habitat					
				(Circle	the ap	proprie	ate ra	tings	
Site Potential	Н	(M)	L	Н	Μ	(l)	Н	Μ	(l)	
Landscape Potential	Н	$\overline{\mathbb{M}}$	L	Н	Μ	$\overline{(1)}$	н	Μ	$\overline{(1)}$	
Value	H	M	L	H	Μ	L	H	Μ	L	ΤΟΤΑ
Score Based on Ratings		7			5			5		17

Score for each function based on three ratings (order of ratings is not *important*) 9 = H, H, H8 = H, H, M7 = H, H, L7 = H, M, M6 = H, M, L6 = M, M, M5 = H, L, L5 = M,M,L 4 = M,L,L 3 = L,L,L

Category based on SPECIAL CHARACTERISTICS of wetland

CHARACTERISTIC	CATEGORY		
Estuarine	Ι	II	
Wetland of High Conservation Value	I		
Bog	I		
Mature Forest	I		
Old Growth Forest	I		
Coastal Lagoon		II	
Interdunal I II III		III IV	
None of the above	\boxtimes		

Maps and figures required to answer questions correctly for Western Washington

Slope Wetlands

Map of:	To answer questions:	Figure #
Cowardin plant classes	H 1.1, H 1.4	EB08-1
Hydroperiods	H 1.2	EB08-2
Plant cover of dense trees, shrubs, and herbaceous plants	S 1.3	EB08-1
Plant cover of dense, rigid trees, shrubs, and herbaceous plants (can be added to figure above)	S 4.1	EB08-1
Boundary of 150 ft buffer (can be added to another figure)	S 2.1, S 5.1	EB08-2
1 km Polygon: Area that extends 1 km from entire wetland edge - including polygons for accessible habitat and undisturbed habitat	H 2.1, H 2.2, H 2.3	2 to 5
Screen capture of map of 303(d) listed waters in basin (from Ecology website)	S 3.1, S 3.2	7
Screen capture of list of TMDLs for WRIA in which unit is found (from web)	S 3.3	1

HGM Classification of Wetlands in Western Washington

For questions 1-7, the criteria described must apply to the entire unit being rated.

If the hydrologic criteria listed in each question do not apply to the entire unit being rated, you probably have a unit with multiple HGM classes. In this case, identify which hydrologic criteria in questions 1-7 apply, and go to Question 8.

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

 \boxtimes NO – go to 2 \square YES – the wetland class is **Tidal Fringe** – go to 1.1

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

□ NO - Saltwater Tidal Fringe (Estuarine) □ YES - Freshwater Tidal Fringe If your wetland can be classified as a Freshwater Tidal Fringe use the forms for **Riverine** wetlands. If it is Saltwater Tidal Fringe it is an **Estuarine** wetland and is not scored. This method **cannot** be used to score functions for estuarine wetlands.

74. 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.

 \boxtimes NO – go to 3 \square YES – The wetland class is Flats *If your wetland can be classified as a Flats wetland, use the form for* **Depressional** *wetlands.*

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

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

⊠ NO – go to 4 □ YES – The wetland class is Lake Fringe (Lacustrine Fringe)

- 76. Does the entire wetland unit **meet all** of the following criteria?
 - ⊠ The wetland is on a slope (*slope can be very gradual*),
 - \boxtimes The water flows through the wetland in one direction (unidirectional) and usually comes from seeps. It may flow subsurface, as sheetflow, or in a swale without distinct banks,
 - ⊠ The water leaves the wetland **without being impounded**.

□ NO – go to 5

⊠ **YES** – The wetland class is **Slope**

NOTE: Surface water does not pond in these type of wetlands except occasionally in very small and shallow depressions or behind hummocks (depressions are usually <3 ft diameter and less than 1 ft deep).

- 77. 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,
 - \Box The overbank flooding occurs at least once every 2 years.

□ NO – go to 6 □ YES – The wetland class is **Riverine NOTE**: The Riverine unit can contain depressions that are filled with water when the river is not flooding

78. 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

79. 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

80. Your wetland unit seems to be difficult to classify and probably contains several different HGM classes. For example, seeps at the base of a slope may grade into a riverine floodplain, or a small stream within a Depressional wetland has a zone of flooding along its sides. GO BACK AND IDENTIFY WHICH OF THE HYDROLOGIC REGIMES DESCRIBED IN QUESTIONS 1-7 APPLY TO DIFFERENT AREAS IN THE UNIT (make a rough sketch to help you decide). Use the following table to identify the appropriate class to use for the rating system if you have several HGM classes present within the wetland unit being scored.

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

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

If you are still unable to determine which of the above criteria apply to your wetland, or if you have **more than 2 HGM classes** within a wetland boundary, classify the wetland as Depressional for the rating.

□ More than 2 HGM classes

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

S 2.0. Does the landscape have the potential to support the water quality function of the site?		
S 2.1. Is > 10% of the area within 150 ft on the uphill side of the wetland in land uses that generate pollutants?		
\Box Yes = 1 \boxtimes No = 0		
S 2.2. Are there other sources of pollutants coming into the wetland that are not listed in question S 2.1?		
Other sources: urban stream/surface water $ extsf{Yes} = 1$ \Box No = 0		
Total for S 2Add the points in the boxes above	1	

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

Record the rating on the first page

S 3.0. Is the water quality improvement provided by the site valuable to society?		
S 3.1. Does the wetland discharge directly (i.e., within 1 mi) to a stream, river, lake, or marine water that is on the 303(d) list? Xes = 1 No = 0		
S 3.2. Is the wetland in a basin or sub-basin where water quality is an issue? At least one aquatic resource in the basin is on the 303(d) list. Xes = 1 No = 0		
S 3.3. Has the site been identified in a watershed or local plan as important for maintaining water quality? Answer YES if there is a TMDL for the basin in which unit is found.		
Total for S 3Add the points in the boxes above	2	

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

Record the rating on the first page

SLOPE WETLANDS Hydrologic Functions - Indicators that the site functions to reduce flooding and stream erosion S 4.0. Does the site have the potential to reduce flooding and stream erosion? S 4.1. Characteristics of plants that reduce the velocity of surface flows during storms: Choose the points appropriate for the description that best fits conditions in the wetland. Stems of plants should be thick enough (usually >1/8, in), or dense enough, to remain erect during surface flows. 0 Dense, uncut, rigid plants cover > 90% of the area of the wetland points = 1 All other conditions points = 0 Rating of Site Potential If score is: D 1 = M 🖾 0 = L

S 5.0. Does the landscape have the potential to support the hydrologic functions of the site?			
S 5.1. Is more than 25% of the area within 150 ft upslope of wetland in land uses or cover that generate excess surface runoff?		0	
Rating of Landscape Potential If score is: \Box 1 = M \boxtimes 0 = L	Record the rating on t	the first page	

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

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

Record the rating on the first page

NOTES and FIELD OBSERVATIONS:

These questions apply to wetlands of all HGM classes.	
Habitat Functions - Indicators that site functions to provide important habitat	
H 1.0. Does the site have the potential to provide habitat?	1
H 1.1. Structure of plant community: Indicators are Cowardin classes and strata within the Forested class. Check the Cowardin plant classes in the wetland. Up to 10 patches may be combined for each class to meet the threshold of ¼ ac or more than 10% of the unit if it is smaller than 2.5 ac. Add the number of structures checked.	
□ Aquatic bed 4 structures or more: points = 4	
⊠ Emergent 3 structures: points = 2	0
\Box Scrub-shrub (areas where shrubs have > 30% cover) 2 structures: points = 1	Ũ
□ Forested (areas where trees have > 30% cover) 1 structure: points = 0	
If the unit has a Forested class, check If:	
that each cover 20% within the Forested polygon	
H 1.2. Hydroperiods	
Check the types of water regimes (hydroperiods) present within the wetland. The water regime has to cover more than 10% of the wetland or ¼ ac to count (<i>see text for descriptions of hydroperiods</i>).	
Permanently flooded or inundated 4 or more types present: points = 3	
□ Seasonally flooded or inundated 3 types present: points = 2	
□ Occasionally flooded or inundated 2 types present: points = 1	0
Saturated only 1 type present: points = 0	
Permanently flowing stream or river in, or adjacent to, the wetland	
Seasonally flowing stream in, or adjacent to, the wetland	
Lake Fringe wetland 2 points	
☐ Freshwater tidal wetland 2 points	
H 1.3. Richness of plant species Count the number of plant energies in the wetland that sover at least 10 ft^2	
Different patches of the same species can be combined to meet the size threshold and you do not have to name	
the species. Do not include Eurasian milfoil, reed canarygrass, purple loosestrife, Canadian thistle	1
If you counted: \Box > 19 species points = 2	_
\boxtimes 5 - 19 species points = 1	
\Box < 5 species points = 0	
H 1.4. Interspersion of habitats	
Decide from the diagrams below whether interspersion among Cowardin plants classes (described in H 1.1), or	
the classes and unvegetated areas (can include open water or mudflats) is high, moderate, low, or none. If you have four or more plant classes or three classes and open water, the rating is gluque high	
nuve jour of more plant classes of three classes and open water, the fating is always high.	
$\square \text{ None} = 0 \text{ points}$	0
None = 0 points	
All three diagrams in this row are	

Wetland EB08

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

Rating of Site Potential If score is: \Box **15-18 = H** \Box **7-14 = M** \boxtimes **0-6 = L**

Record the rating on the first page

H 2.0. Does the landscape have the potential to support the habitat functions of the site?		
H 2.1. Accessible habitat (include only habitat that directly abuts wetland unit).		
Calculate: % undisturbed habitat + [(% moderate and low intensity land uses)/2] = see Figs. 2-5		
If total accessible habitat is:		
\Box > 1/3 (33.3%) of 1 km Polygon	points = 3	0
\Box 20-33% of 1 km Polygon	points = 2	
\Box 10-19% of 1 km Polygon	points = 1	
\boxtimes < 10% of 1 km Polygon	points = 0	
H 2.2. Undisturbed habitat in 1 km Polygon around the wetland.		
Calculate: % undisturbed habitat + [(% moderate and low intensity land uses)/2] = see Figs. 2-5		
\Box Undisturbed habitat > 50% of Polygon	points = 3	1
\Box Undisturbed habitat 10-50% and in 1-3 patches	points = 2	1
$oxedsymbol{\boxtimes}$ Undisturbed habitat 10-50% and > 3 patches	points = 1	
Undisturbed habitat < 10% of 1 km Polygon	points = 0	
H 2.3. Land use intensity in 1 km Polygon: If		
\boxtimes > 50% of 1 km Polygon is high intensity land use	points = (- 2)	-2
$\Box \leq$ 50% of 1 km Polygon is high intensity	points = 0	
Total for H 2 Add the points in the	boxes above	-1
		<i>c</i> .

Rating of Landscape Potential If score is: \Box 4-6 = H \Box 1-3 = M \boxtimes < 1 = L

Record the rating on the first page

H 3.0. Is the habitat provided by the site valuable to society?		
H 3.1. Does the site provide habitat for species valued in laws, regulations, or policies? Choose	only the highest score	
that applies to the wetland being rated.		
Site meets ANY of the following criteria:	points = 2	
It has 3 or more priority habitats within 100 m (see next page)		
It provides habitat for Threatened or Endangered species (any plant or animal or	n the state or federal lists)	
It is mapped as a location for an individual WDFW priority species		2
It is a Wetland of High Conservation Value as determined by the Department of I	Natural Resources	
It has been categorized as an important habitat site in a local or regional compresentation	ehensive plan, in	
a Shoreline Master Plan, or in a watershed plan		
\square Site has 1 or 2 priority habitats (listed on next page) within 100 m	points = 1	
\square Site does not meet any of the criteria above	points = 0	
Rating of Value If score is: \square 2 = H \square 1 = M \square 0 = L	Record the rating on	the first page

WDFW Priority Habitats

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

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

- □ **Aspen Stands:** Pure or mixed stands of aspen greater than 1 ac (0.4 ha).
- Biodiversity Areas and Corridors: Areas of habitat that are relatively important to various species of native fish and wildlife (*full descriptions in WDFW PHS report*).
- □ **Herbaceous Balds:** Variable size patches of grass and forbs on shallow soils over bedrock.
- □ **Old-growth/Mature forests:** <u>Old-growth west of Cascade crest</u> Stands of at least 2 tree species, forming a multilayered canopy with occasional small openings; with at least 8 trees/ac (20 trees/ha) > 32 in (81 cm) dbh or > 200 years of age. <u>Mature forests</u> – Stands with average diameters exceeding 21 in (53 cm) dbh; crown cover may be less than 100%; decay, decadence, numbers of snags, and quantity of large downed material is generally less than that found in old-growth; 80-200 years old west of the Cascade crest.
- □ **Oregon White Oak:** Woodland stands of pure oak or oak/conifer associations where canopy coverage of the oak component is important (*full descriptions in WDFW PHS report p. 158 see web link above*).
- **Riparian**: The area adjacent to aquatic systems with flowing water that contains elements of both aquatic and terrestrial ecosystems which mutually influence each other.
- □ **Westside Prairies:** Herbaceous, non-forested plant communities that can either take the form of a dry prairie or a wet prairie (*full descriptions in WDFW PHS report p. 161 see web link above*).
- ⊠ **Instream:** The combination of physical, biological, and chemical processes and conditions that interact to provide functional life history requirements for instream fish and wildlife resources.
- □ **Nearshore**: Relatively undisturbed nearshore habitats. These include Coastal Nearshore, Open Coast Nearshore, and Puget Sound Nearshore. (*full descriptions of habitats and the definition of relatively undisturbed are in WDFW report see web link on previous page*).
- □ **Caves:** A naturally occurring cavity, recess, void, or system of interconnected passages under the earth in soils, rock, ice, or other geological formations and is large enough to contain a human.
- □ **Cliffs:** Greater than 25 ft (7.6 m) high and occurring below 5000 ft elevation.
- □ **Talus:** Homogenous areas of rock rubble ranging in average size 0.5 6.5 ft (0.15 2.0 m), composed of basalt, andesite, and/or sedimentary rock, including riprap slides and mine tailings. May be associated with cliffs.
- □ Snags and Logs: Trees are considered snags if they are dead or dying and exhibit sufficient decay characteristics to enable cavity excavation/use by wildlife. Priority snags have a diameter at breast height of > 20 in (51 cm) in western Washington and are > 6.5 ft (2 m) in height. Priority logs are > 12 in (30 cm) in diameter at the largest end, and > 20 ft (6 m) long.

Note: All vegetated wetlands are by definition a priority habitat but are not included in this list because they are addressed elsewhere.

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Wetland EBO9 Rating Form

RATING SUMMARY – Western Washington

Name of wetland (or ID #): Wetland EB09 Date of site visit: 6/8/2015, 2/27/2020

Rated by: <u>K. Crandall, N. Lund</u> Trained by Ecology? X Y I N Date of training: <u>9/2014, 6/2014</u>

HGM Class used for rating: Depressional Wetland has multiple HGM classes? \boxtimes Y \square N

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

OVERALL WETLAND CATEGORY (based on functions \square or special characteristics \square)

Category of wetland based on FUNCTIONS

- **Category I** Total score = 23 27
- **Category II** Total score = 20 22
- Category III Total score = 16 19
- **Category IV** Total score = 9 15

FUNCTION	Improv Water Qu	ing Jality	H	ydrolo	ogic		Habit	at	
				Circle	the ap	oropr	iate ra	itings	
Site Potential	H (M)	L	Н	Μ	(l)	Н	(M)	L	
Landscape Potential	H M	L	Н	M	Ľ	Н	M		
Value	Н М	L	(\mathbb{H})	М	L	H	Μ	L	ΤΟΤΑ
Score Based on Ratings	7			6			6		19

Score for each function based on three ratings (order of ratings is not *important*) 9 = H, H, H8 = H, H, M7 = H, H, L7 = H, M, M6 = H, M, L6 = M, M, M5 = H, L, L5 = M,M,L 4 = M,L,L

3 = L,L,L

Category based on SPECIAL CHARACTERISTICS of wetland

CHARACTERISTIC	CATEGORY	
Estuarine	Ι	II
Wetland of High Conservation Value	I	
Bog	I	
Mature Forest	I	
Old Growth Forest	I	
Coastal Lagoon	Ι	II
Interdunal	I II	III IV
None of the above	\square	

Maps and figures required to answer questions correctly for Western Washington

Depressional Wetlands

Map of:	To answer questions:	Figure #
Cowardin plant classes	D 1.3, H 1.1, H 1.4	EB09-1
Hydroperiods	D 1.4, H 1.2	EB09-2
Location of outlet (can be added to map of hydroperiods)	D 1.1, D 4.1	EB09-2
Boundary of area within 150 ft of the wetland (can be added to another figure)	D 2.2, D 5.2	EB09-2
Map of the contributing basin	D 4.3, D 5.3	EB09-3
1 km Polygon: Area that extends 1 km from entire wetland edge - including polygons for accessible habitat and undisturbed habitat	H 2.1, H 2.2, H 2.3	2 to 5
Screen capture of map of 303(d) listed waters in basin (from Ecology website)	D 3.1, D 3.2	7
Screen capture of list of TMDLs for WRIA in which unit is found (from web)	D 3.3	1

HGM Classification of Wetlands in Western Washington

For questions 1-7, the criteria described must apply to the entire unit being rated.

If the hydrologic criteria listed in each question do not apply to the entire unit being rated, you probably have a unit with multiple HGM classes. In this case, identify which hydrologic criteria in questions 1-7 apply, and go to Question 8.

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

 \boxtimes NO – go to 2 \square YES – the wetland class is **Tidal Fringe** – go to 1.1

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

□ NO - Saltwater Tidal Fringe (Estuarine) □ YES - Freshwater Tidal Fringe If your wetland can be classified as a Freshwater Tidal Fringe use the forms for **Riverine** wetlands. If it is Saltwater Tidal Fringe it is an **Estuarine** wetland and is not scored. This method **cannot** be used to score functions for estuarine wetlands.

82. 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.

 \boxtimes NO – go to 3 \square YES – The wetland class is Flats *If your wetland can be classified as a Flats wetland, use the form for* **Depressional** *wetlands.*

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

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

⊠ NO – go to 4 □ YES – The wetland class is Lake Fringe (Lacustrine Fringe)

84. 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**.

 \boxtimes NO – go to 5

□ **YES** – The wetland class is **Slope**

NOTE: Surface water does not pond in these type of wetlands except occasionally in very small and shallow depressions or behind hummocks (depressions are usually <3 ft diameter and less than 1 ft deep).

- 85. Does the entire wetland unit **meet all** of the following criteria?
 - □ The unit is in a valley, or stream channel, where it gets inundated by overbank flooding from that stream or river,
 - □ The overbank flooding occurs at least once every 2 years.

NO − go to 6
VES − The wetland class is Riverine
NOTE: The Riverine unit can contain depressions that are filled with water when the river is not flooding

86. 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

87. 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

88. Your wetland unit seems to be difficult to classify and probably contains several different HGM classes. For example, seeps at the base of a slope may grade into a riverine floodplain, or a small stream within a Depressional wetland has a zone of flooding along its sides. GO BACK AND IDENTIFY WHICH OF THE HYDROLOGIC REGIMES DESCRIBED IN QUESTIONS 1-7 APPLY TO DIFFERENT AREAS IN THE UNIT (make a rough sketch to help you decide). Use the following table to identify the appropriate class to use for the rating system if you have several HGM classes present within the wetland unit being scored.

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

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

If you are still unable to determine which of the above criteria apply to your wetland, or if you have **more than 2 HGM classes** within a wetland boundary, classify the wetland as Depressional for the rating.

□ More than 2 HGM classes

DEPRESSIONAL AND FLATS WETLANDS Water Quality Functions - Indicators that the site functions to improve water quality	
D 1.0. Does the site have the potential to improve water quality?	
D 1.1. Characteristics of surface water outflows from the wetland:	
 Wetland is a depression or flat depression (QUESTION 7 on key) with no surface water leaving it (no outlet). points = 3 Wetland has an intermittently flowing stream or ditch, OR highly constricted permanently flowing outlet. 	1
points = 2 Wetland has an unconstricted, or slightly constricted, surface outlet that is permanently flowing points = 1 Wetland is a flat depression (QUESTION 7 on key), whose outlet is a permanently flowing ditch. points = 1	
D 1.2. The soil 2 in below the surface (or duff layer) is true clay or true organic (use NRCS definitions) \Box Yes = 4 \boxtimes No = 0	0
 D 1.3. <u>Characteristics and distribution of persistent plants</u> (Emergent, Scrub-shrub, and/or Forested Cowardin classes): ☑ Wetland has persistent, ungrazed, plants > 95% of area ☑ Wetland has persistent, ungrazed, plants > 1/2 of area ☑ Wetland has persistent, ungrazed plants > 1/10 of area ☑ Wetland has persistent, ungrazed plants < 1/10 of area ☑ Wetland has persistent, ungrazed plants < 1/10 of area 	5
D 1.4. Characteristics of seasonal ponding or inundation: This is the area that is ponded for at least 2 months. See description in manual. ⊠ Area seasonally ponded is > ½ total area of wetland □ Area seasonally ponded is > ½ total area of wetland □ Area seasonally ponded is < ½ total area of wetland	4
Total for D 1 Add the points in the boxes above	10
Rating of Site Potential If score is: \Box 12-16 = H \boxtimes 6-11 = M \Box 0-5 = LRecord the rating on the fillRecord the rating on the fill	irst page
D 2.0. Does the landscape have the potential to support the water quality function of the site?	
D 2.1. Does the wetland unit receive stormwater discharges? \square Yes = 1 \square No = 0	1
D 2.2. Is > 10% of the area within 150 ft of the wetland in land uses that generate pollutants? \Box Yes = 1 \boxtimes No = 0	0
D 2.3. Are there septic systems within 250 ft of the wetland? \Box Yes = 1 \boxtimes No = 0	0
D 2.4. Are there other sources of pollutants coming into the wetland that are not listed in questions D 2.1-D 2.3? Source Ves = 1 No = 0	0
Total for D 2Add the points in the boxes above	1
Rating of Landscape Potential If score is: \Box 3 or 4 = H \boxtimes 1 or 2 = M \Box 0 = L <i>Record the rating on the firs</i>	st page
D 3.0. Is the water quality improvement provided by the site valuable to society?	
D 3.1. Does the wetland discharge directly (i.e., within 1 mi) to a stream, river, lake, or marine water that is on the 303(d) list?	1
D 3.2. Is the wetland in a basin or sub-basin where an aquatic resource is on the 303(d) list? \square Yes = 1 \square No = 0	1
D 3.3. Has the site been identified in a watershed or local plan as important for maintaining water quality (<i>answer YES if there is a TMDL for the basin in which the unit is found</i>)?	0
Total for D 3Add the points in the boxes above	2

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

Record the rating on the first page

DEPRESSIONAL AND FLATS WETLANDS Hydrologic Functions - Indicators that the site functions to reduce flooding and stream degradation	วท
D 4.0. Does the site have the potential to reduce flooding and erosion?	
D 4.1. <u>Characteristics of surface water outflows from the wetland</u> : □ Wetland is a depression or flat depression with no surface water leaving it (no outlet) points = 4 □ Wetland has an intermittently flowing stream or ditch, OR highly constricted permanently flowing outlet points = 2 □ Wetland is a flat depression (OLIESTION 7 on key) whose outlet is a permanently flowing ditch points = 1	0
 □ Wetland is a flat depression (QUESTION 7 of Key), whose outlet is a permanently flowing diction points = 1 ○ Wetland has an unconstricted, or slightly constricted, surface outlet that is permanently flowing points = 0 D 4.2. Depth of storage during wet periods: Estimate the height of ponding above the bottom of the outlet. For wetlands with no outlet, measure from the surface of permanent water or if dry, the deepest part. ○ Marks of ponding are 3 ft or more above the surface or bottom of outlet points = 7 ○ Marks of ponding between 2 ft to < 3 ft from surface or bottom of outlet points = 5 ○ Marks are at least 0.5 ft to < 2 ft from surface or bottom of outlet points = 3 ○ The wetland is a "headwater" wetland points = 1 ○ Wetland is flat but has small depressions on the surface that trap water points = 1 ○ Marks of ponding less than 0.5 ft (6 in) 	0
D 4.3. Contribution of the wetland to storage in the watershed: Estimate the ratio of the area of upstream basin contributing surface water to the wetland to the area of the wetland unit itself. □ The area of the basin is less than 10 times the area of the unit points = 5 □ The area of the basin is 10 to 100 times the area of the unit points = 3 □ The area of the basin is more than 100 times the area of the unit points = 0 □ Entire wetland is in the Flats class points = 5 Total for D 4 Add the points in the boxes above	0
Rating of Site Potential If score is: \Box 12-16 = H \Box 6-11 = M \boxtimes 0-5 = LRecord the rating on the	first page
D 5.0. Does the landscape have the potential to support hydrologic functions of the site?	
D 5.1. Does the wetland receive stormwater discharges? \square Yes = 1 \square No = 0	1
D 5.2. Is >10% of the area within 150 ft of the wetland in land uses that generate excess runoff? \Box Yes = 1 \boxtimes No = 0	0
D 5.3. Is more than 25% of the contributing basin of the wetland covered with intensive human land uses (residential at >1 residence/ac, urban, commercial, agriculture, etc.)?	1
Total for D 5Add the points in the boxes above	2
Rating of Landscape PotentialIf score is: \Box 3 = H \boxtimes 1 or 2 = M \Box 0 = LRecord the rating on the	first page
D 6.0. Are the hydrologic functions provided by the site valuable to society?	
 D 6.1. <u>The unit is in a landscape that has flooding problems</u>. Choose the description that best matches conditions around the wetland unit being rated. Do not add points. <u>Choose the highest score if more than one condition is met</u>. The wetland captures surface water that would otherwise flow down-gradient into areas where flooding has damaged human or natural resources (e.g., houses or salmon redds): ■ Flooding occurs in a sub-basin that is immediately down-gradient of unit. ■ Surface flooding problems are in a sub-basin farther down-gradient. ■ Flooding from groundwater is an issue in the sub-basin. ■ The existing or potential outflow from the wetland is so constrained by human or natural conditions that the water stored by the wetland cannot reach areas that flood. <i>Explain why</i> 	2
There are no problems with flooding downstream of the wetland. points = 0	
□ There are no problems with flooding downstream of the wetland. points = 0 D 6.2. Has the site been identified as important for flood storage or flood conveyance in a regional flood control plan? □ Yes = 2 ⊠ No = 0	0
□ There are no problems with flooding downstream of the wetland. points = 0 D 6.2. Has the site been identified as important for flood storage or flood conveyance in a regional flood control plan? □ Yes = 2 ⊠ No = 0 Total for D 6 Add the points in the boxes above	0

These questions apply to wetlands of all HGM classes.	
Habitat Functions - Indicators that site functions to provide important habitat	
H 1.0. Does the site have the potential to provide habitat?	
H 1.1. Structure of plant community: Indicators are Cowardin classes and strata within the Forested class. Check the Cowardin plant classes in the wetland. Up to 10 patches may be combined for each class to meet the threshold of ¼ ac or more than 10% of the unit if it is smaller than 2.5 ac. Add the number of structures checked.	
□ Aquatic bed 4 structures or more: points = 4	
□ Emergent 3 structures: points = 2	2
\boxtimes Scrub-shrub (areas where shrubs have > 30% cover) 2 structures: points = 1	2
☑ Forested (areas where trees have > 30% cover) 1 structure: points = 0	
If the unit has a Forested class, check if:	
that each cover 20% within the Forested polygon	
H 1.2. Hydroperiods	
Check the types of water regimes (hydroperiods) present within the wetland. The water regime has to cover more than 10% of the wetland or ¼ ac to count (<i>see text for descriptions of hydroperiods</i>).	
Permanently flooded or inundated 4 or more types present: points = 3	
Seasonally flooded or inundated 3 types present: points = 2	
□ Occasionally flooded or inundated 2 types present: points = 1	1
□ Saturated only 1 type present: points = 0	
Permanently flowing stream or river in, or adjacent to, the wetland	
Seasonally flowing stream in, or adjacent to, the wetland	
Lake Fringe wetland 2 points	
□ Freshwater tidal wetland 2 points	
H 1.3. Richness of plant species Count the number of plant species in the wetland that cover at least 10 ft^2	
Different natches of the same species can be combined to meet the size threshold and you do not have to name	
the species. Do not include Eurasian milfoil, reed canarygrass, purple loosestrife, Canadian thistle	1
If you counted: \Box > 19 species points = 2	_
\boxtimes 5 - 19 species points = 1	
\Box < 5 species points = 0	
H 1.4. Interspersion of habitats	
Decide from the diagrams below whether interspersion among Cowardin plants classes (described in H 1.1), or	
the classes and unvegetated areas (can include open water or mudilats) is high, moderate, low, or hone. If you have four or more plant classes or three classes and open water, the rating is always high	
have jour of more plant classes of three classes and open water, the fating is always high.	
	2
\Box None = 0 points \Box Low = 1 point \boxtimes Moderate = 2 points	
All three diagrams in this row are	
HIGH = 3 points	

Wetland EB09

H 1.5. Special habitat features:	
Check the habitat features that are present in the wetland. The number of checks is the number of points.	
□ Large, downed, woody debris within the wetland (> 4 in diameter and 6 ft long).	
\Box Standing snags (dbh > 4 in) within the wetland	
Undercut banks are present for at least 6.6 ft (2 m) and/or overhanging plants extends at least 3.3 ft (1 m) over a stream (or ditch) in, or contiguous with the wetland, for at least 33 ft (10 m)	
Stable steep banks of fine material that might be used by beaver or muskrat for denning (> 30 degree slope) OR signs of recent beaver activity are present (cut shrubs or trees that have not yet weathered where wood is exposed)	
At least ¼ ac of thin-stemmed persistent plants or woody branches are present in areas that are permanently or seasonally inundated <i>(structures for egg-laying by amphibians)</i>	
Invasive plants cover less than 25% of the wetland area in every stratum of plants (see H 1.1 for list of strata)	
Total for H 1Add the points in the boxes above	7
Rating of Site Potential If score is: \Box 15-18 = H \boxtimes 7-14 = M \Box 0-6 = L Record the rating on T	the first page

H 2.0. Does the landscape have the potential to support the habitat functions of the site? H 2.1. Accessible habitat (include only habitat that directly abuts wetland unit). Calculate: % undisturbed habitat + [(% moderate and low intensity land uses)/2] = see Figs. 2-5 If total accessible habitat is: \Box > 1/3 (33.3%) of 1 km Polygon 0 points = 3 □ 20-33% of 1 km Polygon points = 2 □ 10-19% of 1 km Polygon points = 1 \boxtimes < 10% of 1 km Polygon points = 0 H 2.2. Undisturbed habitat in 1 km Polygon around the wetland. Calculate: % undisturbed habitat + [(% moderate and low intensity land uses)/2] = see Figs. 2-5 □ Undisturbed habitat > 50% of Polygon points = 3 2 ☑ Undisturbed habitat 10-50% and in 1-3 patches points = 2 \Box Undisturbed habitat 10-50% and > 3 patches points = 1 □ Undisturbed habitat < 10% of 1 km Polygon points = 0 H 2.3. Land use intensity in 1 km Polygon: If -2 \boxtimes > 50% of 1 km Polygon is high intensity land use points = (-2) $\Box \leq 50\%$ of 1 km Polygon is high intensity points = 0 Total for H 2 Add the points in the boxes above 0

Rating of Landscape Potential If score is: \Box 4-6 = H \Box 1-3 = M \boxtimes < 1 = L

Record the rating on the first page

H 3.0. Is the habitat provided by the site valuable to society?	
H 3.1. Does the site provide habitat for species valued in laws, regulations, or policies? Choose only the highest scol	re
that applies to the wetland being rated.	
Site meets ANY of the following criteria: points	= 2
🛛 It has 3 or more priority habitats within 100 m (see next page)	
🗆 It provides habitat for Threatened or Endangered species (any plant or animal on the state or federal	lists)
It is mapped as a location for an individual WDFW priority species	2
\Box It is a Wetland of High Conservation Value as determined by the Department of Natural Resources	
□ It has been categorized as an important habitat site in a local or regional comprehensive plan, in	
a Shoreline Master Plan, or in a watershed plan	
□ Site has 1 or 2 priority habitats (listed on next page) within 100 m points	= 1
□ Site does not meet any of the criteria above points	= 0
Rating of Value If score is: $\square 2 = H \square 1 = M \square 0 = L$ Record the rational second the rational second the rational second sec	ing on the first page

WDFW Priority Habitats

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

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

- □ **Aspen Stands:** Pure or mixed stands of aspen greater than 1 ac (0.4 ha).
- Biodiversity Areas and Corridors: Areas of habitat that are relatively important to various species of native fish and wildlife (*full descriptions in WDFW PHS report*).
- □ **Herbaceous Balds:** Variable size patches of grass and forbs on shallow soils over bedrock.
- □ **Old-growth/Mature forests**: <u>Old-growth west of Cascade crest</u> Stands of at least 2 tree species, forming a multilayered canopy with occasional small openings; with at least 8 trees/ac (20 trees/ha) > 32 in (81 cm) dbh or > 200 years of age. <u>Mature forests</u> – Stands with average diameters exceeding 21 in (53 cm) dbh; crown cover may be less than 100%; decay, decadence, numbers of snags, and quantity of large downed material is generally less than that found in old-growth; 80-200 years old west of the Cascade crest.
- □ **Oregon White Oak:** Woodland stands of pure oak or oak/conifer associations where canopy coverage of the oak component is important (*full descriptions in WDFW PHS report p. 158 see web link above*).
- **Riparian**: The area adjacent to aquatic systems with flowing water that contains elements of both aquatic and terrestrial ecosystems which mutually influence each other.
- □ **Westside Prairies:** Herbaceous, non-forested plant communities that can either take the form of a dry prairie or a wet prairie (*full descriptions in WDFW PHS report p. 161 see web link above*).
- ⊠ **Instream:** The combination of physical, biological, and chemical processes and conditions that interact to provide functional life history requirements for instream fish and wildlife resources.
- □ **Nearshore**: Relatively undisturbed nearshore habitats. These include Coastal Nearshore, Open Coast Nearshore, and Puget Sound Nearshore. (*full descriptions of habitats and the definition of relatively undisturbed are in WDFW report see web link on previous page*).
- □ **Caves:** A naturally occurring cavity, recess, void, or system of interconnected passages under the earth in soils, rock, ice, or other geological formations and is large enough to contain a human.
- □ **Cliffs:** Greater than 25 ft (7.6 m) high and occurring below 5000 ft elevation.
- □ **Talus:** Homogenous areas of rock rubble ranging in average size 0.5 6.5 ft (0.15 2.0 m), composed of basalt, andesite, and/or sedimentary rock, including riprap slides and mine tailings. May be associated with cliffs.
- □ Snags and Logs: Trees are considered snags if they are dead or dying and exhibit sufficient decay characteristics to enable cavity excavation/use by wildlife. Priority snags have a diameter at breast height of > 20 in (51 cm) in western Washington and are > 6.5 ft (2 m) in height. Priority logs are > 12 in (30 cm) in diameter at the largest end, and > 20 ft (6 m) long.

Note: All vegetated wetlands are by definition a priority habitat but are not included in this list because they are addressed elsewhere.

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Wetland EB10 Rating Form

RATING SUMMARY – Western Washington

Name of wetland (or ID #): Wetland EB10 Date of site visit: 6/15/2015, 2/27/2020

Rated by: <u>K. Crandall, N. Lund</u> Trained by Ecology? ⊠ Y □ N Date of training: <u>9/2014, 6/2014</u>

HGM Class used for rating: Slope Wetland has multiple HGM classes? \Box Y \boxtimes N

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

OVERALL WETLAND CATEGORY (based on functions \square or special characteristics \square)

Category of wetland based on FUNCTIONS

- **Category I** Total score = 23 27
- **Category II** Total score = 20 22
- Category III Total score = 16 19
- **Category IV** Total score = 9 15

FUNCTION	Impro Water C	ving Quality	Н	ydrolo	gic	ŀ	labit	at	
				Circle t	the ap	proprie	ate ra	tings	
Site Potential	н (М)	L	Н	(M)	L	Н	Μ	(l)	
Landscape Potential	нM	L	Н	M	L	Н	Μ	$\overline{(1)}$	
Value	H M	L	H	М	L	H	Μ	L	ΤΟΤΑ
Score Based on Ratings	7			7			5		19

Score for each function based on three ratings (order of ratings is not *important*) 9 = H, H, H8 = H, H, M7 = H, H, L7 = H, M, M6 = H, M, L6 = M, M, M5 = H, L, L5 = M,M,L 4 = M,L,L

3 = L,L,L

Category based on SPECIAL CHARACTERISTICS of wetland

CHARACTERISTIC	CATEGORY	
Estuarine	Ι	II
Wetland of High Conservation Value	I	
Bog		Ι
Mature Forest	I	
Old Growth Forest	I	
Coastal Lagoon	Ι	II
Interdunal	I II	III IV
None of the above		\boxtimes

Maps and figures required to answer questions correctly for Western Washington

Slope Wetlands

Map of:	To answer questions:	Figure #
Cowardin plant classes	Н 1.1, Н 1.4	EB10-1
Hydroperiods	H 1.2	EB10-2
Plant cover of dense trees, shrubs, and herbaceous plants	S 1.3	EB10-1
Plant cover of dense, rigid trees, shrubs, and herbaceous plants (can be added to figure above)	S 4.1	EB10-1
Boundary of 150 ft buffer (can be added to another figure)	S 2.1, S 5.1	EB10-2
1 km Polygon: Area that extends 1 km from entire wetland edge - including polygons for accessible habitat and undisturbed habitat	H 2.1, H 2.2, H 2.3	2 to 5
Screen capture of map of 303(d) listed waters in basin (from Ecology website)	S 3.1, S 3.2	7
Screen capture of list of TMDLs for WRIA in which unit is found (from web)	S 3.3	1

HGM Classification of Wetlands in Western Washington

For questions 1-7, the criteria described must apply to the entire unit being rated.

If the hydrologic criteria listed in each question do not apply to the entire unit being rated, you probably have a unit with multiple HGM classes. In this case, identify which hydrologic criteria in questions 1-7 apply, and go to Question 8.

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

 \boxtimes NO – go to 2 \square YES – the wetland class is **Tidal Fringe** – go to 1.1

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

□ NO - Saltwater Tidal Fringe (Estuarine) □ YES - Freshwater Tidal Fringe If your wetland can be classified as a Freshwater Tidal Fringe use the forms for **Riverine** wetlands. If it is Saltwater Tidal Fringe it is an **Estuarine** wetland and is not scored. This method **cannot** be used to score functions for estuarine wetlands.

90. 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.

 \boxtimes NO – go to 3 \square YES – The wetland class is Flats *If your wetland can be classified as a Flats wetland, use the form for* **Depressional** *wetlands.*

- 91. Does the entire wetland unit meet all of the following criteria?
 - □ The vegetated part of the wetland is on the shores of a body of permanent open water (without any plants on the surface at any time of the year) at least 20 ac (8 ha) in size;
 - \Box At least 30% of the open water area is deeper than 6.6 ft (2 m).

⊠ NO – go to 4 □ YES – The wetland class is Lake Fringe (Lacustrine Fringe)

- 92. Does the entire wetland unit **meet all** of the following criteria?
 - ⊠ The wetland is on a slope (*slope can be very gradual*),
 - \boxtimes The water flows through the wetland in one direction (unidirectional) and usually comes from seeps. It may flow subsurface, as sheetflow, or in a swale without distinct banks,
 - ⊠ The water leaves the wetland **without being impounded**.

□ NO – go to 5

⊠ **YES** – The wetland class is **Slope**

NOTE: Surface water does not pond in these type of wetlands except occasionally in very small and shallow depressions or behind hummocks (depressions are usually <3 ft diameter and less than 1 ft deep).

- 93. Does the entire wetland unit **meet all** of the following criteria?
 - □ The unit is in a valley, or stream channel, where it gets inundated by overbank flooding from that stream or river,
 - □ The overbank flooding occurs at least once every 2 years.

□ NO – go to 6 □ YES – The wetland class is **Riverine NOTE**: The Riverine unit can contain depressions that are filled with water when the river is not flooding

94. 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

95. 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

96. Your wetland unit seems to be difficult to classify and probably contains several different HGM classes. For example, seeps at the base of a slope may grade into a riverine floodplain, or a small stream within a Depressional wetland has a zone of flooding along its sides. GO BACK AND IDENTIFY WHICH OF THE HYDROLOGIC REGIMES DESCRIBED IN QUESTIONS 1-7 APPLY TO DIFFERENT AREAS IN THE UNIT (make a rough sketch to help you decide). Use the following table to identify the appropriate class to use for the rating system if you have several HGM classes present within the wetland unit being scored.

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

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

If you are still unable to determine which of the above criteria apply to your wetland, or if you have **more than 2 HGM classes** within a wetland boundary, classify the wetland as Depressional for the rating.

□ More than 2 HGM classes

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

S 2.0. Does the landscape have the potential to support the water quality function of the site?		
S 2.1. Is > 10% of the area within 150 ft on the uphill side of the wetland in land uses that generate pollutants?		
\boxtimes Yes = 1 \square No = 0	1	
S 2.2. Are there other sources of pollutants coming into the wetland that are not listed in question S 2.1?		
Other sources: \Box Yes = 1 \boxtimes No = 0	0	
Total for S 2Add the points in the boxes above	1	

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

Record the rating on the first page

S 3.0. Is the water quality improvement provided by the site valuable to society?	
S 3.1. Does the wetland discharge directly (i.e., within 1 mi) to a stream, river, lake, or marine water that is on the 303(d) list? Xes = 1 No = 0	1
S 3.2. Is the wetland in a basin or sub-basin where water quality is an issue? At least one aquatic resource in the basin is on the 303(d) list. Xes = 1 No = 0	1
S 3.3. Has the site been identified in a watershed or local plan as important for maintaining water quality? Answer YES if there is a TMDL for the basin in which unit is found.	0
Total for S 3Add the points in the boxes above	2

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

Record the rating on the first page

SLOPE WETLANDS

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

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

S 4.1. Characteristics of plants that reduce the velocity of surface flows during storms: Choose the points appropriate for the description that best fits conditions in the wetland. Stems of plants should be thick enough (usually >1/8₈ in), or dense enough, to remain erect during surface flows.
 ☑ Dense, uncut, rigid plants cover > 90% of the area of the wetland points = 1

 \Box All other conditions

Rating of Site Potential If score is: 🖂 1 = M 🗌 0 = L

Record the rating on the first page

points = 0

1

S 5.0. Does the landscape have the potential to support the hydrologic functions of the site?	
S 5.1. Is more than 25% of the area within 150 ft upslope of wetland in land uses or cover that generate excess	
surface runoff? \square Yes = 1 \square No = 0	T

Rating of Landscape Potential If score is: 🛛 1 = M 🗌 0 = L

Record the rating on the first page

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

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

Record the rating on the first page

NOTES and FIELD OBSERVATIONS:

These questions apply to wetlands of all HGM classes.		
Habitat Functions - Indicators that site functions to provide important habitat		
H 1.0. Does the site have the potential to provide habitat?		
H 1.1. Structure of plant community: <i>Indicators are Cowardin classes and strata within the Forested class.</i> Check the Cowardin plant classes in the wetland. <i>Up to 10 patches may be combined for each class to meet the threshold of ¼ ac or more than 10% of the unit if it is smaller than 2.5 ac.</i> Add the number of structures checked.		
□ Aquatic bed 4 structures or more: points = 4		
☑ Emergent 3 structures: points = 2	1	
\boxtimes Scrub-shrub (areas where shrubs have > 30% cover) 2 structures: points = 1	T	
□ Forested (areas where trees have > 30% cover) 1 structure: points = 0		
If the unit has a Forested class, check if:		
□ The Forested class has 3 out of 5 strata (canopy, sub-canopy, shrubs, herbaceous, moss/ground-cover) that each cover 20% within the Forested polygon		
H 1.2. Hydroperiods		
Check the types of water regimes (hydroperiods) present within the wetland. The water regime has to cover more than 10% of the wetland or ¼ ac to count (<i>see text for descriptions of hydroperiods</i>).		
Permanently flooded or inundated 4 or more types present: points = 3		
□ Seasonally flooded or inundated 3 types present: points = 2		
☑ Occasionally flooded or inundated 2 types present: points = 1	1	
Saturated only 1 type present: points = 0		
Permanently flowing stream or river in, or adjacent to, the wetland		
Seasonally flowing stream in, or adjacent to, the wetland		
Lake Fringe wetland 2 points		
□ Freshwater tidal wetland 2 points		
H 1.3. Richness of plant species		
Count the number of plant species in the wetland that cover at least 10 ft.		
the species. Do not include Eurasian milfoil, reed canarvarass, purple loosestrife, Canadian thistle	1	
If you counted: $\square > 19$ species points = 2	T	
\boxtimes 5 - 19 species points = 1		
\Box < 5 species points = 0		
H 1.4. Interspersion of habitats		
Decide from the diagrams below whether interspersion among Cowardin plants classes (described in H 1.1), or		
the classes and unvegetated areas (can include open water or mudflats) is high, moderate, low, or none. If you		
have four or more plant classes or three classes and open water, the rating is always high.		
	1	
\Box None = 0 points \Box Low = 1 point \Box Moderate = 2 points		
All three diagrams in this row are		

Wetland EB10

H 1.5. Special habitat features:		
Check the habitat features that are present in the wetland. The number	of checks is the number of points.	
\Box Large, downed, woody debris within the wetland (> 4 in diameter and	l 6 ft long).	
\Box Standing snags (dbh > 4 in) within the wetland		
Undercut banks are present for at least 6.6 ft (2 m) and/or overhangi over a stream (or ditch) in, or contiguous with the wetland, for at least	ng plants extends at least 3.3 ft (1 m) Ist 33 ft (10 m)	
Stable steep banks of fine material that might be used by beaver or slope) OR signs of recent beaver activity are present (cut shrubs or where wood is exposed)	muskrat for denning (> 30 degree trees that have not yet weathered	0
At least ¼ ac of thin-stemmed persistent plants or woody branches an permanently or seasonally inundated (structures for egg-laying by an	e present in areas that are mphibians)	
Invasive plants cover less than 25% of the wetland area in every strat strata)	um of plants (see H 1.1 for list of	
Total for H 1	Add the points in the boxes above	4
Rating of Site Potential If score is: 15-18 = H 7-14 = M 30-6 = L	Record the rating on t	he first page

H 2.0. Does the landscape have the potential to support the habitat functions of the site? H 2.1. Accessible habitat (include only habitat that directly abuts wetland unit). Calculate: % undisturbed habitat + [(% moderate and low intensity land uses)/2] = see Figs. 2-5 If total accessible habitat is: \Box > 1/3 (33.3%) of 1 km Polygon 0 points = 3 □ 20-33% of 1 km Polygon points = 2 □ 10-19% of 1 km Polygon points = 1 \boxtimes < 10% of 1 km Polygon points = 0H 2.2. Undisturbed habitat in 1 km Polygon around the wetland. Calculate: % undisturbed habitat + [(% moderate and low intensity land uses)/2] = see Figs. 2-5 □ Undisturbed habitat > 50% of Polygon points = 3 2 Undisturbed habitat 10-50% and in 1-3 patches points = 2 \Box Undisturbed habitat 10-50% and > 3 patches points = 1 □ Undisturbed habitat < 10% of 1 km Polygon points = 0 H 2.3. Land use intensity in 1 km Polygon: If -2 ⊠ > 50% of 1 km Polygon is high intensity land use points = (-2) $\Box \leq 50\%$ of 1 km Polygon is high intensity points = 0 Total for H 2 Add the points in the boxes above 0

Rating of Landscape Potential If score is: \Box 4-6 = H \Box 1-3 = M \boxtimes < 1 = L

Record the rating on the first page

H 3.0. Is the habitat provided by the site valuable to society?	
H 3.1. Does the site provide habitat for species valued in laws, regulations, or policies? <i>Choose only the highest score</i> <i>that applies to the wetland being rated.</i> Site meets ANY of the following criteria:	
 It has 3 or more priority habitats within 100 m (see next page) It provides habitat for Threatened or Endangered species (any plant or animal on the state or federal lists) It is mapped as a location for an individual WDFW priority species It is a Wetland of High Conservation Value as determined by the Department of Natural Resources It has been categorized as an important habitat site in a local or regional comprehensive plan, in a Shoreline Master Plan, or in a watershed plan Site has 1 or 2 priority habitats (listed on next page) within 100 m 	2
\Box Site does not meet any of the criteria above points = 0	
Rating of Value If score is: $\square 2 = H \square 1 = M \square 0 = L$ Record the rating on	the first page
WDFW Priority Habitats

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

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

- □ **Aspen Stands:** Pure or mixed stands of aspen greater than 1 ac (0.4 ha).
- Biodiversity Areas and Corridors: Areas of habitat that are relatively important to various species of native fish and wildlife (*full descriptions in WDFW PHS report*).
- □ **Herbaceous Balds:** Variable size patches of grass and forbs on shallow soils over bedrock.
- □ **Old-growth/Mature forests**: <u>Old-growth west of Cascade crest</u> Stands of at least 2 tree species, forming a multilayered canopy with occasional small openings; with at least 8 trees/ac (20 trees/ha) > 32 in (81 cm) dbh or > 200 years of age. <u>Mature forests</u> – Stands with average diameters exceeding 21 in (53 cm) dbh; crown cover may be less than 100%; decay, decadence, numbers of snags, and quantity of large downed material is generally less than that found in old-growth; 80-200 years old west of the Cascade crest.
- □ **Oregon White Oak:** Woodland stands of pure oak or oak/conifer associations where canopy coverage of the oak component is important (*full descriptions in WDFW PHS report p. 158 see web link above*).
- **Riparian**: The area adjacent to aquatic systems with flowing water that contains elements of both aquatic and terrestrial ecosystems which mutually influence each other.
- □ **Westside Prairies:** Herbaceous, non-forested plant communities that can either take the form of a dry prairie or a wet prairie (*full descriptions in WDFW PHS report p. 161 see web link above*).
- ⊠ **Instream:** The combination of physical, biological, and chemical processes and conditions that interact to provide functional life history requirements for instream fish and wildlife resources.
- □ **Nearshore**: Relatively undisturbed nearshore habitats. These include Coastal Nearshore, Open Coast Nearshore, and Puget Sound Nearshore. (*full descriptions of habitats and the definition of relatively undisturbed are in WDFW report see web link on previous page*).
- □ **Caves:** A naturally occurring cavity, recess, void, or system of interconnected passages under the earth in soils, rock, ice, or other geological formations and is large enough to contain a human.
- □ **Cliffs:** Greater than 25 ft (7.6 m) high and occurring below 5000 ft elevation.
- □ **Talus:** Homogenous areas of rock rubble ranging in average size 0.5 6.5 ft (0.15 2.0 m), composed of basalt, andesite, and/or sedimentary rock, including riprap slides and mine tailings. May be associated with cliffs.
- □ Snags and Logs: Trees are considered snags if they are dead or dying and exhibit sufficient decay characteristics to enable cavity excavation/use by wildlife. Priority snags have a diameter at breast height of > 20 in (51 cm) in western Washington and are > 6.5 ft (2 m) in height. Priority logs are > 12 in (30 cm) in diameter at the largest end, and > 20 ft (6 m) long.

Note: All vegetated wetlands are by definition a priority habitat but are not included in this list because they are addressed elsewhere.

Wetland Rating System for Western WA: 2014 Update Rating Form – Effective January 1, 2015 This page left blank intentionally

Wetland EB11 Rating Form

RATING SUMMARY – Western Washington

Name of wetland (or ID #): Wetland EB11 Date of site visit: 6/5/2015, 2/27/2020

Rated by: <u>K. Crandall, R. Whitson</u> Trained by Ecology? X I N Date of training: <u>9/2014</u>

HGM Class used for rating: Depressional Wetland has multiple HGM classes? \boxtimes Y \square N

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

OVERALL WETLAND CATEGORY (based on functions ⊠ or special characteristics □)

Category of wetland based on FUNCTIONS

- **Category I** Total score = 23 27
- Category II Total score = 20 22
- **Category III** Total score = 16 19
- **Category IV** Total score = 9 15

FUNCTION	lı Wa	mprov Iter Qu	ing uality	Ну	drol	ogic	ŀ	labit	at	
				(Circle	the ap	oroprie	ate ro	ntings	
Site Potential	Н	(M)	L	Н	Μ		Н	Μ	(L)	
Landscape Potential	(H)	M	L	H	Μ	Ĺ	Н	Μ		
Value	H	Μ	L	H	Μ	L	H	Μ	L	ΤΟΤΑ
Score Based on Ratings		8			7			5		20

Score for each function based on three ratings (order of ratings is not *important*) 9 = H, H, H8 = H, H, M7 = H, H, L7 = H, M, M6 = H, M, L6 = M, M, M5 = H,L,L5 = M,M,L 4 = M,L,L 3 = L,L,L

Category based on SPECIAL CHARACTERISTICS of wetland

CHARACTERISTIC	CATEGORY		
Estuarine	I II		
Wetland of High Conservation Value	I		
Bog	I		
Mature Forest	I		
Old Growth Forest	I		
Coastal Lagoon	I II		
Interdunal	I II	III IV	
None of the above	\boxtimes		

Maps and figures required to answer questions correctly for Western Washington

Depressional Wetlands

Map of:	To answer questions:	Figure #
Cowardin plant classes	D 1.3, H 1.1, H 1.4	EB11-1
Hydroperiods	D 1.4, H 1.2	EB11-2
Location of outlet (can be added to map of hydroperiods)	D 1.1, D 4.1	EB11-2
Boundary of area within 150 ft of the wetland (can be added to another figure)	D 2.2, D 5.2	EB11-2
Map of the contributing basin	D 4.3, D 5.3	EB11-3
1 km Polygon: Area that extends 1 km from entire wetland edge - including polygons for accessible habitat and undisturbed habitat	H 2.1, H 2.2, H 2.3	2 to 5
Screen capture of map of 303(d) listed waters in basin (from Ecology website)	D 3.1, D 3.2	8
Screen capture of list of TMDLs for WRIA in which unit is found (from web)	D 3.3	1

HGM Classification of Wetlands in Western Washington

For questions 1-7, the criteria described must apply to the entire unit being rated.

If the hydrologic criteria listed in each question do not apply to the entire unit being rated, you probably have a unit with multiple HGM classes. In this case, identify which hydrologic criteria in questions 1-7 apply, and go to Question 8.

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

 \boxtimes NO – go to 2 \square YES – the wetland class is **Tidal Fringe** – go to 1.1

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

□ NO - Saltwater Tidal Fringe (Estuarine) □ YES - Freshwater Tidal Fringe If your wetland can be classified as a Freshwater Tidal Fringe use the forms for **Riverine** wetlands. If it is Saltwater Tidal Fringe it is an **Estuarine** wetland and is not scored. This method **cannot** be used to score functions for estuarine wetlands.

98. 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.

 \boxtimes NO – go to 3 \square YES – The wetland class is Flats *If your wetland can be classified as a Flats wetland, use the form for* **Depressional** *wetlands.*

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

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

⊠ NO – go to 4 □ YES – The wetland class is Lake Fringe (Lacustrine Fringe)

100. 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**.

 \boxtimes NO – go to 5

□ **YES** – The wetland class is **Slope**

NOTE: Surface water does not pond in these type of wetlands except occasionally in very small and shallow depressions or behind hummocks (depressions are usually <3 ft diameter and less than 1 ft deep).

- 101. Does the entire wetland unit **meet all** of the following criteria?
 - □ The unit is in a valley, or stream channel, where it gets inundated by overbank flooding from that stream or river,
 - □ The overbank flooding occurs at least once every 2 years.

NO − go to 6
VES − The wetland class is Riverine
NOTE: The Riverine unit can contain depressions that are filled with water when the river is not flooding

102. 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.*

 \boxtimes NO – go to 7

□ YES – The wetland class is Depressional

103. 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

104. Your wetland unit seems to be difficult to classify and probably contains several different HGM classes. For example, seeps at the base of a slope may grade into a riverine floodplain, or a small stream within a Depressional wetland has a zone of flooding along its sides. GO BACK AND IDENTIFY WHICH OF THE HYDROLOGIC REGIMES DESCRIBED IN QUESTIONS 1-7 APPLY TO DIFFERENT AREAS IN THE UNIT (make a rough sketch to help you decide). Use the following table to identify the appropriate class to use for the rating system if you have several HGM classes present within the wetland unit being scored.

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

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

If you are still unable to determine which of the above criteria apply to your wetland, or if you have **more than 2 HGM classes** within a wetland boundary, classify the wetland as Depressional for the rating.

 \boxtimes More than 2 HGM classes

DEPRESSIONAL AND FLATS WETLANDS	
Water Quality Functions - Indicators that the site functions to improve water quality	
D 1.0. Does the site have the potential to improve water quality?	
D 1.1. Characteristics of surface water outflows from the wetland:	
Wetland is a depression or flat depression (QUESTION 7 on key) with no surface water leaving it (no outlet). points = 3	
Wetland has an intermittently flowing stream or ditch, OR highly constricted permanently flowing outlet. points = 2	1
\boxtimes Wetland has an unconstricted, or slightly constricted, surface outlet that is permanently flowing points = 1 \square Wetland is a flat depression (OUESTION 7 on key), whose outlet is a permanently flowing ditch. points = 1	
\square 1 2 The soil 2 in below the surface (or duff layer) is true clay or true organic (use NRCS definitions) \square Yes = 4 \square No = 0	0
D 1.3. Characteristics and distribution of persistent plants (Emergent Scrub-shrub and/or Eorested Cowardin classes):	0
\boxtimes Wetland has persistent, ungrazed, plants > 95% of area points = 5	
\Box Wetland has persistent, ungrazed, plants > 1/2 of area points = 3	5
\Box Wetland has persistent, ungrazed plants > 1/10 of area points = 1	5
\Box Wetland has persistent, ungrazed plants < 1/10 of area points = 0	
D 1.4. Characteristics of seasonal ponding or inundation: This is the area that is ponded for at least 2 months. See description in manual. □ Area seasonally ponded is > ½ total area of wetland □ Area seasonally ponded is > ½ total area of wetland ∞ Area seasonally ponded is > ½ total area of wetland ∞ Area seasonally ponded is < ¼ total area of wetland	0
Total for D 1	6
	0
Rating of Site Potential If score is: \Box 12-16 = H \boxtimes 6-11 = M \Box 0-5 = L Record the rating on the first	st page
D 2.0. Does the landscape have the potential to support the water quality function of the site?	
D 2.1. Does the wetland unit receive stormwater discharges? \square Yes = 1 \square No = 0	1
D 2.2. Is > 10% of the area within 150 ft of the wetland in land uses that generate pollutants? \square Yes = 1 \square No = 0	1
D 2.3. Are there septic systems within 250 ft of the wetland?* $ ext{ Yes} = 1 \Box \text{ No} = 0$	1
D 2.4. Are there other sources of pollutants coming into the wetland that are not listed in questions D 2.1-D 2.3? Source Yes = 1 🛛 No = 0	0
Total for D 2Add the points in the boxes above	3
Rating of Landscape Potential If score is: \boxtimes 3 or 4 = H \square 1 or 2 = M \square 0 = L <i>Record the rating on the first</i>	t page
D 3.0. Is the water quality improvement provided by the site valuable to society?	
D 3.1. Does the wetland discharge directly (i.e., within 1 mi) to a stream, river, lake, or marine water that is on the 303(d) list? Xes = 1 No = 0	1
D 3.2. Is the wetland in a basin or sub-basin where an aquatic resource is on the 303(d) list?	1
D 3.3. Has the site been identified in a watershed or local plan as important for maintaining water quality (answer VES	
if there is a TMDL for the basin in which the unit is found)? \Box Yes = 2 \boxtimes No = 0	0

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

Record the rating on the first page

*13610 SE 10th St, septic = private, per KC assessor

DEPRESSIONAL AND FLATS WETLANDS			
Hydrologic Functions - Indicators that the site functions to reduce flooding and stream degradation	on		
D 4.0. Does the site have the potential to reduce flooding and erosion?			
D 4.1. Characteristics of surface water outflows from the wetland:			
\Box Wetland is a depression or flat depression with no surface water leaving it (no outlet) points = 4			
\Box Wetland has an intermittently flowing stream or ditch, OR highly constricted permanently flowing outlet	0		
points = 2	C C		
\Box Wetland is a flat depression (QUESTION 7 on key), whose outlet is a permanently flowing ditch points = 1			
Wetland has an unconstricted, or slightly constricted, surface outlet that is permanently flowing points = 0			
D 4.2. <u>Depth of storage during wet periods:</u> Estimate the height of ponding above the bottom of the outlet. For wetlands			
with no outlet, measure from the surface of permanent water or if dry, the deepest part.			
\Box Marks of ponding are 3 ft or more above the surface or bottom of outlet points = 7			
\Box Marks of ponding between 2 ft to < 3 ft from surface or bottom of outlet points = 5	0		
\Box Marks are at least 0.5 ft to < 2 ft from surface or bottom of outlet points = 3	-		
\Box The wetland is a "headwater" wetland points = 3			
\Box Wetland is flat but has small depressions on the surface that trap water points = 1			
☑ Marks of ponding less than 0.5 ft (6 in) points = 0			
D 4.3. Contribution of the wetland to storage in the watershed: Estimate the ratio of the area of upstream basin			
contributing surface water to the wetland to the area of the wetland unit itself.			
\Box The area of the basin is less than 10 times the area of the unit points = 5	3		
\boxtimes The area of the basin is 10 to 100 times the area of the unit points = 3	0		
\Box The area of the basin is more than 100 times the area of the unit points = 0			
Entire wetland is in the Flats class points = 5			
Total for D 4Add the points in the boxes above	3		
Rating of Site PotentialIf score is: \Box 12-16 = H \Box 6-11 = M \boxtimes 0-5 = LRecord the rating on the f	first page		
D 5.0. Does the landscape have the potential to support hydrologic functions of the site?			
D 5.1. Does the wetland receive stormwater discharges? \square Yes = 1 \square No = 0	1		
D 5.2. Is >10% of the area within 150 ft of the wetland in land uses that generate excess runoff? \square Yes = 1 \square No = 0	1		
D 5.3. Is more than 25% of the contributing basin of the wetland covered with intensive human land uses (residential at	1		
>1 residence/ac, urban, commercial, agriculture, etc.)? \Box Yes = 1 \Box No = 0	-		
Total for D 5Add the points in the boxes above	3		
Rating of Landscape PotentialIf score is: \square 3 = H \square 1 or 2 = M \square 0 = LRecord the rating on the j	first page		
D 6.0. Are the hydrologic functions provided by the site valuable to society?			
D 6.1. The unit is in a landscape that has flooding problems. Choose the description that best matches conditions around			
the wetland unit being rated. Do not add points. Choose the highest score if more than one condition is met.			
The wetland captures surface water that would otherwise flow down-gradient into areas where flooding has			
damaged human or natural resources (e.g., houses or salmon redds):			
• 🖂 Flooding occurs in a sub-basin that is immediately down-gradient of unit. points = 2	2		
•	Z		
□ Flooding from groundwater is an issue in the sub-basin. points = 1			
\Box The existing or potential outflow from the wetland is so constrained by human or natural conditions that			
the water stored by the wetland cannot reach areas that flood. <i>Explain why</i> points = 0			
the water stored by the wetland cannot reach areas that flood. Explain whypoints = 0There are no problems with flooding downstream of the wetland.points = 0			
the water stored by the wetland cannot reach areas that flood. Explain why points = 0 There are no problems with flooding downstream of the wetland. points = 0 D 6.2. Has the site been identified as important for flood storage or flood conveyance in a regional flood control plan?	0		
the water stored by the wetland cannot reach areas that flood. Explain why points = 0 There are no problems with flooding downstream of the wetland. points = 0 D 6.2. Has the site been identified as important for flood storage or flood conveyance in a regional flood control plan? Yes = 2 No = 0	0		
the water stored by the wetland cannot reach areas that flood. Explain why points = 0 □ There are no problems with flooding downstream of the wetland. points = 0 □ 6.2. Has the site been identified as important for flood storage or flood conveyance in a regional flood control plan? □ Yes = 2 ⊠ No = 0 □ Total for D 6 Add the points in the boxes above	0		

These questions apply to wetlands of all HGM classes.	
Habitat Functions - Indicators that site functions to provide important habitat	
H 1.0. Does the site have the potential to provide habitat?	
H 1.1. Structure of plant community: <i>Indicators are Cowardin classes and strata within the Forested class.</i> Check the Cowardin plant classes in the wetland. <i>Up to 10 patches may be combined for each class to meet the threshold of ¼ ac or more than 10% of the unit if it is smaller than 2.5 ac. Add the number of structures checked.</i>	
□ Aquatic bed 4 structures or more: points = 4	
☑ Emergent 3 structures: points = 2	1
\boxtimes Scrub-shrub (areas where shrubs have > 30% cover) 2 structures: points = 1	T
□ Forested (areas where trees have > 30% cover) 1 structure: points = 0	
If the unit has a Forested class, check if: The Forested class has 3 out of 5 strata (canopy, sub-canopy, shrubs, herbaceous, moss/ground-cover) that each cover 20% within the Forested polygon	
H 1.2. Hydroperiods	
Check the types of water regimes (hydroperiods) present within the wetland. The water regime has to cover more than 10% of the wetland or ¼ ac to count (<i>see text for descriptions of hydroperiods</i>).	
Permanently flooded or inundated 4 or more types present: points = 3	
□ Seasonally flooded or inundated 3 types present: points = 2	
☑ Occasionally flooded or inundated 2 types present: points = 1	1
☐ Saturated only 1 type present: points = 0	
Permanently flowing stream or river in, or adjacent to, the wetland	
Seasonally flowing stream in, or adjacent to, the wetland	
Lake Fringe wetland 2 points	
☐ Freshwater tidal wetland 2 points	
H 1.3. Richness of plant species f_{1}	
Count the number of plant species in the wetland that cover at least 10 ft.	
the species. Do not include Eurasian milfoil, reed canaryarass, purple loosestrife, Canadian thistle	1
If you counted: $\square > 19$ species points = 2	-
⊠ 5 - 19 species points = 1	
\Box < 5 species points = 0	
H 1.4. Interspersion of habitats	
Decide from the diagrams below whether interspersion among Cowardin plants classes (described in H 1.1), or the classes and unvegetated areas (can include open water or mudflats) is high, moderate, low, or none. <i>If you</i>	
nave jour or more plant classes or three classes and open water, the rating is always high.	
	1
\Box None = 0 points \Box Low* = 1 point \Box Moderate = 2 points	T
*Stream not meandering	
All three diagrams in this row are HIGH = 3 points	

Wetland EB11

H 1.5. Special habitat features:	
Check the habitat features that are present in the wetland. The number of checks is the number of points.	
Large, downed, woody debris within the wetland (> 4 in diameter and 6 ft long).	
\Box Standing snags (dbh > 4 in) within the wetland	
Undercut banks are present for at least 6.6 ft (2 m) and/or overhanging plants extends at least 3.3 ft (1 m) over a stream (or ditch) in, or contiguous with the wetland, for at least 33 ft (10 m)	
Stable steep banks of fine material that might be used by beaver or muskrat for denning (> 30 degree slope) OR signs of recent beaver activity are present (cut shrubs or trees that have not yet weathered where wood is exposed)	1
At least ¼ ac of thin-stemmed persistent plants or woody branches are present in areas that are permanently or seasonally inundated (structures for egg-laying by amphibians)	
Invasive plants cover less than 25% of the wetland area in every stratum of plants (see H 1.1 for list of strata)	
Total for H 1Add the points in the boxes above	5
Rating of Site Potential If score is: \Box 15-18 = H \Box 7-14 = M \boxtimes 0-6 = LRecord the rating on the second secon	the first page

H 2.0. Does the landscape have the potential to support the habitat functions of the site?	
H 2.1. Accessible habitat (include only habitat that directly abuts wetland unit).	
Calculate: % undisturbed habitat + [(% moderate and low intensity land uses)/2] = see Figs. 2-5	
If total accessible habitat is:	
□ > 1/3 (33.3%) of 1 km Polygon points = 3	0
□ 20-33% of 1 km Polygon points = 2	
□ 10-19% of 1 km Polygon points = 1	
⊠ < 10% of 1 km Polygon points = 0	
H 2.2. Undisturbed habitat in 1 km Polygon around the wetland.	
Calculate: % undisturbed habitat + [(% moderate and low intensity land uses)/2] = see Figs. 2-5	
Undisturbed habitat > 50% of Polygon points = 3	
☑ Undisturbed habitat 10-50% and in 1-3 patches points = 2	2
Undisturbed habitat 10-50% and > 3 patches points = 1	
\Box Undisturbed habitat < 10% of 1 km Polygon points = 0	
H 2.3. Land use intensity in 1 km Polygon: If	
\Box > 50% of 1 km Polygon is high intensity land use points = (- 2)	-2
□ ≤ 50% of 1 km Polygon is high intensity points = 0	
Total for H 2 Add the points in the boxes above	0

Rating of Landscape Potential If score is: \Box **4-6 = H** \Box **1-3 = M** \boxtimes **< 1 = L**

Record the rating on the first page

H 3.0. Is the habitat provided by the site valuable to society?	
H 3.1. Does the site provide habitat for species valued in laws, regulations, or policies? <i>Chat that applies to the wetland being rated.</i>	oose only the highest score
Site meets ANY of the following criteria:	points = 2
It has 3 or more priority habitats within 100 m (see next page)	
It provides habitat for Threatened or Endangered species (any plant or anim	al on the state or federal lists)
It is mapped as a location for an individual WDFW priority species	2
\Box It is a Wetland of High Conservation Value as determined by the Departmen	t of Natural Resources
It has been categorized as an important habitat site in a local or regional cor a Shoreline Master Plan, or in a watershed plan	nprehensive plan, in
\square Site has 1 or 2 priority habitats (listed on next page) within 100 m	points = 1
\Box Site does not meet any of the criteria above	points = 0
Rating of Value If score is: $\square 2 = H \square 1 = M \square 0 = L$	Record the rating on the first page
Wetland Rating System for Western WA ¹ 2014	14

Wetland Rating System for Western WA: 2014 Update Rating Form – Effective January 1, 2015

WDFW Priority Habitats

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

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

- □ **Aspen Stands:** Pure or mixed stands of aspen greater than 1 ac (0.4 ha).
- Biodiversity Areas and Corridors: Areas of habitat that are relatively important to various species of native fish and wildlife (*full descriptions in WDFW PHS report*).
- □ **Herbaceous Balds:** Variable size patches of grass and forbs on shallow soils over bedrock.
- □ **Old-growth/Mature forests**: <u>Old-growth west of Cascade crest</u> Stands of at least 2 tree species, forming a multilayered canopy with occasional small openings; with at least 8 trees/ac (20 trees/ha) > 32 in (81 cm) dbh or > 200 years of age. <u>Mature forests</u> – Stands with average diameters exceeding 21 in (53 cm) dbh; crown cover may be less than 100%; decay, decadence, numbers of snags, and quantity of large downed material is generally less than that found in old-growth; 80-200 years old west of the Cascade crest.
- □ **Oregon White Oak:** Woodland stands of pure oak or oak/conifer associations where canopy coverage of the oak component is important (*full descriptions in WDFW PHS report p. 158 see web link above*).
- **Riparian**: The area adjacent to aquatic systems with flowing water that contains elements of both aquatic and terrestrial ecosystems which mutually influence each other.
- □ **Westside Prairies:** Herbaceous, non-forested plant communities that can either take the form of a dry prairie or a wet prairie (*full descriptions in WDFW PHS report p. 161 see web link above*).
- ⊠ **Instream:** The combination of physical, biological, and chemical processes and conditions that interact to provide functional life history requirements for instream fish and wildlife resources.
- □ **Nearshore**: Relatively undisturbed nearshore habitats. These include Coastal Nearshore, Open Coast Nearshore, and Puget Sound Nearshore. (*full descriptions of habitats and the definition of relatively undisturbed are in WDFW report see web link on previous page*).
- □ **Caves:** A naturally occurring cavity, recess, void, or system of interconnected passages under the earth in soils, rock, ice, or other geological formations and is large enough to contain a human.
- □ **Cliffs:** Greater than 25 ft (7.6 m) high and occurring below 5000 ft elevation.
- □ **Talus:** Homogenous areas of rock rubble ranging in average size 0.5 6.5 ft (0.15 2.0 m), composed of basalt, andesite, and/or sedimentary rock, including riprap slides and mine tailings. May be associated with cliffs.
- Snags and Logs: Trees are considered snags if they are dead or dying and exhibit sufficient decay characteristics to enable cavity excavation/use by wildlife. Priority snags have a diameter at breast height of > 20 in (51 cm) in western Washington and are > 6.5 ft (2 m) in height. Priority logs are > 12 in (30 cm) in diameter at the largest end, and > 20 ft (6 m) long.

Note: All vegetated wetlands are by definition a priority habitat but are not included in this list because they are addressed elsewhere.

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Wetland EB12 Rating Form

RATING SUMMARY – Western Washington

Name of wetland (or ID #): Wetland EB12 Date of site visit: 6/5/2015, 2/27/2020

Rated by: <u>K. Crandall</u> Trained by Ecology? \boxtimes Y \Box N Date of training: <u>9/2014</u>

HGM Class used for rating: Slope Wetland has multiple HGM classes? \Box Y \boxtimes N

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

OVERALL WETLAND CATEGORY (based on functions \boxtimes or special characteristics \square)

Category of wetland based on FUNCTIONS

- **Category I** Total score = 23 27
- **Category II** Total score = 20 22
- Category III Total score = 16 19
- **Category IV** Total score = 9 15

FUNCTION	Improving Water Quality	Hydrologic	Habitat	
		Circle the ap	propriate ratings	
Site Potential	H M L	H M (L)	H M (L)	
Landscape Potential	H (M) L	H (M) L	H M L	
Value	H M L	H M L	H M L	TOTAL
Score Based on Ratings	5	6	5	16

Score for each function based on three ratings (order of ratings is not important) 9 = H,H,H 8 = H,H,M 7 = H,H,L 7 = H,M,M 6 = H,M,L 6 = M,M,M 5 = H,L,L 5 = M,M,L

4 = M,L,L

3 = L, L, L

Category based on SPECIAL CHARACTERISTICS of wetland

CHARACTERISTIC	CATEGORY		
Estuarine	I II		
Wetland of High Conservation Value	I		
Bog	I		
Mature Forest	I		
Old Growth Forest	I		
Coastal Lagoon	I II		
Interdunal	I II	III IV	
None of the above	\boxtimes		

Maps and figures required to answer questions correctly for Western Washington

Slope Wetlands

Map of:	To answer questions:	Figure #
Cowardin plant classes	Н 1.1, Н 1.4	EB12-1
Hydroperiods	H 1.2	EB12-2
Plant cover of dense trees, shrubs, and herbaceous plants	S 1.3	EB12-3
Plant cover of dense, rigid trees, shrubs, and herbaceous plants (can be added to figure above)	S 4.1	EB12-3
Boundary of 150 ft buffer (can be added to another figure)	S 2.1, S 5.1	EB12-2
1 km Polygon: Area that extends 1 km from entire wetland edge - including polygons for accessible habitat and undisturbed habitat	H 2.1, H 2.2, H 2.3	2 to 5
Screen capture of map of 303(d) listed waters in basin (from Ecology website)	S 3.1, S 3.2	7
Screen capture of list of TMDLs for WRIA in which unit is found (from web)	S 3.3	1

HGM Classification of Wetlands in Western Washington

For questions 1-7, the criteria described must apply to the entire unit being rated.

If the hydrologic criteria listed in each question do not apply to the entire unit being rated, you probably have a unit with multiple HGM classes. In this case, identify which hydrologic criteria in questions 1-7 apply, and go to Question 8.

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

 \boxtimes NO – go to 2 \square YES – the wetland class is **Tidal Fringe** – go to 1.1

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

□ NO - Saltwater Tidal Fringe (Estuarine) □ YES - Freshwater Tidal Fringe If your wetland can be classified as a Freshwater Tidal Fringe use the forms for **Riverine** wetlands. If it is Saltwater Tidal Fringe it is an **Estuarine** wetland and is not scored. This method **cannot** be used to score functions for estuarine wetlands.

106. 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.

 \boxtimes NO – go to 3 \square **YES** – The wetland class is **Flats** *If your wetland can be classified as a Flats wetland, use the form for* **Depressional** *wetlands.*

- 107. Does the entire wetland unit **meet all** of the following criteria?
 - □ The vegetated part of the wetland is on the shores of a body of permanent open water (without any plants on the surface at any time of the year) at least 20 ac (8 ha) in size;
 - \Box At least 30% of the open water area is deeper than 6.6 ft (2 m).

⊠ NO – go to 4 □ **YES** – The wetland class is **Lake Fringe** (Lacustrine Fringe)

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

- ⊠ The wetland is on a slope (*slope can be very gradual*),
- ⊠ The water flows through the wetland in one direction (unidirectional) and usually comes from seeps. It may flow subsurface, as sheetflow, or in a swale without distinct banks,
- ⊠ The water leaves the wetland **without being impounded**.

□ NO – go to 5

⊠ **YES** – The wetland class is **Slope**

NOTE: Surface water does not pond in these type of wetlands except occasionally in very small and shallow depressions or behind hummocks (depressions are usually <3 ft diameter and less than 1 ft deep).

- 109. Does the entire wetland unit **meet all** of the following criteria?
 - □ The unit is in a valley, or stream channel, where it gets inundated by overbank flooding from that stream or river,
 - □ The overbank flooding occurs at least once every 2 years.

□ NO – go to 6 □ YES – The wetland class is **Riverine NOTE**: The Riverine unit can contain depressions that are filled with water when the river is not flooding

110. 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.*

 \Box NO – go to 7

□ YES – The wetland class is Depressional

111. 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

112. Your wetland unit seems to be difficult to classify and probably contains several different HGM classes. For example, seeps at the base of a slope may grade into a riverine floodplain, or a small stream within a Depressional wetland has a zone of flooding along its sides. GO BACK AND IDENTIFY WHICH OF THE HYDROLOGIC REGIMES DESCRIBED IN QUESTIONS 1-7 APPLY TO DIFFERENT AREAS IN THE UNIT (make a rough sketch to help you decide). Use the following table to identify the appropriate class to use for the rating system if you have several HGM classes present within the wetland unit being scored.

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

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

If you are still unable to determine which of the above criteria apply to your wetland, or if you have **more than 2 HGM classes** within a wetland boundary, classify the wetland as Depressional for the rating.

□ More than 2 HGM classes

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

S 2.0. Does the landscape have the potential to support the water quality function of the site?	
S 2.1. Is > 10% of the area within 150 ft on the uphill side of the wetland in land uses that generate pollutants?	1
\boxtimes Yes = 1 \square No = 0	Ţ
S 2.2. Are there other sources of pollutants coming into the wetland that are not listed in question S 2.1?	0
Other sources: \Box Yes = 1 \boxtimes No = 0	0
Total for S 2Add the points in the boxes above	1

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

Record the rating on the first page

S 3.0. Is the water quality improvement provided by the site valuable to society?	
S 3.1. Does the wetland discharge directly (i.e., within 1 mi) to a stream, river, lake, or marine water that is on the 303(d) list?	0
S 3.2. Is the wetland in a basin or sub-basin where water quality is an issue? At least one aquatic resource in the basin is on the 303(d) list. Xes = 1 No = 0	1
S 3.3. Has the site been identified in a watershed or local plan as important for maintaining water quality? Answer YES if there is a TMDL for the basin in which unit is found.	0
Total for S 3Add the points in the boxes above	1

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

Record the rating on the first page

SLOPE WETLANDS

Hydrologic Functions - Indicators that the site functions to reduce flooding and stream erosion S 4.0. Does the site have the potential to reduce flooding and stream erosion? S 4.1. Characteristics of plants that reduce the velocity of surface flows during storms: Choose the points appropriate for the description that best fits conditions in the wetland. Stems of plants should be thick enough (usually >1/8, in), or dense enough, to remain erect during surface flows. 0 Dense, uncut, rigid plants cover > 90% of the area of the wetland points = 1 All other conditions points = 0

Rating of Site Potential If score is: $\Box \mathbf{1} = \mathbf{M} \otimes \mathbf{0} = \mathbf{L}$

Record the rating on the first page

S 5.0. Does the landscape have the potential to support the hydrologic functions of the site?			
S 5.1. Is more than 25% of the area within 150 ft upslope of wetland in land uses or cover that generate excess			
surface runoff? \square Yes = 1 \square No = 0			

Rating of Landscape Potential If score is: 🛛 1 = M 🗌 0 = L

Record the rating on the first page

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

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

Record the rating on the first page

NOTES and FIELD OBSERVATIONS:

These questions apply to wetlands of all HGM classes. Habitat Functions - Indicators that site functions to provide important babitat	
H 1.0. Does the site have the potential to provide habitat?	
H 1.1. Structure of plant community: Indicators are Cowardin classes and strata within the Forested class. Check the Cowardin plant classes in the wetland. Up to 10 patches may be combined for each class to meet the threshold of ¼ ac or more than 10% of the unit if it is smaller than 2.5 ac. Add the number of structures checked. □ Aquatic bed 4 structures or more: points = 4 ⊠ Emergent 3 structures: points = 2 ⊠ Scrub-shrub (areas where shrubs have > 30% cover) 2 structures: points = 1 □ Forested (areas where trees have > 30% cover) 1 structure: points = 0 If the unit has a Forested class, check if: □ The Forested class has 3 out of 5 strata (canopy, sub-canopy, shrubs, herbaceous, moss/ground-cover) that each cover 20% within the Forested polygon	1
H 1.2. Hydroperiods Check the types of water regimes (hydroperiods) present within the wetland. The water regime has to cover more than 10% of the wetland or ¼ ac to count (see text for descriptions of hydroperiods). □ Permanently flooded or inundated 4 or more types present: points = 3 □ Seasonally flooded or inundated 3 types present: points = 2 □ Occasionally flooded or inundated 2 types present: points = 1 □ Saturated only 1 type present: points = 0 □ Permanently flowing stream or river in, or adjacent to, the wetland 2 points □ Lake Fringe wetland 2 points □ Freshwater tidal wetland 2 points	1
H 1.3. Richness of plant species Count the number of plant species in the wetland that cover at least 10 ft ² . Different patches of the same species can be combined to meet the size threshold and you do not have to name the species. Do not include Eurasian milfoil, reed canarygrass, purple loosestrife, Canadian thistle If you counted: > 19 species ∅ 5 - 19 species □ < 5 species	1
H 1.4. Interspersion of habitats Decide from the diagrams below whether interspersion among Cowardin plants classes (described in H 1.1), or the classes and unvegetated areas (can include open water or mudflats) is high, moderate, low, or none. <i>If you have four or more plant classes or three classes and open water, the rating is always high.</i> None = 0 points All three diagrams in this row are HIGH = 3 points HIGH = 3 points	1

Wetland EB12

H 1.5. Special habitat features:		
Check the habitat features that are present in the wetland. The number of cl	ecks is the number of points.	
oxtimes Large, downed, woody debris within the wetland (> 4 in diameter and 6 ft	long).	
Standing snags (dbh > 4 in) within the wetland		
Undercut banks are present for at least 6.6 ft (2 m) and/or overhanging pl over a stream (or ditch) in, or contiguous with the wetland, for at least 33	ants extends at least 3.3 ft (1 m) ft (10 m)	
Stable steep banks of fine material that might be used by beaver or muskrat for denning (> 30 degree slope) OR signs of recent beaver activity are present (cut shrubs or trees that have not yet weathered where wood is exposed)		1
At least ¼ ac of thin-stemmed persistent plants or woody branches are properties of thin-stemmed persistent plants or woody branches are properties.	esent in areas that are bians)	
Invasive plants cover less than 25% of the wetland area in every stratum o strata)	of plants (<i>see H 1.1 for list of</i>	
Total for H 1	Add the points in the boxes above	5
Rating of Site Potential If score is: 15-18 = H 7-14 = M O-6 = L	Record the rating on t	he first page

H 2.0. Does the landscape have the potential to support the habitat functions of the site? H 2.1. Accessible habitat (include only habitat that directly abuts wetland unit). Calculate: % undisturbed habitat + [(% moderate and low intensity land uses)/2] = see Figs. 2-5 If total accessible habitat is: 0 \Box > 1/3 (33.3%) of 1 km Polygon points = 3 □ 20-33% of 1 km Polygon points = 2 □ 10-19% of 1 km Polygon points = 1 \boxtimes < 10% of 1 km Polygon points = 0H 2.2. Undisturbed habitat in 1 km Polygon around the wetland. Calculate: % undisturbed habitat + [(% moderate and low intensity land uses)/2] = see Figs. 2-5 □ Undisturbed habitat > 50% of Polygon points = 3 2 Undisturbed habitat 10-50% and in 1-3 patches points = 2 \Box Undisturbed habitat 10-50% and > 3 patches points = 1 □ Undisturbed habitat < 10% of 1 km Polygon points = 0 H 2.3. Land use intensity in 1 km Polygon: If -2 ⊠ > 50% of 1 km Polygon is high intensity land use points = (-2) $\Box \leq 50\%$ of 1 km Polygon is high intensity points = 0 Add the points in the boxes above 0

Total for H 2

Rating of Landscape Potential If score is: \Box **4-6 = H** \Box **1-3 = M** \boxtimes **< 1 = L**

Record the rating on the first page

H 3.0. Is the habitat provided by the site valuable to society?	
H 3.1. Does the site provide habitat for species valued in laws, regulations, or policies? Choose only the high	est score
that applies to the wetland being rated.	
Site meets ANY of the following criteria:	points = 2
🛛 It has 3 or more priority habitats within 100 m (see next page)	
\Box It provides habitat for Threatened or Endangered species (any plant or animal on the state or f	federal lists)
\Box It is mapped as a location for an individual WDFW priority species	2
\Box It is a Wetland of High Conservation Value as determined by the Department of Natural Resou	irces
\Box It has been categorized as an important habitat site in a local or regional comprehensive plan,	, in
a Shoreline Master Plan, or in a watershed plan	
\square Site has 1 or 2 priority habitats (listed on next page) within 100 m	points = 1
\Box Site does not meet any of the criteria above	points = 0
Rating of Value If score is: $\boxtimes 2 = H$ $\square 1 = M$ $\square 0 = L$ Record is	the rating on the first page

Wetland Rating System for Western WA: 2014 Update Rating Form – Effective January 1, 2015

WDFW Priority Habitats

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

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

- □ **Aspen Stands:** Pure or mixed stands of aspen greater than 1 ac (0.4 ha).
- Biodiversity Areas and Corridors: Areas of habitat that are relatively important to various species of native fish and wildlife (*full descriptions in WDFW PHS report*).
- □ **Herbaceous Balds:** Variable size patches of grass and forbs on shallow soils over bedrock.
- □ **Old-growth/Mature forests:** <u>Old-growth west of Cascade crest</u> Stands of at least 2 tree species, forming a multilayered canopy with occasional small openings; with at least 8 trees/ac (20 trees/ha) > 32 in (81 cm) dbh or > 200 years of age. <u>Mature forests</u> – Stands with average diameters exceeding 21 in (53 cm) dbh; crown cover may be less than 100%; decay, decadence, numbers of snags, and quantity of large downed material is generally less than that found in old-growth; 80-200 years old west of the Cascade crest.
- □ **Oregon White Oak:** Woodland stands of pure oak or oak/conifer associations where canopy coverage of the oak component is important (*full descriptions in WDFW PHS report p. 158 see web link above*).
- **Riparian**: The area adjacent to aquatic systems with flowing water that contains elements of both aquatic and terrestrial ecosystems which mutually influence each other.
- □ Westside Prairies: Herbaceous, non-forested plant communities that can either take the form of a dry prairie or a wet prairie (*full descriptions in WDFW PHS report p. 161 see web link above*).
- ⊠ **Instream:** The combination of physical, biological, and chemical processes and conditions that interact to provide functional life history requirements for instream fish and wildlife resources.
- □ **Nearshore**: Relatively undisturbed nearshore habitats. These include Coastal Nearshore, Open Coast Nearshore, and Puget Sound Nearshore. (*full descriptions of habitats and the definition of relatively undisturbed are in WDFW report see web link on previous page*).
- □ **Caves:** A naturally occurring cavity, recess, void, or system of interconnected passages under the earth in soils, rock, ice, or other geological formations and is large enough to contain a human.
- □ **Cliffs:** Greater than 25 ft (7.6 m) high and occurring below 5000 ft elevation.
- □ **Talus:** Homogenous areas of rock rubble ranging in average size 0.5 6.5 ft (0.15 2.0 m), composed of basalt, andesite, and/or sedimentary rock, including riprap slides and mine tailings. May be associated with cliffs.
- Snags and Logs: Trees are considered snags if they are dead or dying and exhibit sufficient decay characteristics to enable cavity excavation/use by wildlife. Priority snags have a diameter at breast height of > 20 in (51 cm) in western Washington and are > 6.5 ft (2 m) in height. Priority logs are > 12 in (30 cm) in diameter at the largest end, and > 20 ft (6 m) long.

Note: All vegetated wetlands are by definition a priority habitat but are not included in this list because they are addressed elsewhere.

Wetland Rating System for Western WA: 2014 Update Rating Form – Effective January 1, 2015 This page left blank intentionally

Wetland EB13 Rating Form

RATING SUMMARY – Western Washington

Name of wetland (or ID #): Wetland EB13Date of site visit: 6/15/2015, 2/27/2020Rated by: K. CrandallTrained by Ecology? \boxtimes Y \square NDate of training: 9/2014

HGM Class used for rating: Slope Wetland has multiple HGM classes? \Box Y \boxtimes N

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

OVERALL WETLAND CATEGORY (based on functions \square or special characteristics \square)

Category of wetland based on FUNCTIONS

- **Category I** Total score = 23 27
- **Category II** Total score = 20 22
- Category III Total score = 16 19
- **Category IV** Total score = 9 15

FUNCTION	l Wa	mprov ater Qu	ving uality	Ну	drol	ogic	ŀ	labit	at	
				(Circle	the ap	oroprie	ate ra	tings	
Site Potential	Н	(M)	L	Н	Μ		Н	М	(l)	
Landscape Potential	Н	М		Н	Μ		Н	Μ	$\overline{(1)}$	
Value	H	М	L	H	Μ	L	H	Μ	L	ΤΟΤΑ
Score Based on Ratings		6			5			5		16

Score for each function based on three ratings (order of ratings is not *important*) 9 = H, H, H8 = H, H, M7 = H, H, L7 = H,M,M 6 = H, M, L6 = M, M, M5 = H,L,L5 = M,M,L 4 = M,L,L 3 = L,L,L

Category based on SPECIAL CHARACTERISTICS of wetland

CHARACTERISTIC	CATEGORY		
Estuarine	I II		
Wetland of High Conservation Value	I		
Bog	I		
Mature Forest	I		
Old Growth Forest	I		
Coastal Lagoon	Ι	II	
Interdunal	I II	III IV	
None of the above		\boxtimes	

Maps and figures required to answer questions correctly for Western Washington

Slope Wetlands

Map of:	To answer questions:	Figure #
Cowardin plant classes	H 1.1, H 1.4	EB12-1
Hydroperiods	H 1.2	EB12-2
Plant cover of dense trees, shrubs, and herbaceous plants	S 1.3	EB12-3
Plant cover of dense, rigid trees, shrubs, and herbaceous plants (can be added to figure above)	S 4.1	EB12-3
Boundary of 150 ft buffer (can be added to another figure)	S 2.1, S 5.1	EB12-2
1 km Polygon: Area that extends 1 km from entire wetland edge - including polygons for accessible habitat and undisturbed habitat	H 2.1, H 2.2, H 2.3	2 to 5
Screen capture of map of 303(d) listed waters in basin (from Ecology website)	S 3.1, S 3.2	7
Screen capture of list of TMDLs for WRIA in which unit is found (from web)	S 3.3	1

HGM Classification of Wetlands in Western Washington

For questions 1-7, the criteria described must apply to the entire unit being rated.

If the hydrologic criteria listed in each question do not apply to the entire unit being rated, you probably have a unit with multiple HGM classes. In this case, identify which hydrologic criteria in questions 1-7 apply, and go to Question 8.

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

 \boxtimes NO – go to 2 \square YES – the wetland class is **Tidal Fringe** – go to 1.1

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

□ NO - Saltwater Tidal Fringe (Estuarine) □ YES - Freshwater Tidal Fringe If your wetland can be classified as a Freshwater Tidal Fringe use the forms for **Riverine** wetlands. If it is Saltwater Tidal Fringe it is an **Estuarine** wetland and is not scored. This method **cannot** be used to score functions for estuarine wetlands.

114. 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.

 \boxtimes NO – go to 3 \square **YES** – The wetland class is **Flats** *If your wetland can be classified as a Flats wetland, use the form for* **Depressional** *wetlands.*

- 115. Does the entire wetland unit **meet all** of the following criteria?
 - □ The vegetated part of the wetland is on the shores of a body of permanent open water (without any plants on the surface at any time of the year) at least 20 ac (8 ha) in size;
 - \Box At least 30% of the open water area is deeper than 6.6 ft (2 m).

⊠ NO – go to 4 □ **YES** – The wetland class is **Lake Fringe** (Lacustrine Fringe)

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

- \boxtimes The wetland is on a slope (*slope can be very gradual*),
- ⊠ The water flows through the wetland in one direction (unidirectional) and usually comes from seeps. It may flow subsurface, as sheetflow, or in a swale without distinct banks,
- ⊠ The water leaves the wetland **without being impounded**.

□ NO – go to 5

⊠ **YES** – The wetland class is **Slope**

NOTE: Surface water does not pond in these type of wetlands except occasionally in very small and shallow depressions or behind hummocks (depressions are usually <3 ft diameter and less than 1 ft deep).

- 117. Does the entire wetland unit **meet all** of the following criteria?
 - □ The unit is in a valley, or stream channel, where it gets inundated by overbank flooding from that stream or river,
 - □ The overbank flooding occurs at least once every 2 years.

□ NO – go to 6 □ YES – The wetland class is **Riverine NOTE**: The Riverine unit can contain depressions that are filled with water when the river is not flooding

118. 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.*

 \Box NO – go to 7

□ YES – The wetland class is Depressional

119. 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

120. Your wetland unit seems to be difficult to classify and probably contains several different HGM classes. For example, seeps at the base of a slope may grade into a riverine floodplain, or a small stream within a Depressional wetland has a zone of flooding along its sides. GO BACK AND IDENTIFY WHICH OF THE HYDROLOGIC REGIMES DESCRIBED IN QUESTIONS 1-7 APPLY TO DIFFERENT AREAS IN THE UNIT (make a rough sketch to help you decide). Use the following table to identify the appropriate class to use for the rating system if you have several HGM classes present within the wetland unit being scored.

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

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

If you are still unable to determine which of the above criteria apply to your wetland, or if you have **more than 2 HGM classes** within a wetland boundary, classify the wetland as Depressional for the rating.

□ More than 2 HGM classes

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

S 2.0. Does the landscape have the potential to support the water quality function of the site?	
S 2.1. Is > 10% of the area within 150 ft on the uphill side of the wetland in land uses that generate pollutants?	0
□ Yes = 1 ⊠ No = 0	0
S 2.2. Are there other sources of pollutants coming into the wetland that are not listed in question S 2.1?	0
Other sources: \Box Yes = 1 \boxtimes No = 0	0
Total for S 2Add the points in the boxes above	0

Rating of Landscape Potential If score is: \Box 1-2 = M \boxtimes 0 = L

Record the rating on the first page

S 3.0. Is the water quality improvement provided by the site valuable to society?	
S 3.1. Does the wetland discharge directly (i.e., within 1 mi) to a stream, river, lake, or marine water that is on the 303(d) list? Xes = 1 No = 0	1
S 3.2. Is the wetland in a basin or sub-basin where water quality is an issue? At least one aquatic resource in the basin is on the 303(d) list. Xes = 1 No = 0	1
S 3.3. Has the site been identified in a watershed or local plan as important for maintaining water quality? Answer YES if there is a TMDL for the basin in which unit is found.	0
Total for S 3Add the points in the boxes above	1

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

Record the rating on the first page

Hydrologic Functions - Indicators that the site functions to reduce flooding and stream erosion S 4.1. Characteristics of plants that reduce the velocity of surface flows during storms: Choose the points appropriate for the description that best fits conditions in the wetland. Stems of plants should be thick enough (usually >1/8, in), or dense enough, to remain erect during surface flows. 0 □ Dense, uncut, **rigid** plants cover > 90% of the area of the wetland points = 1 ⊠ All other conditions points = 0

Record the rating on the first page

S 5.0. Does the landscape have the potential to support the hydrologic functions of the site?	
S 5.1. Is more than 25% of the area within 150 ft upslope of wetland in land uses or cover that generate excess	0
surface runoff? \Box Yes = 1 \boxtimes No = 0	0

Rating of Landscape Potential If score is: $\Box \mathbf{1} = \mathbf{M} \otimes \mathbf{0} = \mathbf{L}$

Record the rating on the first page

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

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

Record the rating on the first page

NOTES and FIELD OBSERVATIONS:

SLOPE WETLANDS

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

Rating of Site Potential If score is: $\Box \mathbf{1} = \mathbf{M} \otimes \mathbf{0} = \mathbf{L}$

These questions apply to wetlands of all HGM classes. Habitat Functions - Indicators that site functions to provide important babitat	
H 1.0. Does the site have the potential to provide habitat?	
H 1.1. Structure of plant community: Indicators are Cowardin classes and strata within the Forested class. Check the Cowardin plant classes in the wetland. Up to 10 patches may be combined for each class to meet the threshold of ¼ ac or more than 10% of the unit if it is smaller than 2.5 ac. Add the number of structures checked. □ Aquatic bed 4 structures or more: points = 4 ∞ Emergent 3 structures: points = 2 □ Scrub-shrub (areas where shrubs have > 30% cover) 2 structures: points = 1 ∞ Forested (areas where trees have > 30% cover) 1 structure: points = 0 If the unit has a Forested class, check if: □ □ The Forested class has 3 out of 5 strata (canopy, sub-canopy, shrubs, herbaceous, moss/ground-cover)	1
H 1.2. Hydroperiods	
Check the types of water regimes (hydroperiods) present within the wetland. The water regime has to cover more than 10% of the wetland or ¼ ac to count (see text for descriptions of hydroperiods). □ Permanently flooded or inundated □ Seasonally flooded or inundated ○ Occasionally flooded or inundated ○ Occasionally flooded or inundated ○ Saturated only □ Permanently flowing stream or river in, or adjacent to, the wetland □ Seasonally flowing stream in, or adjacent to, the wetland □ Lake Fringe wetland □ Freshwater tidal wetland	1
H 1 3 Bichness of plant species	
Count the number of plant species in the wetland that cover at least 10 ft ² . Different patches of the same species can be combined to meet the size threshold and you do not have to name the species. Do not include Eurasian milfoil, reed canarygrass, purple loosestrife, Canadian thistle If you counted: > 19 species \boxtimes 5 - 19 species points = 1 \square < 5 species	1
H 1.4. Interspersion of habitats Decide from the diagrams below whether interspersion among Cowardin plants classes (described in H 1.1), or the classes and unvegetated areas (can include open water or mudflats) is high, moderate, low, or none. <i>If you</i> <i>have four or more plant classes or three classes and open water, the rating is always high.</i> None = 0 points All three diagrams in this row are HIGH = 3 points HIGH = 3 points	1

Wetland EB13

H 1.5. Special habitat features:		
Check the habitat features that are present in the wetland. The number of checks is the number of points.		
\Box Large, downed, woody debris within the wetland (> 4 in diameter and 6 ft long).		
\Box Standing snags (dbh > 4 in) within the wetland		
Undercut banks are present for at least 6.6 ft (2 m) and/or overhanging plants extends at least 3.3 ft (1 m) over a stream (or ditch) in, or contiguous with the wetland, for at least 33 ft (10 m)		
Stable steep banks of fine material that might be used by beaver or muskrat for denning (> 30 degree slope) OR signs of recent beaver activity are present (cut shrubs or trees that have not yet weathered where wood is exposed)		
At least ¼ ac of thin-stemmed persistent plants or woody branches are present in areas that are permanently or seasonally inundated (structures for egg-laying by amphibians)		
Invasive plants cover less than 25% of the wetland area in every stratum of plants (see H 1.1 for list of strata)		
Total for H 1Add the points in the boxes above	4	
Rating of Site Potential If score is: \Box 15-18 = H \Box 7-14 = M \boxtimes 0-6 = L Record the rating or	the first page	

H 2.0. Does the landscape have the potential to support the habitat functions of the site? H 2.1. Accessible habitat (include only habitat that directly abuts wetland unit). Calculate: % undisturbed habitat + [(% moderate and low intensity land uses)/2] = see Figs. 2-5 If total accessible habitat is: \Box > 1/3 (33.3%) of 1 km Polygon 0 points = 3 □ 20-33% of 1 km Polygon points = 2 □ 10-19% of 1 km Polygon points = 1 \boxtimes < 10% of 1 km Polygon points = 0 H 2.2. Undisturbed habitat in 1 km Polygon around the wetland. Calculate: % undisturbed habitat + [(% moderate and low intensity land uses)/2] = see Figs. 2-5 □ Undisturbed habitat > 50% of Polygon points = 3 2 ☑ Undisturbed habitat 10-50% and in 1-3 patches points = 2 \Box Undisturbed habitat 10-50% and > 3 patches points = 1 □ Undisturbed habitat < 10% of 1 km Polygon points = 0 H 2.3. Land use intensity in 1 km Polygon: If -2 ⊠ > 50% of 1 km Polygon is high intensity land use points = (-2) $\Box \leq 50\%$ of 1 km Polygon is high intensity points = 0 Total for H 2 Add the points in the boxes above 0

Rating of Landscape Potential If score is: \Box 4-6 = H \Box 1-3 = M \boxtimes < 1 = L

Record the rating on the first page

H 3.0. Is the habitat provided by the site valuable to society?	
H 3.1. Does the site provide habitat for species valued in laws, regulations, or policies? Choose only the highest score	
that applies to the wetland being rated.	
Site meets ANY of the following criteria: points = 2	
🛛 It has 3 or more priority habitats within 100 m (see next page)	
□ It provides habitat for Threatened or Endangered species (any plant or animal on the state or federal lists)	
It is mapped as a location for an individual WDFW priority species	2
\Box It is a Wetland of High Conservation Value as determined by the Department of Natural Resources	
\Box It has been categorized as an important habitat site in a local or regional comprehensive plan, in	
a Shoreline Master Plan, or in a watershed plan	
\Box Site has 1 or 2 priority habitats (listed on next page) within 100 m points = 1	
\Box Site does not meet any of the criteria above points = 0	
Rating of Value If score is: $\square 2 = H \square 1 = M \square 0 = L$ Record the rating on	the first page

Wetland Rating System for Western WA: 2014 Update Rating Form – Effective January 1, 2015

WDFW Priority Habitats

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

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

- □ **Aspen Stands:** Pure or mixed stands of aspen greater than 1 ac (0.4 ha).
- Biodiversity Areas and Corridors: Areas of habitat that are relatively important to various species of native fish and wildlife (*full descriptions in WDFW PHS report*).
- □ **Herbaceous Balds:** Variable size patches of grass and forbs on shallow soils over bedrock.
- □ **Old-growth/Mature forests**: <u>Old-growth west of Cascade crest</u> Stands of at least 2 tree species, forming a multilayered canopy with occasional small openings; with at least 8 trees/ac (20 trees/ha) > 32 in (81 cm) dbh or > 200 years of age. <u>Mature forests</u> – Stands with average diameters exceeding 21 in (53 cm) dbh; crown cover may be less than 100%; decay, decadence, numbers of snags, and quantity of large downed material is generally less than that found in old-growth; 80-200 years old west of the Cascade crest.
- □ **Oregon White Oak:** Woodland stands of pure oak or oak/conifer associations where canopy coverage of the oak component is important (*full descriptions in WDFW PHS report p. 158 see web link above*).
- **Riparian**: The area adjacent to aquatic systems with flowing water that contains elements of both aquatic and terrestrial ecosystems which mutually influence each other.
- □ **Westside Prairies:** Herbaceous, non-forested plant communities that can either take the form of a dry prairie or a wet prairie (*full descriptions in WDFW PHS report p. 161 see web link above*).
- ⊠ **Instream:** The combination of physical, biological, and chemical processes and conditions that interact to provide functional life history requirements for instream fish and wildlife resources.
- □ **Nearshore**: Relatively undisturbed nearshore habitats. These include Coastal Nearshore, Open Coast Nearshore, and Puget Sound Nearshore. (*full descriptions of habitats and the definition of relatively undisturbed are in WDFW report see web link on previous page*).
- □ **Caves:** A naturally occurring cavity, recess, void, or system of interconnected passages under the earth in soils, rock, ice, or other geological formations and is large enough to contain a human.
- □ **Cliffs:** Greater than 25 ft (7.6 m) high and occurring below 5000 ft elevation.
- □ **Talus:** Homogenous areas of rock rubble ranging in average size 0.5 6.5 ft (0.15 2.0 m), composed of basalt, andesite, and/or sedimentary rock, including riprap slides and mine tailings. May be associated with cliffs.
- Snags and Logs: Trees are considered snags if they are dead or dying and exhibit sufficient decay characteristics to enable cavity excavation/use by wildlife. Priority snags have a diameter at breast height of > 20 in (51 cm) in western Washington and are > 6.5 ft (2 m) in height. Priority logs are > 12 in (30 cm) in diameter at the largest end, and > 20 ft (6 m) long.

Note: All vegetated wetlands are by definition a priority habitat but are not included in this list because they are addressed elsewhere.

Wetland Rating System for Western WA: 2014 Update Rating Form – Effective January 1, 2015 This page left blank intentionally

Wetland EB14 Rating Form

RATING SUMMARY – Western Washington

Name of wetland (or ID #): Wetland EB14Date of site visit: 6/15/2015, 2/27/2020Rated by: K. CrandallTrained by Ecology? \boxtimes Y \square NDate of training: 9/2014

HGM Class used for rating: Slope Wetland has multiple HGM classes? \Box Y \boxtimes N

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

OVERALL WETLAND CATEGORY (based on functions \square or special characteristics \square)

Category of wetland based on FUNCTIONS

- **Category I** Total score = 23 27
- **Category II** Total score = 20 22
- Category III Total score = 16 19
- **Category IV** Total score = 9 15

FUNCTION	Improving Water Quality		Ну	Hydrologic			Habitat			
				(Circle	the ap	propri	iate ra	tings	
Site Potential	Н	Μ	(l)	Н	Μ		Н	(M)	L	
Landscape Potential	Н	(M)	ĩ	Н	Μ		Н	M		
Value	H	М	L	H	Μ	L	H	Μ	L	TOTA
Score Based on Ratings		6			5			6		17

Score for each function based on three ratings (order of ratings is not *important*) 9 = H, H, H8 = H, H, M7 = H, H, L7 = H,M,M 6 = H, M, L6 = M, M, M5 = H, L, L5 = M,M,L 4 = M,L,L

3 = L,L,L

Category based on SPECIAL CHARACTERISTICS of wetland

CHARACTERISTIC	CATEGORY		
Estuarine	I II		
Wetland of High Conservation Value	I		
Bog	I		
Mature Forest	I		
Old Growth Forest	I		
Coastal Lagoon	Ι	II	
Interdunal	I II	III IV	
None of the above		\boxtimes	

Maps and figures required to answer questions correctly for Western Washington

Slope Wetlands

Map of:	To answer questions:	Figure #
Cowardin plant classes	Н 1.1, Н 1.4	EB12-1
Hydroperiods	H 1.2	EB12-2
Plant cover of dense trees, shrubs, and herbaceous plants	S 1.3	EB12-3
Plant cover of dense, rigid trees, shrubs, and herbaceous plants (can be added to figure above)	S 4.1	EB12-3
Boundary of 150 ft buffer (can be added to another figure)	S 2.1, S 5.1	EB12-2
1 km Polygon: Area that extends 1 km from entire wetland edge - including polygons for accessible habitat and undisturbed habitat	H 2.1, H 2.2, H 2.3	2 to 5
Screen capture of map of 303(d) listed waters in basin (from Ecology website)	S 3.1, S 3.2	7
Screen capture of list of TMDLs for WRIA in which unit is found (from web)	S 3.3	1

HGM Classification of Wetlands in Western Washington

For questions 1-7, the criteria described must apply to the entire unit being rated.

If the hydrologic criteria listed in each question do not apply to the entire unit being rated, you probably have a unit with multiple HGM classes. In this case, identify which hydrologic criteria in questions 1-7 apply, and go to Question 8.

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

 \boxtimes NO – go to 2 \square YES – the wetland class is **Tidal Fringe** – go to 1.1

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

□ NO - Saltwater Tidal Fringe (Estuarine) □ YES - Freshwater Tidal Fringe If your wetland can be classified as a Freshwater Tidal Fringe use the forms for **Riverine** wetlands. If it is Saltwater Tidal Fringe it is an **Estuarine** wetland and is not scored. This method **cannot** be used to score functions for estuarine wetlands.

122. 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.*

- 123. Does the entire wetland unit **meet all** of the following criteria?
 - □ The vegetated part of the wetland is on the shores of a body of permanent open water (without any plants on the surface at any time of the year) at least 20 ac (8 ha) in size;
 - \Box At least 30% of the open water area is deeper than 6.6 ft (2 m).

⊠ NO – go to 4 □ **YES** – The wetland class is **Lake Fringe** (Lacustrine Fringe)

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

- ⊠ The wetland is on a slope (*slope can be very gradual*),
- \boxtimes The water flows through the wetland in one direction (unidirectional) and usually comes from seeps. It may flow subsurface, as sheetflow, or in a swale without distinct banks,
- ⊠ The water leaves the wetland **without being impounded**.

□ NO – go to 5

⊠ **YES** – The wetland class is **Slope**

NOTE: Surface water does not pond in these type of wetlands except occasionally in very small and shallow depressions or behind hummocks (depressions are usually <3 ft diameter and less than 1 ft deep).

- 125. Does the entire wetland unit **meet all** of the following criteria?
 - □ The unit is in a valley, or stream channel, where it gets inundated by overbank flooding from that stream or river,
 - □ The overbank flooding occurs at least once every 2 years.

□ NO – go to 6 □ YES – The wetland class is **Riverine NOTE**: The Riverine unit can contain depressions that are filled with water when the river is not flooding

126. 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

127. 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

 $\hfill\square$ **YES** – The wetland class is **Depressional**

128. Your wetland unit seems to be difficult to classify and probably contains several different HGM classes. For example, seeps at the base of a slope may grade into a riverine floodplain, or a small stream within a Depressional wetland has a zone of flooding along its sides. GO BACK AND IDENTIFY WHICH OF THE HYDROLOGIC REGIMES DESCRIBED IN QUESTIONS 1-7 APPLY TO DIFFERENT AREAS IN THE UNIT (make a rough sketch to help you decide). Use the following table to identify the appropriate class to use for the rating system if you have several HGM classes present within the wetland unit being scored.

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

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

If you are still unable to determine which of the above criteria apply to your wetland, or if you have **more than 2 HGM classes** within a wetland boundary, classify the wetland as Depressional for the rating.

□ More than 2 HGM classes
SLOPE WETLANDS		
Water Quality Functions - Indicators that the site functions t	o improve water quality	
S 1.0. Does the site have the potential to improve water quality?		
S 1.1. Characteristics of the average slope of the wetland: (a 1% slope has a 1 ft vertical d 100 ft of horizontal distance) □ Slope is 1% or less	rop in elevation for every	
□ Slope is > 1%-2% □ Slope is > 2%-5%	points = 5 points = 2 points = 1	0
Slope is greater than 5%	points = 0	0
 S 1.3. Characteristics of the plants in the wetland that trap sediments and pollutants: Choose the points appropriate for the description that best fits the plants in the wet have trouble seeing the soil surface (>75% cover), and uncut means not grazed or methan 6 in. Dense, uncut, herbaceous plants > 90% of the wetland area 	etland. Dense means you nowed and plants are higher points = 6	2
 □ Dense, uncut, herbaceous plants > ½ of area ⊠ Dense, woody, plants > ½ of area □ Dense, uncut, herbaceous plants > ¼ of area □ Does not meet any of the criteria above for plants 	points = 3 points = 2 points = 1 points = 0	
Total for S 1 Add th	ne points in the boxes above	2
Rating of Site Potential If score is: 12 = H 6-11 = M 0-5 = L	Record the rating on t	he first page

S 2.0. Does the landscape have the potential to support the water quality function of the site?				
S 2.1. Is > 10% of the area within 150 ft on the uphill side of the wetland in land uses that generate pollutants?				
\Box Yes = 1 \boxtimes No = 0	, j			
S 2.2. Are there other sources of pollutants coming into the wetland that are not listed in question S 2.1?				
Other sources: urban stream \square No = 0	T			
Total for S 2Add the points in the boxes above	1			

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

Record the rating on the first page

S 3.0. Is the water quality improvement provided by the site valuable to society?	
S 3.1. Does the wetland discharge directly (i.e., within 1 mi) to a stream, river, lake, or marine water that is on the 303(d) list?	1
S 3.2. Is the wetland in a basin or sub-basin where water quality is an issue? At least one aquatic resource in the basin is on the 303(d) list. Xes = 1 No = 0	1
S 3.3. Has the site been identified in a watershed or local plan as important for maintaining water quality? Answer YES if there is a TMDL for the basin in which unit is found.	0
Total for S 3Add the points in the boxes above	2

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

Record the rating on the first page

Hydrologic Functions - Indicators that the site functions to reduce flooding and stream erosion S 4.1. Characteristics of plants that reduce the velocity of surface flows during storms: Choose the points appropriate for the description that best fits conditions in the wetland. Stems of plants should be thick enough (usually >1/8, in), or dense enough, to remain erect during surface flows. 0 □ Dense, uncut, **rigid** plants cover > 90% of the area of the wetland points = 1 ⊠ All other conditions points = 0

S 5.0. Does the landscape have the potential to support the hydrologic functions of the site?	
S 5.1. Is more than 25% of the area within 150 ft upslope of wetland in land uses or cover that generate excess	
surface runoff? \Box Yes = 1 \boxtimes No = 0	_

Rating of Landscape Potential If score is: \Box **1** = **M** \boxtimes **0** = **L**

Record the rating on the first page

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

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

Record the rating on the first page

NOTES and FIELD OBSERVATIONS:

SLOPE WETLANDS

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

Rating of Site Potential If score is: $\Box \mathbf{1} = \mathbf{M} \otimes \mathbf{0} = \mathbf{L}$

Record the rating on the first page

These questions apply to wetlands of all HGM classes. Habitat Functions - Indicators that site functions to provide important babitat				
H 1.0. Does the site have the potential to provide habitat?				
H 1.1. Structure of plant community: Indicators are Cowardin classes and strata within the Forested class. Check the Cowardin plant classes in the wetland. Up to 10 patches may be combined for each class to meet the threshold of ¼ ac or more than 10% of the unit if it is smaller than 2.5 ac. Add the number of structures checked. □ Aquatic bed 4 structures or more: points = 4 □ Emergent 3 structures: points = 2 ⊠ Scrub-shrub (areas where shrubs have > 30% cover) 2 structures: points = 1 ⊠ Forested (areas where trees have > 30% cover) 1 structure: points = 0 If the unit has a Forested class, check if: ⊠ ⊠ The Forested class has 3 out of 5 strata (canopy, sub-canopy, shrubs, herbaceous, moss/ground-cover) that each cover 20% within the Forested polygon	2			
H 1.2. Hydroperiods				
Check the types of water regimes (hydroperiods) present within the wetland. The water regime has to cover more than 10% of the wetland or ¼ ac to count (see text for descriptions of hydroperiods). Permanently flooded or inundated 4 or more types present: points = 3 Seasonally flooded or inundated 3 types present: points = 2 Occasionally flooded or inundated 2 types present: points = 1 Saturated only 1 type present: points = 0 Permanently flowing stream or river in, or adjacent to, the wetland 2 points Seasonally flowing stream in, or adjacent to, the wetland 2 points	1			
 H 1.3. Richness of plant species Count the number of plant species in the wetland that cover at least 10 ft². Different patches of the same species can be combined to meet the size threshold and you do not have to name the species. Do not include Eurasian milfoil, reed canarygrass, purple loosestrife, Canadian thistle If you counted: □ > 19 species points = 2 □ < 5 species points = 0 	1			
H 1.4. Interspersion of habitats Decide from the diagrams below whether interspersion among Cowardin plants classes (described in H 1.1), or the classes and unvegetated areas (can include open water or mudflats) is high, moderate, low, or none. <i>If you have four or more plant classes or three classes and open water, the rating is always high.</i> None = 0 points Low = 1 point Low = 1 point KI three diagrams in this row are HIGH = 3 points	2			

Wetland EB14

H 1.5. Special habitat features:	
Check the habitat features that are present in the wetland. The number of checks is the number of points.	
☐ Large, downed, woody debris within the wetland (> 4 in diameter and 6 ft long).	
\boxtimes Standing snags (dbh > 4 in) within the wetland	
Undercut banks are present for at least 6.6 ft (2 m) and/or overhanging plants extends at least 3.3 ft (1 m) over a stream (or ditch) in, or contiguous with the wetland, for at least 33 ft (10 m)	
Stable steep banks of fine material that might be used by beaver or muskrat for denning (> 30 degree slope) OR signs of recent beaver activity are present (cut shrubs or trees that have not yet weathered where wood is exposed)	3
At least ¼ ac of thin-stemmed persistent plants or woody branches are present in areas that are permanently or seasonally inundated (structures for egg-laying by amphibians)	
Invasive plants cover less than 25% of the wetland area in every stratum of plants (see H 1.1 for list of strata)	
Total for H 1Add the points in the boxes above	9

Rating of Site Potential If score is: \Box **15-18 = H** \boxtimes **7-14 = M** \Box **0-6 = L**

Record the rating on the first page

H 2.1. Accessible habitat (include only habitat that directly abuts wetland unit). Calculate: % undisturbed habitat + [(% moderate and low intensity land uses)/2] = see Figs. 2-5 If total accessible habitat is: $\Box + 4(2(22,20)) = f(4)$ we below an example of the second se	
Calculate: % undisturbed habitat + [(% moderate and low intensity land uses)/2] = see Figs. 2-5 If total accessible habitat is: $\Box > 1/2 (2/2) = 20(2) = 51 \text{ km}$ Belower	
If total accessible habitat is: $\Box = 1/2$ (2.2.2.2.1) of 1 km Balance and $\Box = 1/2$	
$\Box > 4/2/22 20() = f 4 \lim_{n \to \infty} D_n \log n = 0$	
$\Box > 1/3 (33.3\%)$ of 1 km Polygon points = 3 U	
□ 20-33% of 1 km Polygon points = 2	
□ 10-19% of 1 km Polygon points = 1	
⊠ < 10% of 1 km Polygon points = 0	
H 2.2. Undisturbed habitat in 1 km Polygon around the wetland.	
Calculate: % undisturbed habitat + [(% moderate and low intensity land uses)/2] = see Figs. 2-5	
\Box Undisturbed habitat > 50% of Polygon points = 3	
☑ Undisturbed habitat 10-50% and in 1-3 patches points = 2	
Undisturbed habitat 10-50% and > 3 patches points = 1	
Undisturbed habitat < 10% of 1 km Polygon points = 0	
H 2.3. Land use intensity in 1 km Polygon: If	
\boxtimes > 50% of 1 km Polygon is high intensity land use points = (- 2) -2	
$\Box \le 50\%$ of 1 km Polygon is high intensity points = 0	
Total for H 2Add the points in the boxes aboveC	

Rating of Landscape Potential If score is: \Box 4-6 = H \Box 1-3 = M \boxtimes < 1 = L

Record the rating on the first page

H 3.0. Is the habitat provided by the site valuable to society?		
H 3.1. Does the site provide habitat for species valued in laws, regulations, or policies? Choose	only the highest score	
that applies to the wetland being rated.		
Site meets ANY of the following criteria:	points = 2	
🛛 It has 3 or more priority habitats within 100 m (see next page)		
\Box It provides habitat for Threatened or Endangered species (any plant or animal on	the state or federal lists)	
It is mapped as a location for an individual WDFW priority species		2
\Box It is a Wetland of High Conservation Value as determined by the Department of N	Natural Resources	
□ It has been categorized as an important habitat site in a local or regional comprehensive plan, in		
a Shoreline Master Plan, or in a watershed plan		
\square Site has 1 or 2 priority habitats (listed on next page) within 100 m	points = 1	
\square Site does not meet any of the criteria above	points = 0	
Rating of Value If score is: \square 2 = H \square 1 = M \square 0 = L	Record the rating on	the first page

WDFW Priority Habitats

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

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

- □ **Aspen Stands:** Pure or mixed stands of aspen greater than 1 ac (0.4 ha).
- Biodiversity Areas and Corridors: Areas of habitat that are relatively important to various species of native fish and wildlife (*full descriptions in WDFW PHS report*).
- □ **Herbaceous Balds:** Variable size patches of grass and forbs on shallow soils over bedrock.
- □ **Old-growth/Mature forests:** <u>Old-growth west of Cascade crest</u> Stands of at least 2 tree species, forming a multilayered canopy with occasional small openings; with at least 8 trees/ac (20 trees/ha) > 32 in (81 cm) dbh or > 200 years of age. <u>Mature forests</u> – Stands with average diameters exceeding 21 in (53 cm) dbh; crown cover may be less than 100%; decay, decadence, numbers of snags, and quantity of large downed material is generally less than that found in old-growth; 80-200 years old west of the Cascade crest.
- □ **Oregon White Oak:** Woodland stands of pure oak or oak/conifer associations where canopy coverage of the oak component is important (*full descriptions in WDFW PHS report p. 158 see web link above*).
- **Riparian**: The area adjacent to aquatic systems with flowing water that contains elements of both aquatic and terrestrial ecosystems which mutually influence each other.
- □ **Westside Prairies:** Herbaceous, non-forested plant communities that can either take the form of a dry prairie or a wet prairie (*full descriptions in WDFW PHS report p. 161 see web link above*).
- ⊠ **Instream:** The combination of physical, biological, and chemical processes and conditions that interact to provide functional life history requirements for instream fish and wildlife resources.
- □ **Nearshore**: Relatively undisturbed nearshore habitats. These include Coastal Nearshore, Open Coast Nearshore, and Puget Sound Nearshore. (*full descriptions of habitats and the definition of relatively undisturbed are in WDFW report see web link on previous page*).
- □ **Caves:** A naturally occurring cavity, recess, void, or system of interconnected passages under the earth in soils, rock, ice, or other geological formations and is large enough to contain a human.
- □ **Cliffs:** Greater than 25 ft (7.6 m) high and occurring below 5000 ft elevation.
- □ **Talus:** Homogenous areas of rock rubble ranging in average size 0.5 6.5 ft (0.15 2.0 m), composed of basalt, andesite, and/or sedimentary rock, including riprap slides and mine tailings. May be associated with cliffs.
- □ Snags and Logs: Trees are considered snags if they are dead or dying and exhibit sufficient decay characteristics to enable cavity excavation/use by wildlife. Priority snags have a diameter at breast height of > 20 in (51 cm) in western Washington and are > 6.5 ft (2 m) in height. Priority logs are > 12 in (30 cm) in diameter at the largest end, and > 20 ft (6 m) long.

Note: All vegetated wetlands are by definition a priority habitat but are not included in this list because they are addressed elsewhere.

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Wetland EB15 Rating Form

RATING SUMMARY – Western Washington

Name of wetland (or ID #): <u>Wetland EB15</u> Date of site visit: 6/19/2015, 2/27/2020Rated by: <u>K. Crandall, R. Kahlo</u> Trained by Ecology? \square Y \square N Date of training: 9/2014

HGM Class used for rating: Slope Wetland has multiple HGM classes? \Box Y \boxtimes N

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

OVERALL WETLAND CATEGORY (based on functions \square or special characteristics \square)

Category of wetland based on FUNCTIONS

- **Category I** Total score = 23 27
- **Category II** Total score = 20 22
- Category III Total score = 16 19
- **Category IV** Total score = 9 15

FUNCTION	Improving Water Quality		Hydrologic		Habitat					
					Circle	the ap	propr	iate ra	tings	
Site Potential	Н	Μ	(l)	Н	M	L	Н	(M)	L	
Landscape Potential	Н	Μ	$\overline{(1)}$	Н	M		Н	М		
Value	H	Μ	L	H	Μ	L	H	М	L	ΤΟΤΑ
Score Based on Ratings		5			6			6		17

Score for each function based on three ratings (order of ratings is not *important*) 9 = H, H, H8 = H, H, M7 = H, H, L7 = H,M,M 6 = H, M, L6 = M, M, M5 = H, L, L5 = M,M,L 4 = M,L,L 3 = L,L,L

Category based on SPECIAL CHARACTERISTICS of wetland

CHARACTERISTIC	CATEGORY		
Estuarine	I II		
Wetland of High Conservation Value	I		
Bog	I		
Mature Forest	I		
Old Growth Forest	I		
Coastal Lagoon	Ι	II	
Interdunal	I II	III IV	
None of the above		\boxtimes	

Maps and figures required to answer questions correctly for Western Washington

Slope Wetlands

Map of:	To answer questions:	Figure #
Cowardin plant classes	H 1.1, H 1.4	EB15-1
Hydroperiods	H 1.2	EB15-2
Plant cover of dense trees, shrubs, and herbaceous plants	S 1.3	EB15-1
Plant cover of dense, rigid trees, shrubs, and herbaceous plants (can be added to figure above)	S 4.1	EB15-1
Boundary of 150 ft buffer (can be added to another figure)	S 2.1, S 5.1	EB15-2
1 km Polygon: Area that extends 1 km from entire wetland edge - including polygons for accessible habitat and undisturbed habitat	H 2.1, H 2.2, H 2.3	2 to 5
Screen capture of map of 303(d) listed waters in basin (from Ecology website)	S 3.1, S 3.2	7
Screen capture of list of TMDLs for WRIA in which unit is found (from web)	S 3.3	1

HGM Classification of Wetlands in Western Washington

For questions 1-7, the criteria described must apply to the entire unit being rated.

If the hydrologic criteria listed in each question do not apply to the entire unit being rated, you probably have a unit with multiple HGM classes. In this case, identify which hydrologic criteria in questions 1-7 apply, and go to Question 8.

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

 \boxtimes NO – go to 2 \square YES – the wetland class is **Tidal Fringe** – go to 1.1

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

□ NO - Saltwater Tidal Fringe (Estuarine) □ YES - Freshwater Tidal Fringe If your wetland can be classified as a Freshwater Tidal Fringe use the forms for **Riverine** wetlands. If it is Saltwater Tidal Fringe it is an **Estuarine** wetland and is not scored. This method **cannot** be used to score functions for estuarine wetlands.

130. 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.

 \boxtimes NO – go to 3 \square **YES** – The wetland class is **Flats** *If your wetland can be classified as a Flats wetland, use the form for* **Depressional** *wetlands.*

- 131. Does the entire wetland unit **meet all** of the following criteria?
 - □ The vegetated part of the wetland is on the shores of a body of permanent open water (without any plants on the surface at any time of the year) at least 20 ac (8 ha) in size;
 - \Box At least 30% of the open water area is deeper than 6.6 ft (2 m).

⊠ NO – go to 4 □ **YES** – The wetland class is **Lake Fringe** (Lacustrine Fringe)

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

- ⊠ The wetland is on a slope (*slope can be very gradual*),
- \boxtimes The water flows through the wetland in one direction (unidirectional) and usually comes from seeps. It may flow subsurface, as sheetflow, or in a swale without distinct banks,
- The water leaves the wetland **without being impounded**.

□ NO – go to 5

⊠ **YES** – The wetland class is **Slope**

NOTE: Surface water does not pond in these type of wetlands except occasionally in very small and shallow depressions or behind hummocks (depressions are usually <3 ft diameter and less than 1 ft deep).

- 133. Does the entire wetland unit **meet all** of the following criteria?
 - □ The unit is in a valley, or stream channel, where it gets inundated by overbank flooding from that stream or river,
 - □ The overbank flooding occurs at least once every 2 years.

□ NO – go to 6 □ YES – The wetland class is **Riverine NOTE**: The Riverine unit can contain depressions that are filled with water when the river is not flooding

134. 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.*

 \Box NO – go to 7

□ YES – The wetland class is Depressional

135. 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

136. Your wetland unit seems to be difficult to classify and probably contains several different HGM classes. For example, seeps at the base of a slope may grade into a riverine floodplain, or a small stream within a Depressional wetland has a zone of flooding along its sides. GO BACK AND IDENTIFY WHICH OF THE HYDROLOGIC REGIMES DESCRIBED IN QUESTIONS 1-7 APPLY TO DIFFERENT AREAS IN THE UNIT (make a rough sketch to help you decide). Use the following table to identify the appropriate class to use for the rating system if you have several HGM classes present within the wetland unit being scored.

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

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

If you are still unable to determine which of the above criteria apply to your wetland, or if you have **more than 2 HGM classes** within a wetland boundary, classify the wetland as Depressional for the rating.

□ More than 2 HGM classes

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

S 2.0. Does the landscape have the potential to support the water quality function of the site?			
S 2.1. Is > 10% of the area within 150 ft on the uphill side of the wetland in land uses that generate pollutants? \Box Yes = 1 \boxtimes No = 0	0		
S 2.2. Are there other sources of pollutants coming into the wetland that are not listed in question S 2.1? Other sources:	0		
Total for S 2Add the points in the boxes above	0		

Rating of Landscape Potential If score is: \Box 1-2 = M \boxtimes 0 = L

Record the rating on the first page

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

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

Record the rating on the first page

SLOPE WETLANDS

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

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

S 4.1. Characteristics of plants that reduce the velocity of surface flows during storms: Choose the points appropriate for the description that best fits conditions in the wetland. Stems of plants should be thick enough (usually >1/8, in), or dense enough, to remain erect during surface flows.
 ☑ Dense, uncut, rigid plants cover > 90% of the area of the wetland points = 1

□ All other conditions

Rating of Site Potential If score is: \square **1** = **M** \square **0** = **L**

Record the rating on the first page

points = 0

1

S 5.0. Does the landscape have the potential to support the hydrologic functions of the site?			
S 5.1. Is more than 25% of the area within 150 ft upslope of wetland in land uses or cover that generate excess			
surface runoff? \Box Yes = 1 \boxtimes No = 0			

Rating of Landscape Potential If score is: $\Box \mathbf{1} = \mathbf{M} \otimes \mathbf{0} = \mathbf{L}$

Record the rating on the first page

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

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

Record the rating on the first page

NOTES and FIELD OBSERVATIONS:

These questions apply to wetlands of all HGM classes.	
H 1 0. Does the site have the potential to provide habitat?	
H 1.1. Structure of plant community: Indicators are Cowardin classes and strata within the Forested class. Check the Cowardin plant classes in the wetland. Up to 10 patches may be combined for each class to meet the threshold of ¼ ac or more than 10% of the unit if it is smaller than 2.5 ac. Add the number of structures checked. □ Aquatic bed 4 structures or more: points = 4 ⊠ Emergent 3 structures: points = 2 ⊠ Scrub-shrub (areas where shrubs have > 30% cover) 2 structures: points = 1 ⊠ Forested (areas where trees have > 30% cover) 1 structure: points = 0 If the unit has a Forested class, check if: ⊠ ⊠ The Forested class has 3 out of 5 strata (canopy, sub-canopy, shrubs, herbaceous, moss/ground-cover) that each cover 20% within the Forested polygon	4
H 1.2. Hydroperiods Check the types of water regimes (hydroperiods) present within the wetland. The water regime has to cover more than 10% of the wetland or ¼ ac to count (see text for descriptions of hydroperiods). □ Permanently flooded or inundated 4 or more types present: points = 3 □ Seasonally flooded or inundated 3 types present: points = 2 ☑ Occasionally flooded or inundated 2 types present: points = 1 ☑ Saturated only 1 type present: points = 0 □ Permanently flowing stream or river in, or adjacent to, the wetland 2 points □ Lake Fringe wetland 2 points	1
H 1.3. Richness of plant species Count the number of plant species in the wetland that cover at least 10 ft ² . Different patches of the same species can be combined to meet the size threshold and you do not have to name the species. Do not include Eurasian milfoil, reed canarygrass, purple loosestrife, Canadian thistle If you counted: > 19 species ∅ 5 - 19 species □ < 5 species	1
H 1.4. Interspersion of habitats Decide from the diagrams below whether interspersion among Cowardin plants classes (described in H 1.1), or the classes and unvegetated areas (can include open water or mudflats) is high, moderate, low, or none. <i>If you</i> <i>have four or more plant classes or three classes and open water, the rating is always high.</i> None = 0 points □ Low = 1 point □ Moderate = 2 points All three diagrams in this row are HIGH = 3 points	3

Wetland EB15

H 1.5. Special habitat features:	
Check the habitat features that are present in the wetland. The number of checks is the number of points.	
Large, downed, woody debris within the wetland (> 4 in diameter and 6 ft long).	
\boxtimes Standing snags (dbh > 4 in) within the wetland	
Undercut banks are present for at least 6.6 ft (2 m) and/or overhanging plants extends at least 3.3 ft (1 m) over a stream (or ditch) in, or contiguous with the wetland, for at least 33 ft (10 m)	
Stable steep banks of fine material that might be used by beaver or muskrat for denning (> 30 degree slope) OR signs of recent beaver activity are present (cut shrubs or trees that have not yet weathered where wood is exposed)	3
At least ¼ ac of thin-stemmed persistent plants or woody branches are present in areas that are permanently or seasonally inundated (structures for egg-laying by amphibians)	
Invasive plants cover less than 25% of the wetland area in every stratum of plants (see H 1.1 for list of strata)	
Total for H 1Add the points in the boxes above	12

Rating of Site Potential If score is: \Box **15-18 = H** \boxtimes **7-14 = M** \Box **0-6 = L**

Record the rating on the first page

H 2.0. Does the landscape have the potential to support the habitat functions of the site?		
H 2.1. Accessible habitat (include only habitat that directly abuts wetland unit).		
Calculate: % undisturbed habitat + [(% moderate and low intensity land uses)/2] = see Figs. 2-5		
If total accessible habitat is:		
\square > 1/3 (33.3%) of 1 km Polygon	points = 3	0
20-33% of 1 km Polygon	points = 2	
\Box 10-19% of 1 km Polygon	points = 1	
⊠ < 10% of 1 km Polygon	points = 0	
H 2.2. Undisturbed habitat in 1 km Polygon around the wetland.		
Calculate: % undisturbed habitat + [(% moderate and low intensity land uses)/2] = see Figs. 2-5		
\Box Undisturbed habitat > 50% of Polygon	points = 3	2
Undisturbed habitat 10-50% and in 1-3 patches	points = 2	2
\Box Undisturbed habitat 10-50% and > 3 patches	points = 1	
Undisturbed habitat < 10% of 1 km Polygon	points = 0	
H 2.3. Land use intensity in 1 km Polygon: If		
\boxtimes > 50% of 1 km Polygon is high intensity land use	points = (- 2)	-2
□ ≤ 50% of 1 km Polygon is high intensity	points = 0	
Total for H 2 Add the points in the	boxes above	0

Rating of Landscape Potential If score is: \Box 4-6 = H \Box 1-3 = M \boxtimes < 1 = L

Record the rating on the first page

H 3.0. Is the habitat provided by the site valuable to society?		
H 3.1. Does the site provide habitat for species valued in laws, regulations, or policies? Choose	only the highest score	
that applies to the wetland being rated.		
Site meets ANY of the following criteria:	points = 2	
It has 3 or more priority habitats within 100 m (see next page)		
It provides habitat for Threatened or Endangered species (any plant or animal or	n the state or federal lists)	
It is mapped as a location for an individual WDFW priority species		2
It is a Wetland of High Conservation Value as determined by the Department of I	Natural Resources	
It has been categorized as an important habitat site in a local or regional compresentation	ehensive plan, in	
a Shoreline Master Plan, or in a watershed plan		
\square Site has 1 or 2 priority habitats (listed on next page) within 100 m	points = 1	
\square Site does not meet any of the criteria above	points = 0	
Rating of Value If score is: \square 2 = H \square 1 = M \square 0 = L	Record the rating on	the first page

WDFW Priority Habitats

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

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

- □ **Aspen Stands:** Pure or mixed stands of aspen greater than 1 ac (0.4 ha).
- Biodiversity Areas and Corridors: Areas of habitat that are relatively important to various species of native fish and wildlife (*full descriptions in WDFW PHS report*).
- □ **Herbaceous Balds:** Variable size patches of grass and forbs on shallow soils over bedrock.
- □ **Old-growth/Mature forests**: <u>Old-growth west of Cascade crest</u> Stands of at least 2 tree species, forming a multilayered canopy with occasional small openings; with at least 8 trees/ac (20 trees/ha) > 32 in (81 cm) dbh or > 200 years of age. <u>Mature forests</u> – Stands with average diameters exceeding 21 in (53 cm) dbh; crown cover may be less than 100%; decay, decadence, numbers of snags, and quantity of large downed material is generally less than that found in old-growth; 80-200 years old west of the Cascade crest.
- □ **Oregon White Oak:** Woodland stands of pure oak or oak/conifer associations where canopy coverage of the oak component is important (*full descriptions in WDFW PHS report p. 158 see web link above*).
- **Riparian**: The area adjacent to aquatic systems with flowing water that contains elements of both aquatic and terrestrial ecosystems which mutually influence each other.
- □ **Westside Prairies:** Herbaceous, non-forested plant communities that can either take the form of a dry prairie or a wet prairie (*full descriptions in WDFW PHS report p. 161 see web link above*).
- ⊠ **Instream:** The combination of physical, biological, and chemical processes and conditions that interact to provide functional life history requirements for instream fish and wildlife resources.
- □ **Nearshore**: Relatively undisturbed nearshore habitats. These include Coastal Nearshore, Open Coast Nearshore, and Puget Sound Nearshore. (*full descriptions of habitats and the definition of relatively undisturbed are in WDFW report see web link on previous page*).
- □ **Caves:** A naturally occurring cavity, recess, void, or system of interconnected passages under the earth in soils, rock, ice, or other geological formations and is large enough to contain a human.
- □ **Cliffs:** Greater than 25 ft (7.6 m) high and occurring below 5000 ft elevation.
- □ **Talus:** Homogenous areas of rock rubble ranging in average size 0.5 6.5 ft (0.15 2.0 m), composed of basalt, andesite, and/or sedimentary rock, including riprap slides and mine tailings. May be associated with cliffs.
- Snags and Logs: Trees are considered snags if they are dead or dying and exhibit sufficient decay characteristics to enable cavity excavation/use by wildlife. Priority snags have a diameter at breast height of > 20 in (51 cm) in western Washington and are > 6.5 ft (2 m) in height. Priority logs are > 12 in (30 cm) in diameter at the largest end, and > 20 ft (6 m) long.

Note: All vegetated wetlands are by definition a priority habitat but are not included in this list because they are addressed elsewhere.

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Wetland EB16 Rating Form

RATING SUMMARY – Western Washington

Name of wetland (or ID #): <u>Wetland EB16</u> Date of site visit: <u>6/19/2015, 2/27/2020</u>

Rated by: <u>K. Crandall, R. Kahlo</u> Trained by Ecology? X Y I N Date of training: <u>9/2014</u>

HGM Class used for rating: Depressional Wetland has multiple HGM classes? \boxtimes Y \square N

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

OVERALL WETLAND CATEGORY (based on functions \square or special characteristics \square)

Category of wetland based on FUNCTIONS

- **Category I** Total score = 23 27
- **Category II** Total score = 20 22
- Category III Total score = 16 19
- **Category IV** Total score = 9 15

FUNCTION	Improving Water Quality		Hydrologic		Habitat				
				Circle	the ap	oropri	ate ra	tings	
Site Potential	H (M)	L	Н	Μ	(L)	Н	(M)	L	
Landscape Potential	нM	L	Н	(M)	Ľ	Н	M		
Value	H M	L	H	М	L	H	Μ	L	ΤΟΤΑ
Score Based on Ratings	7			6			6		19

Score for each function based on three ratings (order of ratings is not *important*) 9 = H, H, H8 = H, H, M7 = H, H, L7 = H,M,M 6 = H, M, L6 = M, M, M5 = H, L, L5 = M,M,L 4 = M,L,L

3 = L,L,L

Category based on SPECIAL CHARACTERISTICS of wetland

CHARACTERISTIC	CATEGORY		
Estuarine	I II		
Wetland of High Conservation Value	I		
Bog	I		
Mature Forest	ire Forest I		
Old Growth Forest		I	
Coastal Lagoon		II	
Interdunal		III IV	
None of the above		\boxtimes	

Maps and figures required to answer questions correctly for Western Washington

Depressional Wetlands

Map of:	To answer questions:	Figure #
Cowardin plant classes	D 1.3, H 1.1, H 1.4	EB16-1
Hydroperiods	D 1.4, H 1.2	EB16-2
Location of outlet (can be added to map of hydroperiods)	D 1.1, D 4.1	EB16-2
Boundary of area within 150 ft of the wetland (can be added to another figure)	D 2.2, D 5.2	EB16-2
Map of the contributing basin	D 4.3, D 5.3	EB16-3
1 km Polygon: Area that extends 1 km from entire wetland edge - including polygons for accessible habitat and undisturbed habitat	H 2.1, H 2.2, H 2.3	2 to 5
Screen capture of map of 303(d) listed waters in basin (from Ecology website)	D 3.1, D 3.2	7
Screen capture of list of TMDLs for WRIA in which unit is found (from web)	D 3.3	1

HGM Classification of Wetlands in Western Washington

For questions 1-7, the criteria described must apply to the entire unit being rated.

If the hydrologic criteria listed in each question do not apply to the entire unit being rated, you probably have a unit with multiple HGM classes. In this case, identify which hydrologic criteria in questions 1-7 apply, and go to Question 8.

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

 \boxtimes NO – go to 2 \square YES – the wetland class is **Tidal Fringe** – go to 1.1

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

□ NO - Saltwater Tidal Fringe (Estuarine) □ YES - Freshwater Tidal Fringe If your wetland can be classified as a Freshwater Tidal Fringe use the forms for **Riverine** wetlands. If it is Saltwater Tidal Fringe it is an **Estuarine** wetland and is not scored. This method **cannot** be used to score functions for estuarine wetlands.

138. 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.*

- 139. Does the entire wetland unit **meet all** of the following criteria?
 - □ The vegetated part of the wetland is on the shores of a body of permanent open water (without any plants on the surface at any time of the year) at least 20 ac (8 ha) in size;
 - \Box At least 30% of the open water area is deeper than 6.6 ft (2 m).

⊠ NO – go to 4 □ YES – The wetland class is Lake Fringe (Lacustrine Fringe)

140. 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**.

 \boxtimes NO – go to 5

□ **YES** – The wetland class is **Slope**

NOTE: Surface water does not pond in these type of wetlands except occasionally in very small and shallow depressions or behind hummocks (depressions are usually <3 ft diameter and less than 1 ft deep).

- 141. Does the entire wetland unit **meet all** of the following criteria?
 - □ The unit is in a valley, or stream channel, where it gets inundated by overbank flooding from that stream or river,
 - □ The overbank flooding occurs at least once every 2 years.

NO − go to 6
VES − The wetland class is Riverine
NOTE: The Riverine unit can contain depressions that are filled with water when the river is not flooding

142. 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.*

 \boxtimes NO – go to 7

□ YES – The wetland class is Depressional

143. 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

144. Your wetland unit seems to be difficult to classify and probably contains several different HGM classes. For example, seeps at the base of a slope may grade into a riverine floodplain, or a small stream within a Depressional wetland has a zone of flooding along its sides. GO BACK AND IDENTIFY WHICH OF THE HYDROLOGIC REGIMES DESCRIBED IN QUESTIONS 1-7 APPLY TO DIFFERENT AREAS IN THE UNIT (make a rough sketch to help you decide). Use the following table to identify the appropriate class to use for the rating system if you have several HGM classes present within the wetland unit being scored.

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

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

If you are still unable to determine which of the above criteria apply to your wetland, or if you have **more than 2 HGM classes** within a wetland boundary, classify the wetland as Depressional for the rating.

□ More than 2 HGM classes

DEPRESSIONAL AND FLATS WETLANDS Water Quality Functions - Indicators that the site functions to improve water quality				
D 1.0. Does the site have the potential to improve water quality?				
D 1.1. Characteristics of surface water outflows from the wetland:				
Wetland is a depression or flat depression (QUESTION 7 on key) with no surface water leaving it (no outlet). points = 3				
Wetland has an intermittently flowing stream or ditch, OR highly constricted permanently flowing outlet. points = 2	1			
Wetland has an unconstricted, or slightly constricted, surface outlet that is permanently flowing points = 1 Wetland is a flat depression (QUESTION 7 on key), whose outlet is a permanently flowing ditch. points = 1				
D 1.2. The soil 2 in below the surface (or duff layer) is true clay or true organic (use NRCS definitions) \Box Yes = 4 \boxtimes No = 0	0			
D 1.3. <u>Characteristics and distribution of persistent plants (Emergent, Scrub-shrub, and/or Forested Cowardin classes)</u> :				
☑ Wetland has persistent, ungrazed, plants > 95% of area points = 5				
\Box Wetland has persistent, ungrazed, plants > 1/2 of area points = 3	5			
\Box Wetland has persistent, ungrazed plants > 1/10 of area points = 1				
\Box Wetland has persistent, ungrazed plants < 1/10 of area points = 0				
D 1.4. <u>Characteristics of seasonal ponding or inundation</u> : <i>This is the area that is ponded for at least 2 months. See description in manual.</i> Area seasonally ponded is > ½ total area of wetland points = 4	0			
$\Box \text{ Area seasonally ponded is > 1/2 total area of wetland} \qquad \qquad$	U			
Total for D 1 Add the points in the boyes above	6			
Rating of Site Potential If score is: \Box 12-16 = H \boxtimes 6-11 = M \Box 0-5 = LRecord the rating on the fill				
D 2.0. Does the landscape have the potential to support the water quality function of the site?				
D 2.1. Does the wetland unit receive stormwater discharges? Xes = 1 No = 0	1			
D 2.2. Is > 10% of the area within 150 ft of the wetland in land uses that generate pollutants? \Box Yes = 1 \boxtimes No = 0	0			
D 2.3. Are there septic systems within 250 ft of the wetland? \Box Yes = 1 \boxtimes No = 0	0			
D 2.4. Are there other sources of pollutants coming into the wetland that are not listed in questions D 2.1-D 2.3? Source Ves = 1 No = 0	0			
Total for D 2Add the points in the boxes above	1			
Rating of Landscape PotentialIf score is: \Box 3 or 4 = H \boxtimes 1 or 2 = M \Box 0 = LRecord the rating on the first page				
D 3.0. Is the water quality improvement provided by the site valuable to society?				
D 3.1. Does the wetland discharge directly (i.e., within 1 mi) to a stream, river, lake, or marine water that is on the 303(d) list? Xes = 1 No = 0	1			
D 3.2. Is the wetland in a basin or sub-basin where an aquatic resource is on the 303(d) list?	1			
D 3.3. Has the site been identified in a watershed or local plan as important for maintaining water quality (<i>answer YES if there is a TMDL for the basin in which the unit is found</i>)?	0			
Total for D 3Add the points in the boxes above	2			

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

Record the rating on the first page

DEPRESSIONAL AND FLATS WETLANDS				
Hydrologic Functions - Indicators that the site functions to reduce flooding and stream degradation				
D 4.0. Does the site have the potential to reduce flooding and erosion?				
 D 4.1. <u>Characteristics of surface water outflows from the wetland</u>: □ Wetland is a depression or flat depression with no surface water leaving it (no outlet) □ Points = 4 □ Wetland has an intermittently flowing stream or ditch, OR highly constricted permanently flowing outlet points = 2 □ Wetland is a flat depression (QUESTION 7 on key), whose outlet is a permanently flowing ditch points = 1 □ Wetland has an unconstricted, or slightly constricted, surface outlet that is permanently flowing points = 0 	0			
D 4.2. Depth of storage during wet periods: Estimate the height of ponding above the bottom of the outlet. For wetlands with no outlet, measure from the surface of permanent water or if dry, the deepest part. □ Marks of ponding are 3 ft or more above the surface or bottom of outlet points = 7 □ Marks of ponding between 2 ft to < 3 ft from surface or bottom of outlet	0			
 D 4.3. Contribution of the wetland to storage in the watershed: Estimate the ratio of the area of upstream basin contributing surface water to the wetland to the area of the wetland unit itself. □ The area of the basin is less than 10 times the area of the unit □ The area of the basin is 10 to 100 times the area of the unit □ The area of the basin is more than 100 times the area of the unit □ The area of the basin is more than 100 times the area of the unit □ Entire wetland is in the Flats class 	3			
Total for D 4 Add the points in the boxes above	3			
Rating of Site Potential If score is: \Box 12-16 = H \Box 6-11 = M \boxtimes 0-5 = L Record the rating on the j	first page			
D 5.0. Does the landscape have the potential to support hydrologic functions of the site?				
D 5.1. Does the wetland receive stormwater discharges? \square Yes = 1 \square No = 0	1			
D 5.2. Is >10% of the area within 150 ft of the wetland in land uses that generate excess runoff? \Box Yes = 1 \boxtimes No = 0	0			
D 5.3. Is more than 25% of the contributing basin of the wetland covered with intensive human land uses (residential at >1 residence/ac, urban, commercial, agriculture, etc.)?	0			
Total for D 5Add the points in the boxes above	1			
Rating of Landscape PotentialIf score is: \Box 3 = H \boxtimes 1 or 2 = M \Box 0 = LRecord the rating on the point of the standard s	first page			
D 6.0. Are the hydrologic functions provided by the site valuable to society?				
 D 6.1. <u>The unit is in a landscape that has flooding problems</u>. <i>Choose the description that best matches conditions around the wetland unit being rated. Do not add points. <u>Choose the highest score if more than one condition is met</u>. The wetland captures surface water that would otherwise flow down-gradient into areas where flooding has damaged human or natural resources (e.g., houses or salmon redds): ■ Flooding occurs in a sub-basin that is immediately down-gradient of unit. ■ Surface flooding problems are in a sub-basin farther down-gradient. ■ Flooding from groundwater is an issue in the sub-basin. ■ The existing or potential outflow from the wetland is so constrained by human or natural conditions that the water stored by the wetland cannot reach areas that flood. <i>Explain why</i> ■ Dents = 0 </i> 	2			
D 6.2. Has the site been identified as important for flood storage or flood conveyance in a regional flood control plan?	0			
Total for D 6Add the points in the boxes above	2			
	first naae			

These questions apply to wetlands of all HGM classes.		
Habitat Functions - Indicators that site functions to provide important habitat		
H 1.1. Structure of plant community: Indicators are Cowardin classes and strata within the Forested class. Check the Cowardin plant classes in the wetland. Up to 10 patches may be combined for each class to meet the threshold of ¼ ac or more than 10% of the unit if it is smaller than 2.5 ac. Add the number of structures checked.		
□ Aquatic bed 4 structures or more: points = 4		
☑ Emergent 3 structures: points = 2	1	
\boxtimes Scrub-shrub (areas where shrubs have > 30% cover) 2 structures: points = 1	T	
□ Forested (areas where trees have > 30% cover) 1 structure: points = 0		
If the unit has a Forested class, check if:		
□ The Forested class has 3 out of 5 strata (canopy, sub-canopy, shrubs, herbaceous, moss/ground-cover) that each cover 20% within the Forested polygon		
H 1.2. Hydroperiods		
Check the types of water regimes (hydroperiods) present within the wetland. The water regime has to cover more than 10% of the wetland or ¼ ac to count (<i>see text for descriptions of hydroperiods</i>).		
☑ Permanently flooded or inundated 4 or more types present: points = 3		
Seasonally flooded or inundated 3 types present: points = 2		
□ Occasionally flooded or inundated 2 types present: points = 1	2	
Saturated only 1 type present: points = 0		
□ Permanently flowing stream or river in, or adjacent to, the wetland		
□ Seasonally flowing stream in, or adjacent to, the wetland		
Lake Fringe wetland 2 points		
H 1.3. Richness of plant species		
Different patches of the same species can be combined to meet the size threshold and you do not have to name		
the species. Do not include Eurasian milfoil, reed canarygrass, purple loosestrife, Canadian thistle	1	
If you counted: $\Box > 19$ species points = 2		
\boxtimes 5 - 19 species points = 1		
\Box < 5 species points = 0		
H 1.4. Interspersion of habitats		
Decide from the diagrams below whether interspersion among Cowardin plants classes (described in H 1.1), or		
the classes and unvegetated areas (can include open water or mudilats) is high, moderate, low, or none. If you have four or more plant classes or three classes and open water, the rating is always high		
nuve jour of more plant classes of three classes and open water, the fating is diways high.		
	1	
□ None = 0 points □ Low = 1 point □ Moderate = 2 points		
All three diagrams in this row are HIGH = 3 points		

Wetland EB16

H 1.5. Special habitat features:	
Check the habitat features that are present in the wetland. The number of checks is the number of points.	
☑ Large, downed, woody debris within the wetland (> 4 in diameter and 6 ft long).	
\boxtimes Standing snags (dbh > 4 in) within the wetland	
Undercut banks are present for at least 6.6 ft (2 m) and/or overhanging plants extends at least 3.3 ft (1 m) over a stream (or ditch) in, or contiguous with the wetland, for at least 33 ft (10 m)	
Stable steep banks of fine material that might be used by beaver or muskrat for denning (> 30 degree slope) OR signs of recent beaver activity are present (cut shrubs or trees that have not yet weathered where wood is exposed)	2
At least ¼ ac of thin-stemmed persistent plants or woody branches are present in areas that are permanently or seasonally inundated (structures for egg-laying by amphibians)	
□ Invasive plants cover less than 25% of the wetland area in every stratum of plants (<i>see H 1.1 for list of strata</i>)	
Total for H 1Add the points in the boxes above	7

Rating of Site Potential If score is: \Box **15-18 = H** \boxtimes **7-14 = M** \Box **0-6 = L**

Record the rating on the first page

H 2.0. Does the landscape have the potential to support the habitat functions of the site?		
H 2.1. Accessible habitat (include only habitat that directly abuts wetland unit).		
Calculate: % undisturbed habitat + [(% moderate and low intensity land uses)/2] = see Figs. 2-5		
If total accessible habitat is:		
\Box > 1/3 (33.3%) of 1 km Polygon	points = 3	0
\Box 20-33% of 1 km Polygon	points = 2	
\Box 10-19% of 1 km Polygon	points = 1	
⊠ < 10% of 1 km Polygon	points = 0	
H 2.2. Undisturbed habitat in 1 km Polygon around the wetland.		
Calculate: % undisturbed habitat + [(% moderate and low intensity land uses)/2] = see Figs. 2-5		
\Box Undisturbed habitat > 50% of Polygon	points = 3	1
\Box Undisturbed habitat 10-50% and in 1-3 patches	points = 2	T
\boxtimes Undisturbed habitat 10-50% and > 3 patches	points = 1	
Undisturbed habitat < 10% of 1 km Polygon	points = 0	
H 2.3. Land use intensity in 1 km Polygon: If		
\boxtimes > 50% of 1 km Polygon is high intensity land use	points = (- 2)	-2
\Box \leq 50% of 1 km Polygon is high intensity	points = 0	
Total for H 2 Add the points in the	e boxes above	-1
		<i>c</i>

Rating of Landscape Potential If score is: \Box 4-6 = H \Box 1-3 = M \boxtimes < 1 = L

H = 0 is the babitat provided by the site valuable to society?

Record the rating on the first page

The second of th	
H 3.1. Does the site provide habitat for species valued in laws, regulations, or policies? Choose only the highest score	
that applies to the wetland being rated.	
Site meets ANY of the following criteria: points = 2	
🛛 It has 3 or more priority habitats within 100 m (see next page)	
□ It provides habitat for Threatened or Endangered species (any plant or animal on the state or federal lists)	
It is mapped as a location for an individual WDFW priority species	2
\Box It is a Wetland of High Conservation Value as determined by the Department of Natural Resources	
\Box It has been categorized as an important habitat site in a local or regional comprehensive plan, in	
a Shoreline Master Plan, or in a watershed plan	
\Box Site has 1 or 2 priority habitats (listed on next page) within 100 m points = 1	
\Box Site does not meet any of the criteria above points = 0	
Rating of Value If score is: $\square 2 = H \square 1 = M \square 0 = L$ Record the rating on	the first page

WDFW Priority Habitats

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

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

- □ **Aspen Stands:** Pure or mixed stands of aspen greater than 1 ac (0.4 ha).
- Biodiversity Areas and Corridors: Areas of habitat that are relatively important to various species of native fish and wildlife (*full descriptions in WDFW PHS report*).
- □ **Herbaceous Balds:** Variable size patches of grass and forbs on shallow soils over bedrock.
- □ **Old-growth/Mature forests**: <u>Old-growth west of Cascade crest</u> Stands of at least 2 tree species, forming a multilayered canopy with occasional small openings; with at least 8 trees/ac (20 trees/ha) > 32 in (81 cm) dbh or > 200 years of age. <u>Mature forests</u> – Stands with average diameters exceeding 21 in (53 cm) dbh; crown cover may be less than 100%; decay, decadence, numbers of snags, and quantity of large downed material is generally less than that found in old-growth; 80-200 years old west of the Cascade crest.
- □ **Oregon White Oak:** Woodland stands of pure oak or oak/conifer associations where canopy coverage of the oak component is important (*full descriptions in WDFW PHS report p. 158 see web link above*).
- **Riparian**: The area adjacent to aquatic systems with flowing water that contains elements of both aquatic and terrestrial ecosystems which mutually influence each other.
- □ **Westside Prairies:** Herbaceous, non-forested plant communities that can either take the form of a dry prairie or a wet prairie (*full descriptions in WDFW PHS report p. 161 see web link above*).
- ⊠ **Instream:** The combination of physical, biological, and chemical processes and conditions that interact to provide functional life history requirements for instream fish and wildlife resources.
- □ **Nearshore**: Relatively undisturbed nearshore habitats. These include Coastal Nearshore, Open Coast Nearshore, and Puget Sound Nearshore. (*full descriptions of habitats and the definition of relatively undisturbed are in WDFW report see web link on previous page*).
- □ **Caves:** A naturally occurring cavity, recess, void, or system of interconnected passages under the earth in soils, rock, ice, or other geological formations and is large enough to contain a human.
- □ **Cliffs:** Greater than 25 ft (7.6 m) high and occurring below 5000 ft elevation.
- □ **Talus:** Homogenous areas of rock rubble ranging in average size 0.5 6.5 ft (0.15 2.0 m), composed of basalt, andesite, and/or sedimentary rock, including riprap slides and mine tailings. May be associated with cliffs.
- Snags and Logs: Trees are considered snags if they are dead or dying and exhibit sufficient decay characteristics to enable cavity excavation/use by wildlife. Priority snags have a diameter at breast height of > 20 in (51 cm) in western Washington and are > 6.5 ft (2 m) in height. Priority logs are > 12 in (30 cm) in diameter at the largest end, and > 20 ft (6 m) long.

Note: All vegetated wetlands are by definition a priority habitat but are not included in this list because they are addressed elsewhere.

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Wetland EB17 Rating Form

RATING SUMMARY – Western Washington

Name of wetland (or ID #): Wetland EB17 Date of site visit: 6/19/2015, 2/27/2020

Rated by: <u>K. Crandall, R. Kahlo</u> Trained by Ecology? 🛛 Y 🗌 N Date of training: <u>9/2014</u>

HGM Class used for rating: Depressional Wetland has multiple HGM classes? \boxtimes Y \square N

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

OVERALL WETLAND CATEGORY (based on functions \square or special characteristics \square)

Category of wetland based on FUNCTIONS

- **Category I** Total score = 23 27
- **Category II** Total score = 20 22
- Category III Total score = 16 19
- **Category IV** Total score = 9 15

FUNCTION	Improving Water Quality		H	ydrolo	ogic		Habit	at		
					Circle	the ap	propr	iate ro	ntings	
Site Potential	Н	(M)	L	Н	М	(L)	Н	(M)	L	
Landscape Potential	Н	M	L	Н	M	Ľ	Н	M		
Value	H	Μ	L	H	Μ	L	H	Μ	L	ΤΟΤΑ
Score Based on Ratings		7			6			6		19

Score for each function based on three ratings (order of ratings is not *important*) 9 = H, H, H8 = H, H, M7 = H, H, L7 = H, M, M6 = H, M, L6 = M, M, M5 = H, L, L5 = M,M,L 4 = M,L,L 3 = L,L,L

Category based on SPECIAL CHARACTERISTICS of wetland

CHARACTERISTIC	CATEGORY	
Estuarine	Ι	II
Wetland of High Conservation Value	I	
Bog		Ι
Mature Forest	I	
Old Growth Forest	I	
Coastal Lagoon	Ι	II
Interdunal	I II	III IV
None of the above	\boxtimes	

Maps and figures required to answer questions correctly for Western Washington

Depressional Wetlands

Map of:	To answer questions:	Figure #
Cowardin plant classes	D 1.3, H 1.1, H 1.4	EB17-1
Hydroperiods	D 1.4, H 1.2	EB17-2
Location of outlet (can be added to map of hydroperiods)	D 1.1, D 4.1	EB17-2
Boundary of area within 150 ft of the wetland (can be added to another figure)	D 2.2, D 5.2	EB17-2
Map of the contributing basin	D 4.3, D 5.3	EB17-3
1 km Polygon: Area that extends 1 km from entire wetland edge - including polygons for accessible habitat and undisturbed habitat	H 2.1, H 2.2, H 2.3	2 to 5
Screen capture of map of 303(d) listed waters in basin (from Ecology website)	D 3.1, D 3.2	7
Screen capture of list of TMDLs for WRIA in which unit is found (from web)	D 3.3	1

HGM Classification of Wetlands in Western Washington

For questions 1-7, the criteria described must apply to the entire unit being rated.

If the hydrologic criteria listed in each question do not apply to the entire unit being rated, you probably have a unit with multiple HGM classes. In this case, identify which hydrologic criteria in questions 1-7 apply, and go to Question 8.

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

 \boxtimes NO – go to 2 \square YES – the wetland class is **Tidal Fringe** – go to 1.1

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

□ NO - Saltwater Tidal Fringe (Estuarine) □ YES - Freshwater Tidal Fringe If your wetland can be classified as a Freshwater Tidal Fringe use the forms for **Riverine** wetlands. If it is Saltwater Tidal Fringe it is an **Estuarine** wetland and is not scored. This method **cannot** be used to score functions for estuarine wetlands.

146. 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.*

- 147. Does the entire wetland unit **meet all** of the following criteria?
 - □ The vegetated part of the wetland is on the shores of a body of permanent open water (without any plants on the surface at any time of the year) at least 20 ac (8 ha) in size;
 - \Box At least 30% of the open water area is deeper than 6.6 ft (2 m).

⊠ NO – go to 4 □ **YES** – The wetland class is **Lake Fringe** (Lacustrine Fringe)

148. 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**.

 \boxtimes NO – go to 5

□ **YES** – The wetland class is **Slope**

NOTE: Surface water does not pond in these type of wetlands except occasionally in very small and shallow depressions or behind hummocks (depressions are usually <3 ft diameter and less than 1 ft deep).

- 149. Does the entire wetland unit **meet all** of the following criteria?
 - □ The unit is in a valley, or stream channel, where it gets inundated by overbank flooding from that stream or river,
 - □ The overbank flooding occurs at least once every 2 years.

☑ NO – go to 6
□ YES – The wetland class is Riverine
NOTE: The Riverine unit can contain depressions that are filled with water when the river is not flooding

150. 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

151. 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

152. Your wetland unit seems to be difficult to classify and probably contains several different HGM classes. For example, seeps at the base of a slope may grade into a riverine floodplain, or a small stream within a Depressional wetland has a zone of flooding along its sides. GO BACK AND IDENTIFY WHICH OF THE HYDROLOGIC REGIMES DESCRIBED IN QUESTIONS 1-7 APPLY TO DIFFERENT AREAS IN THE UNIT (make a rough sketch to help you decide). Use the following table to identify the appropriate class to use for the rating system if you have several HGM classes present within the wetland unit being scored.

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

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

If you are still unable to determine which of the above criteria apply to your wetland, or if you have **more than 2 HGM classes** within a wetland boundary, classify the wetland as Depressional for the rating.

More than 2 HGM classes

DEPRESSIONAL AND FLATS WETLANDS			
D 1.0. Does the site have the potential to improve water quality?			
D 1 1. Characteristics of surface water outflows from the wetland:			
 Wetland is a depression or flat depression (QUESTION 7 on key) with no surface water leaving it (no outlet). points = 3 Wetland has an intermittently flowing stream or ditch, OR highly constricted permanently flowing outlet. points = 2 Wetland has an unconstricted, or slightly constricted, surface outlet that is permanently flowing points = 1 	1		
U Wetland is a flat depression (QUESTION 7 on key), whose outlet is a permanently flowing ditch. points = 1			
D 1.2. The soil 2 in below the surface (or duff layer) is true clay or true organic (use NRCS definitions) □ Yes = 4 ⊠ No = 0 D 1.3. Characteristics and distribution of persistent plants (Emergent, Scrub-shrub, and/or Forested Cowardin classes): ☑ Wetland has persistent, ungrazed, plants > 95% of area	0		
 □ Wetland has persistent, ungrazed, plants > 1/2 of area □ Wetland has persistent, ungrazed plants > 1/10 of area □ Wetland has persistent, ungrazed plants < 1/10 of area □ Wetland has persistent, ungrazed plants < 1/10 of area 	5		
D 1.4. Characteristics of seasonal ponding or inundation: This is the area that is ponded for at least 2 months. See description in manual. □ Area seasonally ponded is > ½ total area of wetland □ Area seasonally ponded is > ½ total area of wetland ∞ Area seasonally ponded is > ½ total area of wetland ∞ Area seasonally ponded is < ½ total area of wetland	0		
Total for D 1 Add the points in the boxes above	6		
Rating of Site Potential If score is: \Box 12-16 = H \boxtimes 6-11 = M \Box 0-5 = LRecord the rating on the processing on the processing of the statement of	ïrst page		
D 2.0. Does the landscape have the potential to support the water quality function of the site?			
D 2.1. Does the wetland unit receive stormwater discharges? \square Yes = 1 \square No = 0	1		
D 2.2. Is > 10% of the area within 150 ft of the wetland in land uses that generate pollutants? \Box Yes = 1 \boxtimes No = 0	0		
D 2.3. Are there septic systems within 250 ft of the wetland? \Box Yes = 1 \boxtimes No = 0	0		
D 2.4. Are there other sources of pollutants coming into the wetland that are not listed in questions D 2.1-D 2.3? Source: Yes = 1 × No = 0	0		
Total for D 2Add the points in the boxes above	1		
Rating of Landscape PotentialIf score is: \Box 3 or 4 = H \boxtimes 1 or 2 = M \Box 0 = LRecord the rating on the fine	st page		
D 3.0. Is the water quality improvement provided by the site valuable to society?	•		
D 3.1. Does the wetland discharge directly (i.e., within 1 mi) to a stream, river, lake, or marine water that is on the 303(d) list? Xes = 1 No = 0	1		
D 3.2. Is the wetland in a basin or sub-basin where an aquatic resource is on the 303(d) list? \square Yes = 1 \square No = 0	1		
D 3.3. Has the site been identified in a watershed or local plan as important for maintaining water quality (<i>answer YES if there is a TMDL for the basin in which the unit is found</i>)?	0		
Total for D 3Add the points in the boxes above	2		

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

Record the rating on the first page

DEPRESSIONAL AND FLATS WETLANDS		
Hydrologic Functions - Indicators that the site functions to reduce flooding and stream degradation	on	
D 4.0. Does the site have the potential to reduce flooding and erosion?		
 D 4.1. <u>Characteristics of surface water outflows from the wetland</u>: □ Wetland is a depression or flat depression with no surface water leaving it (no outlet) □ points = 4 □ Wetland has an intermittently flowing stream or ditch, OR highly constricted permanently flowing outlet points = 2 □ Wetland is a flat depression (QUESTION 7 on key), whose outlet is a permanently flowing ditch points = 1 □ Wetland has an unconstricted, or slightly constricted, surface outlet that is permanently flowing points = 0 	0	
D 4.2. Depth of storage during wet periods: Estimate the height of ponding above the bottom of the outlet. For wetlands with no outlet, measure from the surface of permanent water or if dry, the deepest part. □ Marks of ponding are 3 ft or more above the surface or bottom of outlet points = 7 □ Marks of ponding between 2 ft to < 3 ft from surface or bottom of outlet	0	
 D 4.3. <u>Contribution of the wetland to storage in the watershed</u>: <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 the unit points = 5 ○ The area of the basin is 10 to 100 times the area of the unit points = 3 □ The area of the basin is more than 100 times the area of the unit points = 5 ○ Entire wetland is in the Flats class 	3	
Total for D 4Add the points in the boxes above	3	
Rating of Site PotentialIf score is: \Box 12-16 = H \Box 6-11 = M \boxtimes 0-5 = LRecord the rating on the	first page	
D 5.0. Does the landscape have the potential to support hydrologic functions of the site?		
D 5.1. Does the wetland receive stormwater discharges? \square Yes = 1 \square No = 0	1	
D 5.2. Is >10% of the area within 150 ft of the wetland in land uses that generate excess runoff?	0	
D 5.3. Is more than 25% of the contributing basin of the wetland covered with intensive human land uses (residential at >1 residence/ac, urban, commercial, agriculture, etc.)? Yes = 1 □ No = 0		
Total for D 5Add the points in the boxes above	2	
Rating of Landscape Potential If score is: $\Box 3 = H \boxtimes 1 \text{ or } 2 = M \Box 0 = L$ Record the rating on the	first page	
D 6.0. Are the hydrologic functions provided by the site valuable to society?		
 D 6.1. <u>The unit is in a landscape that has flooding problems</u>. <i>Choose the description that best matches conditions around the wetland unit being rated. Do not add points. <u>Choose the highest score if more than one condition is met</u>. The wetland captures surface water that would otherwise flow down-gradient into areas where flooding has damaged human or natural resources (e.g., houses or salmon redds): ■ Flooding occurs in a sub-basin that is immediately down-gradient of unit. ■ Surface flooding problems are in a sub-basin farther down-gradient. ■ Flooding from groundwater is an issue in the sub-basin. ■ The existing or potential outflow from the wetland is so constrained by human or natural conditions that the water stored by the wetland cannot reach areas that flood. <i>Explain why</i> ■ There are no problems with flooding downstream of the wetland </i> 	2	
D 6.2. Has the site been identified as important for flood storage or flood conveyance in a regional flood control plan?	0	
Total for D 6Add the points in the boxes above	2	
Patting of Value If soorts is: $M \ge A - U = A - A = C - U$	first page	

These questions apply to wetlands of all HGM classes.		
Habitat Functions - Indicators that site functions to provide important habitat		
H 1.0. Does the site have the potential to provide habitat?		
H 1.1. Structure of plant community: Indicators are Cowardin classes and strata within the Forested class. Check the Cowardin plant classes in the wetland. Up to 10 patches may be combined for each class to meet the threshold of ¼ ac or more than 10% of the unit if it is smaller than 2.5 ac. Add the number of structures checked.		
□ Aquatic bed 4 structures or more: points = 4		
Emergent Structures: points = 2	2	
\boxtimes Scrub-shrub (areas where shrubs have > 30% cover) 2 structures: points = 1	2	
☑ Forested (areas where trees have > 30% cover) 1 structure: points = 0		
If the unit has a Forested class, check if: The Forested class has 3 out of 5 strata (canopy, sub-canopy, shrubs, herbaceous, moss/ground-cover) that each cover 20% within the Forested polygon		
H 1.2. Hydroperiods		
Check the types of water regimes (hydroperiods) present within the wetland. The water regime has to cover more than 10% of the wetland or ¼ ac to count (<i>see text for descriptions of hydroperiods</i>).		
 Permanently flooded or inundated 4 or more types present: points = 3 		
□ Seasonally flooded or inundated 3 types present: points = 2		
☑ Occasionally flooded or inundated 2 types present: points = 1	2	
Saturated only 1 type present: points = 0		
Permanently flowing stream or river in, or adjacent to, the wetland		
□ Seasonally flowing stream in, or adjacent to, the wetland		
Lake Fringe wetland 2 points		
L Freshwater tidal wetland 2 points		
H 1.3. Richness of plant species		
Count the number of plant species in the wetland that cover at least 10 ft.		
the species. Do not include Eurasian milfoil, reed canarygrass, purple loosestrife, Canadian thistle	1	
If you counted: $\square > 19$ species points = 2	-	
⊠ 5 - 19 species points = 1		
\Box < 5 species points = 0		
H 1.4. Interspersion of habitats		
Decide from the diagrams below whether interspersion among Cowardin plants classes (described in H 1.1), or the classes and unvegetated areas (can include open water or mudflats) is high, moderate, low, or none. <i>If you have four or more plant classes or three classes and open water, the rating is always high</i> .		
	2	
\Box None = 0 points \Box Low = 1 point \boxtimes Moderate = 2 points		
All three diagrams in this row are		

Wetland EB17

H 1.5. Special habitat features:	
Check the habitat features that are present in the wetland. The number of checks is the number of points.	
Large, downed, woody debris within the wetland (> 4 in diameter and 6 ft long).	
\boxtimes Standing snags (dbh > 4 in) within the wetland	
Undercut banks are present for at least 6.6 ft (2 m) and/or overhanging plants extends at least 3.3 ft (1 m) over a stream (or ditch) in, or contiguous with the wetland, for at least 33 ft (10 m)	
Stable steep banks of fine material that might be used by beaver or muskrat for denning (> 30 degree slope) OR signs of recent beaver activity are present (cut shrubs or trees that have not yet weathered where wood is exposed)	
At least ¼ ac of thin-stemmed persistent plants or woody branches are present in areas that are permanently or seasonally inundated (structures for egg-laying by amphibians)	
Invasive plants cover less than 25% of the wetland area in every stratum of plants (see H 1.1 for list of strata)	
Total for H 1Add the points in the boxes above	10
Rating of Site Potential If score is: \Box 15-18 = H \boxtimes 7-14 = M \Box 0-6 = L Record the rating on t	he first page

H 2.0. Does the landscape have the potential to support the habitat functions of the site?		
H 2.1. Accessible habitat (include only habitat that directly abuts wetland unit).		
Calculate: % undisturbed habitat + [(% moderate and low intensity land uses)/2] = see Figs. 2-5		
If total accessible habitat is:		
\Box > 1/3 (33.3%) of 1 km Polygon	points = 3	0
\Box 20-33% of 1 km Polygon	points = 2	
\Box 10-19% of 1 km Polygon	points = 1	
\boxtimes < 10% of 1 km Polygon	points = 0	
H 2.2. Undisturbed habitat in 1 km Polygon around the wetland.		
Calculate: % undisturbed habitat + [(% moderate and low intensity land uses)/2] = see Figs. 2-5		
\Box Undisturbed habitat > 50% of Polygon	points = 3	2
Undisturbed habitat 10-50% and in 1-3 patches	points = 2	2
\Box Undisturbed habitat 10-50% and > 3 patches	points = 1	
Undisturbed habitat < 10% of 1 km Polygon	points = 0	
H 2.3. Land use intensity in 1 km Polygon: If		
\boxtimes > 50% of 1 km Polygon is high intensity land use	points = (- 2)	-2
□ ≤ 50% of 1 km Polygon is high intensity	points = 0	
Total for H 2Add the points in the	boxes above	0

Rating of Landscape Potential If score is: \Box 4-6 = H \Box 1-3 = M \boxtimes < 1 = L

Record the rating on the first page

H 3.0. Is the habitat provided by the site valuable to society?		
H 3.1. Does the site provide habitat for species valued in laws, regulations, or policies? Choose only	/ the highest score	
that applies to the wetland being rated.		
Site meets ANY of the following criteria:	points = 2	
It has 3 or more priority habitats within 100 m (see next page)		
\Box It provides habitat for Threatened or Endangered species (any plant or animal on the	state or federal lists)	
It is mapped as a location for an individual WDFW priority species		2
□ It is a Wetland of High Conservation Value as determined by the Department of Natural Resources		
□ It has been categorized as an important habitat site in a local or regional comprehensive plan, in		
a Shoreline Master Plan, or in a watershed plan		
\square Site has 1 or 2 priority habitats (listed on next page) within 100 m	points = 1	
\Box Site does not meet any of the criteria above	points = 0	
Rating of Value If score is: \boxtimes 2 = H \square 1 = M \square 0 = L	Record the rating on	the first page

WDFW Priority Habitats

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

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

- □ **Aspen Stands:** Pure or mixed stands of aspen greater than 1 ac (0.4 ha).
- Biodiversity Areas and Corridors: Areas of habitat that are relatively important to various species of native fish and wildlife (*full descriptions in WDFW PHS report*).
- □ **Herbaceous Balds:** Variable size patches of grass and forbs on shallow soils over bedrock.
- □ **Old-growth/Mature forests:** <u>Old-growth west of Cascade crest</u> Stands of at least 2 tree species, forming a multilayered canopy with occasional small openings; with at least 8 trees/ac (20 trees/ha) > 32 in (81 cm) dbh or > 200 years of age. <u>Mature forests</u> – Stands with average diameters exceeding 21 in (53 cm) dbh; crown cover may be less than 100%; decay, decadence, numbers of snags, and quantity of large downed material is generally less than that found in old-growth; 80-200 years old west of the Cascade crest.
- □ **Oregon White Oak:** Woodland stands of pure oak or oak/conifer associations where canopy coverage of the oak component is important (*full descriptions in WDFW PHS report p. 158 see web link above*).
- **Riparian**: The area adjacent to aquatic systems with flowing water that contains elements of both aquatic and terrestrial ecosystems which mutually influence each other.
- □ **Westside Prairies:** Herbaceous, non-forested plant communities that can either take the form of a dry prairie or a wet prairie (*full descriptions in WDFW PHS report p. 161 see web link above*).
- ⊠ **Instream:** The combination of physical, biological, and chemical processes and conditions that interact to provide functional life history requirements for instream fish and wildlife resources.
- □ **Nearshore**: Relatively undisturbed nearshore habitats. These include Coastal Nearshore, Open Coast Nearshore, and Puget Sound Nearshore. (*full descriptions of habitats and the definition of relatively undisturbed are in WDFW report see web link on previous page*).
- □ **Caves:** A naturally occurring cavity, recess, void, or system of interconnected passages under the earth in soils, rock, ice, or other geological formations and is large enough to contain a human.
- □ **Cliffs:** Greater than 25 ft (7.6 m) high and occurring below 5000 ft elevation.
- □ **Talus:** Homogenous areas of rock rubble ranging in average size 0.5 6.5 ft (0.15 2.0 m), composed of basalt, andesite, and/or sedimentary rock, including riprap slides and mine tailings. May be associated with cliffs.
- Snags and Logs: Trees are considered snags if they are dead or dying and exhibit sufficient decay characteristics to enable cavity excavation/use by wildlife. Priority snags have a diameter at breast height of > 20 in (51 cm) in western Washington and are > 6.5 ft (2 m) in height. Priority logs are > 12 in (30 cm) in diameter at the largest end, and > 20 ft (6 m) long.

Note: All vegetated wetlands are by definition a priority habitat but are not included in this list because they are addressed elsewhere.

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Wetland EB18 Rating Form

RATING SUMMARY – Western Washington

Name of wetland (or ID #): <u>Wetland EB18</u> Date of site visit: 6/24/2015, 2/27/2020Rated by: <u>K. Crandall, R. Kahlo</u> Trained by Ecology? \square Y \square N Date of training: 9/2014

HGM Class used for rating: Slope Wetland has multiple HGM classes? \Box Y \boxtimes N

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

OVERALL WETLAND CATEGORY (based on functions \square or special characteristics \square)

Category of wetland based on FUNCTIONS

- **Category I** Total score = 23 27
- **Category II** Total score = 20 22
- Category III Total score = 16 19
- **Category IV** Total score = 9 15

FUNCTION	lr Wa	nprov ter Qı	ving uality	Ну	/drolo	ogic	I	Habit	at	
					Circle	the ap	oropri	iate ra	tings	
Site Potential	Н	М	(l)	Н	(M)	L	Н	(M)	L	
Landscape Potential	Н	M	Ľ	Н	M		Н	M		
Value	H	M	L	H	Μ	L	H	Μ	L	TOTA
Score Based on Ratings		6			6			6		18

Score for each function based on three ratings (order of ratings is not *important*) 9 = H, H, H8 = H, H, M7 = H, H, L7 = H,M,M 6 = H, M, L6 = M, M, M5 = H, L, L5 = M,M,L 4 = M,L,L 3 = L,L,L

Category based on SPECIAL CHARACTERISTICS of wetland

CHARACTERISTIC	CATEGORY		
Estuarine	I II		
Wetland of High Conservation Value	Ι		
Bog	I		
Mature Forest	I		
Old Growth Forest	I		
Coastal Lagoon	I II		
Interdunal	I II	III IV	
None of the above		\boxtimes	

Maps and figures required to answer questions correctly for Western Washington

Slope Wetlands

Map of:	To answer questions:	Figure #
Cowardin plant classes	Н 1.1, Н 1.4	EB18-1
Hydroperiods	H 1.2	EB18-2
Plant cover of dense trees, shrubs, and herbaceous plants	S 1.3	EB18-1
Plant cover of dense, rigid trees, shrubs, and herbaceous plants (can be added to figure above)	S 4.1	EB18-1
Boundary of 150 ft buffer (can be added to another figure)	S 2.1, S 5.1	EB18-2
1 km Polygon: Area that extends 1 km from entire wetland edge - including polygons for accessible habitat and undisturbed habitat	H 2.1, H 2.2, H 2.3	2 to 5
Screen capture of map of 303(d) listed waters in basin (from Ecology website)	S 3.1, S 3.2	7
Screen capture of list of TMDLs for WRIA in which unit is found (from web)	S 3.3	1

HGM Classification of Wetlands in Western Washington

For questions 1-7, the criteria described must apply to the entire unit being rated.

If the hydrologic criteria listed in each question do not apply to the entire unit being rated, you probably have a unit with multiple HGM classes. In this case, identify which hydrologic criteria in questions 1-7 apply, and go to Question 8.

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

 \boxtimes NO – go to 2 \square YES – the wetland class is **Tidal Fringe** – go to 1.1

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

□ NO - Saltwater Tidal Fringe (Estuarine) □ YES - Freshwater Tidal Fringe If your wetland can be classified as a Freshwater Tidal Fringe use the forms for **Riverine** wetlands. If it is Saltwater Tidal Fringe it is an **Estuarine** wetland and is not scored. This method **cannot** be used to score functions for estuarine wetlands.

154. 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.

 \boxtimes NO – go to 3 \square **YES** – The wetland class is **Flats** *If your wetland can be classified as a Flats wetland, use the form for* **Depressional** *wetlands.*

- 155. Does the entire wetland unit **meet all** of the following criteria?
 - □ The vegetated part of the wetland is on the shores of a body of permanent open water (without any plants on the surface at any time of the year) at least 20 ac (8 ha) in size;
 - \Box At least 30% of the open water area is deeper than 6.6 ft (2 m).

⊠ NO – go to 4 □ **YES** – The wetland class is **Lake Fringe** (Lacustrine Fringe)

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

- ⊠ The wetland is on a slope (*slope can be very gradual*),
- ⊠ The water flows through the wetland in one direction (unidirectional) and usually comes from seeps. It may flow subsurface, as sheetflow, or in a swale without distinct banks,
- ⊠ The water leaves the wetland **without being impounded**.

□ NO – go to 5

⊠ **YES** – The wetland class is **Slope**

NOTE: Surface water does not pond in these type of wetlands except occasionally in very small and shallow depressions or behind hummocks (depressions are usually <3 ft diameter and less than 1 ft deep).

- 157. Does the entire wetland unit **meet all** of the following criteria?
 - □ The unit is in a valley, or stream channel, where it gets inundated by overbank flooding from that stream or river,
 - □ The overbank flooding occurs at least once every 2 years.

□ NO – go to 6 □ YES – The wetland class is **Riverine NOTE**: The Riverine unit can contain depressions that are filled with water when the river is not flooding

158. 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.*

 \Box NO – go to 7

□ YES – The wetland class is Depressional

159. 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

 $\hfill\square$ **YES** – The wetland class is **Depressional**

160. Your wetland unit seems to be difficult to classify and probably contains several different HGM classes. For example, seeps at the base of a slope may grade into a riverine floodplain, or a small stream within a Depressional wetland has a zone of flooding along its sides. GO BACK AND IDENTIFY WHICH OF THE HYDROLOGIC REGIMES DESCRIBED IN QUESTIONS 1-7 APPLY TO DIFFERENT AREAS IN THE UNIT (make a rough sketch to help you decide). Use the following table to identify the appropriate class to use for the rating system if you have several HGM classes present within the wetland unit being scored.

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

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

If you are still unable to determine which of the above criteria apply to your wetland, or if you have **more than 2 HGM classes** within a wetland boundary, classify the wetland as Depressional for the rating.

□ More than 2 HGM classes

SLOPE WETLANDS		
Water Quality Functions - Indicators that the site functions to impro	ve water quality	
5 1.1. Characteristics of the average slope of the wetland: (a 1% slope has a 1 ft vertical drop in ele	ation for every	
$\Box \text{ Slope is } 1\% \text{ or less}$	noints - 3	
$\Box \text{ Slope is } 1\% \text{ OT less}$	points = 3	0
$\Box \text{ Slope is } 2\% E\%$	points = 2	
\square Slope is 270-370 \square Slope is greater than E%	points = 1	
Slope is greater than 5% 5.1.2 The soil 2 is below the surface (on duff lever) is true cleven true errors (use NBCC definition)	points = 0	0
5 1.2. <u>The soil 2 in below the surface (or duff layer)</u> is true clay or true organic (<i>use NRCS definitions</i>	$(j): \square$ Yes = 3 \boxtimes No = 0	0
Choose the points appropriate for the description that best fits the plants in the wetland. De have trouble seeing the soil surface (>75% cover), and uncut means not grazed or mowed and than 6 in.	ense means you I plants are higher	
\Box Dense, uncut, herbaceous plants > 90% of the wetland area	points = 6	2
\Box Dense, uncut, herbaceous plants > ½ of area	points = 3	
⊠ Dense, woody, plants > ½ of area	points = 2	
Dense, uncut, herbaceous plants > ¼ of area	points = 1	
\Box Does not meet any of the criteria above for plants	points = 0	
Total for S 1 Add the points i	n the boxes above	2
Rating of Site Potential If score is: \Box 12 = H \Box 6-11 = M \boxtimes 0-5 = L	Record the rating on t	he first page

S 2.0. Does the landscape have the potential to support the water quality function of the site?	
S 2.1. Is > 10% of the area within 150 ft on the uphill side of the wetland in land uses that generate pollutants?	0
□ Yes = 1 ⊠ No = 0	0
S 2.2. Are there other sources of pollutants coming into the wetland that are not listed in question S 2.1?	1
Other sources: urban stream \boxtimes Yes = 1 \square No = 0	T
Total for S 2Add the points in the boxes above	1

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

Record the rating on the first page

S 3.0. Is the water quality improvement provided by the site valuable to society?	
S 3.1. Does the wetland discharge directly (i.e., within 1 mi) to a stream, river, lake, or marine water that is on the 303(d) list?	1
S 3.2. Is the wetland in a basin or sub-basin where water quality is an issue? At least one aquatic resource in the basin is on the 303(d) list. Xes = 1 No = 0	1
S 3.3. Has the site been identified in a watershed or local plan as important for maintaining water quality? Answer YES if there is a TMDL for the basin in which unit is found.	0
Total for S 3Add the points in the boxes above	2

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

Record the rating on the first page

SLOPE WETLANDS

Hydrologic Functions - Indicators that the site functions to reduce flooding and stream erosion S 4.0. Does the site have the potential to reduce flooding and stream erosion? S 4.1. Characteristics of plants that reduce the velocity of surface flows during storms: Choose the points appropriate for the description that best fits conditions in the wetland. Stems of plants should be thick enough (usually >1/8, in), or dense enough, to remain erect during surface flows. 1 ☑ Dense, uncut, **rigid** plants cover > 90% of the area of the wetland points = 1 □ All other conditions points = 0

Rating of Site Potential If score is: $\square \mathbf{1} = \mathbf{M} \square \mathbf{0} = \mathbf{L}$

Record the rating on the first page

S 5.0. Does the landscape have the potential to support the hydrologic functions of the site?	
S 5.1. Is more than 25% of the area within 150 ft upslope of wetland in land uses or cover that generate excess	
surface runoff? \Box Yes = 1 \boxtimes No = 0	0

Rating of Landscape Potential If score is: $\Box \mathbf{1} = \mathbf{M} \otimes \mathbf{0} = \mathbf{L}$

Record the rating on the first page

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

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

Record the rating on the first page

NOTES and FIELD OBSERVATIONS:

These questions apply to wetlands of all HGM classes.	
Habitat Functions - Indicators that site functions to provide important habitat	
 H 1.0. Does the site have the potential to provide habitat: H 1.1. Structure of plant community: Indicators are Cowardin classes and strata within the Forested class. Check the Cowardin plant classes in the wetland. Up to 10 patches may be combined for each class to meet the threshold of % ac or more than 10% of the unit if it is smaller than 2.5 ac. Add the number of structures checked. 	
\Box Aquatic bed 4 structures or more: points = 4	
□ Emergent 3 structures: points = 2	-
Scrub-shrub (areas where shrubs have > 30% cover) 2 structures: points = 1	2
\boxtimes Forested (areas where trees have > 30% cover) 1 structure: points = 0	
If the unit has a Forested class, check if:	
☑ The Forested class has 3 out of 5 strata (canopy, sub-canopy, shrubs, herbaceous, moss/ground-cover) that each cover 20% within the Forested polygon	
H 1.2. Hydroperiods	
Check the types of water regimes (hydroperiods) present within the wetland. The water regime has to cover more than 10% of the wetland or ¼ ac to count (<i>see text for descriptions of hydroperiods</i>).	
 Permanently flooded or inundated 4 or more types present: points = 3 	
□ Seasonally flooded or inundated 3 types present: points = 2	
 Occasionally flooded or inundated 2 types present: points = 1 	1
Saturated only 1 type present: points = 0	
Permanently flowing stream or river in, or adjacent to, the wetland	
Seasonally flowing stream in, or adjacent to, the wetland	
Lake Fringe Wetland 2 points Preshwater tidal wetland 2 points	
H 1 3 Richness of plant species	
Count the number of plant species in the wetland that cover at least 10 ft^2 .	
Different patches of the same species can be combined to meet the size threshold and you do not have to name	
the species. Do not include Eurasian milfoil, reed canarygrass, purple loosestrife, Canadian thistle	1
If you counted: $\square > 19$ species points = 2	
\boxtimes 5 - 19 species points = 1	
□ <5 species points = 0	
H 1.4. Interspersion of habitats	
Decide from the diagrams below whether interspersion among Cowardin plants classes (described in H 1.1), or the classes and unvegetated areas (can include open water or mudflats) is high moderate low or none. If you	
have four or more plant classes or three classes and open water, the rating is always high.	
	2
\boxtimes None = 0 points \square Low = 1 point \boxtimes Moderate = 2 points	2
All three diagrams in this row are HIGH = 3 points	

Wetland EB18

H 1.5. Special habitat features:	
Check the habitat features that are present in the wetland. The number of checks is the number of points.	
☑ Large, downed, woody debris within the wetland (> 4 in diameter and 6 ft long).	
\Box Standing snags (dbh > 4 in) within the wetland	
Undercut banks are present for at least 6.6 ft (2 m) and/or overhanging plants extends at least 3.3 ft (1 m) over a stream (or ditch) in, or contiguous with the wetland, for at least 33 ft (10 m)	
Stable steep banks of fine material that might be used by beaver or muskrat for denning (> 30 degree slope) OR signs of recent beaver activity are present (cut shrubs or trees that have not yet weathered where wood is exposed)	2
At least ¼ ac of thin-stemmed persistent plants or woody branches are present in areas that are permanently or seasonally inundated (structures for egg-laying by amphibians)	
□ Invasive plants cover less than 25% of the wetland area in every stratum of plants (<i>see H 1.1 for list of strata</i>)	
Total for H 1Add the points in the boxes above	8

Rating of Site Potential If score is: \Box **15-18 = H** \boxtimes **7-14 = M** \Box **0-6 = L**

Record the rating on the first page

H 2.0. Does the landscape have the potential to support the habitat functions of the site?		
H 2.1. Accessible habitat (include only habitat that directly abuts wetland unit).		
Calculate: % undisturbed habitat + [(% moderate and low intensity land uses)/2] = see Figs. 2-5		
If total accessible habitat is:		
□ > 1/3 (33.3%) of 1 km Polygon	points = 3	0
\Box 20-33% of 1 km Polygon	points = 2	
\Box 10-19% of 1 km Polygon	points = 1	
\boxtimes < 10% of 1 km Polygon	points = 0	
H 2.2. Undisturbed habitat in 1 km Polygon around the wetland.		
Calculate: % undisturbed habitat + [(% moderate and low intensity land uses)/2] = see Figs. 2-5		
\Box Undisturbed habitat > 50% of Polygon	points = 3	2
Undisturbed habitat 10-50% and in 1-3 patches	points = 2	Z
\Box Undisturbed habitat 10-50% and > 3 patches	points = 1	
Undisturbed habitat < 10% of 1 km Polygon	points = 0	
H 2.3. Land use intensity in 1 km Polygon: If		
\boxtimes > 50% of 1 km Polygon is high intensity land use	points = (- 2)	-2
\Box \leq 50% of 1 km Polygon is high intensity	points = 0	
Total for H 2 Add the points in the	boxes above	0

Rating of Landscape Potential If score is: \Box 4-6 = H \Box 1-3 = M \boxtimes < 1 = L

Record the rating on the first page

H 3.0. Is the habitat provided by the site valuable to society?		
H 3.1. Does the site provide habitat for species valued in laws, regulations, or policies? Choose only	y the highest score	
that applies to the wetland being rated.		
Site meets ANY of the following criteria:	points = 2	
🛛 It has 3 or more priority habitats within 100 m (see next page)		
\Box It provides habitat for Threatened or Endangered species (any plant or animal on the	e state or federal lists)	
It is mapped as a location for an individual WDFW priority species		1
\Box It is a Wetland of High Conservation Value as determined by the Department of Natu	Iral Resources	
It has been categorized as an important habitat site in a local or regional comprehen	sive plan, in	
a Shoreline Master Plan, or in a watershed plan		
\square Site has 1 or 2 priority habitats (listed on next page) within 100 m	points = 1	
\square Site does not meet any of the criteria above	points = 0	
Rating of Value If score is: 🛛 2 = H 🗌 1 = M 🗍 0 = L	Record the rating on	the first page

WDFW Priority Habitats

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

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

- □ **Aspen Stands:** Pure or mixed stands of aspen greater than 1 ac (0.4 ha).
- Biodiversity Areas and Corridors: Areas of habitat that are relatively important to various species of native fish and wildlife (*full descriptions in WDFW PHS report*).
- □ **Herbaceous Balds:** Variable size patches of grass and forbs on shallow soils over bedrock.
- □ **Old-growth/Mature forests**: <u>Old-growth west of Cascade crest</u> Stands of at least 2 tree species, forming a multilayered canopy with occasional small openings; with at least 8 trees/ac (20 trees/ha) > 32 in (81 cm) dbh or > 200 years of age. <u>Mature forests</u> – Stands with average diameters exceeding 21 in (53 cm) dbh; crown cover may be less than 100%; decay, decadence, numbers of snags, and quantity of large downed material is generally less than that found in old-growth; 80-200 years old west of the Cascade crest.
- □ **Oregon White Oak:** Woodland stands of pure oak or oak/conifer associations where canopy coverage of the oak component is important (*full descriptions in WDFW PHS report p. 158 see web link above*).
- **Riparian**: The area adjacent to aquatic systems with flowing water that contains elements of both aquatic and terrestrial ecosystems which mutually influence each other.
- □ **Westside Prairies:** Herbaceous, non-forested plant communities that can either take the form of a dry prairie or a wet prairie (*full descriptions in WDFW PHS report p. 161 see web link above*).
- ⊠ **Instream:** The combination of physical, biological, and chemical processes and conditions that interact to provide functional life history requirements for instream fish and wildlife resources.
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- □ **Cliffs:** Greater than 25 ft (7.6 m) high and occurring below 5000 ft elevation.
- □ **Talus:** Homogenous areas of rock rubble ranging in average size 0.5 6.5 ft (0.15 2.0 m), composed of basalt, andesite, and/or sedimentary rock, including riprap slides and mine tailings. May be associated with cliffs.
- Snags and Logs: Trees are considered snags if they are dead or dying and exhibit sufficient decay characteristics to enable cavity excavation/use by wildlife. Priority snags have a diameter at breast height of > 20 in (51 cm) in western Washington and are > 6.5 ft (2 m) in height. Priority logs are > 12 in (30 cm) in diameter at the largest end, and > 20 ft (6 m) long.

Note: All vegetated wetlands are by definition a priority habitat but are not included in this list because they are addressed elsewhere.

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Wetland EB19 Rating Form

RATING SUMMARY – Western Washington

Name of wetland (or ID #): <u>Wetland EB19</u> Date of site visit: 6/24/2015, 2/27/2020Rated by: <u>K. Crandall, R. Kahlo</u> Trained by Ecology? \square Y \square N Date of training: 9/2014

HGM Class used for rating: Slope Wetland has multiple HGM classes? \Box Y \boxtimes N

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

OVERALL WETLAND CATEGORY (based on functions \square or special characteristics \square)

Category of wetland based on FUNCTIONS

- **Category I** Total score = 23 27
- **Category II** Total score = 20 22
- Category III Total score = 16 19
- **Category IV** Total score = 9 15

FUNCTION	Improving Water Quality		Ну	drol	ogic	ł	labita	ət		
			_	0	Circle	the app	oropri	ate ra	tings	
Site Potential	Н	Μ	(l)	Н	Μ	(L)	Н	(M)	L	
Landscape Potential	Н	M	L	Н	Μ		Н	M		
Value	H	М	L	H	Μ	L	H	М	L	TOTA
Score Based on Ratings		6			5			6		17

Score for each function based on three ratings (order of ratings is not *important*) 9 = H, H, H8 = H, H, M7 = H, H, L7 = H,M,M 6 = H, M, L6 = M, M, M5 = H, L, L5 = M,M,L 4 = M,L,L 3 = L,L,L

Category based on SPECIAL CHARACTERISTICS of wetland

CHARACTERISTIC	CATEGORY		
Estuarine	I II		
Wetland of High Conservation Value	I		
Bog	I		
Mature Forest	I		
Old Growth Forest	I		
Coastal Lagoon	Ι	II	
Interdunal	I II	III IV	
None of the above		\boxtimes	

Maps and figures required to answer questions correctly for Western Washington

Slope Wetlands

Map of:	To answer questions:	Figure #
Cowardin plant classes	H 1.1, H 1.4	EB18-1
Hydroperiods	H 1.2	EB18-2
Plant cover of dense trees, shrubs, and herbaceous plants	S 1.3	EB18-1
Plant cover of dense, rigid trees, shrubs, and herbaceous plants (can be added to figure above)	S 4.1	EB18-1
Boundary of 150 ft buffer (can be added to another figure)	S 2.1, S 5.1	EB18-2
1 km Polygon: Area that extends 1 km from entire wetland edge - including polygons for accessible habitat and undisturbed habitat	H 2.1, H 2.2, H 2.3	2 to 5
Screen capture of map of 303(d) listed waters in basin (from Ecology website)	S 3.1, S 3.2	7
Screen capture of list of TMDLs for WRIA in which unit is found (from web)	S 3.3	1

HGM Classification of Wetlands in Western Washington

For questions 1-7, the criteria described must apply to the entire unit being rated.

If the hydrologic criteria listed in each question do not apply to the entire unit being rated, you probably have a unit with multiple HGM classes. In this case, identify which hydrologic criteria in questions 1-7 apply, and go to Question 8.

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

 \boxtimes NO – go to 2 \square YES – the wetland class is **Tidal Fringe** – go to 1.1

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

□ NO - Saltwater Tidal Fringe (Estuarine) □ YES - Freshwater Tidal Fringe If your wetland can be classified as a Freshwater Tidal Fringe use the forms for **Riverine** wetlands. If it is Saltwater Tidal Fringe it is an **Estuarine** wetland and is not scored. This method **cannot** be used to score functions for estuarine wetlands.

162. 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
If your wetland can be classified as a Flats wetland, use the form for **Depressional** wetlands.

- 163. Does the entire wetland unit **meet all** of the following criteria?
 - □ The vegetated part of the wetland is on the shores of a body of permanent open water (without any plants on the surface at any time of the year) at least 20 ac (8 ha) in size;
 - \Box At least 30% of the open water area is deeper than 6.6 ft (2 m).

⊠ NO – go to 4 □ **YES** – The wetland class is **Lake Fringe** (Lacustrine Fringe)

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

- ⊠ The wetland is on a slope (*slope can be very gradual*),
- \boxtimes The water flows through the wetland in one direction (unidirectional) and usually comes from seeps. It may flow subsurface, as sheetflow, or in a swale without distinct banks,
- ⊠ The water leaves the wetland **without being impounded**.

□ NO – go to 5

⊠ **YES** – The wetland class is **Slope**

NOTE: Surface water does not pond in these type of wetlands except occasionally in very small and shallow depressions or behind hummocks (depressions are usually <3 ft diameter and less than 1 ft deep).

- 165. Does the entire wetland unit **meet all** of the following criteria?
 - □ The unit is in a valley, or stream channel, where it gets inundated by overbank flooding from that stream or river,
 - □ The overbank flooding occurs at least once every 2 years.

□ NO – go to 6 □ YES – The wetland class is **Riverine NOTE**: The Riverine unit can contain depressions that are filled with water when the river is not flooding

166. 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.*

 \Box NO – go to 7

□ **YES** – The wetland class is **Depressional**

167. 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

168. Your wetland unit seems to be difficult to classify and probably contains several different HGM classes. For example, seeps at the base of a slope may grade into a riverine floodplain, or a small stream within a Depressional wetland has a zone of flooding along its sides. GO BACK AND IDENTIFY WHICH OF THE HYDROLOGIC REGIMES DESCRIBED IN QUESTIONS 1-7 APPLY TO DIFFERENT AREAS IN THE UNIT (make a rough sketch to help you decide). Use the following table to identify the appropriate class to use for the rating system if you have several HGM classes present within the wetland unit being scored.

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

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

If you are still unable to determine which of the above criteria apply to your wetland, or if you have **more than 2 HGM classes** within a wetland boundary, classify the wetland as Depressional for the rating.

□ More than 2 HGM classes

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

S 2.0. Does the landscape have the potential to support the water quality function of the site?		
S 2.1. Is > 10% of the area within 150 ft on the uphill side of the wetland in land uses that generate pollutants?		
□ Yes = 1 ⊠ No = 0	0	
S 2.2. Are there other sources of pollutants coming into the wetland that are not listed in question S 2.1?		
Other sources: urban stream \square No = 0	T	
Total for S 2Add the points in the boxes above	0	

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

Record the rating on the first page

S 3.0. Is the water quality improvement provided by the site valuable to society?	
S 3.1. Does the wetland discharge directly (i.e., within 1 mi) to a stream, river, lake, or marine water that is on the 303(d) list?	1
S 3.2. Is the wetland in a basin or sub-basin where water quality is an issue? At least one aquatic resource in the basin is on the 303(d) list. Xes = 1 No = 0	1
S 3.3. Has the site been identified in a watershed or local plan as important for maintaining water quality? Answer YES if there is a TMDL for the basin in which unit is found.	0
Total for S 3Add the points in the boxes above	2

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

Record the rating on the first page

SLOPE WETLANDS

Hydrologic Functions - Indicators that the site functions to reduce flooding and stream erosion S 4.0. Does the site have the potential to reduce flooding and stream erosion? S 4.1. Characteristics of plants that reduce the velocity of surface flows during storms: Choose the points appropriate for the description that best fits conditions in the wetland. Stems of plants should be thick enough (usually >1/8g in), or dense enough, to remain erect during surface flows. 0 Dense, uncut, rigid plants cover > 90% of the area of the wetland points = 1 All other conditions points = 0

Rating of Site Potential If score is: \Box **1** = **M** \boxtimes **0** = **L**

Record the rating on the first page

S 5.0. Does the landscape have the potential to support the hydrologic functions of the site?	
S 5.1. Is more than 25% of the area within 150 ft upslope of wetland in land uses or cover that generate excess	
surface runoff? \Box Yes = 1 \boxtimes No = 0	0

Rating of Landscape Potential If score is: $\Box \mathbf{1} = \mathbf{M} \otimes \mathbf{0} = \mathbf{L}$

Record the rating on the first page

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

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

Record the rating on the first page

NOTES and FIELD OBSERVATIONS:

These questions apply to wetlands of all HGM classes.	
Habitat Functions - Indicators that site functions to provide important habitat	
H 1.0. Does the site have the potential to provide habitat?	
H 1.1. Structure of plant community: Indicators are Cowardin classes and strata within the Forested class. Check the Cowardin plant classes in the wetland. Up to 10 patches may be combined for each class to meet the threshold of ¼ ac or more than 10% of the unit if it is smaller than 2.5 ac. Add the number of structures checked.	
□ Aquatic bed 4 structures or more: points = 4	
☑ Emergent 3 structures: points = 2	2
\Box Scrub-shrub (areas where shrubs have > 30% cover) 2 structures: points = 1	2
☑ Forested (areas where trees have > 30% cover) 1 structure: points = 0	
If the unit has a Forested class, check if: Mathematical Structure (canopy, sub-canopy, shrubs, herbaceous, moss/ground-cover)	
that each cover 20% within the Forested polygon	
H 1.2. Hydroperiods	
Check the types of water regimes (hydroperiods) present within the wetland. The water regime has to cover more than 10% of the wetland or ¼ ac to count (<i>see text for descriptions of hydroperiods</i>).	
Permanently flooded or inundated 4 or more types present: points = 3	
□ Seasonally flooded or inundated 3 types present: points = 2	
 Occasionally flooded or inundated 2 types present: points = 1 	0
☑ Saturated only 1 type present: points = 0	
Permanently flowing stream or river in, or adjacent to, the wetland	
Seasonally flowing stream in, or adjacent to, the wetland	
□ Lake Fringe wetland 2 points	
Freshwater tidal wetland 2 points	
H 1.3. Richness of plant species	
Count the number of plant species in the wetland that cover at least 10 ft ² .	
Different patches of the same species can be combined to meet the size threshold and you do not have to name the species Do not include Furasian milfoil, reed canaryarass, nurnle loosestrife, Canadian thistle	1
If you counted: $\square > 19$ species points = 2	1
\boxtimes 5 - 19 species points = 1	
\Box < 5 species points = 0	
H 1.4. Interspersion of habitats	
Decide from the diagrams below whether interspersion among Cowardin plants classes (described in H 1.1), or	
the classes and unvegetated areas (can include open water or mudflats) is high, moderate, low, or none. If you	
have four or more plant classes or three classes and open water, the rating is always high.	
	2
\Box None = 0 points \Box Low = 1 point \Box Moderate = 2 points	
All three diagrams in this row are	

Wetland EB19

H 1.5. Special habitat features:	
Check the habitat features that are present in the wetland. The number of checks is the number of points.	
☐ Large, downed, woody debris within the wetland (> 4 in diameter and 6 ft long).	
\Box Standing snags (dbh > 4 in) within the wetland	
Undercut banks are present for at least 6.6 ft (2 m) and/or overhanging plants extends at least 3.3 ft (1 m) over a stream (or ditch) in, or contiguous with the wetland, for at least 33 ft (10 m)	
Stable steep banks of fine material that might be used by beaver or muskrat for denning (> 30 degree slope) OR signs of recent beaver activity are present (cut shrubs or trees that have not yet weathered where wood is exposed)	2
At least ¼ ac of thin-stemmed persistent plants or woody branches are present in areas that are permanently or seasonally inundated (structures for egg-laying by amphibians)	
Invasive plants cover less than 25% of the wetland area in every stratum of plants (see H 1.1 for list of strata)	
Total for H 1Add the points in the boxes above	7

Rating of Site Potential If score is: \Box **15-18 = H** \boxtimes **7-14 = M** \Box **0-6 = L**

Record the rating on the first page

H 2.0. Does the landscape have the potential to support the habitat functions of the site?		
H 2.1. Accessible habitat (include only habitat that directly abuts wetland unit).		
Calculate: % undisturbed habitat + [(% moderate and low intensity land uses)/2] = see Figs. 2-5		
If total accessible habitat is:		
\Box > 1/3 (33.3%) of 1 km Polygon	points = 3	0
\Box 20-33% of 1 km Polygon	points = 2	
\Box 10-19% of 1 km Polygon	points = 1	
\boxtimes < 10% of 1 km Polygon	points = 0	
H 2.2. Undisturbed habitat in 1 km Polygon around the wetland.		
Calculate: % undisturbed habitat + [(% moderate and low intensity land uses)/2] = see Figs. 2-5		
\Box Undisturbed habitat > 50% of Polygon	points = 3	1
\Box Undisturbed habitat 10-50% and in 1-3 patches	points = 2	T
\boxtimes Undisturbed habitat 10-50% and > 3 patches	points = 1	
Undisturbed habitat < 10% of 1 km Polygon	points = 0	
H 2.3. Land use intensity in 1 km Polygon: If		
\square > 50% of 1 km Polygon is high intensity land use	points = (- 2)	-2
\Box \leq 50% of 1 km Polygon is high intensity	points = 0	
Total for H 2 Add the points in th	e boxes above	-1

Rating of Landscape Potential If score is: \Box **4-6** = **H** \Box **1-3** = **M** \boxtimes **< 1** = **L**

Record the rating on the first page

H 3.0. Is the habitat provided by the site valuable to society?		
H 3.1. Does the site provide habitat for species valued in laws, regulations, or policies? Choose only	y the highest score	
that applies to the wetland being rated.		
Site meets ANY of the following criteria:	points = 2	
🛛 It has 3 or more priority habitats within 100 m (see next page)		
\Box It provides habitat for Threatened or Endangered species (any plant or animal on the	e state or federal lists)	
It is mapped as a location for an individual WDFW priority species		2
\Box It is a Wetland of High Conservation Value as determined by the Department of Natu	ural Resources	
\Box It has been categorized as an important habitat site in a local or regional comprehen	isive plan, in	
a Shoreline Master Plan, or in a watershed plan		
\square Site has 1 or 2 priority habitats (listed on next page) within 100 m	points = 1	
\square Site does not meet any of the criteria above	points = 0	
Rating of Value If score is: \square 2 = H \square 1 = M \square 0 = L	Record the rating on	the first page

WDFW Priority Habitats

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

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

- □ **Aspen Stands:** Pure or mixed stands of aspen greater than 1 ac (0.4 ha).
- Biodiversity Areas and Corridors: Areas of habitat that are relatively important to various species of native fish and wildlife (*full descriptions in WDFW PHS report*).
- □ **Herbaceous Balds:** Variable size patches of grass and forbs on shallow soils over bedrock.
- □ **Old-growth/Mature forests**: <u>Old-growth west of Cascade crest</u> Stands of at least 2 tree species, forming a multilayered canopy with occasional small openings; with at least 8 trees/ac (20 trees/ha) > 32 in (81 cm) dbh or > 200 years of age. <u>Mature forests</u> – Stands with average diameters exceeding 21 in (53 cm) dbh; crown cover may be less than 100%; decay, decadence, numbers of snags, and quantity of large downed material is generally less than that found in old-growth; 80-200 years old west of the Cascade crest.
- □ **Oregon White Oak:** Woodland stands of pure oak or oak/conifer associations where canopy coverage of the oak component is important (*full descriptions in WDFW PHS report p. 158 see web link above*).
- **Riparian**: The area adjacent to aquatic systems with flowing water that contains elements of both aquatic and terrestrial ecosystems which mutually influence each other.
- □ Westside Prairies: Herbaceous, non-forested plant communities that can either take the form of a dry prairie or a wet prairie (*full descriptions in WDFW PHS report p. 161 see web link above*).
- ⊠ **Instream:** The combination of physical, biological, and chemical processes and conditions that interact to provide functional life history requirements for instream fish and wildlife resources.
- □ **Nearshore**: Relatively undisturbed nearshore habitats. These include Coastal Nearshore, Open Coast Nearshore, and Puget Sound Nearshore. (*full descriptions of habitats and the definition of relatively undisturbed are in WDFW report see web link on previous page*).
- □ **Caves:** A naturally occurring cavity, recess, void, or system of interconnected passages under the earth in soils, rock, ice, or other geological formations and is large enough to contain a human.
- □ **Cliffs:** Greater than 25 ft (7.6 m) high and occurring below 5000 ft elevation.
- □ **Talus:** Homogenous areas of rock rubble ranging in average size 0.5 6.5 ft (0.15 2.0 m), composed of basalt, andesite, and/or sedimentary rock, including riprap slides and mine tailings. May be associated with cliffs.
- Snags and Logs: Trees are considered snags if they are dead or dying and exhibit sufficient decay characteristics to enable cavity excavation/use by wildlife. Priority snags have a diameter at breast height of > 20 in (51 cm) in western Washington and are > 6.5 ft (2 m) in height. Priority logs are > 12 in (30 cm) in diameter at the largest end, and > 20 ft (6 m) long.

Note: All vegetated wetlands are by definition a priority habitat but are not included in this list because they are addressed elsewhere.

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Wetland EB20 Rating Form

RATING SUMMARY – Western Washington

Name of wetland (or ID #): Wetland EB20Date of site visit: 6/17/2015, 5/26/2020Rated by: K. CrandallTrained by Ecology? \square Y \square NDate of training: 9/2014

HGM Class used for rating: Slope Wetland has multiple HGM classes? \Box Y \boxtimes N

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

OVERALL WETLAND CATEGORY (based on functions \square or special characteristics \square)

Category of wetland based on FUNCTIONS

- **Category I** Total score = 23 27
- **Category II** Total score = 20 22
- Category III Total score = 16 19
- **Category IV** Total score = 9 15

FUNCTION	Improving Water Quality		H	ydrolo	gic		Habitat		
					Circle t	he ap	propi	riate ratings	
Site Potential	Н	М	(L)	Н	(M)	L	Н	M (L)	
Landscape Potential	Н	(M)	Ľ	Н	M	L	Н	ML	
Value	Н	M	L	H	М	L	Н	ML	ΤΟΤΑ
Score Based on Ratings		5			7			4	16

Score for each function based on three ratings (order of ratings is not *important*) 9 = H, H, H8 = H, H, M7 = H, H, L7 = H,M,M 6 = H, M, L6 = M, M, M5 = H, L, L5 = M,M,L 4 = M,L,L

3 = L,L,L

Category based on SPECIAL CHARACTERISTICS of wetland

CHARACTERISTIC	CATEGORY		
Estuarine	I II		
Wetland of High Conservation Value	I		
Bog	I		
Mature Forest	I		
Old Growth Forest	I		
Coastal Lagoon	I II		
Interdunal	I II	III IV	
None of the above		\boxtimes	

Maps and figures required to answer questions correctly for Western Washington

Slope Wetlands

Map of:	To answer questions:	Figure #
Cowardin plant classes	H 1.1, H 1.4	EB20-1
Hydroperiods	H 1.2	EB20-2
Plant cover of dense trees, shrubs, and herbaceous plants	S 1.3	EB20-1
Plant cover of dense, rigid trees, shrubs, and herbaceous plants (can be added to figure above)	S 4.1	EB20-1
Boundary of 150 ft buffer (can be added to another figure)	S 2.1, S 5.1	EB20-2
1 km Polygon: Area that extends 1 km from entire wetland edge - including polygons for accessible habitat and undisturbed habitat	H 2.1, H 2.2, H 2.3	2 to 5
Screen capture of map of 303(d) listed waters in basin (from Ecology website)	S 3.1, S 3.2	8
Screen capture of list of TMDLs for WRIA in which unit is found (from web)	S 3.3	1

HGM Classification of Wetlands in Western Washington

For questions 1-7, the criteria described must apply to the entire unit being rated.

If the hydrologic criteria listed in each question do not apply to the entire unit being rated, you probably have a unit with multiple HGM classes. In this case, identify which hydrologic criteria in questions 1-7 apply, and go to Question 8.

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

 \boxtimes NO – go to 2 \square YES – the wetland class is **Tidal Fringe** – go to 1.1

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

□ NO - Saltwater Tidal Fringe (Estuarine) □ YES - Freshwater Tidal Fringe If your wetland can be classified as a Freshwater Tidal Fringe use the forms for **Riverine** wetlands. If it is Saltwater Tidal Fringe it is an **Estuarine** wetland and is not scored. This method **cannot** be used to score functions for estuarine wetlands.

170. 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.*

- 171. Does the entire wetland unit **meet all** of the following criteria?
 - □ The vegetated part of the wetland is on the shores of a body of permanent open water (without any plants on the surface at any time of the year) at least 20 ac (8 ha) in size;
 - \Box At least 30% of the open water area is deeper than 6.6 ft (2 m).

⊠ NO – go to 4 □ **YES** – The wetland class is **Lake Fringe** (Lacustrine Fringe)

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

- ⊠ The wetland is on a slope (*slope can be very gradual*),
- ⊠ The water flows through the wetland in one direction (unidirectional) and usually comes from seeps. It may flow subsurface, as sheetflow, or in a swale without distinct banks,
- The water leaves the wetland **without being impounded**.

□ NO – go to 5

⊠ **YES** – The wetland class is **Slope**

NOTE: Surface water does not pond in these type of wetlands except occasionally in very small and shallow depressions or behind hummocks (depressions are usually <3 ft diameter and less than 1 ft deep).

- 173. Does the entire wetland unit **meet all** of the following criteria?
 - □ The unit is in a valley, or stream channel, where it gets inundated by overbank flooding from that stream or river,
 - □ The overbank flooding occurs at least once every 2 years.

□ NO – go to 6 □ YES – The wetland class is **Riverine NOTE**: The Riverine unit can contain depressions that are filled with water when the river is not flooding

174. 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

175. 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

176. Your wetland unit seems to be difficult to classify and probably contains several different HGM classes. For example, seeps at the base of a slope may grade into a riverine floodplain, or a small stream within a Depressional wetland has a zone of flooding along its sides. GO BACK AND IDENTIFY WHICH OF THE HYDROLOGIC REGIMES DESCRIBED IN QUESTIONS 1-7 APPLY TO DIFFERENT AREAS IN THE UNIT (make a rough sketch to help you decide). Use the following table to identify the appropriate class to use for the rating system if you have several HGM classes present within the wetland unit being scored.

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

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

If you are still unable to determine which of the above criteria apply to your wetland, or if you have **more than 2 HGM classes** within a wetland boundary, classify the wetland as Depressional for the rating.

□ More than 2 HGM classes

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

S 2.0. Does the landscape have the potential to support the water quality function of the site?		
S 2.1. Is > 10% of the area within 150 ft on the uphill side of the wetland in land uses that generate pollutants?		
imes Yes = 1 $ imes$ No = 0	Ť	
S 2.2. Are there other sources of pollutants coming into the wetland that are not listed in question S 2.1?		
Other sources: \Box Yes = 1 \boxtimes No = 0	0	
Total for S 2Add the points in the boxes above	1	

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

Record the rating on the first page

S 3.0. Is the water quality improvement provided by the site valuable to society?	
S 3.1. Does the wetland discharge directly (i.e., within 1 mi) to a stream, river, lake, or marine water that is on the 303(d) list?	0
S 3.2. Is the wetland in a basin or sub-basin where water quality is an issue? At least one aquatic resource in the basin is on the 303(d) list. Xes = 1 No = 0	1
S 3.3. Has the site been identified in a watershed or local plan as important for maintaining water quality? Answer YES if there is a TMDL for the basin in which unit is found.	0
Total for S 3Add the points in the boxes above	1

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

Record the rating on the first page

SLOPE WETLANDS

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

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

S 4.1. Characteristics of plants that reduce the velocity of surface flows during storms: Choose the points appropriate for the description that best fits conditions in the wetland. Stems of plants should be thick enough (usually >1/8, in), or dense enough, to remain erect during surface flows. ☑ Dense, uncut, **rigid** plants cover > 90% of the area of the wetland points = 1 points = 0

□ All other conditions

Rating of Site Potential If score is: \square **1** = **M** \square **0** = **L**

Record the rating on the first page

1

S 5.0. Does the landscape have the potential to support the hydrologic functions of the site?	
S 5.1. Is more than 25% of the area within 150 ft upslope of wetland in land uses or cover that generate excess	
surface runoff? \square Yes = 1 \square No = 0	T

Rating of Landscape Potential If score is: \square **1** = **M** \square **0** = **L**

Record the rating on the first page

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

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

Record the rating on the first page

NOTES and FIELD OBSERVATIONS:

These questions apply to wetlands of all HGM classes.	
H 1.0. Does the site have the potential to provide habitat?	
H 1.1. Structure of plant community: Indicators are Cowardin classes and strata within the Forested class. Check the Cowardin plant classes in the wetland. Up to 10 patches may be combined for each class to meet the threshold of ¼ ac or more than 10% of the unit if it is smaller than 2.5 ac. Add the number of structures checked.	
□ Aquatic bed 4 structures or more: points = 4	
☑ Emergent 3 structures: points = 2	0
\Box Scrub-shrub (areas where shrubs have > 30% cover) 2 structures: points = 1	0
\Box Forested (areas where trees have > 30% cover) 1 structure: points = 0	
If the unit has a Forested class, check if:	
The Forested class has 3 out of 5 strata (canopy, sub-canopy, shrubs, herbaceous, moss/ground-cover) that each cover 20% within the Forested polygon	
H 1.2. Hydroperiods	
Check the types of water regimes (hydroperiods) present within the wetland. The water regime has to cover more than 10% of the wetland or ¼ ac to count (<i>see text for descriptions of hydroperiods</i>).	
 Permanently flooded or inundated 4 or more types present: points = 3 	
□ Seasonally flooded or inundated 3 types present: points = 2	
□ Occasionally flooded or inundated 2 types present: points = 1	0
Saturated only 1 type present: points = 0	
Permanently flowing stream or river in, or adjacent to, the wetland	
□ Seasonally flowing stream in, or adjacent to, the wetland	
Lake Fringe wetland 2 points	
LI 1 2. Dickness of plant species	
Count the number of plant species in the wetland that cover at least 10 ft ²	
Different patches of the same species can be combined to meet the size threshold and you do not have to name	
the species. Do not include Eurasian milfoil, reed canarygrass, purple loosestrife, Canadian thistle	1
If you counted: $\Box > 19$ speciespoints = 2	
\boxtimes 5 - 19 species points = 1	
□ < 5 species points = 0	
H 1.4. Interspersion of habitats	
Decide from the diagrams below whether interspersion among Cowardin plants classes (described in H 1.1), or the classes and unvegetated areas (can include onen water or mudflats) is high moderate low or none. If you	
have four or more plant classes or three classes and open water, the rating is always high.	
	0
None = 0 points □ Low = 1 point □ Moderate = 2 points	Ũ
All three diagrams in this row are HIGH = 3 points	

Wetland EB20

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

Rating of Site Potential If score is: \Box **15-18 = H** \Box **7-14 = M** \boxtimes **0-6 = L** *Re*

Record the rating on the first page

A 2.0. Does the landscape have the potential to support the habitat functions of the site?		
H 2.1. Accessible habitat (include only habitat that directly abuts wetland unit).		
Calculate: % undisturbed habitat + [(% moderate and low intensity land uses)/2] = see Figs. 2-5		
If total accessible habitat is:		
\Box > 1/3 (33.3%) of 1 km Polygon	points = 3	0
\square 20-33% of 1 km Polygon	points = 2	
\Box 10-19% of 1 km Polygon	points = 1	
\boxtimes < 10% of 1 km Polygon	points = 0	
H 2.2. Undisturbed habitat in 1 km Polygon around the wetland.		
Calculate: % undisturbed habitat + [(% moderate and low intensity land uses)/2] = see Figs. 2-5		
\Box Undisturbed habitat > 50% of Polygon	points = 3	1
\Box Undisturbed habitat 10-50% and in 1-3 patches	points = 2	Ŧ
\boxtimes Undisturbed habitat 10-50% and > 3 patches	points = 1	
Undisturbed habitat < 10% of 1 km Polygon	points = 0	
H 2.3. Land use intensity in 1 km Polygon: If		
\boxtimes > 50% of 1 km Polygon is high intensity land use	points = (- 2)	-2
\Box \leq 50% of 1 km Polygon is high intensity	points = 0	
Total for H 2 Add the points in the	boxes above	-1
		<i>c</i> .

Rating of Landscape Potential If score is: \Box 4-6 = H \Box 1-3 = M \boxtimes < 1 = L

Record the rating on the first page

H 3.0. Is the habitat provided by the site valuable to society?		
H 3.1. Does the site provide habitat for species valued in laws, regulations, or policies? Choose o	nly the highest score	
that applies to the wetland being rated.		
Site meets ANY of the following criteria:	points = 2	
It has 3 or more priority habitats within 100 m (see next page)		
\Box It provides habitat for Threatened or Endangered species (any plant or animal on t	he state or federal lists)	
It is mapped as a location for an individual WDFW priority species		1
It is a Wetland of High Conservation Value as determined by the Department of Na	atural Resources	
□ It has been categorized as an important habitat site in a local or regional comprehensive plan, in		
a Shoreline Master Plan, or in a watershed plan		
Site has 1 or 2 priority habitats (listed on next page) within 100 m	points = 1	
\square Site does not meet any of the criteria above	points = 0	
Rating of Value If score is: $\Box 2 = H \boxtimes 1 = M \Box 0 = L$ Record the rating on the		

WDFW Priority Habitats

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

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

- □ **Aspen Stands:** Pure or mixed stands of aspen greater than 1 ac (0.4 ha).
- □ **Biodiversity Areas and Corridors**: Areas of habitat that are relatively important to various species of native fish and wildlife (*full descriptions in WDFW PHS report*).
- □ **Herbaceous Balds:** Variable size patches of grass and forbs on shallow soils over bedrock.
- □ **Old-growth/Mature forests**: <u>Old-growth west of Cascade crest</u> Stands of at least 2 tree species, forming a multilayered canopy with occasional small openings; with at least 8 trees/ac (20 trees/ha) > 32 in (81 cm) dbh or > 200 years of age. <u>Mature forests</u> – Stands with average diameters exceeding 21 in (53 cm) dbh; crown cover may be less than 100%; decay, decadence, numbers of snags, and quantity of large downed material is generally less than that found in old-growth; 80-200 years old west of the Cascade crest.
- □ **Oregon White Oak:** Woodland stands of pure oak or oak/conifer associations where canopy coverage of the oak component is important (*full descriptions in WDFW PHS report p. 158 see web link above*).
- □ **Riparian**: The area adjacent to aquatic systems with flowing water that contains elements of both aquatic and terrestrial ecosystems which mutually influence each other.
- □ **Westside Prairies:** Herbaceous, non-forested plant communities that can either take the form of a dry prairie or a wet prairie (*full descriptions in WDFW PHS report p. 161 see web link above*).
- □ **Instream:** The combination of physical, biological, and chemical processes and conditions that interact to provide functional life history requirements for instream fish and wildlife resources.
- □ **Nearshore**: Relatively undisturbed nearshore habitats. These include Coastal Nearshore, Open Coast Nearshore, and Puget Sound Nearshore. (*full descriptions of habitats and the definition of relatively undisturbed are in WDFW report see web link on previous page*).
- □ **Caves:** A naturally occurring cavity, recess, void, or system of interconnected passages under the earth in soils, rock, ice, or other geological formations and is large enough to contain a human.
- □ **Cliffs:** Greater than 25 ft (7.6 m) high and occurring below 5000 ft elevation.
- □ **Talus:** Homogenous areas of rock rubble ranging in average size 0.5 6.5 ft (0.15 2.0 m), composed of basalt, andesite, and/or sedimentary rock, including riprap slides and mine tailings. May be associated with cliffs.
- Snags and Logs: Trees are considered snags if they are dead or dying and exhibit sufficient decay characteristics to enable cavity excavation/use by wildlife. Priority snags have a diameter at breast height of > 20 in (51 cm) in western Washington and are > 6.5 ft (2 m) in height. Priority logs are > 12 in (30 cm) in diameter at the largest end, and > 20 ft (6 m) long.

Note: All vegetated wetlands are by definition a priority habitat but are not included in this list because they are addressed elsewhere.

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Wetland EB21 Rating Form

RATING SUMMARY – Western Washington

Name of wetland (or ID #): Wetland EB21Date of site visit: 6/1/2015, 5/26/2020Rated by: K. CrandallTrained by Ecology? \square Y \square NDate of training: 9/2014

HGM Class used for rating: Depressional Wetland has multiple HGM classes? \Box Y \boxtimes N

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

OVERALL WETLAND CATEGORY (based on functions \square or special characteristics \square)

Category of wetland based on FUNCTIONS

- **Category I** Total score = 23 27
- **Category II** Total score = 20 22
- Category III Total score = 16 19
- **Category IV** Total score = 9 15

FUNCTION	lr Wa	nprov ter Qı	ing Jality	Ну	drol	ogic		Habit	at	
		-		(Circle	the ap	oropr	iate ra	tings	
Site Potential	Н	(M)	L	Н	Μ	(l)	Н	М		
Landscape Potential	Н	M	L	H	Μ	Ľ	Н	Μ	\bigcirc	
Value	H	М	L	H	Μ	L	Н	М	\bigcirc	ΤΟΤΑ
Score Based on Ratings		7			7			3		17

Score for each function based on three ratings (order of ratings is not *important*) 9 = H, H, H8 = H, H, M7 = H, H, L7 = H, M, M6 = H, M, L6 = M, M, M5 = H, L, L5 = M,M,L 4 = M,L,L

3 = L,L,L

Category based on SPECIAL CHARACTERISTICS of wetland

CHARACTERISTIC	CATEGORY	
Estuarine	Ι	II
Wetland of High Conservation Value	I	
Bog		Ι
Mature Forest	I	
Old Growth Forest		Ι
Coastal Lagoon	Ι	II
Interdunal	I II	III IV
None of the above		\boxtimes

Maps and figures required to answer questions correctly for Western Washington

Depressional Wetlands

Map of:	To answer questions:	Figure #
Cowardin plant classes	D 1.3, H 1.1, H 1.4	EB21-1
Hydroperiods	D 1.4, H 1.2	EB21-2
Location of outlet (can be added to map of hydroperiods)	D 1.1, D 4.1	EB21-2
Boundary of area within 150 ft of the wetland (can be added to another figure)	D 2.2, D 5.2	EB21-2
Map of the contributing basin	D 4.3, D 5.3	EB21-3
1 km Polygon: Area that extends 1 km from entire wetland edge - including polygons for accessible habitat and undisturbed habitat	H 2.1, H 2.2, H 2.3	2 to 5
Screen capture of map of 303(d) listed waters in basin (from Ecology website)	D 3.1, D 3.2	7
Screen capture of list of TMDLs for WRIA in which unit is found (from web)	D 3.3	1

HGM Classification of Wetlands in Western Washington

For questions 1-7, the criteria described must apply to the entire unit being rated.

If the hydrologic criteria listed in each question do not apply to the entire unit being rated, you probably have a unit with multiple HGM classes. In this case, identify which hydrologic criteria in questions 1-7 apply, and go to Question 8.

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

 \boxtimes NO – go to 2 \square YES – the wetland class is **Tidal Fringe** – go to 1.1

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

□ NO - Saltwater Tidal Fringe (Estuarine) □ YES - Freshwater Tidal Fringe If your wetland can be classified as a Freshwater Tidal Fringe use the forms for **Riverine** wetlands. If it is Saltwater Tidal Fringe it is an **Estuarine** wetland and is not scored. This method **cannot** be used to score functions for estuarine wetlands.

178. 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.

 \boxtimes NO – go to 3 \square **YES** – The wetland class is **Flats** *If your wetland can be classified as a Flats wetland, use the form for* **Depressional** *wetlands.*

- 179. Does the entire wetland unit **meet all** of the following criteria?
 - □ The vegetated part of the wetland is on the shores of a body of permanent open water (without any plants on the surface at any time of the year) at least 20 ac (8 ha) in size;
 - \Box At least 30% of the open water area is deeper than 6.6 ft (2 m).

⊠ NO – go to 4 □ YES – The wetland class is Lake Fringe (Lacustrine Fringe)

180. 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**.

 \boxtimes NO – go to 5

□ **YES** – The wetland class is **Slope**

NOTE: Surface water does not pond in these type of wetlands except occasionally in very small and shallow depressions or behind hummocks (depressions are usually <3 ft diameter and less than 1 ft deep).

- 181. Does the entire wetland unit **meet all** of the following criteria?
 - □ The unit is in a valley, or stream channel, where it gets inundated by overbank flooding from that stream or river,
 - □ The overbank flooding occurs at least once every 2 years.

☑ NO – go to 6
 ☑ YES – The wetland class is Riverine
 NOTE: The Riverine unit can contain depressions that are filled with water when the river is not flooding

182. 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

183. 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

184. Your wetland unit seems to be difficult to classify and probably contains several different HGM classes. For example, seeps at the base of a slope may grade into a riverine floodplain, or a small stream within a Depressional wetland has a zone of flooding along its sides. GO BACK AND IDENTIFY WHICH OF THE HYDROLOGIC REGIMES DESCRIBED IN QUESTIONS 1-7 APPLY TO DIFFERENT AREAS IN THE UNIT (make a rough sketch to help you decide). Use the following table to identify the appropriate class to use for the rating system if you have several HGM classes present within the wetland unit being scored.

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

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

If you are still unable to determine which of the above criteria apply to your wetland, or if you have **more than 2 HGM classes** within a wetland boundary, classify the wetland as Depressional for the rating.

□ More than 2 HGM classes

DEPRESSIONAL AND FLATS WETLANDS	
Water Quality Functions - Indicators that the site functions to improve water quality	
D 1.0. Does the site have the potential to improve water quality?	
D 1.1. Characteristics of surface water outflows from the wetland:	
Wetland is a depression or flat depression (QUESTION 7 on key) with no surface water leaving it (no outlet). points = 3	
Wetland has an intermittently flowing stream or ditch, OR highly constricted permanently flowing outlet. points = 2	1
\boxtimes Wetland has an unconstricted, or slightly constricted, surface outlet that is permanently flowing points = 1	
\square we thank is a nat depression (QOLSHON 7 on Key), whose outlet is a permanentity nowing ditch. points -1	0
D 1.2. <u>The soil 2 in below the surface (of durfayer)</u> is true clay of true organic (<i>use waves definitions</i>) \Box Fes = 4 \boxtimes No = 0	0
Metland has persistent ungrazed plants > 95% of area	
$\square Wethand has persistent, ungrazed, plants > 1/2 of area points = 3 points = 3$	F
$\square \text{ Wethand has persistent, ungrazed, plants > 1/2 of area} \qquad points = 3$	5
□ Wetland has persistent, ungrazed plants < 1/10 of area points = 0	
D 1.4. Characteristics of seasonal ponding or inundation:	
This is the area that is ponded for at least 2 months. See description in manual.	
\Box Area seasonally ponded is > $\frac{1}{2}$ total area of wetland points = 4	0
\Box Area seasonally ponded is > $\frac{1}{4}$ total area of wetland points = 2	Ŭ
\boxtimes Area seasonally ponded is < $\frac{1}{4}$ total area of wetland points = 0	
Total for D 1 Add the points in the boxes above	6
Rating of Site Potential If score is: \Box 12-16 = H \boxtimes 6-11 = M \Box 0-5 = LRecord the rating on the full	irst page
D 2.0. Does the landscape have the potential to support the water quality function of the site?	
D 2.1. Does the wetland unit receive stormwater discharges? \square Yes = 1 \square No = 0	1
D 2.2. Is > 10% of the area within 150 ft of the wetland in land uses that generate pollutants? Xes = 1 \Box No = 0	1
D 2.3. Are there septic systems within 250 ft of the wetland? \Box Yes = 1 \boxtimes No = 0	0
D 2.4. Are there other sources of pollutants coming into the wetland that are not listed in questions D 2.1-D 2.3? Source	0
Total for D 2 Add the points in the boxes above	2
Rating of Landscape Potential If score is: \Box 3 or 4 = H \boxtimes 1 or 2 = M \Box 0 = L <i>Record the rating on the first</i>	st page
D 3.0. Is the water quality improvement provided by the site valuable to society?	
D 3.1. Does the wetland discharge directly (i.e., within 1 mi) to a stream, river, lake, or marine water that is on the 303(d) list?	1
D 3.2. Is the wetland in a basin or sub-basin where an aquatic resource is on the 303(d) list?	1
D 3.3. Has the site been identified in a watershed or local plan as important for maintaining water quality (<i>answer YES if there is a TMDL for the basin in which the unit is found</i>)?	0
Total for D 3 Add the points in the boxes above	2

Total for D 3

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

Record the rating on the first page

DEPRESSIONAL AND FLATS WETLANDS		
Hydrologic Functions - Indicators that the site functions to reduce flooding a	nd stream degradation	on
D 4.0. Does the site have the potential to reduce flooding and erosion?		
D 4.1. Characteristics of surface water outflows from the wetland:		
\Box Wetland is a depression or flat depression with no surface water leaving it (no outlet)	points = 4	
Wetland has an intermittently flowing stream or ditch, OR highly constricted permanentl	y flowing outlet	0
	points = 2	0
\Box Wetland is a flat depression (QUESTION 7 on key), whose outlet is a permanently flowing	ditch points = 1	
🛛 Wetland has an unconstricted, or slightly constricted, surface outlet that is permanently f	lowing points = 0	
D 4.2. Depth of storage during wet periods: Estimate the height of ponding above the bottom of the	e outlet. For wetlands	
with no outlet, measure from the surface of permanent water or if dry, the deepest part.		
\square Marks of ponding are 3 ft or more above the surface or bottom of outlet	points = 7	
\Box Marks of ponding between 2 ft to < 3 ft from surface or bottom of outlet	points = 5	0
\Box Marks are at least 0.5 ft to < 2 ft from surface or bottom of outlet	points = 3	0
The wetland is a "headwater" wetland	points = 3	
\Box Wetland is flat but has small depressions on the surface that trap water	points = 1	
⊠ Marks of ponding less than 0.5 ft (6 in)	points = 0	
D 4.3. Contribution of the wetland to storage in the watershed: Estimate the ratio of the area of up	stream basin	
contributing surface water to the wetland to the area of the wetland unit itself.		
\Box The area of the basin is less than 10 times the area of the unit	points = 5	
\Box The area of the basin is 10 to 100 times the area of the unit	points = 3	0
\boxtimes The area of the basin is more than 100 times the area of the unit	points = 0	
\square Entire wetland is in the Flats class	points = 5	
Total for D 4 Add the points in	n the boxes above	0
Rating of Site Potential If score is: 12-16 = H 🗌 6-11 = M 🛛 0-5 = L	Record the rating on the j	first page
D 5.0. Does the landscape have the potential to support hydrologic functions of the site?		
D 5.1. Does the wetland receive stormwater discharges?	⊠ Yes = 1 □ No = 0	1
D 5.2. Is >10% of the area within 150 ft of the wetland in land uses that generate excess runoff?	⊠ Yes = 1 □ No = 0	1
D 5.3. Is more than 25% of the contributing basin of the wetland covered with intensive human lan	d uses (residential at	
>1 residence/ac urban commercial agriculture etc.)?	\boxtimes Yes = 1 \square No = 0	1
Total for D 5 Add the points in	n the boxes above	3
Rating of Landscape Potential If score is: $\boxtimes 3 = H \square 1$ or $2 = M \square 0 = L$	Record the ratina on the	first page
$\mathbf{D} \in \mathbf{O}$. Any the budgets significant energy ideal by the site value blacks excited \mathbf{D}	5 ,	, , ,
D 6.0. Are the hydrologic functions provided by the site valuable to society?		
D 6.1. The unit is in a landscape that has flooding problems. Choose the description that best matc	hes conditions around	
the wetland unit being rated. Do not add points. <u>Choose the highest score if more than one o</u>	<u>condition is met</u> .	
I ne wetiand captures surface water that would otherwise flow down-gradient into areas wh	ere flooding has	
damaged numan of natural resources (e.g., nouses of salmon redus):	n aliata — 2	
 Every section of the se	points = 2	2
• Surface flooding problems are in a sub-basin farther down-gradient.	points = 1	
\Box Flooding from groundwater is an issue in the sub-basin.	points = 1	
the water stored by the wetland cannot reach areas that fload. <i>Evaluate why</i>	conditions that	
There are no problems with flooding downstream of the wotland	points = 0	
There are no problems with noouning downstream of the wetland.	flood control plan?	
ס ס.2. המא נוופ אוני ש פור ומפוונווופט מא ווזיסט גע האט גע		0
Add the points in Add the points in	n the boxes above	2
Rating of Value If score is: \square 2-4 = H \square 1 = M \square 0 = L	Record the ratina on the r	first paae
These questions apply to wetlands of all HGM classes.		
--	---	--
H 1.0. Does the site have the potential to provide habitat?		
H 1.1. Structure of plant community: Indicators are Cowardin classes and strata within the Forested class. Check the Cowardin plant classes in the wetland. Up to 10 patches may be combined for each class to meet the threshold of ¼ ac or more than 10% of the unit if it is smaller than 2.5 ac. Add the number of structures checked. □ Aquatic bed 4 structures or more: points = 4 ⊠ Emergent 3 structures: points = 2 ⊠ Scrub-shrub (areas where shrubs have > 30% cover) 2 structures: points = 1 □ Forested (areas where trees have > 30% cover) 1 structure: points = 0 If the unit has a Forested class, check if: □ The Forested class has 3 out of 5 strata (canopy, sub-canopy, shrubs, herbaceous, moss/ground-cover)	1	
that each cover 20% within the Forested polygon		
Check the types of water regimes (hydroperiods) present within the wetland. The water regime has to cover more than 10% of the wetland or ¼ ac to count (see text for descriptions of hydroperiods). Image: Seasonally flooded or inundated 4 or more types present: points = 3 Image: Seasonally flooded or inundated 3 types present: points = 2 Image: Seasonally flooded or inundated 2 types present: points = 2 Image: Seasonally flooded or inundated 2 types present: points = 1 Image: Seasonally flooded or inundated 1 type present: points = 0 Image: Seasonally flowing stream or river in, or adjacent to, the wetland 2 types present: points = 0 Image: Seasonally flowing stream in, or adjacent to, the wetland 2 points Image: Seasonally flowing stream in, or adjacent to, the wetland 2 points Image: Seasonally flowing stream in, or adjacent to, the wetland 2 points Image: Seasonally flowing stream in, or adjacent to, the wetland 2 points Image: Seasonally flowing stream in, or adjacent to, the wetland 2 points	1	
H 1.3. Richness of plant species Count the number of plant species in the wetland that cover at least 10 ft ² . Different patches of the same species can be combined to meet the size threshold and you do not have to name the species. Do not include Eurasian milfoil, reed canarygrass, purple loosestrife, Canadian thistle If you counted: > 19 species ∅ 5 - 19 species □ < 5 species	1	
H 1.4. Interspersion of habitats Decide from the diagrams below whether interspersion among Cowardin plants classes (described in H 1.1), or the classes and unvegetated areas (can include open water or mudflats) is high, moderate, low, or none. <i>If you have four or more plant classes or three classes and open water, the rating is always high.</i> None = 0 points Low = 1 point KI three diagrams in this row are HIGH = 3 points	2	

Wetland EB21

H 1.5. Special habitat features:		
Check the habitat features that are present in the wetland. The number of	f checks is the number of points.	
\Box Large, downed, woody debris within the wetland (> 4 in diameter and 6	ft long).	
Standing snags (dbh > 4 in) within the wetland		
Undercut banks are present for at least 6.6 ft (2 m) and/or overhangin over a stream (or ditch) in, or contiguous with the wetland, for at least	g plants extends at least 3.3 ft (1 m) : 33 ft (10 m)	
Stable steep banks of fine material that might be used by beaver or r slope) OR signs of recent beaver activity are present (cut shrubs or t where wood is exposed)	nuskrat for denning (> 30 degree rees that have not yet weathered	1
At least ¼ ac of thin-stemmed persistent plants or woody branches are permanently or seasonally inundated (structures for egg-laying by am	present in areas that are phibians)	
 Invasive plants cover less than 25% of the wetland area in every stratu strata) 	m of plants (<i>see H 1.1 for list of</i>	
Total for H 1	Add the points in the boxes above	6
Rating of Site Potential If score is: 🗆 15-18 = H 🗆 7-14 = M 🖂 0-6 = L	Record the rating on t	he first page

H 2.0. Does the landscape have the potential to support the habitat functions of the site?			
H 2.1. Accessible habitat (include only habitat that directly abuts wetland unit).			
Calculate: % undisturbed habitat + [(% moderate and low intensity land uses)/2] = see Figs. 2-5			
If total accessible habitat is:			
\Box > 1/3 (33.3%) of 1 km Polygon	points = 3	0	
20-33% of 1 km Polygon	points = 2		
□ 10-19% of 1 km Polygon	points = 1		
⊠ < 10% of 1 km Polygon	points = 0		
H 2.2. Undisturbed habitat in 1 km Polygon around the wetland.			
Calculate: % undisturbed habitat + [(% moderate and low intensity land uses)/2] = see Figs. 2-5			
\Box Undisturbed habitat > 50% of Polygon	points = 3	1	
\Box Undisturbed habitat 10-50% and in 1-3 patches	points = 2	T	
\boxtimes Undisturbed habitat 10-50% and > 3 patches	points = 1		
□ Undisturbed habitat < 10% of 1 km Polygon	points = 0		
H 2.3. Land use intensity in 1 km Polygon: If			
\Box > 50% of 1 km Polygon is high intensity land use	ooints = (- 2)	-2	
$\Box \leq$ 50% of 1 km Polygon is high intensity	points = 0		
Total for H 2 Add the points in the k	oxes above	-1	

Rating of Landscape Potential If score is: \Box **4-6** = **H** \Box **1-3** = **M** \boxtimes **< 1** = **L**

Record the rating on the first page

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H 3.0. Is the habitat provided by the site valuable to society?		
H 3.1. Does the site provide habitat for species valued in laws, regulations, or policies? Choose only	y the highest score	
that applies to the wetland being rated.		
Site meets ANY of the following criteria:	points = 2	
\Box It has 3 or more priority habitats within 100 m (see next page)		
\Box It provides habitat for Threatened or Endangered species (any plant or animal on the	e state or federal lists)	
It is mapped as a location for an individual WDFW priority species		0
\Box It is a Wetland of High Conservation Value as determined by the Department of Natu	ural Resources	
It has been categorized as an important habitat site in a local or regional comprehen	isive plan, in	
a Shoreline Master Plan, or in a watershed plan		
\square Site has 1 or 2 priority habitats (listed on next page) within 100 m	points = 1	
Site does not meet any of the criteria above	points = 0	
Rating of Value If score is: $\Box 2 = H \Box 1 = M \boxtimes 0 = L$	Record the rating on	the first page

WDFW Priority Habitats

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

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

- □ **Aspen Stands:** Pure or mixed stands of aspen greater than 1 ac (0.4 ha).
- □ **Biodiversity Areas and Corridors**: Areas of habitat that are relatively important to various species of native fish and wildlife (*full descriptions in WDFW PHS report*).
- □ **Herbaceous Balds:** Variable size patches of grass and forbs on shallow soils over bedrock.
- □ **Old-growth/Mature forests:** <u>Old-growth west of Cascade crest</u> Stands of at least 2 tree species, forming a multilayered canopy with occasional small openings; with at least 8 trees/ac (20 trees/ha) > 32 in (81 cm) dbh or > 200 years of age. <u>Mature forests</u> – Stands with average diameters exceeding 21 in (53 cm) dbh; crown cover may be less than 100%; decay, decadence, numbers of snags, and quantity of large downed material is generally less than that found in old-growth; 80-200 years old west of the Cascade crest.
- □ **Oregon White Oak:** Woodland stands of pure oak or oak/conifer associations where canopy coverage of the oak component is important (*full descriptions in WDFW PHS report p. 158 see web link above*).
- □ **Riparian**: The area adjacent to aquatic systems with flowing water that contains elements of both aquatic and terrestrial ecosystems which mutually influence each other.
- □ Westside Prairies: Herbaceous, non-forested plant communities that can either take the form of a dry prairie or a wet prairie (*full descriptions in WDFW PHS report p. 161 see web link above*).
- □ **Instream:** The combination of physical, biological, and chemical processes and conditions that interact to provide functional life history requirements for instream fish and wildlife resources.
- □ **Nearshore**: Relatively undisturbed nearshore habitats. These include Coastal Nearshore, Open Coast Nearshore, and Puget Sound Nearshore. (*full descriptions of habitats and the definition of relatively undisturbed are in WDFW report see web link on previous page*).
- □ **Caves:** A naturally occurring cavity, recess, void, or system of interconnected passages under the earth in soils, rock, ice, or other geological formations and is large enough to contain a human.
- □ **Cliffs:** Greater than 25 ft (7.6 m) high and occurring below 5000 ft elevation.
- □ **Talus:** Homogenous areas of rock rubble ranging in average size 0.5 6.5 ft (0.15 2.0 m), composed of basalt, andesite, and/or sedimentary rock, including riprap slides and mine tailings. May be associated with cliffs.
- □ Snags and Logs: Trees are considered snags if they are dead or dying and exhibit sufficient decay characteristics to enable cavity excavation/use by wildlife. Priority snags have a diameter at breast height of > 20 in (51 cm) in western Washington and are > 6.5 ft (2 m) in height. Priority logs are > 12 in (30 cm) in diameter at the largest end, and > 20 ft (6 m) long.

Note: All vegetated wetlands are by definition a priority habitat but are not included in this list because they are addressed elsewhere.

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Wetland EE Rating Form

RATING SUMMARY – Western Washington

Name of wetland (or ID #): Wetland EE, Lakeside SubstationDate of site visit: 2/27/2018, 5/26/2020Rated by: K. Crandall, N. LundTrained by Ecology? Image Y Image NDate of training: 9/2014, 6/2014

HGM Class used for rating: Slope Wetland has multiple HGM classes? \Box Y \boxtimes N

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

OVERALL WETLAND CATEGORY (based on functions \square or special characteristics \square)

Category of wetland based on FUNCTIONS

- **Category I** Total score = 23 27
- **Category II** Total score = 20 22
- **Category III** Total score = 16 19
- Category IV Total score = 9 15

FUNCTION	Improving Water Quality		H	Hydrologic		Habitat				
Circle the appropriate ratings										
Site Potential	Н	M (Н	М	(l)	Н	(M)	L	
Landscape Potential	Н	(M)	Ľ	Н	M	Ľ	Н	M		
Value	Н	M	L	H	M	L	н	М	$\overline{(}$	ΤΟΤΑ
Score Based on Ratings		5			6			4		15

Score for each function based on three ratings (order of ratings is not *important*) 9 = H, H, H8 = H, H, M7 = H, H, L7 = H, M, M6 = H, M, L6 = M, M, M5 = H,L,L5 = M,M,L 4 = M,L,L 3 = L,L,L

Category based on SPECIAL CHARACTERISTICS of wetland

CHARACTERISTIC	CATEGORY		
Estuarine	I II		
Wetland of High Conservation Value	I		
Bog	I		
Mature Forest	I		
Old Growth Forest	I		
Coastal Lagoon	Ι	II	
Interdunal	I II	III IV	
None of the above		\boxtimes	

Maps and figures required to answer questions correctly for Western Washington

Slope Wetlands

Map of:	To answer questions:	Figure #
Cowardin plant classes	H 1.1, H 1.4	EE-1
Hydroperiods	H 1.2	EE-2
Plant cover of dense trees, shrubs, and herbaceous plants	S 1.3	EE-1
Plant cover of dense, rigid trees, shrubs, and herbaceous plants (can be added to figure above)	S 4.1	EE-1
Boundary of 150 ft buffer (can be added to another figure)	S 2.1, S 5.1	EE-2
1 km Polygon: Area that extends 1 km from entire wetland edge - including polygons for accessible habitat and undisturbed habitat	H 2.1, H 2.2, H 2.3	2 to 5
Screen capture of map of 303(d) listed waters in basin (from Ecology website)	S 3.1, S 3.2	8
Screen capture of list of TMDLs for WRIA in which unit is found (from web)	S 3.3	1

HGM Classification of Wetlands in Western Washington

For questions 1-7, the criteria described must apply to the entire unit being rated.

If the hydrologic criteria listed in each question do not apply to the entire unit being rated, you probably have a unit with multiple HGM classes. In this case, identify which hydrologic criteria in questions 1-7 apply, and go to Question 8.

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

 \boxtimes NO – go to 2 \square YES – the wetland class is **Tidal Fringe** – go to 1.1

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

□ NO - Saltwater Tidal Fringe (Estuarine) □ YES - Freshwater Tidal Fringe If your wetland can be classified as a Freshwater Tidal Fringe use the forms for **Riverine** wetlands. If it is Saltwater Tidal Fringe it is an **Estuarine** wetland and is not scored. This method **cannot** be used to score functions for estuarine wetlands.

186. 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.

 \boxtimes NO – go to 3 \square **YES** – The wetland class is **Flats** *If your wetland can be classified as a Flats wetland, use the form for* **Depressional** *wetlands.*

- 187. Does the entire wetland unit **meet all** of the following criteria?
 - □ The vegetated part of the wetland is on the shores of a body of permanent open water (without any plants on the surface at any time of the year) at least 20 ac (8 ha) in size;
 - \Box At least 30% of the open water area is deeper than 6.6 ft (2 m).

⊠ NO – go to 4 □ **YES** – The wetland class is **Lake Fringe** (Lacustrine Fringe)

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

- ⊠ The wetland is on a slope (*slope can be very gradual*),
- \boxtimes The water flows through the wetland in one direction (unidirectional) and usually comes from seeps. It may flow subsurface, as sheetflow, or in a swale without distinct banks,
- ⊠ The water leaves the wetland **without being impounded**.

□ NO – go to 5

⊠ **YES** – The wetland class is **Slope**

NOTE: Surface water does not pond in these type of wetlands except occasionally in very small and shallow depressions or behind hummocks (depressions are usually <3 ft diameter and less than 1 ft deep).

- 189. Does the entire wetland unit **meet all** of the following criteria?
 - □ The unit is in a valley, or stream channel, where it gets inundated by overbank flooding from that stream or river,
 - □ The overbank flooding occurs at least once every 2 years.

□ NO – go to 6 □ YES – The wetland class is **Riverine NOTE**: The Riverine unit can contain depressions that are filled with water when the river is not flooding

190. 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**

191. 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

192. Your wetland unit seems to be difficult to classify and probably contains several different HGM classes. For example, seeps at the base of a slope may grade into a riverine floodplain, or a small stream within a Depressional wetland has a zone of flooding along its sides. GO BACK AND IDENTIFY WHICH OF THE HYDROLOGIC REGIMES DESCRIBED IN QUESTIONS 1-7 APPLY TO DIFFERENT AREAS IN THE UNIT (make a rough sketch to help you decide). Use the following table to identify the appropriate class to use for the rating system if you have several HGM classes present within the wetland unit being scored.

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

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

If you are still unable to determine which of the above criteria apply to your wetland, or if you have **more than 2 HGM classes** within a wetland boundary, classify the wetland as Depressional for the rating.

□ More than 2 HGM classes

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

S 2.0. Does the landscape have the potential to support the water quality function of the site?	
S 2.1. Is > 10% of the area within 150 ft on the uphill side of the wetland in land uses that generate pollutants? \square Yes = 1 \square No = 0	1
S 2.2. Are there other sources of pollutants coming into the wetland that are not listed in question S 2.1? Other sources: \Box Yes = 1 \boxtimes No = 0	0
Total for S 2Add the points in the boxes above	1

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

Record the rating on the first page

S 3.0. Is the water quality improvement provided by the site valuable to society?	
S 3.1. Does the wetland discharge directly (i.e., within 1 mi) to a stream, river, lake, or marine water that is on the 303(d) list?	
S 3.2. Is the wetland in a basin or sub-basin where water quality is an issue? At least one aquatic resource in the basin is on the 303(d) list. Xes = 1 No = 0	1
S 3.3. Has the site been identified in a watershed or local plan as important for maintaining water quality? Answer YES if there is a TMDL for the basin in which unit is found.	0
Total for S 3Add the points in the boxes above	1

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

Record the rating on the first page

SLOPE WETLANDS

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

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

S 4.1. Characteristics of plants that reduce the velocity of surface flows during storms: Choose the points appropriate for the description that best fits conditions in the wetland. Stems of plants should be thick enough (usually >1/8, in), or dense enough, to remain erect during surface flows.
 □ Dense, uncut, rigid plants cover > 90% of the area of the wetland

⊠ All other conditions

Rating of Site Potential If score is: $\Box \mathbf{1} = \mathbf{M} \otimes \mathbf{0} = \mathbf{L}$

Record the rating on the first page

points = 0

0

S 5.0. Does the landscape have the potential to support the hydrologic functions of the site?	
S 5.1. Is more than 25% of the area within 150 ft upslope of wetland in land uses or cover that generate excess	1
surface runoff? \square Yes = 1 \square No = 0	L

Rating of Landscape Potential If score is: 🛛 1 = M 🗆 0 = L

Record the rating on the first page

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

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

Record the rating on the first page

NOTES and FIELD OBSERVATIONS:

Habitat Functions - Indicators that site functions to provide important habitat H 1.0. Does the site have the potential to provide habitat? H 1.1. Structure of plant community: Indicators are Cowardin classes and strata within the Forested class. Check the Cowardin plant classes in the wetland. Up to 10 patches may be combined for each class to meet the threshold of ¼ ac or more than 10% of the unit if it is smaller than 2.5 ac. Add the number of structures checked. □ Aquatic bed 4 structures or more: points = 4 □ Emergent 3 structures: points = 2 □ Scrub-shrub (areas where shrubs have > 30% cover) 2 structure: points = 1 □ Forested (areas where trees have > 30% cover) 1 structure: points = 0 If the unit has a Forested class, check if: 1 □ 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 H 1.2. Hydroperiods Check the types of water regimes (hydroperiods) present within the wetland. The water regime has to cover more than 10% of the wetland or ¼ ac to count (see text for descriptions of hydroperiods). □ Permanently flooded or inundated 4 or more types present: points = 3 □ Seasonally flooded or inundated 2 types present: points = 1 □ Saturated only 1 type present: points = 0	
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 □ Forested (areas where trees have > 30% cover) I structure: points = 0 If the unit has a Forested class, check if: □ The Forested class has 3 out of 5 strata (canopy, sub-canopy, shrubs, herbaceous, moss/ground-cover) that each cover 20% within the Forested polygon H 1.2. Hydroperiods Check the types of water regimes (hydroperiods) present within the wetland. The water regime has to cover more than 10% of the wetland or ¼ ac to count (see text for descriptions of hydroperiods). □ Permanently flooded or inundated □ Seasonally flooded or inundated □ Sturated only □ type present: points = 0 	
If the unit has a Forested class, check if: The Forested class has 3 out of 5 strata (canopy, sub-canopy, shrubs, herbaceous, moss/ground-cover) that each cover 20% within the Forested polygon H 1.2. Hydroperiods Check the types of water regimes (hydroperiods) present within the wetland. The water regime has to cover more than 10% of the wetland or ¼ ac to count (see text for descriptions of hydroperiods). Permanently flooded or inundated 4 or more types present: points = 3 Seasonally flooded or inundated 3 types present: points = 2 Occasionally flooded or inundated 1 type present: points = 1 Saturated only 1 type present: points = 0	
 □ 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 H 1.2. Hydroperiods Check the types of water regimes (hydroperiods) present within the wetland. The water regime has to cover more than 10% of the wetland or ¼ ac to count (<i>see text for descriptions of hydroperiods</i>). □ Permanently flooded or inundated 4 or more types present: points = 3 □ Seasonally flooded or inundated 2 types present: points = 1 □ Saturated only 1 type present: points = 0 	
H 1.2. Hydroperiods Check the types of water regimes (hydroperiods) present within the wetland. The water regime has to cover more than 10% of the wetland or ¼ ac to count (see text for descriptions of hydroperiods). □ Permanently flooded or inundated 4 or more types present: points = 3 □ Seasonally flooded or inundated 3 types present: points = 2 ⊠ Occasionally flooded or inundated 2 types present: points = 1 □ Saturated only 1 type present: points = 0	
Check the types of water regimes (hydroperiods) present within the wetland. The water regime has to cover more than 10% of the wetland or ¼ ac to count (see text for descriptions of hydroperiods). □ □ Permanently flooded or inundated 4 or more types present: points = 3 □ Seasonally flooded or inundated 3 types present: points = 2 □ Occasionally flooded or inundated 2 types present: points = 1 □ Saturated only 1 type present: points = 0	
 □ Permanently flooded or inundated ↓ Occasionally flooded or inundated ○ Seasonally flooded or inundated ○ Occasionally flooded or inundated ○ Occasionally flooded or inundated ○ Saturated only ○ Saturated only ○ Occasionally flooded or inundated ○ Saturated only ○ Occasionally flooded or inundated ○ Occasionally flooded or inundate	
\Box Seasonally flooded or inundated3 types present: points = 2 \boxtimes Occasionally flooded or inundated2 types present: points = 1 \boxtimes Saturated only1 type present: points = 0	
⊠ Occasionally flooded or inundated 2 types present: points = 1 1 ⊠ Saturated only 1 type present: points = 0 1	
Saturated only 1 type present: points = 0	
□ Permanently flowing stream or river in, or adjacent to, the wetland	
Seasonally flowing stream in, or adjacent to, the wetland	
Lake Fringe wetland 2 points	
Freshwater tidal wetland 2 points	
H 1.3. Richness of plant species	
Different patches of the same species can be combined to meet the size threshold and you do not have to name	
the species. Do not include Eurasian milfoil, reed canarygrass, purple loosestrife, Canadian thistle	
If you counted: $\square > 19$ species points = 2	
\Box 5 - 19 species points = 1	
\Box < 5 species points = 0	
H 1.4. Interspersion of habitats	
Decide from the diagrams below whether interspersion among Cowardin plants classes (described in H 1.1), or	
the classes and unvegetated areas (can include open water or mudflats) is high, moderate, low, or none. If you have four or more plant classes or three classes and open water, the rating is gluque high	
have jour of more plant classes of three classes and open water, the rating is always high.	
\Box None = 0 points \boxtimes Low = 1 point \Box Moderate = 2 points	
All three diagrams in this row are	

Wetland EE

Check the habitat features that are present in the wetland. <i>The number of checks is the number of points.</i>	
Large, downed, woody debris within the wetland (> 4 in diameter and 6 ft long).	
⊠ Standing snags (dbh > 4 in) within the wetland	
Undercut banks are present for at least 6.6 ft (2 m) and/or overhanging plants extends at least 3.3 ft (1 m) over a stream (or ditch) in, or contiguous with the wetland, for at least 33 ft (10 m)	
□ Stable steep banks of fine material that might be used by beaver or muskrat for denning (> 30 degree slope) OR signs of recent beaver activity are present (cut shrubs or trees that have not yet weathered where wood is exposed) 2	
At least ¼ ac of thin-stemmed persistent plants or woody branches are present in areas that are permanently or seasonally inundated <i>(structures for egg-laying by amphibians)</i>	
Invasive plants cover less than 25% of the wetland area in every stratum of plants (see H 1.1 for list of strata)	
Total for H 1Add the points in the boxes above7	

Rating of Site Potential If score is: \Box **15-18 = H** \boxtimes **7-14 = M** \Box **0-6 = L**

Record the rating on the first page

H 2.0. Does the landscape have the potential to support the habitat functions of the site?		
H 2.1. Accessible habitat (include only habitat that directly abuts wetland unit).		
Calculate: % undisturbed habitat + [(% moderate and low intensity land uses)/2] = see Figs. 2-5		
If total accessible habitat is:		
\Box > 1/3 (33.3%) of 1 km Polygon	points = 3	0
20-33% of 1 km Polygon	points = 2	
🗆 10-19% of 1 km Polygon	points = 1	
⊠ < 10% of 1 km Polygon	points = 0	
H 2.2. Undisturbed habitat in 1 km Polygon around the wetland.		
Calculate: % undisturbed habitat + [(% moderate and low intensity land uses)/2] = see Figs. 2-5		
\Box Undisturbed habitat > 50% of Polygon	points = 3	1
\Box Undisturbed habitat 10-50% and in 1-3 patches	points = 2	T
Undisturbed habitat 10-50% and > 3 patches	points = 1	
Undisturbed habitat < 10% of 1 km Polygon	points = 0	
H 2.3. Land use intensity in 1 km Polygon: If		
⊠ > 50% of 1 km Polygon is high intensity land use p	oints = (- 2)	-2
□ ≤ 50% of 1 km Polygon is high intensity	points = 0	
Total for H 2 Add the points in the bo	oxes above	-1

Rating of Landscape Potential If score is: \Box 4-6 = H \Box 1-3 = M \boxtimes < 1 = L

Record the rating on the first page

H 3.0. Is the habitat provided by the site valuable to society?		
H 3.1. Does the site provide habitat for species valued in laws, regulations, or policies? Choose of	nly the highest score	
that applies to the wetland being rated.		
Site meets ANY of the following criteria:	points = 2	
It has 3 or more priority habitats within 100 m (see next page)		
It provides habitat for Threatened or Endangered species (any plant or animal on t	he state or federal lists)	
It is mapped as a location for an individual WDFW priority species		0
It is a Wetland of High Conservation Value as determined by the Department of Na	atural Resources	
It has been categorized as an important habitat site in a local or regional comprehe line of the second	ensive plan, in	
a Shoreline Master Plan, or in a watershed plan		
\square Site has 1 or 2 priority habitats (listed on next page) within 100 m	points = 1	
\Box Site does not meet any of the criteria above	points = 0	
Rating of Value If score is: \Box 2 = H \Box 1 = M \boxtimes 0 = L	Record the rating on	the first page

WDFW Priority Habitats

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

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

- □ **Aspen Stands:** Pure or mixed stands of aspen greater than 1 ac (0.4 ha).
- □ **Biodiversity Areas and Corridors**: Areas of habitat that are relatively important to various species of native fish and wildlife (*full descriptions in WDFW PHS report*).
- □ **Herbaceous Balds:** Variable size patches of grass and forbs on shallow soils over bedrock.
- □ **Old-growth/Mature forests**: <u>Old-growth west of Cascade crest</u> Stands of at least 2 tree species, forming a multilayered canopy with occasional small openings; with at least 8 trees/ac (20 trees/ha) > 32 in (81 cm) dbh or > 200 years of age. <u>Mature forests</u> – Stands with average diameters exceeding 21 in (53 cm) dbh; crown cover may be less than 100%; decay, decadence, numbers of snags, and quantity of large downed material is generally less than that found in old-growth; 80-200 years old west of the Cascade crest.
- □ **Oregon White Oak:** Woodland stands of pure oak or oak/conifer associations where canopy coverage of the oak component is important (*full descriptions in WDFW PHS report p. 158 see web link above*).
- □ **Riparian**: The area adjacent to aquatic systems with flowing water that contains elements of both aquatic and terrestrial ecosystems which mutually influence each other.
- □ **Westside Prairies:** Herbaceous, non-forested plant communities that can either take the form of a dry prairie or a wet prairie (*full descriptions in WDFW PHS report p. 161 see web link above*).
- □ **Instream:** The combination of physical, biological, and chemical processes and conditions that interact to provide functional life history requirements for instream fish and wildlife resources.
- □ **Nearshore**: Relatively undisturbed nearshore habitats. These include Coastal Nearshore, Open Coast Nearshore, and Puget Sound Nearshore. (*full descriptions of habitats and the definition of relatively undisturbed are in WDFW report see web link on previous page*).
- □ **Caves:** A naturally occurring cavity, recess, void, or system of interconnected passages under the earth in soils, rock, ice, or other geological formations and is large enough to contain a human.
- □ **Cliffs:** Greater than 25 ft (7.6 m) high and occurring below 5000 ft elevation.
- □ **Talus:** Homogenous areas of rock rubble ranging in average size 0.5 6.5 ft (0.15 2.0 m), composed of basalt, andesite, and/or sedimentary rock, including riprap slides and mine tailings. May be associated with cliffs.
- □ Snags and Logs: Trees are considered snags if they are dead or dying and exhibit sufficient decay characteristics to enable cavity excavation/use by wildlife. Priority snags have a diameter at breast height of > 20 in (51 cm) in western Washington and are > 6.5 ft (2 m) in height. Priority logs are > 12 in (30 cm) in diameter at the largest end, and > 20 ft (6 m) long.

Note: All vegetated wetlands are by definition a priority habitat but are not included in this list because they are addressed elsewhere.

Wetland EE

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Wetland I Rating Form

RATING SUMMARY – Western Washington

Name of wetland (or ID #): Wetland I, Lakeside SubstationDate of site visit: 2/27/2018, 5/26/2020Rated by: K. Crandall, N. LundTrained by Ecology? \boxtimes Y \square NDate of training: 9/2014, 6/2014

HGM Class used for rating: Depressional Wetland has multiple HGM classes? \Box Y \boxtimes N

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

OVERALL WETLAND CATEGORY (based on functions \square or special characteristics \square)

Category of wetland based on FUNCTIONS

- **Category I** Total score = 23 27
- **Category II** Total score = 20 22
- Category III Total score = 16 19
- **Category IV** Total score = 9 15

FUNCTION	Improving Water Quality		Hydrologic		Habitat					
		Circle the appropriate ratings								
Site Potential	Н	(M)	L	Н	(M)	L	Н	Μ	(l)	1
Landscape Potential	Н	\bigcirc	L	H	M	L	Н	Μ	$\overline{(1)}$	
Value	Н	M	L	Н	Μ		Н	M	L	ΤΟΤΑ
Score Based on Ratings		6			6			4		16

Score for each function based on three ratings (order of ratings is not *important*) 9 = H, H, H8 = H, H, M7 = H, H, L7 = H, M, M6 = H, M, L6 = M, M, M5 = H,L,L5 = M,M,L 4 = M,L,L 3 = L,L,L

Category based on SPECIAL CHARACTERISTICS of wetland

CHARACTERISTIC	CATEGORY	
Estuarine	Ι	II
Wetland of High Conservation Value	I	
Bog		Ι
Mature Forest	Ι	
Old Growth Forest	I	
Coastal Lagoon	Ι	II
Interdunal	III	III IV
None of the above		\boxtimes

Wetland I

Maps and figures required to answer questions correctly for Western Washington

Depressional Wetlands

Map of:	To answer questions:	Figure #
Cowardin plant classes	D 1.3, H 1.1, H 1.4	I-1
Hydroperiods	D 1.4, H 1.2	I-2
Location of outlet (can be added to map of hydroperiods)	D 1.1, D 4.1	I-2
Boundary of area within 150 ft of the wetland (can be added to another figure)	D 2.2, D 5.2	I-2
Map of the contributing basin	D 4.3, D 5.3	I-3
1 km Polygon: Area that extends 1 km from entire wetland edge - including polygons for accessible habitat and undisturbed habitat	H 2.1, H 2.2, H 2.3	2 to 5
Screen capture of map of 303(d) listed waters in basin (from Ecology website)	D 3.1, D 3.2	8
Screen capture of list of TMDLs for WRIA in which unit is found (from web)	D 3.3	1

HGM Classification of Wetlands in Western Washington

For questions 1-7, the criteria described must apply to the entire unit being rated.

If the hydrologic criteria listed in each question do not apply to the entire unit being rated, you probably have a unit with multiple HGM classes. In this case, identify which hydrologic criteria in questions 1-7 apply, and go to Question 8.

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

 \boxtimes NO – go to 2 \square YES – the wetland class is **Tidal Fringe** – go to 1.1

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

□ NO - Saltwater Tidal Fringe (Estuarine) □ YES - Freshwater Tidal Fringe If your wetland can be classified as a Freshwater Tidal Fringe use the forms for **Riverine** wetlands. If it is Saltwater Tidal Fringe it is an **Estuarine** wetland and is not scored. This method **cannot** be used to score functions for estuarine wetlands.

194. 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.*

- 195. Does the entire wetland unit **meet all** of the following criteria?
 - □ The vegetated part of the wetland is on the shores of a body of permanent open water (without any plants on the surface at any time of the year) at least 20 ac (8 ha) in size;
 - \Box At least 30% of the open water area is deeper than 6.6 ft (2 m).

⊠ NO – go to 4 □ YES – The wetland class is Lake Fringe (Lacustrine Fringe)

196. 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**.

 \boxtimes NO – go to 5

□ **YES** – The wetland class is **Slope**

NOTE: Surface water does not pond in these type of wetlands except occasionally in very small and shallow depressions or behind hummocks (depressions are usually <3 ft diameter and less than 1 ft deep).

- 197. Does the entire wetland unit **meet all** of the following criteria?
 - □ The unit is in a valley, or stream channel, where it gets inundated by overbank flooding from that stream or river,
 - □ The overbank flooding occurs at least once every 2 years.

NO − go to 6
VES − The wetland class is Riverine
NOTE: The Riverine unit can contain depressions that are filled with water when the river is not flooding

198. 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

199. 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

200. Your wetland unit seems to be difficult to classify and probably contains several different HGM classes. For example, seeps at the base of a slope may grade into a riverine floodplain, or a small stream within a Depressional wetland has a zone of flooding along its sides. GO BACK AND IDENTIFY WHICH OF THE HYDROLOGIC REGIMES DESCRIBED IN QUESTIONS 1-7 APPLY TO DIFFERENT AREAS IN THE UNIT (make a rough sketch to help you decide). Use the following table to identify the appropriate class to use for the rating system if you have several HGM classes present within the wetland unit being scored.

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

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

If you are still unable to determine which of the above criteria apply to your wetland, or if you have **more than 2 HGM classes** within a wetland boundary, classify the wetland as Depressional for the rating.

□ More than 2 HGM classes

DEPRESSIONAL AND ELATS WETLANDS	
Water Quality Functions - Indicators that the site functions to improve water quality	
D 1.0. Does the site have the potential to improve water quality?	
D 1.1. <u>Characteristics of surface water outflows from the wetland</u> :	1
\boxtimes Wetland is a depression or flat depression (QUESTION 7 on key) with no surface water leaving it (no outlet). points = 3	
Wetland has an intermittently flowing stream or ditch, OR highly constricted permanently flowing outlet. points = 2	3
 Wetland has an unconstricted, or slightly constricted, surface outlet that is permanently flowing points = 1 Wetland is a flat depression (QUESTION 7 on key), whose outlet is a permanently flowing ditch. points = 1 	
D 1.2. The soil 2 in below the surface (or duff layer) is true clay or true organic (use NRCS definitions) \Box Yes = 4 \boxtimes No = 0	0
D 1.3. Characteristics and distribution of persistent plants (Emergent, Scrub-shrub, and/or Forested Cowardin classes):	
□ Wetland has persistent, ungrazed, plants > 95% of area points = 5	
\boxtimes Wetland has persistent, ungrazed, plants > 1/2 of area points = 3	3
\Box Wetland has persistent, ungrazed plants > 1/10 of area points = 1	
\Box Wetland has persistent, ungrazed plants < 1/10 of area points = 0	
D 1.4. Characteristics of seasonal ponding or inundation:	
This is the area that is ponded for at least 2 months. See description in manual.	
\Box Area seasonally ponded is > ½ total area of wetland points = 4	2
☑ Area seasonally ponded is > ¼ total area of wetland points = 2	
\Box Area seasonally ponded is < $\frac{1}{4}$ total area of wetland points = 0	
Total for D 1 Add the points in the boxes above	8
Rating of Site Potential If score is: \Box 12-16 = H \boxtimes 6-11 = M \Box 0-5 = L Record the rating on the f	irst page
D 2.0. Does the landscape have the potential to support the water quality function of the site?	
D 2.1. Does the wetland unit receive stormwater discharges? \square Yes = 1 \square No = 0	1
D 2.2. Is > 10% of the area within 150 ft of the wetland in land uses that generate pollutants? \square Yes = 1 \square No = 0	1
D 2.3. Are there septic systems within 250 ft of the wetland? \Box Yes = 1 \boxtimes No = 0	0
D 2.4. Are there other sources of pollutants coming into the wetland that are not listed in questions D 2.1-D 2.3? Source	0
Total for D 2Add the points in the boxes above	2
Rating of Landscape Potential If score is: \Box 3 or 4 = H \boxtimes 1 or 2 = M \Box 0 = L <i>Record the rating on the fir</i>	st page
D 3.0. Is the water quality improvement provided by the site valuable to society?	
D 3.1. Does the wetland discharge directly (i.e., within 1 mi) to a stream, river, lake, or marine water that is on the 303(d) list?	0
D 3.2. Is the wetland in a basin or sub-basin where an aquatic resource is on the 303(d) list?	1
D 3.3. Has the site been identified in a watershed or local plan as important for maintaining water quality (<i>answer YES if there is a TMDL for the basin in which the unit is found</i>)?	0
Total for D 3 Add the points in the boxes above	1

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

Record the rating on the first page

DEPRESSIONAL AND FLATS WETLANDS					
Hydrologic Functions - Indicators that the site functions to reduce flooding and stream degradation					
D 4.0. Does the site have the potential to reduce flooding and erosion?					
D 4.1. Characteristics of surface water outflows from the wetland: ☑ Wetland is a depression or flat depression with no surface water leaving it (no outlet) points = 4 ☑ Wetland has an intermittently flowing stream or ditch, OR highly constricted permanently flowing outlet points = 2 ☑ Wetland is a flat depression (QUESTION 7 on key), whose outlet is a permanently flowing ditch points = 1 © Wetland has an unconstricted, or slightly constricted, surface outlet that is permanently flowing points = 0	4				
 D 4.2. <u>Depth of storage during wet periods</u>: <i>Estimate the height of ponding above the bottom of the outlet. For wetlands with no outlet, measure from the surface of permanent water or if dry, the deepest part.</i> □ Marks of ponding are 3 ft or more above the surface or bottom of outlet points = 7 □ Marks of ponding between 2 ft to < 3 ft from surface or bottom of outlet points = 5 □ Marks are at least 0.5 ft to < 2 ft from surface or bottom of outlet points = 3 □ The wetland is a "headwater" wetland points = 1 □ Wetland is flat but has small depressions on the surface that trap water points = 0 	0				
 D 4.3. <u>Contribution of the wetland to storage in the watershed</u>: <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 the unit □ The area of the basin is 10 to 100 times the area of the unit □ The area of the basin is more than 100 times the area of the unit □ The area of the basin is more than 100 times the area of the unit □ The area of the basin is more than 100 times the area of the unit □ Entire wetland is in the Flats class 	3				
Total for D 4 Add the points in the boxes above	/				
Rating of Site Potential If score is: \Box 12-16 = H \boxtimes 6-11 = M \Box 0-5 = L Record the rating on the	first page				
D 5.0. Does the landscape have the potential to support hydrologic functions of the site?					
D 5.0. Does the landscape have the potential to support hydrologic functions of the site? D 5.1. Does the wetland receive stormwater discharges? \Box Yes = 1	1				
D 5.0. Does the landscape have the potential to support hydrologic functions of the site? D 5.1. Does the wetland receive stormwater discharges? Image: Site in the second state in the se	1				
D 5.0. Does the landscape have the potential to support hydrologic functions of the site? D 5.1. Does the wetland receive stormwater discharges? ⊠ Yes = 1 □ No = 0 D 5.2. Is >10% of the area within 150 ft of the wetland in land uses that generate excess runoff? ⊠ Yes = 1 □ No = 0 D 5.3. Is more than 25% of the contributing basin of the wetland covered with intensive human land uses (residential at >1 residence/ac, urban, commercial, agriculture, etc.)? ⊠ Yes = 1 □ No = 0	1 1 1				
D 5.0. Does the landscape have the potential to support hydrologic functions of the site? D 5.1. Does the wetland receive stormwater discharges? ⊠ Yes = 1 □ No = 0 D 5.2. Is >10% of the area within 150 ft of the wetland in land uses that generate excess runoff? ⊠ Yes = 1 □ No = 0 D 5.3. Is more than 25% of the contributing basin of the wetland covered with intensive human land uses (residential at >1 residence/ac, urban, commercial, agriculture, etc.)? ⊠ Yes = 1 □ No = 0 Total for D 5 Add the points in the boxes above	1 1 1 3				
D 5.0. Does the landscape have the potential to support hydrologic functions of the site? D 5.1. Does the wetland receive stormwater discharges? □ Yes = 1 □ No = 0 D 5.2. Is >10% of the area within 150 ft of the wetland in land uses that generate excess runoff? □ Yes = 1 □ No = 0 D 5.3. Is more than 25% of the contributing basin of the wetland covered with intensive human land uses (residential at >1 residence/ac, urban, commercial, agriculture, etc.)? □ Yes = 1 □ No = 0 Total for D 5 Add the points in the boxes above Rating of Landscape Potential If score is: □ 3 = H □ 1or 2 = M □ 0 = L Record the rating on the	1 1 1 3 first page				
D 5.0. Does the landscape have the potential to support hydrologic functions of the site? D 5.1. Does the wetland receive stormwater discharges? □ Yes = 1 □ No = 0 D 5.2. Is >10% of the area within 150 ft of the wetland in land uses that generate excess runoff? □ Yes = 1 □ No = 0 D 5.3. Is more than 25% of the contributing basin of the wetland covered with intensive human land uses (residential at >1 residence/ac, urban, commercial, agriculture, etc.)? □ Yes = 1 □ No = 0 Total for D 5 Add the points in the boxes above Rating of Landscape Potential If score is: □ 3 = H □ 1 or 2 = M □ 0 = L Record the rating on the D 6.0. Are the hydrologic functions provided by the site valuable to society? □	1 1 1 3 first page				
D 5.0. Does the landscape have the potential to support hydrologic functions of the site? D 5.1. Does the wetland receive stormwater discharges? □ No = 0 D 5.2. Is >10% of the area within 150 ft of the wetland in land uses that generate excess runoff? □ Yes = 1 □ No = 0 D 5.3. Is more than 25% of the contributing basin of the wetland covered with intensive human land uses (residential at >1 residence/ac, urban, commercial, agriculture, etc.)? □ Yes = 1 □ No = 0 Total for D 5 Add the points in the boxes above Rating of Landscape Potential If score is: □ 3 = H □ 1 or 2 = M □ 0 = L Record the rating on the D 6.0. Are the hydrologic functions provided by the site valuable to society? □ 6.1. The unit is in a landscape that has flooding problems. Choose the description that best matches conditions around the wetland unit being rated. Do not add points. Choose the highest score if more than one condition is met. The wetland captures surface water that would otherwise flow down-gradient into areas where flooding has damaged human or natural resources (e.g., houses or salmon redds): □ □ • □ Surface flooding problems are in a sub-basin farther down-gradient. points = 1 □ • □ Surface flooding problems are in a sub-basin. points = 1 □ □ □ □ □ □ □ □ □ □ □ □ <	1 1 3 first page				
D 5.0. Does the landscape have the potential to support hydrologic functions of the site? D 5.1. Does the wetland receive stormwater discharges? □ No = 0 D 5.2. Is >10% of the area within 150 ft of the wetland in land uses that generate excess runoff? □ Yes = 1 □ No = 0 D 5.3. Is more than 25% of the contributing basin of the wetland covered with intensive human land uses (residence/ac, urban, commercial, agriculture, etc.)? □ Yes = 1 □ No = 0 Total for D 5 Add the points in the boxes above Rating of Landscape Potential If score is: □ 3 = H □ 1 or 2 = M 0 = L Record the rating on the D 6.0. Are the hydrologic functions provided by the site valuable to society? □ D 6.1. The unit is in a landscape that has flooding problems. Choose the description that best matches conditions around the wetland unit being rated. Do not add points. Choose the highest score if more than one condition is met. The wetland captures surface water that would otherwise flow down-gradient into areas where flooding has damaged human or natural resources (e.g., houses or salmon redds): □ □ □ points = 2 □	1 1 3 first page				
D 5.0. Does the landscape have the potential to support hydrologic functions of the site? D 5.1. Does the wetland receive stormwater discharges? □ Yes = 1 □ No = 0 D 5.2. Is >10% of the area within 150 ft of the wetland in land uses that generate excess runoff? □ Yes = 1 □ No = 0 D 5.3. Is more than 25% of the contributing basin of the wetland covered with intensive human land uses (residential at >1 residence/ac, urban, commercial, agriculture, etc.)? □ Yes = 1 □ No = 0 Total for D 5 Add the points in the boxes above Rating of Landscape Potential If score is: □ 3 = H □ 1 or 2 = M □ 0 = L Record the rating on the D 6.0. Are the hydrologic functions provided by the site valuable to society? □ D 6.1. The unit is in a landscape that has flooding problems. Choose the description that best matches conditions around the wetland unit being rated. Do not add points. Choose the description that best matches condition is met. The wetland captures surface mater that would otherwise flow down-gradient into areas where flooding has damaged human or natural resources (e.g., houses or salmon redds): □ □ □ □ Surface flooding problems are in a sub-basin farther down-gradient. points = 1 □ □ Surface flooding problems are in a sub-basin. points = 1 □ □ Surface flooding from groundwater is an issue in the sub-basin. points = 1 □ □ Surface flooding from groundwater is an issue in	1 1 3 first page 0 0				

These questions apply to wetlands of all HGM classes.	
Habitat Functions - Indicators that site functions to provide important habitat	
H 1.0. Does the site have the potential to provide habitat?	1
H 1.1. Structure of plant community: <i>Indicators are Cowardin classes and strata within the Forested class.</i> Check the Cowardin plant classes in the wetland. Up to 10 patches may be combined for each class to meet the threshold of ¼ ac or more than 10% of the unit if it is smaller than 2.5 ac. Add the number of structures checked.	
□ Aquatic bed 4 structures or more: points = 4	
□ Emergent 3 structures: points = 2	0
□ Scrub-shrub (areas where shrubs have > 30% cover) 2 structures: points = 1	Ŭ
☑ Forested (areas where trees have > 30% cover) 1 structure: points = 0	
If the unit has a Forested class, check if:	
The Forested class has 3 out of 5 strata (canopy, sub-canopy, shrubs, herbaceous, moss/ground-cover) that each cover 20% within the Forested polygon	
H 1.2. Hydroperiods	
more than 10% of the wetland or ¼ ac to count (<i>see text for descriptions of hydroperiods</i>).	
Permanently flooded or inundated 4 or more types present: points = 3	
Seasonally flooded or inundated 3 types present: points = 2	
□ Occasionally flooded or inundated 2 types present: points = 1	1
Saturated only 1 type present: points = 0	
Permanently flowing stream or river in, or adjacent to, the wetland	
Lake Fringe wetland	
Ease Fringe wetland 2 points 2 poi	
H 1 3 Richness of plant species	
Count the number of plant species in the wetland that cover at least 10 ft ² .	
Different patches of the same species can be combined to meet the size threshold and you do not have to name the species Do not include Furasian milfoil, reed canaryarass, purple loosestrife, Canadian thistle	1
If you counted: $\square > 19$ species points = 2	1 I
\boxtimes 5 - 19 species points = 1	
\Box < 5 species points = 0	
H 1.4. Interspersion of habitats	
Decide from the diagrams below whether interspersion among Cowardin plants classes (described in H 1.1), or the classes and unvegetated areas (can include open water or mudflats) is high, moderate, low, or none. <i>If you have four or more plant classes or three classes and open water, the rating is always high</i> .	
	0
\boxtimes None = 0 points \Box Low = 1 point \Box Moderate = 2 points	
All three diagrams in this row are HIGH = 3 points	

Wetland I

H 1.5. Special habitat features:	
Check the habitat features that are present in the wetland. The number of checks is the number of points.	
□ Large, downed, woody debris within the wetland (> 4 in diameter and 6 ft long).	
\Box Standing snags (dbh > 4 in) within the wetland	
Undercut banks are present for at least 6.6 ft (2 m) and/or overhanging plants extends at least 3.3 ft (1 m) over a stream (or ditch) in, or contiguous with the wetland, for at least 33 ft (10 m)	
Stable steep banks of fine material that might be used by beaver or muskrat for denning (> 30 degree slope) OR signs of recent beaver activity are present (cut shrubs or trees that have not yet weathered where wood is exposed)	0
At least ¼ ac of thin-stemmed persistent plants or woody branches are present in areas that are permanently or seasonally inundated (structures for egg-laying by amphibians)	
Invasive plants cover less than 25% of the wetland area in every stratum of plants (see H 1.1 for list of strata)	
Total for H 1Add the points in the boxes above	2
Rating of Site Potential If score is: \Box 15-18 = H \Box 7-14 = M \boxtimes 0-6 = L Record the rating on t	he first page

H 2.0. Does the landscape have the potential to support the habitat functions of the sit	e?	
H 2.1. Accessible habitat (include only habitat that directly abuts wetland unit).		
Calculate: % undisturbed habitat + [(% moderate and low intensity land uses)/2] = see Fig.	gs. 2-5	
If total accessible habitat is:		
\Box > 1/3 (33.3%) of 1 km Polygon	points = 3	0
20-33% of 1 km Polygon	points = 2	
🗌 10-19% of 1 km Polygon	points = 1	
⊠ < 10% of 1 km Polygon	points = 0	
H 2.2. Undisturbed habitat in 1 km Polygon around the wetland.		
Calculate: % undisturbed habitat + [(% moderate and low intensity land uses)/2] = see Fig.	gs. 2-5	
Undisturbed habitat > 50% of Polygon	points = 3	1
\Box Undisturbed habitat 10-50% and in 1-3 patches	points = 2	T
Undisturbed habitat 10-50% and > 3 patches	points = 1	
Undisturbed habitat < 10% of 1 km Polygon	points = 0	
H 2.3. Land use intensity in 1 km Polygon: If		
\boxtimes > 50% of 1 km Polygon is high intensity land use	points = (- 2)	-2
□ ≤ 50% of 1 km Polygon is high intensity	points = 0	
Total for H 2 Add the poin	its in the boxes above	-1
		_

Rating of Landscape Potential If score is: \Box **4-6 = H** \Box **1-3 = M** \boxtimes **< 1 = L**

Record the rating on the first page

H 3.0. Is the habitat provided by the site valuable to society?		
H 3.1. Does the site provide habitat for species valued in laws, regulations, or policies? Choose only	the highest score	
that applies to the wetland being rated.		
Site meets ANY of the following criteria:	points = 2	
It has 3 or more priority habitats within 100 m (see next page)		
\Box It provides habitat for Threatened or Endangered species (any plant or animal on the	state or federal lists)	
It is mapped as a location for an individual WDFW priority species		1
\Box It is a Wetland of High Conservation Value as determined by the Department of Natu	ral Resources	
It has been categorized as an important habitat site in a local or regional comprehent	sive plan, in	
a Shoreline Master Plan, or in a watershed plan		
🖂 Site has 1 or 2 priority habitats (listed on next page) within 100 m	points = 1	
\Box Site does not meet any of the criteria above	points = 0	
Rating of Value If score is: $\Box 2 = H \boxtimes 1 = M \Box 0 = L$	Record the rating on	the first page

WDFW Priority Habitats

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

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

- □ **Aspen Stands:** Pure or mixed stands of aspen greater than 1 ac (0.4 ha).
- Biodiversity Areas and Corridors: Areas of habitat that are relatively important to various species of native fish and wildlife (*full descriptions in WDFW PHS report*).
- □ **Herbaceous Balds:** Variable size patches of grass and forbs on shallow soils over bedrock.
- □ **Old-growth/Mature forests**: <u>Old-growth west of Cascade crest</u> Stands of at least 2 tree species, forming a multilayered canopy with occasional small openings; with at least 8 trees/ac (20 trees/ha) > 32 in (81 cm) dbh or > 200 years of age. <u>Mature forests</u> – Stands with average diameters exceeding 21 in (53 cm) dbh; crown cover may be less than 100%; decay, decadence, numbers of snags, and quantity of large downed material is generally less than that found in old-growth; 80-200 years old west of the Cascade crest.
- □ **Oregon White Oak:** Woodland stands of pure oak or oak/conifer associations where canopy coverage of the oak component is important (*full descriptions in WDFW PHS report p. 158 see web link above*).
- □ **Riparian**: The area adjacent to aquatic systems with flowing water that contains elements of both aquatic and terrestrial ecosystems which mutually influence each other.
- □ **Westside Prairies:** Herbaceous, non-forested plant communities that can either take the form of a dry prairie or a wet prairie (*full descriptions in WDFW PHS report p. 161 see web link above*).
- □ **Instream:** The combination of physical, biological, and chemical processes and conditions that interact to provide functional life history requirements for instream fish and wildlife resources.
- □ **Nearshore**: Relatively undisturbed nearshore habitats. These include Coastal Nearshore, Open Coast Nearshore, and Puget Sound Nearshore. (*full descriptions of habitats and the definition of relatively undisturbed are in WDFW report see web link on previous page*).
- □ **Caves:** A naturally occurring cavity, recess, void, or system of interconnected passages under the earth in soils, rock, ice, or other geological formations and is large enough to contain a human.
- □ **Cliffs:** Greater than 25 ft (7.6 m) high and occurring below 5000 ft elevation.
- □ **Talus:** Homogenous areas of rock rubble ranging in average size 0.5 6.5 ft (0.15 2.0 m), composed of basalt, andesite, and/or sedimentary rock, including riprap slides and mine tailings. May be associated with cliffs.
- Snags and Logs: Trees are considered snags if they are dead or dying and exhibit sufficient decay characteristics to enable cavity excavation/use by wildlife. Priority snags have a diameter at breast height of > 20 in (51 cm) in western Washington and are > 6.5 ft (2 m) in height. Priority logs are > 12 in (30 cm) in diameter at the largest end, and > 20 ft (6 m) long.

Note: All vegetated wetlands are by definition a priority habitat but are not included in this list because they are addressed elsewhere.

Wetland I

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"Categorization based on special characteristics" pages for *all* wetlands rated in this document

CATEGORIZATION BASED ON SPECIAL CHARACTERISTICS

Wetland Type	Category
Check off any criteria that apply to the wetland. Circle the category when the appropriate criteria are met.	
SC 1.0. Estuarine wetlands	
Does the wetland meet the following criteria for Estuarine wetlands?	
□ The dominant water regime is tidal,	
\Box Vegetated, and \Box With a solicity greater than 0.5 ppt \Box Ves. Co to SC 1.1 \Box Not an estuaring wetland	
CC11 Jatha watland within a National Wildlife Defuge National Dark National Estuarts Desarry Natural Area	
Preserve. State Park or Educational. Environmental. or Scientific Reserve designated under WAC 332-30-151?	🗌 Cat. I
\Box Yes = Category I \Box No - Go to SC 1.2	
SC 1.2. Is the wetland unit at least 1 ac in size and meets at least two of the following three conditions?	
□ The wetland is relatively undisturbed (has no diking, ditching, filling, cultivation, grazing, and has less	
than 10% cover of non-native plant species. (If non-native species are <i>Spartina</i> , see page 25)	
mowed grassland.	🗆 Cat. II
The wetland has at least two of the following features: tidal channels, depressions with open water, or	
contiguous freshwater wetlands.	
SC 2.0. Wetlands of High Conservation Value (WHCV)	
SC 2.1. Has the WA Department of Natural Resources updated their website to include the list of Wetlands of High	
Conservation Value? \square Yes – Go to SC 2.2 \square No – Go to SC 2.3	
SC 2.2. Is the wetland listed on the WDNR database as a Wetland of High Conservation Value?	
SC 2.3. Is the wetland in a Section/Township/Range that contains a Natural Heritage wetland?	🗆 Cat. I
https://www.dnr.wa.gov/NHPdata	
□ Yes – Contact WNHP/WDNR and go to SC 2.4 □ No = Not a WHCV	
SC 2.4. Has WDNR identified the wetland within the S/T/R as a Wetland of High Conservation Value and listed it on	
Does the wetland (or any part of the unit) meet both the criteria for soils and vegetation in bogs? Use the key	
below. If you answer YES you will still need to rate the wetland based on its functions.	
SC 3.1. Does an area within the wetland unit have organic soil horizons, either peats or mucks, that compose 16 in or	
more of the first 32 in of the soil profile? \Box Yes – Go to SC 3.3 \boxtimes No – Go to SC 3.2	
SC 3.2. Does an area within the wetland unit have organic soils, either peats or mucks, that are less than 16 in deep	
nond? \Box Yes – Go to SC 3.3 \Box No = is not a hog	
SC 3.3. Does an area with peats or mucks have more than 70% cover of mosses at ground level, AND at least a 30%	
cover of plant species listed in Table 4? \Box Yes = Is a Category I bog \Box No – Go to SC 3.4	
NOTE: If you are uncertain about the extent of mosses in the understory, you may substitute that criterion by	
measuring the pH of the water that seeps into a hole dug at least 16 in deep. If the pH is less than 5.0 and the	
plant species in Table 4 are present, the wetland is a bog.	
western hemlock, lodgepole pine, quaking aspen, Engelmann spruce, or western white pine, AND any of the	
species (or combination of species) listed in Table 4 provide more than 30% of the cover under the canopy?	
□ Yes = Is a Category I bog □ No = Is not a bog	

SC 4.0. Forested Wetlands	
Does the wetland have at least <u>1 contiguous acre</u> of forest that meets one of these criteria for the WA Department of Fish and Wildlife's forests as priority habitats? <i>If you answer YES you will still need to rate</i> <i>the wetland based on its functions.</i>	
 Old-growth forests (west of Cascade crest): Stands of at least two tree species, forming a multi-layered canopy with occasional small openings; with at least 8 trees/ac (20 trees/ha) that are at least 200 years of age OR have a diameter at breast height (dbh) of 32 in (81 cm) or more. Mature forests (west of the Cascade Crest): Stands where the largest trees are 80- 200 years old OR the species that make up the canopy have an average diameter (dbh) exceeding 21 in (53 cm). 	🗆 Cat. I
\Box Yes = Category I \boxtimes No = Not a forested wetland for this section	
SC 5.0. Wetlands in Coastal Lagoons	
Does the wetland meet all of the following criteria of a wetland in a coastal lagoon?	
marine waters by sandbanks, gravel banks, shingle, or, less frequently, rocks	
☐ The lagoon in which the wetland is located contains ponded water that is saline or brackish (> 0.5 ppt)	
during most of the year in at least a portion of the lagoon (needs to be measured near the bottom)	🗆 Cat. I
\Box Yes – Go to SC 5.1 \boxtimes No = Not a wetland in a coastal lagoon	
SC 5.1. Does the wetland meet all of the following three conditions?	
than 20% cover of aggressive, opportunistic plant species (see list of species on p. 100).	🗆 Cat. II
☐ At least ¾ of the landward edge of the wetland has a 100 ft buffer of shrub, forest, or un-grazed or un- mowed grassland.	
\Box The wetland is larger than $^{1}/_{10}$ ac (4350 ft ²)	
□ Yes = Category I □ No = Category II	
SC 6.0. Interdunal Wetlands	
Is the wetland west of the 1889 line (also called the Western Boundary of Upland Ownership or WBUO)? <i>If</i> <i>you answer yes you will still need to rate the wetland based on its habitat functions.</i> In practical terms that means the following geographic areas:	🗆 Cat I
Long Beach Peninsula: Lands west of SR 103	
Grayland-Westport: Lands west of SR 105	
\Box Ocean Shores-Copalis: Lands west of SR 115 and SR 109	
SC 6.1. Is the wetland 1 ac or larger and scores an 8 or 9 for the habitat functions on the form (rates H.H.H or H.H.M	
for the three aspects of function)? \Box Yes = Category I \Box No – Go to SC 6.2	🗌 Cat. III
SC 6.2. Is the wetland 1 ac or larger, or is it in a mosaic of wetlands that is 1 ac or larger?	
$\Box \text{ Yes} = \text{Category II} \Box \text{ No} - \text{Go to SC 6.3}$	
SC 6.3. Is the unit between 0.1 and 1 ac, or is it in a mosaic of wetlands that is between 0.1 and 1 ac?	
Category of wetland based on Special Characteristics	NA
in you answered no for an types, enter not Applicable off Summary Form	

PSE Energize Eastside Project – North Bellevue **WETLAND RATING FIGURES**

October 2020

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All Wetlands



Figure 1.Screen-capture of Water Quality Improvement Projects (TMDLs) from the Water Quality
Atlas Map – S3.3.

Habitat Figures

Figure 2 below, shows the majority of the area within approximately one kilometer of the North Bellevue corridor is urban and developed and would be considered high intensity for the purpose of rating wetlands. The largest habitat patches present near the Project corridor (which are visible in Figure 2) are Bridle Trails State Park and Kelsey Creek Park. Wetlands located near these features would have the greatest potential to score "Moderate" (1-3 points) or "High" (4-6 points) for Habitat Landscape Potential using the 2014 Wetland Rating Form.

Habitat figures for Wetland A (Overlake Farms), located near Bridle Trails, and Wetlands EB10 and EB17, located near Kelsey Creek Park, are provided below (Figures 3, 4 and 5, respectively). These three wetlands were selected for as examples because they are considered to have the greatest potential to generate "Moderate" or "High" Habitat Landscape Potential scores based on their proximity and connectivity to large patches of undisturbed habitat.

In all instances (Figures 3, 4, and 5) high intensity land uses represent greater than 50 percent of the area within one kilometer of the wetland units (-2 points in the rating form); this is true of all wetlands in the Project corridor. Therefore, a "High" Habitat Landscape Potential score is not possible. Accessible habitat is always limited to less than 20 percent of the 1 km polygon (Figure 4 example represents the maximum accessible habitat for any wetland rated). To generate enough points to reach a "Moderate" Habitat Landscape Potential score, accessible habitat must be 10-19 percent (1 point) and undisturbed habitat must be 10-50 percent in 1-3 patches (2 points). However, this is not possible because the following statements are always true:

- When there is accessible habitat (which never exceeds the 10-19 percent range) (1 point), undisturbed habitat is disconnected by roads and development and represented by more than 3 patches (1 point) (Figure 4). The resulting score is "Low".
- When undisturbed habitat is 10-50 percent and in 1-3 patches (2 points), accessible habitat is limited to less than 10 percent of the 1 km polygon (0 points) (Figure 3). The resulting score is "Low".

These conditions are a function of the urban setting in which the Project is located. Roads and other types of development disconnect retained habitat areas across the landscape. Most often some undisturbed habitat is present in the landscape surrounding inventoried wetlands (10-50 percent of 1 km polygon) but much of it is not accessible. Therefore, all of the wetlands rated using the 2014 Rating System for this portion of the Project received a "Low" Habitat Landscape Potential score. To save paper, minimize document size, and use time efficiently, separate "1 km Polygon" figures for each wetland have not been provided. The following figures illustrate that the Habitat Landscape Potential rating of "Low" applies to all wetlands included in the North Bellevue segment of the Energize Eastside Project because in all instances, greater than half of the area within one kilometer of the wetland includes high intensity land uses and the key points above are true.



Figure 2. Approximate North Bellevue corridor segment (purple) and area within one kilometer of that segment (red).



Figure 3. Undisturbed habitat and moderate-low intensity land uses within 1 km from Wetland A (Overlake Farms) edge including polygon for accessible habitat – H2.1, H2.2, H2.3

Accessible habitat = % undisturbed + [(% moderate and low intensity land uses)/2] = $0 + (8/2) = \frac{4\%}{2}$

Undisturbed habitat = % undisturbed + [(% moderate and low intensity land uses)/2] = 14 + (11/2) = 20%



Figure 4.Undisturbed habitat and moderate-low intensity land uses within 1 km from Wetland
EB10 edge including polygon for accessible habitat – H2.1, H2.2, H2.3

Accessible habitat = % undisturbed + [(% moderate and low intensity land uses)/2] = 15 + (6/2) = 18%

Undisturbed habitat = % undisturbed + [(% moderate and low intensity land uses)/2] = 24 + (7/2) = 28%



Figure 5.Undisturbed habitat and moderate-low intensity land uses within 1 km from Wetland
EB17 edge including polygon for accessible habitat – H2.1, H2.2, H2.3

Accessible habitat = % undisturbed + [(% moderate and low intensity land uses)/2] = 8 + (5/2) = 11%

Undisturbed habitat = % undisturbed + [(% moderate and low intensity land uses)/2] = 28 + (3/2) = 31%

303d Figures



Figure 6. Screen-capture of 303(d) listed waters in basin for Wetland A (Overlake Farms) – S3.1, S3.2


Figure 7. Screen-capture of 303(d) listed waters in basin for Wetlands EB01 to EB19 – S3.1, S3.2

*Note: Wetlands EB01, EB06, EB07, and EB12 *do not* have a surface water connection to the nearby 303(d) listed water. A surface water connection was observed or presumed for Wetlands EB02-EB05, EB08-EB11, EB13-EB19, and EB21. For more visual information on water flow, see related hydrology figures.



Figure 8. Screen-capture of 303(d) listed waters in basin for Wetlands EB20, EE & I – S3.1, S3.2

Wetland A – Overlake Farms (Depressional)



Figure A-1. Cowardin plant classes – D1.3, H1.1, H1.4



Figure A-2. Hydroperiods, outlet, and 150-foot area – H1.2, S2.1, S5.1



Figure A-3. Map of the contributing basin – D4.3, D5.3

Wetland CB01 (Slope)



Figure CB01-1. Cowardin plant classes – H1.1, H1.4



Figure CB01-2. Plant cover of dense and rigid trees, shrubs, and herbaceous plants – S1.3, S4.1.



Figure CB01-3. Hydroperiods and 150-foot area – H1.2, S2.1, S5.1



Figure CB01-4. Screen-capture of 303(d) listed waters in basin – S3.1, S3.2

Wetland EBO1 (Slope)



Figure EB01-1. Cowardin plant classes and plant cover of dense and rigid trees, shrubs, and herbaceous plants – S1.3, S4.1, H1.1, H1.4



Figure EB01-2. Hydroperiods and 150-foot area – H1.2, S2.1, S5.1

Wetland EBO2 (Slope)



Figure EB02-1. Cowardin plant classes and plant cover of dense and rigid trees, shrubs, and herbaceous plants – S1.3, S4.1, H1.1, H1.4



Figure EB02-2. Hydroperiods and 150-foot area – H1.2, S2.1, S5.1

Note: Ditch/stream feature that is <10% of wetland are (not shown) is presumed to convey surface water to Kelsey Creek.

Wetland EBO3 (Slope)



Figure EB03-1. Cowardin plant classes and plant cover of dense and rigid trees, shrubs, and herbaceous plants – S1.3, S4.1, H1.1, H1.4



Figure EB03-2. Hydroperiods and 150-foot area – H1.2, S2.1, S5.1

Wetland EBO4 (Depressional)



Figure EB04-1. Cowardin plant classes – D1.3, H1.1, H1.4



Figure EB04-2. Hydroperiods, outlet(s), and 150-ft area – D1.1, D1.4, H1.2, D2.2, D5.2



Figure EB04-3. Map of the contributing basin – D4.3, D5.3

Wetland EB05, EB06, and EB07 (Slope)



Figure EB05-1. Cowardin plant classes and plant cover of dense and rigid trees, shrubs, and herbaceous plants – S1.3, S4.1, H1.1, H1.4



Figure EB05-2. Hydroperiods and 150-foot area for Wetland EB05 – H1.2, S2.1, S5.1



Figure EB06-2. Hydroperiods and 150-foot area for Wetland EB06 – H1.2, S2.1, S5.1



Figure EB07-2. Hydroperiods and 150-foot area for Wetland EB07 – H1.2, S2.1, S5.1

Wetland EBO8 (Slope)



Figure EB08-1. Cowardin plant classes and plant cover of dense and rigid trees, shrubs, and herbaceous plants – S1.3, S4.1, H1.1, H1.4



Figure EB08-2. Hydroperiods and 150-foot area – H1.2, S2.1, S5.1

Note: Small, permanently flowing channel/stream represents less than 10 percent of wetland unit.

Wetland EB09 (Depressional)



Figure EB09-1. Cowardin plant classes – D1.3, H1.1, H1.4



Figure EB09-2. Hydroperiods, outlet(s), and 150-ft area – D1.1, D1.4, H1.2, D2.2, D5.2



Figure EB09-3. Map of the contributing basin – D4.3, D5.3

Wetland EB10 (Slope)



Figure EB10-1. Cowardin plant classes and plant cover of dense and rigid trees, shrubs, and herbaceous plants – S1.3, S4.1, H1.1, H1.4



Figure EB10-2. Hydroperiods and 150-foot area – H1.2, S2.1, S5.1

Note: Small, permanently flowing stream represents less than 10 percent of wetland unit.

Wetland EB11 (Depressional)



Figure EB11-1. Cowardin plant classes – D1.3, H1.1, H1.4



Figure EB11-2. Hydroperiods, outlet(s), and 150-ft area – D1.1, D1.4, H1.2, D2.2, D5.2

Note: Permanently flowing stream is less than 10 percent of wetland area.



Figure EB11-3. Map of the contributing basin – D4.3, D5.3

Wetland EB12, EB13, and EB14 (Slope)



Figure EB12-1. Cowardin plant classes – H1.1, H1.4



Figure EB12-2. Hydroperiods and 150-foot area – H1.2, S2.1, S5.1

Note: Available 2-ft contours displayed, but limited to certain distance adjacent to corridor.

- Within the uphill side of EB12, > 10% of area in land use that generates pollutants; and > 25% of area produces excess runoff.
- Within the uphill side of EB13 and EB14, over 90% area naturally vegetated (i.e., < 10% of area is pollutant-generating and < 25% of area produces excess runoff).



Figure EB12-3. Plant cover of dense and rigid trees, shrubs, and herbaceous plants – S1.3, S4.1

Wetland EB15 (Slope)



Figure EB15-1. Cowardin plant classes and plant cover of dense and rigid trees, shrubs, and herbaceous plants – S1.3, S4.1, H1.1, H1.4



Figure EB15-2. Hydroperiods and 150-foot area – H1.2, S2.1, S5.1

Note: Stream present within wetland boundaries presumed to be less than 10 percent of wetland unit.

Wetland EB16 (Depressional)



Figure EB16-1. Cowardin plant classes – D1.3, H1.1, H1.4



Figure EB16-2. Hydroperiods, outlet(s), and 150-ft area – D1.1, D1.4, H1.2, D2.2, D5.2



Figure EB16-3. Map of the contributing basin – D4.3, D5.3

Wetland EB17 (Depressional)



Figure EB17-1. Cowardin plant classes – D1.3, H1.1, H1.4



Figure EB17-2. Hydroperiods, outlet(s), and 150-ft area – D1.1, D1.4, H1.2, D2.2, D5.2


Figure EB17-3. Map of the contributing basin – D4.3, D5.3

Wetland EB18 and EB19 (Slope)



Figure EB18-1. Cowardin plant classes and plant cover of dense and rigid trees, shrubs, and herbaceous plants for Wetland EB18 and EB19 – S1.3, S4.1, H1.1, H1.4



Figure EB18-2. Hydroperiods and 150-foot area for Wetland EB18 and EB19 – H1.2, S2.1, S5.1

Wetland EB20 (Slope)



Figure EB20-1. Cowardin plant classes and plant cover of dense and rigid trees, shrubs, and herbaceous plants – S1.3, S4.1, H1.1, H1.4



Figure EB20-2. Hydroperiods and 150-foot area – H1.2, S2.1, S5.1

Wetland EB21 (Depressional)



Figure EB21-1. Cowardin plant classes – D1.3, H1.1, H1.4



Figure EB21-2. Hydroperiods, outlet(s), and 150-ft area – D1.1, D1.4, H1.2, D2.2, D5.2



Figure EB21-3. Map of the contributing basin – D4.3, D5.3

Wetland EE (Slope)



Figure EE-1. Cowardin plant classes and plant cover of dense and rigid trees, shrubs, and herbaceous plants – S1.3, S4.1, H1.1, H1.4



Figure EE-2. Hydroperiods and 150-foot area – H1.2, S2.1, S5.1

Wetland I (Depressional)



Figure I-1. Cowardin plant classes – D1.3, H1.1, H1.4



Figure I-2. Hydroperiods, outlet(s), and 150-foot area – D1.1, D1.4, H1.2, D2.2, D5.2



Figure I-3. Map of the contributing basin – D4.3, D5.3