

Figure 1. Study area (green).

Findings

The subject parcel is located within the Lower Cedar River Drainage Basin of Watershed Resource Inventory Area (WRIA) 8 Cedar-Sammamish; Section 19, Township 23N, Range 06E. The parcel is within a rural area and is zoned Industrial. The subject property is bordered to the north by Renton Maple Valley Road SE; the east, south and west sides of the property are bordered by residential or undeveloped properties. The southern and eastern areas of the property are undeveloped, forested and are steeply sloped. The central part of the property includes several sheds, workshops and concrete stalls that are used to store mulch, gravel and other materials. The site was in-use at the time of our study.

Three streams and four wetlands were delineated within the subject parcel, and the Cedar River was delineated adjacent to the property with one associated wetland noted.

Wetland A

Wetland A is located within the southern side of the developed area. Ecology blocks about a portion of the northern edge, and the eastern section has been ditched (Figure 2). Wetland A is a slope/depressional wetland with emergent and scrub-shrub Cowardin vegetation classes. Common vegetation within scrub-shrub dominated areas include red alder, willow species, and black cottonwood saplings in addition to the scrubs, Himalayan blackberry and salmonberry. Wetland areas dominated by emergent species include watercress, water purslane, creeping buttercup, grasses, piggyback, soft rush and small-fruited bulrush. Hydric soil determination is supported by the presence of Hydrogen Sulfide (hydric soil indicator A4) in addition to black soils (chroma 1) in which Redox Dark Surface (F6) is presumed due to organic matter masking redoximorphic features (RMF). Wetland hydrology was evident within Wetland A through a High Water Table (hydrology indicator A2), Saturation (A2) and Hydrogen Sulfide Odor (C1). Wetland A receives water from groundwater seeps and precipitation, resulting in the hydroperiods, permanent flooding and saturation. Wetland A is the headwater of Stream B.

Wetland B

Wetland B is a small slope/depressional wetland, located east of Wetland A at the base of the hillside (Figure 3). It contains emergent and forested Cowardin vegetation classes; common vegetation includes red alder, Himalayan blackberry, salmonberry, creeping buttercup, giant horsetail, sedge species and grasses. Hydric soils are black and presumed to meet Redox Dark Surface (F6), as organic material masks RMF. Wetland hydrology meets indicators High Water Table (A2) and Saturation (A3). Wetland B contains the seasonal flooding and saturation hydroperiods, receiving water the groundwater seeps and precipitation. Wetland B does not have an outlet.

Wetland C

Wetland C is a large wetland located at the base of a steep slope at the western edge of the subject property. Only a small portion of the wetland is located on-site; Stream B forms much of its western border. As such, the wetland rating was completed from areas observable from the subject parcel and publicly available aerials and online information. Wetland C is a slope/depressional/riverine wetland with scrub-shrub and forested Cowardin vegetation classes. Common vegetation includes black cottonwood, Pacific willow, and red alder in the canopy with red-osier dogwood, rose species, salmonberry, snowberry and Himalayan blackberry within the shrub understory layer, and water purslane, wooly sedge, giant horsetail and grasses within the emergent

understory layer. Hydric soil indicators were met with presence of Hydrogen Sulfide (A4) and presumed Redox Dark Surface (F6). Wetland hydrology is supported by a Hydrogen Sulfide Odor (C1), High Water Table (A2) and Saturation (A3). Water inputs into Wetland C are likely from groundwater seeps, precipitation and overbank flooding from streams. Hydroperiods observed include saturation, permanently flowing streams and seasonal flooding.

Right-of-Way (ROW) wetland

The ROW wetland is located at the base of a slope within the right-of-way along Renton Maple Valley Road SE (Figure 4). The ROW wetland is a slope/riverine wetland with an emergent Cowardin vegetation class. Dominant vegetation includes several species of grasses and herbaceous vegetation in addition to some Himalayan blackberry. At the time of the visit, soils were saturated to the surface. The section of the wetland that is adjacent to the road has been ditched and connects to Stream C just above the culvert.

Off-site wetland (North of SR-169)

The off-site, riverine wetland is located just below the Cedar River Trail and above the OHWM of Cedar River (Figure 5). It has emergent and forested Cowardin vegetation classes; common vegetation observed within the wetland includes red alder, salmonberry, Himalayan blackberry, reed canarygrass, and creeping buttercup. This wetland mainly receives water from Stream C and precipitation; at the time of the visit, soils were saturated and seasonal flooding was evident.

Non-wetland areas

Non-wetland areas within the study area consist mostly of developed and forested areas. The forested areas are located on steep slopes and contain vegetation commonly found in upland habitats, such as Douglas-fir, western red cedar, big-leaf maple, swordfern, salmonberry and trailing blackberry. Sampled soils were generally a chroma of 2 with no redoximorphic features. Non-wetland soils were commonly dry at the time of our fieldwork. Wetland soils and hydrology were not present within these areas.

Marginal non-wetland area

A marginal wetland area was observed within the subject parcel. This area is located directly abutting foundations of sheds north of Wetland A. At the time of the visit, excavated depressions along the foundation contained ponded water and were populated with several weedy plant species, such as reed canarygrass, soft rush and Canada thistle. This area was not connected via surface nor shallow groundwater to Wetland A or any stream and was small in size, approximately 50 square feet total. The

marginal area is in industrial use and is generally compacted. This area is presumed to contain perched water not associated with a high water table.

Stream A

Stream A is a seasonally flowing stream located within the southwest section of the subject property. It generally flows north through the study area and converges with Stream B near the southwestern corner of the developed area. It has a cobble, gravel and silt substrate and is approximately four to eight feet wide. The channel gradient is approximately 20 percent. FPARS maps Stream A as a non-fish bearing stream.

Stream B

Stream B's headwater is Wetland A and flows west then north after its confluence with Stream A. Near the property's western boundary, Stream B acts as the eastern edge of Wetland C, then splits, one section turning west into Wetland C and the other section continue north terminating in pond that is part of Wetland C. A portion of the right bank has been armored with Ecology Blocks. The stream has a silt substrate and is approximately six to ten feet wide. FPARS maps Stream B as a non-fish bearing stream. Stream B is presumed to drain to the Cedar River through a culvert under Renton Maple Valley Road SE.

Stream C

Stream C is seasonally flowing stream located with the northeast corner of the property. Near the northern property line, it flows roughly parallel to the road, then veers north under a culvert and empties into the off-site wetland where it loses stream definition. Stream bed and bank briefly re-appear at the wetland's outlet before it flows into a second culvert, emptying into the Cedar River. Stream C, within the subject property, is approximately two to four feet wide and has a gravel and sand substrate. Due to seasonal low flow conditions and a gradient of approximate 25 percent approaching the Cedar River, Stream C presumed non-fish bearing. It is not mapped by King County iMap or FPARS.

Cedar River

The Cedar River is located north of the subject parcel. A bend in the river runs parallel to Renton Maple Valley Road SE for approximately 430 feet and is located approximately 150 feet from the subject property's northern boundary. These measurements were estimated using the 2015 aerial from King County iMap. The Cedar River is a documented salmonid stream and a Shoreline of the State.

Local Regulations

Critical areas in unincorporated King County are regulated by the County's Critical Areas Regulations [King County Code (KCC) Chapter 21A.24]. Shorelines are regulated by the Shoreline Master Program (SMP) in KCC 21A.25. Shoreline regulations are discussed in the attached memorandum.

According to the code, wetlands are rated as one of four categories based on the Rating System. Table 1 summarizes wetland rating scores and buffers. Wetland buffer widths in King County are based on a combination of the wetland category, the habitat score, presence of the wetland within the Urban Growth Area (UGA), and the intensity of the site's land use. The standard buffer widths in Table 1 are based upon the fact that the site is located outside of the County's UGA and that the proposed use is considered a high land use.

Table 1. Summary of wetland rating scores and buffer widths of wetlands within the subject parcel.

	HGM ¹ Rating Classification	Habitat Score	Total	Category	Standard Buffer width
Wetland A	Depressional	15	29	IV	50 feet
Wetland B	Depressional	17	47	III	80 feet
Wetland C	Depressional	22	44	III	150 feet
ROW Wetland	Riverine	15	53	II	100 feet

¹ HGM = hydrogeomorphic classification

Aquatic area (stream) buffers are determined based on the classification of the aquatic area and whether or not they are located within the UGA. Type S waters are aquatic areas inventoried as "shorelines of the state". Type N waters are aquatic areas or segments that are physically connected to Type S or F waters. Table 2 summarizes aquatic area types and buffer widths for streams outside of the UGA.

Table 2. Summary of stream types and buffer widths.

	Water Type	Standard Buffer Width
Stream A	N	65 feet

Stream B	N	65 feet
Stream C	N	65 feet
Cedar River	S	165 feet

King County requires a 15-foot building setback from the edges of all critical area buffers. Building setbacks may contain landscaping, uncovered decks, building overhangs (if no more than 18 inches into the setback area), impervious ground surfaces with specified drainage provisions, and utility service connections (KCC 21A.24.200).

Allowed Uses within Critical Area Buffers

King County allows specific alterations to occur within critical area buffers, including aquatic areas and wetlands. Specifically, pursuant to KCC 21A.24.045.C, in some cases, driveways or private access roads may be newly constructed or maintained; existing culverts and bridges may be repaired, replaced or expanded; and existing wells and sewage disposal systems may be repaired. Furthermore, existing structures within critical area buffers may be expanded or replaced pursuant to KCC 21A.24.045.D.8, so long as the new portion of structure is located upon another portion of an existing impervious surface, the structure is not located closer to the critical area, and the total amount of impervious surface within the buffer is not expanded.

While an above described use may be allowed, all allowed alterations would still be subject to the avoidance, minimization and mitigation requirements of KCC 21A.24.125. The buffer alterations must also comply with the specific development standards for each critical area (KCC 21A.24.365 – aquatic areas, KCC 21A.24.335 – wetlands), including timing restrictions for grading, soil amendment for pervious surfaces, and the placement of structures to avoid the creation of hazard trees.

Mitigation requirements would also apply (KCC 21A.25.380 – aquatic areas, KCC 21A.24.340 – wetlands), including providing equivalent or greater critical area functions, an adequate mitigation ratio to compensate for adverse impacts, and adherence to a comprehensive mitigation monitoring program.

Critical Area Buffer Reduction

Within aquatic area buffers, KCC 21A.24.358.E.1.b allows the County to modify buffer widths (at its own discretion) if it can be demonstrated that the buffer cannot provide certain functions because of soils, geology or topography, provided that established buffers protect the remaining ecological functions that the buffer can provide.

Wetland and aquatic area buffers outside the UGA may also be modified through buffer averaging. Buffer averaging may be allowed if the total buffer area is equivalent to the area before averaging, the averaged buffer is contiguous with the standard buffer, and "the ecological structure and function of the buffer after averaging is equivalent to or greater than the structure and function before averaging" (KCC 21A.24.325.C – wetlands and KCC 21A.24.358.E.1 – aquatic areas). In some circumstances, buffer averaging may be accompanied by buffer enhancement in order to balance ecological functions. There is no maximum reduction allowed through the buffer averaging process.

King County also allows for buffers associated with wetlands and aquatic areas to end at the edge of a legally established roadway (KCC 21A.24.325.D.4 – wetlands and KCC 21A.24.358.E.4 – aquatic areas). This method of buffer modification is viable if the part of the standard buffer on the other side of the roadway provides insignificant biological or hydrological function in relation to the portion of the buffer adjacent to the critical area.

Buffer modifications, approved through any scenario discussed above, require compliance with the mitigation and monitoring requirements of KCC 21A.24.130, KCC 21A.24.340, and KCC 21A.24.380.

If buffer reduction and/or buffer averaging are not feasible due to site constraints, application for a critical area alteration exception may be allowed. Under an alteration exception, development can be placed in a wetland/aquatic area buffer provided specific criteria are complied with. This includes demonstration that the project is the minimum necessary, there is no feasible alternative with less impact to the critical area, and there will be no unreasonable threat to the public health, safety, or welfare.

State and Federal Regulations

Wetlands are also regulated by the Corps under Section 404 of the Clean Water Act. Any proposed filling or other direct impacts to Waters of the U.S., including wetlands (except isolated wetlands), would require notification and permits from the Corps. Wetlands A and C, in addition to the ROW and off-site wetland would not be considered isolated. Wetland B may be considered isolated due to its lack of surface waters connections to the Cedar River; however, a formal isolated status inquiry can be requested from the Corps through the Jurisdictional Determination process. Note that a new Clean Water Rule for wetlands and other Waters of the U.S. went into effect in August 2015; however, the rule was recently "stayed" nationwide by the 6th Circuit Court due to pending litigation. Therefore, the prior rule is in effect until further notice.

Federally permitted actions that could affect endangered species may also require a biological assessment study and consultation with the U.S. Fish and Wildlife Service and/or the National Marine Fisheries Service. Application for Corps permits may also require an individual 401 Water Quality Certification and Coastal Zone Management Consistency determination from Ecology and a cultural resource study in accordance with Section 106 of the National Historic Preservation Act.

In general, neither the Corps nor Ecology regulates wetland buffers, unless direct impacts are proposed. When direct impacts are proposed, mitigated wetlands may be required to employ buffers based on Corps and Ecology joint regulatory guidance.

Disclaimer

The information contained in this letter or 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 to us 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.

Please call if you have any questions or if we can provide you with any additional information.

Sincerely,



Anna Hoenig
Ecologist



Nell Lund, PWS
Ecologist

Enclosures

Photographs



Figure 2. Eastern side of Wetland A, facing west. (1/10/2017)



Figure 3. Wetland B. (1/10/2017)



Figure 4. ROW wetland. (1/12/2017)



Figure 5. Off-site wetland, north of Renton Maple Valley Road SE. (1/12/2017)

DP- 1

Project Site: Lakeside - 18825 Renton Maple Valley SE		Sampling Date: 1/10/2017
Applicant/Owner: Lakeside Industries, Inc., Attn: Karen Deal		Sampling Point: DP- 1
Investigator: Nell Lund, Anna Hoenig		City/County: Renton
Sect., Township, Range: S 19 T 23N R 06E		State: WA
Landform (hillslope, terrace, etc): berm	Slope (%): <5	Local relief (concave, convex, none): convex
Subregion (LRR): A	Lat:	Long:
Soil Map Unit Name: Urban land	Datum:	
Are climatic/hydrologic conditions on the site typical for this time of year? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No		NWI classification: none
Are "Normal Circumstances" present on the site? <input type="checkbox"/> Yes <input type="checkbox"/> No		(If no, explain in remarks.)
Are Vegetation <input type="checkbox"/> , Soil <input type="checkbox"/> , or Hydrology <input type="checkbox"/> significantly disturbed?		(If needed, explain any answers in Remarks.)
Are Vegetation <input type="checkbox"/> , Soil <input type="checkbox"/> , or Hydrology <input type="checkbox"/> naturally problematic		

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

Hydrophytic Vegetation Present?	Yes <input checked="" type="checkbox"/> No <input type="checkbox"/>	Is the Sampling Point within a Wetland? Yes <input type="checkbox"/> No <input checked="" type="checkbox"/>
Hydric Soils Present?	Yes <input type="checkbox"/> No <input checked="" type="checkbox"/>	
Wetland Hydrology Present?	Yes <input type="checkbox"/> No <input checked="" type="checkbox"/>	
Remarks: Behind ecology block wall on berm		

VEGETATION – Use scientific names of plants.

Tree Stratum (Plot size: 5m diam.)	Absolute % Cover	Dominant Species?	Indicator Status	Dominance Test Worksheet	
1. Salix sp.	5	Yes	FAC	Number of Dominant Species that are OBL, FACW, or FAC:	5 (A)
2.				Total Number of Dominant Species Across All Strata:	5 (B)
3.				Percent of Dominant Species that are OBL, FACW, or FAC:	100 (A/B)
4.	5	= Total Cover			
Sapling/Shrub Stratum (Plot size: 3m diam.)					
1. Alnus rubra (sapling)	5	Yes	FAC	Prevalence Index Worksheet	
2. Rubus armeniacus	20	Yes	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 =
Herb Stratum (Plot size: 1m diam.)				UPL species	x 5 =
1. Phalaris arundinacea	80	Yes	FACW	Column totals	(A) (B)
2. Ranunculus repens	60	Yes	FACW	Prevalence Index = B / A =	
3.				Hydrophytic Vegetation Indicators	
4.				<input checked="" type="checkbox"/> Dominance test is > 50%	
5.				<input type="checkbox"/> Prevalence test is ≤ 3.0 *	
6.				Morphological Adaptations * (provide supporting data in remarks or on a separate sheet)	
7.				<input type="checkbox"/> Wetland Non-Vascular Plants *	
8.				<input type="checkbox"/> Problematic Hydrophytic Vegetation * (explain)	
9.				* Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic	
10.					
11.	1440	= Total Cover			
Woody Vine Stratum (Plot size:)					
1.				Hydrophytic Vegetation Present? Yes <input checked="" type="checkbox"/> No <input type="checkbox"/>	
2.					
		= Total Cover			
% Bare Ground in Herb Stratum:					
Remarks:					

SOIL

Sampling Point – DP-1

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)								
Depth (inches)	Matrix		Redox Features				Texture	Remarks
	Color (moist)	%	Color (moist)	%	Type ¹	Loc ²		
0-8	10YR 2/2	100					Sandy loam	Some OM
8-12	10YR 2/2	100					Gravelly sandy loam	cobbles

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

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

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

Indicators for Problematic Hydric Soils³

<input type="checkbox"/> 2cm Muck (A10)
<input type="checkbox"/> Red Parent Material (TF2)
<input type="checkbox"/> Other (explain in remarks)

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

Restrictive Layer (if present):
Type: _____
Depth (inches): _____

Hydric soil present? Yes ☐ No ☒

Remarks: _____

HYDROLOGY

Wetland Hydrology Indicators:
Primary Indicators (minimum of one required: check all that apply):

<input type="checkbox"/> Surface water (A1)	<input type="checkbox"/> Sparsely Vegetated Concave Surface (B8)
<input type="checkbox"/> High Water Table (A2)	<input type="checkbox"/> Water-Stained Leaves (except MLRA 1, 2, 4A & 4B) (B9)
<input type="checkbox"/> Saturation (A3)	<input type="checkbox"/> Salt Crust (B11)
<input type="checkbox"/> Water Marks (B1)	<input type="checkbox"/> Aquatic Invertebrates (B13)
<input type="checkbox"/> Sediment Deposits (B2)	<input type="checkbox"/> Hydrogen Sulfide Odor (C1)
<input type="checkbox"/> Drift Deposits (B3)	<input type="checkbox"/> Oxidized Rhizospheres along Living Roots (C3)
<input type="checkbox"/> Algal Mat or Crust (B4)	<input type="checkbox"/> Presence of Reduced Iron (C4)
<input type="checkbox"/> Iron Deposits (B5)	<input type="checkbox"/> Recent Iron Reduction in Tilled Soils (C6)
<input type="checkbox"/> Surface Soil Cracks (B6)	<input type="checkbox"/> Stunted or Stressed Plants (D1) (LRR A)
<input type="checkbox"/> Inundation Visible on Aerial Imagery (B7)	<input type="checkbox"/> Other (explain in remarks)

Secondary Indicators (2 or more required):

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

Field Observations

Surface Water Present?	Yes <input type="checkbox"/>	No <input checked="" type="checkbox"/>	Depth (in): _____
Water Table Present?	Yes <input type="checkbox"/>	No <input checked="" type="checkbox"/>	Depth (in): _____
Saturation Present? (includes capillary fringe)	Yes <input type="checkbox"/>	No <input checked="" type="checkbox"/>	Depth (in): _____

Wetland Hydrology Present? Yes ☐ No ☒

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

Remarks: _____



WETLAND DETERMINATION DATA FORM
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- 2

Project Site: Lakeside - 18825 Renton Maple Valley SE		Sampling Date: 1/10/2017
Applicant/Owner: Lakeside Industries, Inc., Attn: Karen Deal		Sampling Point: DP- 2
Investigator: Nell Lund, Anna Hoenig		City/County: Renton
Sect., Township, Range: S 19 T 23N R 06E		State: WA
Landform (hillslope, terrace, etc): ditch	Slope (%): 5	Local relief (concave, convex, none): concave
Subregion (LRR): A	Lat:	Long:
Soil Map Unit Name: Urban land		NWI classification: none
Are climatic/hydrologic conditions on the site typical for this time of year? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No		(If no, explain in remarks.)
Are "Normal Circumstances" present on the site? <input type="checkbox"/> Yes <input type="checkbox"/> No		
Are Vegetation <input type="checkbox"/> , Soil <input type="checkbox"/> , or Hydrology <input type="checkbox"/> significantly disturbed?		
Are Vegetation <input type="checkbox"/> , Soil <input type="checkbox"/> , or Hydrology <input type="checkbox"/> naturally problematic		(If needed, explain any answers in Remarks.)

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

Hydrophytic Vegetation Present?	Yes <input checked="" type="checkbox"/> No <input type="checkbox"/>	Is the Sampling Point within a Wetland? Yes <input checked="" type="checkbox"/> No <input type="checkbox"/>
Hydric Soils Present?	Yes <input checked="" type="checkbox"/> No <input type="checkbox"/>	
Wetland Hydrology Present?	Yes <input checked="" type="checkbox"/> No <input type="checkbox"/>	
Remarks: Wetland A; Adjacent to DP-1		

VEGETATION – Use scientific names of plants.

Tree Stratum (Plot size: 5m diam.)	Absolute % Cover	Dominant Species?	Indicator Status	Dominance Test Worksheet
1. Salix sp.	5	Yes	FAC	Number of Dominant Species that are OBL, FACW, or FAC: 4 (A)
2.				
3.				Total Number of Dominant Species Across All Strata: 4 (B)
4.				Percent of Dominant Species that are OBL, FACW, or FAC: 100 (A/B)
5 = Total Cover				
Sapling/Shrub Stratum (Plot size: 3m diam.)				Prevalence Index Worksheet
1. Rubus armeniacus	25	Yes	FAC	Total % Cover of
2. Alnus rubra (sapling)	5	No	FAC	OBL species <input type="checkbox"/> x 1 =
3.				FACW species <input type="checkbox"/> x 2 =
4.				FAC species <input type="checkbox"/> x 3 =
5.				FACU species <input type="checkbox"/> x 4 =
30 = Total Cover				UPL species <input type="checkbox"/> x 5 =
Herb Stratum (Plot size: 1m diam.)				Column totals (A) (B)
1. Phalaris arundinacea	60	Yes	FACW	Prevalence Index = B / A =
2. Ranunculus repens	20	No	FAC	
3. Nasturtium officinale	40	Yes	OBL	Hydrophytic Vegetation Indicators
4. Ludwigia palustris	10	No	OBL	
5.				
6.				
7.				
8.				* Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic
9.				
10.				
11.				
130 = Total Cover				
Woody Vine Stratum (Plot size:)				Hydrophytic Vegetation Present? Yes <input checked="" type="checkbox"/> No <input type="checkbox"/>
1.				
2.				
= Total Cover				
% Bare Ground in Herb Stratum:				
Remarks:				

SOIL

Sampling Point – DP-2

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)								
Depth (inches)	Matrix		Redox Features				Texture	Remarks
	Color (moist)	%	Color (moist)	%	Type ¹	Loc ²		
0-15	10YR 2/1	100					Loamy sand	Mulch mixed in

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

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

<input type="checkbox"/> Histosol (A1)	<input type="checkbox"/> Sandy Redox (S5)
<input type="checkbox"/> Histic Epipedon (A2)	<input type="checkbox"/> Stripped Matrix (S6)
<input type="checkbox"/> Black Histic (A3)	<input type="checkbox"/> Loamy Mucky Mineral (F1) (except MLRA 1)
<input checked="" type="checkbox"/> Hydrogen Sulfide (A4)	<input type="checkbox"/> Loamy Gleyed Matrix (F2)
<input type="checkbox"/> Depleted Below Dark Surface (A11)	<input type="checkbox"/> Depleted Matrix (F3)
<input type="checkbox"/> Thick Dark Surface (A12)	<input type="checkbox"/> Redox Dark Surface (F6)
<input type="checkbox"/> Sandy Mucky Mineral (S1)	<input type="checkbox"/> Depleted Dark Surface (F7)
<input type="checkbox"/> Sandy Gleyed Matrix (S4)	<input type="checkbox"/> Redox Depressions (F8)

Indicators for Problematic Hydric Soils³

<input type="checkbox"/> 2cm Muck (A10)
<input type="checkbox"/> Red Parent Material (TF2)
<input checked="" type="checkbox"/> Other (explain in remarks)
<input type="checkbox"/>

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

Restrictive Layer (if present): Type: Depth (inches):	Hydric soil present? Yes <input checked="" type="checkbox"/> No <input type="checkbox"/>
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Remarks: **OM masking redox**

HYDROLOGY

Wetland Hydrology Indicators:				
Primary Indicators (minimum of one required; check all that apply):				
<input type="checkbox"/> Surface water (A1)	<input type="checkbox"/> Sparsely Vegetated Concave Surface (B8)	Secondary Indicators (2 or more required):		
<input checked="" type="checkbox"/> High Water Table (A2)	<input type="checkbox"/> Water-Stained Leaves (except MLRA 1, 2, 4A & 4B) (B9)			
<input checked="" type="checkbox"/> Saturation (A3)	<input type="checkbox"/> Salt Crust (B11)			
<input type="checkbox"/> Water Marks (B1)	<input type="checkbox"/> Aquatic Invertebrates (B13)			
<input type="checkbox"/> Sediment Deposits (B2)	<input checked="" type="checkbox"/> Hydrogen Sulfide Odor (C1)			
<input type="checkbox"/> Drift Deposits (B3)	<input type="checkbox"/> Oxidized Rhizospheres along Living Roots (C3)			
<input type="checkbox"/> Algal Mat or Crust (B4)	<input type="checkbox"/> Presence of Reduced Iron (C4)			
<input type="checkbox"/> Iron Deposits (B5)	<input type="checkbox"/> Recent Iron Reduction in Tilled Soils (C6)			
<input type="checkbox"/> Surface Soil Cracks (B6)	<input type="checkbox"/> Stunted or Stressed Plants (D1) (LRR A)			
<input type="checkbox"/> Inundation Visible on Aerial Imagery (B7)	<input type="checkbox"/> Other (explain in remarks)			
				<input type="checkbox"/> Water-Stained Leaves (B9) (MLRA 1, 2, 4A & 4B)
				<input type="checkbox"/> Drainage Patterns (B10)
				<input type="checkbox"/> Dry-Season Water Table (C2)
				<input type="checkbox"/> Saturation Visible on Aerial Imagery (C9)
		<input type="checkbox"/> Geomorphic Position (D2)		
		<input type="checkbox"/> Shallow Aquitard (D3)		
		<input type="checkbox"/> FAC-Neutral Test (D5)		
		<input type="checkbox"/> Raised Ant Mounds (D6) (LRR A)		
		<input type="checkbox"/> Frost-Heave Hummocks		

Field Observations	Wetland Hydrology Present?
Surface Water Present? Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> Depth (in):	Yes <input checked="" type="checkbox"/> No <input type="checkbox"/>
Water Table Present? Yes <input checked="" type="checkbox"/> No <input type="checkbox"/> Depth (in): 4" BGS	
Saturation Present? Yes <input checked="" type="checkbox"/> No <input type="checkbox"/> Depth (in): 2" BGS (includes capillary fringe)	

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

Remarks:

DP- 3

Project Site:	Lakeside - 18825 Renton Maple Valley SE		Sampling Date:	1/10/2017
Applicant/Owner:	Lakeside Industries, Inc., Attn: Karen Deal		Sampling Point:	DP- 3
Investigator:	Nell Lund, Anna Hoenig		City/County:	Renton
Sect., Township, Range:	S 19 T 23N R 06E		State:	WA
Landform (hillslope, terrace, etc):	hillslope	Slope (%):	>10	
Subregion (LRR):	A	Lat:	Long:	Datum:
Soil Map Unit Name:	Urban land		NWI classification:	none
Are climatic/hydrologic conditions on the site typical for this time of year?		<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	(If no, explain in remarks.)	
Are "Normal Circumstances" present on the site?		<input type="checkbox"/> Yes <input type="checkbox"/> No		
Are Vegetation <input type="checkbox"/> , Soil <input type="checkbox"/> , or Hydrology <input type="checkbox"/> significantly disturbed?			(If needed, explain any answers in Remarks.)	
Are Vegetation <input type="checkbox"/> , Soil <input type="checkbox"/> , or Hydrology <input type="checkbox"/> naturally problematic				

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

Hydrophytic Vegetation Present?	Yes <input checked="" type="checkbox"/> No <input type="checkbox"/>	Is the Sampling Point within a Wetland?	Yes <input type="checkbox"/> No <input type="checkbox"/>
Hydric Soils Present?	Yes <input checked="" type="checkbox"/> No <input type="checkbox"/>		
Wetland Hydrology Present?	Yes <input checked="" type="checkbox"/> No <input type="checkbox"/>		
Remarks: Wetland B			

VEGETATION – Use scientific names of plants.

Tree Stratum (Plot size: 5m diam.)	Absolute % Cover	Dominant Species?	Indicator Status	Dominance Test Worksheet	
1. <i>Alnus rubra</i>	35	Yes	FAC	Number of Dominant Species that are OBL, FACW, or FAC:	4 (A)
2.				Total Number of Dominant Species Across All Strata:	4 (B)
3.				Percent of Dominant Species that are OBL, FACW, or FAC:	100 (A/B)
4.	35	= Total Cover			
Sapling/Shrub Stratum (Plot size: 3m diam.)				Prevalence Index Worksheet	
1. <i>Rubus armeniacus</i>	25	Yes	FAC	Total % Cover of	
2.				OBL species	x 1 =
3.				FACW species	x 2 =
4.				FAC species	x 3 =
5.	25	= Total Cover		FACU species	x 4 =
Herb Stratum (Plot size: 1m diam.)				UPL species	x 5 =
1. <i>Ranunculus repens</i>	10	Yes	FACW	Column totals	(A) (B)
2. <i>Equisetum telmateia</i>	25	Yes	FACW	Prevalence Index = B / A =	
3. <i>Holcus lanatus</i>	2	No	FAC	Hydrophytic Vegetation Indicators	
4. <i>Phalaris arundinacea</i>	5	No	FCW	<input checked="" type="checkbox"/> Dominance test is > 50%	
5.				<input type="checkbox"/> Prevalence test is ≤ 3.0 *	
6.				Morphological Adaptations * (provide supporting data in remarks or on a separate sheet)	
7.				<input type="checkbox"/> Wetland Non-Vascular Plants *	
8.				<input type="checkbox"/> Problematic Hydrophytic Vegetation * (explain)	
9.				* Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic	
10.					
11.	42	= Total Cover		Hydrophytic Vegetation Present? Yes <input checked="" type="checkbox"/> No <input type="checkbox"/>	
Woody Vine Stratum (Plot size:)					
1.					
2.					
% Bare Ground in Herb Stratum:					
Remarks:					

SOIL

Sampling Point – DP-3

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)								
Depth (inches)	Matrix		Redox Features				Texture	Remarks
	Color (moist)	%	Color (moist)	%	Type ¹	Loc ²		
0-3	10YR 2/2	100					Gravelly clay loam	
3-8	10YR 2/1	100					Gravelly loamy sand	
8-14	7.5YR 2.5/1	100					Loamy mulch	

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

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

<input type="checkbox"/> Histic Epipedon (A2)	<input type="checkbox"/> Sandy Redox (S5)	<input type="checkbox"/> 2cm Muck (A10)
<input type="checkbox"/> Black Histic (A3)	<input type="checkbox"/> Stripped Matrix (S6)	<input type="checkbox"/> Red Parent Material (TF2)
<input type="checkbox"/> Hydrogen Sulfide (A4)	<input type="checkbox"/> Loamy Mucky Mineral (F1) (except MLRA 1)	<input checked="" type="checkbox"/> Other (explain in remarks)
<input type="checkbox"/> Depleted Below Dark Surface (A11)	<input type="checkbox"/> Loamy Gleyed Matrix (F2)	<input type="checkbox"/>
<input type="checkbox"/> Thick Dark Surface (A12)	<input type="checkbox"/> Depleted Matrix (F3)	
<input type="checkbox"/> Sandy Mucky Mineral (S1)	<input type="checkbox"/> Redox Dark Surface (F6)	
<input type="checkbox"/> Sandy Gleyed Matrix (S4)	<input type="checkbox"/> Depleted Dark Surface (F7)	
	<input type="checkbox"/> Redox Depressions (F8)	

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

Restrictive Layer (if present): Type: Depth (inches):	Hydric soil present? Yes <input checked="" type="checkbox"/> No <input type="checkbox"/>
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Remarks: **OM masking redox**

HYDROLOGY

Wetland Hydrology Indicators:				Secondary Indicators (2 or more required):	
Primary Indicators (minimum of one required: check all that apply):					
<input type="checkbox"/> Surface water (A1)	<input type="checkbox"/> Sparsely Vegetated Concave Surface (B8)	<input type="checkbox"/> Water-Stained Leaves (B9) (MLRA 1, 2, 4A & 4B)			
<input checked="" type="checkbox"/> High Water Table (A2)	<input type="checkbox"/> Water-Stained Leaves (except MLRA 1, 2, 4A & 4B) (B9)	<input type="checkbox"/> Drainage Patterns (B10)			
<input checked="" type="checkbox"/> Saturation (A3)	<input type="checkbox"/> Salt Crust (B11)	<input type="checkbox"/> Dry-Season Water Table (C2)			
<input type="checkbox"/> Water Marks (B1)	<input type="checkbox"/> Aquatic Invertebrates (B13)	<input type="checkbox"/> Saturation Visible on Aerial Imagery (C9)			
<input type="checkbox"/> Sediment Deposits (B2)	<input type="checkbox"/> Hydrogen Sulfide Odor (C1)	<input type="checkbox"/> Geomorphic Position (D2)			
<input type="checkbox"/> Drift Deposits (B3)	<input type="checkbox"/> Oxidized Rhizospheres along Living Roots (C3)	<input type="checkbox"/> Shallow Aquitard (D3)			
<input type="checkbox"/> Algal Mat or Crust (B4)	<input type="checkbox"/> Presence of Reduced Iron (C4)	<input type="checkbox"/> FAC-Neutral Test (D5)			
<input type="checkbox"/> Iron Deposits (B5)	<input type="checkbox"/> Recent Iron Reduction in Tilled Soils (C6)	<input type="checkbox"/> Raised Ant Mounds (D6) (LRR A)			
<input type="checkbox"/> Surface Soil Cracks (B6)	<input type="checkbox"/> Stunted or Stressed Plants (D1) (LRR A)	<input type="checkbox"/> Frost-Heave Hummocks			
<input type="checkbox"/> Inundation Visible on Aerial Imagery (B7)	<input type="checkbox"/> Other (explain in remarks)				

Field Observations Surface Water Present? Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> Depth (in): Water Table Present? Yes <input checked="" type="checkbox"/> No <input type="checkbox"/> Depth (in): 4" BGS Saturation Present? Yes <input checked="" type="checkbox"/> No <input type="checkbox"/> Depth (in): surface (includes capillary fringe)				Wetland Hydrology Present? Yes <input checked="" type="checkbox"/> No <input type="checkbox"/>	
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Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks:

Project Site: Lakeside - 18825 Renton Maple Valley SE		Sampling Date: 1/10/2017
Applicant/Owner: Lakeside Industries, Inc., Attn: Karen Deal		Sampling Point: DP- 4
Investigator: Nell Lund, Anna Hoenig		City/County: Renton
Sect., Township, Range: S 19 T 23N R 06E		State: WA
Landform (hillslope, terrace, etc): terrace	Slope (%): <5	Local relief (concave, convex, none): none
Subregion (LRR): A	Lat:	Long:
Soil Map Unit Name: Urban land		NWI classification: none
Are climatic/hydrologic conditions on the site typical for this time of year? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No		(If no, explain in remarks.)
Are "Normal Circumstances" present on the site? <input type="checkbox"/> Yes <input type="checkbox"/> No		
Are Vegetation <input type="checkbox"/> , Soil <input type="checkbox"/> , or Hydrology <input type="checkbox"/> significantly disturbed?		
Are Vegetation <input type="checkbox"/> , Soil <input type="checkbox"/> , or Hydrology <input type="checkbox"/> naturally problematic		(If needed, explain any answers in Remarks.)

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

Hydrophytic Vegetation Present?	Yes <input checked="" type="checkbox"/> No <input type="checkbox"/>	Is the Sampling Point within a Wetland? Yes <input type="checkbox"/> No <input checked="" type="checkbox"/>
Hydric Soils Present?	Yes <input type="checkbox"/> No <input checked="" type="checkbox"/>	
Wetland Hydrology Present?	Yes <input type="checkbox"/> No <input checked="" type="checkbox"/>	
Remarks:		

VEGETATION – Use scientific names of plants.

Tree Stratum (Plot size: 5m diam.)	Absolute % Cover	Dominant Species?	Indicator Status	Dominance Test Worksheet	
1. <i>Alnus rubra</i>	30	Yes	FAC	Number of Dominant Species that are OBL, FACW, or FAC:	3 (A)
2.				Total Number of Dominant Species Across All Strata:	3 (B)
3.				Percent of Dominant Species that are OBL, FACW, or FAC:	100 (A/B)
4.					
30 = Total Cover					
Sapling/Shrub Stratum (Plot size: 3m diam.)				Prevalence Index Worksheet	
1. <i>Rubus armeniacus</i>	10	Yes	FAC	Total % Cover of Multiply by	
2.				OBL species	x 1 =
3.				FACW species	x 2 =
4.				FAC species	x 3 =
5.				FACU species	x 4 =
10 = Total Cover				UPL species	x 5 =
				Column totals	(A) (B)
Herb Stratum (Plot size: 1m diam.)				Prevalence Index = B / A =	
1. <i>Phalaris arundinacea</i>	100	Yes	FACW	Hydrophytic Vegetation Indicators <input checked="" type="checkbox"/> Dominance test is > 50% <input type="checkbox"/> Prevalence test is ≤ 3.0 * Morphological Adaptations * (provide supporting data in remarks or on a separate sheet) <input type="checkbox"/> Wetland Non-Vascular Plants * <input type="checkbox"/> Problematic Hydrophytic Vegetation * (explain)	
2. <i>Ranunculus repens</i>	10	No	FAC		
3.					
4.					
5.					
6.					
7.					
8.					
9.					
10.					
11.					
110 = Total Cover				* Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic	
Woody Vine Stratum (Plot size:)				Hydrophytic Vegetation Present? Yes <input checked="" type="checkbox"/> No <input type="checkbox"/>	
1.					
2.					
% Bare Ground in Herb Stratum:					
Remarks:					

SOIL

Sampling Point – DP-4

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)								
Depth (inches)	Matrix		Redox Features				Texture	Remarks
	Color (moist)	%	Color (moist)	%	Type ¹	Loc ²		
0-10	7.5YR 2.5/2	100					Gravelly sandy loam	

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

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

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

Indicators for Problematic Hydric Soils³

<input type="checkbox"/> 2cm Muck (A10)
<input type="checkbox"/> Red Parent Material (TF2)
<input type="checkbox"/> Other (explain in remarks)

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

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

HYDROLOGY

Wetland Hydrology Indicators: <i>Primary Indicators (minimum of one required: check all that apply):</i> <table border="0"> <tr> <td><input type="checkbox"/> Surface water (A1)</td> <td><input type="checkbox"/> Sparsely Vegetated Concave Surface (B8)</td> </tr> <tr> <td><input type="checkbox"/> High Water Table (A2)</td> <td><input type="checkbox"/> Water-Stained Leaves (except MLRA 1, 2, 4A & 4B) (B9)</td> </tr> <tr> <td><input type="checkbox"/> Saturation (A3)</td> <td><input type="checkbox"/> Salt Crust (B11)</td> </tr> <tr> <td><input type="checkbox"/> Water Marks (B1)</td> <td><input type="checkbox"/> Aquatic Invertebrates (B13)</td> </tr> <tr> <td><input type="checkbox"/> Sediment Deposits (B2)</td> <td><input type="checkbox"/> Hydrogen Sulfide Odor (C1)</td> </tr> <tr> <td><input type="checkbox"/> Drift Deposits (B3)</td> <td><input type="checkbox"/> Oxidized Rhizospheres along Living Roots (C3)</td> </tr> <tr> <td><input type="checkbox"/> Algal Mat or Crust (B4)</td> <td><input type="checkbox"/> Presence of Reduced Iron (C4)</td> </tr> <tr> <td><input type="checkbox"/> Iron Deposits (B5)</td> <td><input type="checkbox"/> Recent Iron Reduction in Tilled Soils (C6)</td> </tr> <tr> <td><input type="checkbox"/> Surface Soil Cracks (B6)</td> <td><input type="checkbox"/> Stunted or Stressed Plants (D1) (LRR A)</td> </tr> <tr> <td><input type="checkbox"/> Inundation Visible on Aerial Imagery (B7)</td> <td><input type="checkbox"/> Other (explain in remarks)</td> </tr> </table>				<input type="checkbox"/> Surface water (A1)	<input type="checkbox"/> Sparsely Vegetated Concave Surface (B8)	<input type="checkbox"/> High Water Table (A2)	<input type="checkbox"/> Water-Stained Leaves (except MLRA 1, 2, 4A & 4B) (B9)	<input type="checkbox"/> Saturation (A3)	<input type="checkbox"/> Salt Crust (B11)	<input type="checkbox"/> Water Marks (B1)	<input type="checkbox"/> Aquatic Invertebrates (B13)	<input type="checkbox"/> Sediment Deposits (B2)	<input type="checkbox"/> Hydrogen Sulfide Odor (C1)	<input type="checkbox"/> Drift Deposits (B3)	<input type="checkbox"/> Oxidized Rhizospheres along Living Roots (C3)	<input type="checkbox"/> Algal Mat or Crust (B4)	<input type="checkbox"/> Presence of Reduced Iron (C4)	<input type="checkbox"/> Iron Deposits (B5)	<input type="checkbox"/> Recent Iron Reduction in Tilled Soils (C6)	<input type="checkbox"/> Surface Soil Cracks (B6)	<input type="checkbox"/> Stunted or Stressed Plants (D1) (LRR A)	<input type="checkbox"/> Inundation Visible on Aerial Imagery (B7)	<input type="checkbox"/> Other (explain in remarks)	<i>Secondary Indicators (2 or more required):</i> <table border="0"> <tr> <td><input type="checkbox"/> Water-Stained Leaves (B9) (MLRA 1, 2, 4A & 4B)</td> </tr> <tr> <td><input type="checkbox"/> Drainage Patterns (B10)</td> </tr> <tr> <td><input type="checkbox"/> Dry-Season Water Table (C2)</td> </tr> <tr> <td><input type="checkbox"/> Saturation Visible on Aerial Imagery (C9)</td> </tr> <tr> <td><input type="checkbox"/> Geomorphic Position (D2)</td> </tr> <tr> <td><input type="checkbox"/> Shallow Aquitard (D3)</td> </tr> <tr> <td><input type="checkbox"/> FAC-Neutral Test (D5)</td> </tr> <tr> <td><input type="checkbox"/> Raised Ant Mounds (D6) (LRR A)</td> </tr> <tr> <td><input type="checkbox"/> Frost-Heave Hummocks</td> </tr> </table>		<input type="checkbox"/> Water-Stained Leaves (B9) (MLRA 1, 2, 4A & 4B)	<input type="checkbox"/> Drainage Patterns (B10)	<input type="checkbox"/> Dry-Season Water Table (C2)	<input type="checkbox"/> Saturation Visible on Aerial Imagery (C9)	<input type="checkbox"/> Geomorphic Position (D2)	<input type="checkbox"/> Shallow Aquitard (D3)	<input type="checkbox"/> FAC-Neutral Test (D5)	<input type="checkbox"/> Raised Ant Mounds (D6) (LRR A)	<input type="checkbox"/> Frost-Heave Hummocks
<input type="checkbox"/> Surface water (A1)	<input type="checkbox"/> Sparsely Vegetated Concave Surface (B8)																																	
<input type="checkbox"/> High Water Table (A2)	<input type="checkbox"/> Water-Stained Leaves (except MLRA 1, 2, 4A & 4B) (B9)																																	
<input type="checkbox"/> Saturation (A3)	<input type="checkbox"/> Salt Crust (B11)																																	
<input type="checkbox"/> Water Marks (B1)	<input type="checkbox"/> Aquatic Invertebrates (B13)																																	
<input type="checkbox"/> Sediment Deposits (B2)	<input type="checkbox"/> Hydrogen Sulfide Odor (C1)																																	
<input type="checkbox"/> Drift Deposits (B3)	<input type="checkbox"/> Oxidized Rhizospheres along Living Roots (C3)																																	
<input type="checkbox"/> Algal Mat or Crust (B4)	<input type="checkbox"/> Presence of Reduced Iron (C4)																																	
<input type="checkbox"/> Iron Deposits (B5)	<input type="checkbox"/> Recent Iron Reduction in Tilled Soils (C6)																																	
<input type="checkbox"/> Surface Soil Cracks (B6)	<input type="checkbox"/> Stunted or Stressed Plants (D1) (LRR A)																																	
<input type="checkbox"/> Inundation Visible on Aerial Imagery (B7)	<input type="checkbox"/> Other (explain in remarks)																																	
<input type="checkbox"/> Water-Stained Leaves (B9) (MLRA 1, 2, 4A & 4B)																																		
<input type="checkbox"/> Drainage Patterns (B10)																																		
<input type="checkbox"/> Dry-Season Water Table (C2)																																		
<input type="checkbox"/> Saturation Visible on Aerial Imagery (C9)																																		
<input type="checkbox"/> Geomorphic Position (D2)																																		
<input type="checkbox"/> Shallow Aquitard (D3)																																		
<input type="checkbox"/> FAC-Neutral Test (D5)																																		
<input type="checkbox"/> Raised Ant Mounds (D6) (LRR A)																																		
<input type="checkbox"/> Frost-Heave Hummocks																																		
Field Observations <table border="0"> <tr> <td>Surface Water Present?</td> <td>Yes <input type="checkbox"/></td> <td>No <input checked="" type="checkbox"/></td> <td>Depth (in):</td> <td rowspan="3"> Wetland Hydrology Present? Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> </td> </tr> <tr> <td>Water Table Present?</td> <td>Yes <input type="checkbox"/></td> <td>No <input checked="" type="checkbox"/></td> <td>Depth (in):</td> </tr> <tr> <td>Saturation Present? (includes capillary fringe)</td> <td>Yes <input type="checkbox"/></td> <td>No <input checked="" type="checkbox"/></td> <td>Depth (in):</td> </tr> </table>				Surface Water Present?	Yes <input type="checkbox"/>	No <input checked="" type="checkbox"/>	Depth (in):	Wetland Hydrology Present? Yes <input type="checkbox"/> No <input checked="" type="checkbox"/>	Water Table Present?	Yes <input type="checkbox"/>	No <input checked="" type="checkbox"/>	Depth (in):	Saturation Present? (includes capillary fringe)	Yes <input type="checkbox"/>	No <input checked="" type="checkbox"/>	Depth (in):																		
Surface Water Present?	Yes <input type="checkbox"/>	No <input checked="" type="checkbox"/>	Depth (in):	Wetland Hydrology Present? Yes <input type="checkbox"/> No <input checked="" type="checkbox"/>																														
Water Table Present?	Yes <input type="checkbox"/>	No <input checked="" type="checkbox"/>	Depth (in):																															
Saturation Present? (includes capillary fringe)	Yes <input type="checkbox"/>	No <input checked="" type="checkbox"/>	Depth (in):																															
Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:																																		
Remarks:																																		

DP- 5

Project Site: Lakeside - 18825 Renton Maple Valley SE		Sampling Date: 1/10/2017	
Applicant/Owner: Lakeside Industries, Inc., Attn: Karen Deal		Sampling Point: DP- 5	
Investigator: Nell Lund, Anna Hoenig		City/County: Renton	
Sect., Township, Range: S 19 T 23N R 06E		State: WA	
Landform (hillslope, terrace, etc): terrace		Slope (%): <5	
Subregion (LRR): A		Local relief (concave, convex, none): none	
Soil Map Unit Name: Urban land		Lat: _____ Long: _____ Datum: _____	
NW1 classification: none			
Are climatic/hydrologic conditions on the site typical for this time of year? <input type="checkbox"/> Yes <input type="checkbox"/> No		(If no, explain in remarks.)	
Are "Normal Circumstances" present on the site? <input type="checkbox"/> Yes <input type="checkbox"/> No			
Are Vegetation <input type="checkbox"/> , Soil <input type="checkbox"/> , or Hydrology <input type="checkbox"/> significantly disturbed?			
Are Vegetation <input type="checkbox"/> , Soil <input type="checkbox"/> , or Hydrology <input type="checkbox"/> naturally problematic		(If needed, explain any answers in Remarks.)	

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

Hydrophytic Vegetation Present?	Yes <input checked="" type="checkbox"/> No <input type="checkbox"/>	Is the Sampling Point within a Wetland?	Yes <input checked="" type="checkbox"/> No <input type="checkbox"/>
Hydric Soils Present?	Yes <input checked="" type="checkbox"/> No <input type="checkbox"/>		
Wetland Hydrology Present?	Yes <input checked="" type="checkbox"/> No <input type="checkbox"/>		
Remarks: Wetland C in pit			

VEGETATION – Use scientific names of plants.

Tree Stratum (Plot size: 5m diam.)	Absolute % Cover	Dominant Species?	Indicator Status	Dominance Test Worksheet	
1. Populus balsamifera	15	Yes	FAC	Number of Dominant Species that are OBL, FACW, or FAC:	4 (A)
2.				Total Number of Dominant Species Across All Strata:	4 (B)
3.				Percent of Dominant Species that are OBL, FACW, or FAC:	100 (A/B)
4.	15	= Total Cover			
Sapling/Shrub Stratum (Plot size: 3m diam.)				Prevalence Index Worksheet	
1. Rubus armeniacus	10	Yes	FAC	Total % Cover of	
2. Rosa sp.	10	Yes	FAC	Multiply by	
3.				OBL species	x 1 =
4.				FACW species	x 2 =
5.				FAC species	x 3 =
	20	= Total Cover		FACU species	x 4 =
Herb Stratum (Plot size: 1m diam.)				UPL species	x 5 =
1. Phalaris arundinacea	80	Yes	FACW	Column totals	(A) (B)
2. Solanum dulcamara	10	No	FAC	Prevalence Index = B / A =	
3.				Hydrophytic Vegetation Indicators	
4.				<input checked="" type="checkbox"/> Dominance test is > 50%	
5.				<input type="checkbox"/> Prevalence test is ≤ 3.0 *	
6.				Morphological Adaptations * (provide supporting data in remarks or on a separate sheet)	
7.				<input type="checkbox"/> Wetland Non-Vascular Plants *	
8.				<input type="checkbox"/> Problematic Hydrophytic Vegetation * (explain)	
9.				* Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic	
10.					
11.	90	= Total Cover			
Woody Vine Stratum (Plot size: _____)				Hydrophytic Vegetation Present? Yes <input checked="" type="checkbox"/> No <input type="checkbox"/>	
1.					
2.					
		= Total Cover			
% Bare Ground in Herb Stratum:					
Remarks:					

SOIL

Sampling Point – DP-5

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)								
Depth (inches)	Matrix		Redox Features				Texture	Remarks
	Color (moist)	%	Color (moist)	%	Type ¹	Loc ²		
0-2	10YR 2/2	100					Sandy loam	
2-3	10YR 2/1	100					Sandy loam	High OM
3-10	2.5Y 2.5/1	100					Gravelly sandy loam	

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

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

<input type="checkbox"/> Histosol (A1)	<input type="checkbox"/> Sandy Redox (S5)
<input type="checkbox"/> Histic Epipedon (A2)	<input type="checkbox"/> Stripped Matrix (S6)
<input type="checkbox"/> Black Histic (A3)	<input type="checkbox"/> Loamy Mucky Mineral (F1) (except MLRA 1)
<input checked="" type="checkbox"/> Hydrogen Sulfide (A4)	<input type="checkbox"/> Loamy Gleyed Matrix (F2)
<input type="checkbox"/> Depleted Below Dark Surface (A11)	<input type="checkbox"/> Depleted Matrix (F3)
<input type="checkbox"/> Thick Dark Surface (A12)	<input type="checkbox"/> Redox Dark Surface (F6)
<input type="checkbox"/> Sandy Mucky Mineral (S1)	<input type="checkbox"/> Depleted Dark Surface (F7)
<input type="checkbox"/> Sandy Gleyed Matrix (S4)	<input type="checkbox"/> Redox Depressions (F8)

Indicators for Problematic Hydric Soils³

<input type="checkbox"/> 2cm Muck (A10)
<input type="checkbox"/> Red Parent Material (TF2)
<input checked="" type="checkbox"/> Other (explain in remarks)
<input type="checkbox"/>

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

Restrictive Layer (if present):
Type: _____
Depth (inches): _____

Hydric soil present? Yes ☒ No ☐

Remarks: **OM masking redox, F6 presumed.**

HYDROLOGY

Wetland Hydrology Indicators:
Primary Indicators (minimum of one required: check all that apply):

<input type="checkbox"/> Surface water (A1)	<input type="checkbox"/> Sparsely Vegetated Concave Surface (B8)
<input checked="" type="checkbox"/> High Water Table (A2)	<input type="checkbox"/> Water-Stained Leaves (except MLRA 1, 2, 4A & 4B) (B9)
<input checked="" type="checkbox"/> Saturation (A3)	<input type="checkbox"/> Salt Crust (B11)
<input type="checkbox"/> Water Marks (B1)	<input type="checkbox"/> Aquatic Invertebrates (B13)
<input type="checkbox"/> Sediment Deposits (B2)	<input checked="" type="checkbox"/> Hydrogen Sulfide Odor (C1)
<input type="checkbox"/> Drift Deposits (B3)	<input type="checkbox"/> Oxidized Rhizospheres along Living Roots (C3)
<input type="checkbox"/> Algal Mat or Crust (B4)	<input type="checkbox"/> Presence of Reduced Iron (C4)
<input type="checkbox"/> Iron Deposits (B5)	<input type="checkbox"/> Recent Iron Reduction in Tilled Soils (C6)
<input type="checkbox"/> Surface Soil Cracks (B6)	<input type="checkbox"/> Stunted or Stressed Plants (D1) (LRR A)
<input type="checkbox"/> Inundation Visible on Aerial Imagery (B7)	<input type="checkbox"/> Other (explain in remarks)

Secondary Indicators (2 or more required):

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

Field Observations

Surface Water Present?	Yes <input type="checkbox"/>	No <input checked="" type="checkbox"/>	Depth (in):	
Water Table Present?	Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>	Depth (in):	8" BGS
Saturation Present? (includes capillary fringe)	Yes <input type="checkbox"/>	No <input type="checkbox"/>	Depth (in):	surface

Wetland Hydrology Present? Yes ☒ No ☐

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

Remarks:

DP- 6

Project Site: Lakeside - 18825 Renton Maple Valley SE		Sampling Date: 1/10/2017
Applicant/Owner: Lakeside Industries, Inc., Attn: Karen Deal		Sampling Point: DP- 6
Investigator: Nell Lund, Anna Hoenig		City/County: Renton
Sect., Township, Range: S 19 T 23N R 06E		State: WA
Landform (hillslope, terrace, etc): hillslope	Slope (%): 5	Local relief (concave, convex, none): none
Subregion (LRR): A	Lat:	Long:
Soil Map Unit Name: Urban land		NWI classification: none
Are climatic/hydrologic conditions on the site typical for this time of year? <input type="checkbox"/> Yes <input type="checkbox"/> No		(If no, explain in remarks.)
Are "Normal Circumstances" present on the site? <input type="checkbox"/> Yes <input type="checkbox"/> No		
Are Vegetation <input type="checkbox"/> , Soil <input type="checkbox"/> , or Hydrology <input type="checkbox"/> significantly disturbed?		
Are Vegetation <input type="checkbox"/> , Soil <input type="checkbox"/> , or Hydrology <input type="checkbox"/> naturally problematic		
(If needed, explain any answers in Remarks.)		

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

Hydrophytic Vegetation Present?	Yes <input checked="" type="checkbox"/> No <input type="checkbox"/>	Is the Sampling Point within a Wetland?	Yes <input type="checkbox"/> No <input checked="" type="checkbox"/>
Hydric Soils Present?	Yes <input type="checkbox"/> No <input checked="" type="checkbox"/>		
Wetland Hydrology Present?	Yes <input type="checkbox"/> No <input checked="" type="checkbox"/>		
Remarks:			

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 that are OBL, FACW, or FAC: 2 (A) Total Number of Dominant Species Across All Strata: 2 (B) Percent of Dominant Species that are OBL, FACW, or FAC: 100 (A/B)
2.				
3.				
4.				
= Total Cover				
Sapling/Shrub Stratum (Plot size: 3m diam.)				Prevalence Index Worksheet Total % Cover of Multiply by OBL species x 1 = FACW species x 2 = FAC species x 3 = FACU species x 4 = UPL species x 5 = Column totals (A) (B) Prevalence Index = B / A =
1. Rubus armeniacus	70	Yes	FAC	
2.				
3.				
4.				
5.				
70 = Total Cover				
Herb Stratum (Plot size: 1m diam.)				Hydrophytic Vegetation Indicators <input checked="" type="checkbox"/> Dominance test is > 50% <input type="checkbox"/> Prevalence test is ≤ 3.0 * Morphological Adaptations * (provide supporting data in remarks or on a separate sheet) <input type="checkbox"/> Wetland Non-Vascular Plants * <input type="checkbox"/> Problematic Hydrophytic Vegetation * (explain) * Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic
1. Phalaris arundinacea	80	Yes	FACW	
2.				
3.				
4.				
5.				
6.				
7.				
8.				
9.				
10.				
80 = Total Cover				
Woody Vine Stratum (Plot size:)				Hydrophytic Vegetation Present? Yes <input checked="" type="checkbox"/> No <input type="checkbox"/>
1.				
2.				
= Total Cover				
% Bare Ground in Herb Stratum:				
Remarks:				

SOIL

Sampling Point – DP-6

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)								
Depth (inches)	Matrix		Redox Features				Texture	Remarks
	Color (moist)	%	Color (moist)	%	Type ¹	Loc ²		
0-14	10YR 2/2	100					Clay loam	

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

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

<input type="checkbox"/> Histic Epipedon (A2)	<input type="checkbox"/> Sandy Redox (S5)	Indicators for Problematic Hydric Soils³ <input type="checkbox"/> 2cm Muck (A10) <input type="checkbox"/> Red Parent Material (TF2) <input type="checkbox"/> Other (explain in remarks) <input type="checkbox"/>
<input type="checkbox"/> Black Histic (A3)	<input type="checkbox"/> Stripped Matrix (S6)	
<input type="checkbox"/> Hydrogen Sulfide (A4)	<input type="checkbox"/> Loamy Mucky Mineral (F1) (except MLRA 1)	
<input type="checkbox"/> Depleted Below Dark Surface (A11)	<input type="checkbox"/> Loamy Gleyed Matrix (F2)	
<input type="checkbox"/> Thick Dark Surface (A12)	<input type="checkbox"/> Depleted Matrix (F3)	
<input type="checkbox"/> Sandy Mucky Mineral (S1)	<input type="checkbox"/> Redox Dark Surface (F6)	
<input type="checkbox"/> Sandy Gleyed Matrix (S4)	<input type="checkbox"/> Depleted Dark Surface (F7)	
	<input type="checkbox"/> Redox Depressions (F8)	

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

Restrictive Layer (if present):
 Type: _____ Hydric soil present? Yes ☐ No ☒
 Depth (inches): _____
 Remarks: _____

HYDROLOGY

Wetland Hydrology Indicators:
Primary Indicators (minimum of one required; check all that apply):

<input type="checkbox"/> Surface water (A1)	<input type="checkbox"/> Sparsely Vegetated Concave Surface (B8)	<i>Secondary Indicators (2 or more required):</i> <input type="checkbox"/> Water-Stained Leaves (B9) (MLRA 1, 2, 4A & 4B) <input type="checkbox"/> Drainage Patterns (B10) <input type="checkbox"/> Dry-Season Water Table (C2) <input type="checkbox"/> Saturation Visible on Aerial Imagery (C9) <input type="checkbox"/> Geomorphic Position (D2) <input type="checkbox"/> Shallow Aquitard (D3) <input type="checkbox"/> FAC-Neutral Test (D5) <input type="checkbox"/> Raised Ant Mounds (D6) (LRR A) <input type="checkbox"/> Frost-Heave Hummocks
<input type="checkbox"/> High Water Table (A2)	<input type="checkbox"/> Water-Stained Leaves (except MLRA 1, 2, 4A & 4B) (B9)	
<input type="checkbox"/> Saturation (A3)	<input type="checkbox"/> Salt Crust (B11)	
<input type="checkbox"/> Water Marks (B1)	<input type="checkbox"/> Aquatic Invertebrates (B13)	
<input type="checkbox"/> Sediment Deposits (B2)	<input type="checkbox"/> Hydrogen Sulfide Odor (C1)	
<input type="checkbox"/> Drift Deposits (B3)	<input type="checkbox"/> Oxidized Rhizospheres along Living Roots (C3)	
<input type="checkbox"/> Algal Mat or Crust (B4)	<input type="checkbox"/> Presence of Reduced Iron (C4)	
<input type="checkbox"/> Iron Deposits (B5)	<input type="checkbox"/> Recent Iron Reduction in Tilled Soils (C6)	
<input type="checkbox"/> Surface Soil Cracks (B6)	<input type="checkbox"/> Stunted or Stressed Plants (D1) (LRR A)	
<input type="checkbox"/> Inundation Visible on Aerial Imagery (B7)	<input type="checkbox"/> Other (explain in remarks)	

Field Observations

Surface Water Present?	Yes <input type="checkbox"/>	No <input checked="" type="checkbox"/>	Depth (in): _____	Wetland Hydrology Present? Yes <input type="checkbox"/> No <input checked="" type="checkbox"/>
Water Table Present?	Yes <input type="checkbox"/>	No <input checked="" type="checkbox"/>	Depth (in): _____	
Saturation Present? (includes capillary fringe)	Yes <input type="checkbox"/>	No <input checked="" type="checkbox"/>	Depth (in): _____	

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

Remarks: **Moist, not saturated**

Wetland name or number: **Wetland A**

WETLAND RATING FORM – WESTERN WASHINGTON
Version 2 – Updated July 2006 to increase accuracy and reproducibility among users
Updated Oct 2008 with the new WDFW definitions for priority habitats

Name of wetland: Renton Maple Valley SE – Wetland A

Date of Site visit: 1/10/2017

Rated by: Nell Lund, Anna Hoenig Trained by Ecology? Yes ☒ No ☐

Date of Training: 10/2008, 10/2015

SEC: 19 TWSHP: 23N RNGE: 16 Is S/T/R in Appendix D? Yes ☐ No ☒

SUMMARY OF RATING

Category based on FUNCTIONS provided by wetland

I ☐ II ☐ III ☐ IV ☒

Category I = Score ≥ 70
Category II = Score 51-69
Category III = Score 30-50
Category IV = Score < 30

Score for Water Quality Functions
Score for Hydrologic Functions
Score for Habitat Functions
TOTAL score for functions

8
6
15
29

Category based on SPECIAL CHARACTERISTICS of wetland

I ☐ II ☐ Does not Apply ☒

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

IV

Check the appropriate type and class of wetland being rated.

Wetland Type		Wetland Class	
Estuarine	<input type="checkbox"/>	Depressional	<input checked="" type="checkbox"/>
Natural Heritage Wetland	<input type="checkbox"/>	Riverine	<input type="checkbox"/>
Bog	<input type="checkbox"/>	Lake-fringe	<input type="checkbox"/>
Mature Forest	<input type="checkbox"/>	Slope	<input checked="" type="checkbox"/>
Old Growth Forest	<input type="checkbox"/>	Flats	<input type="checkbox"/>
Coastal Lagoon	<input type="checkbox"/>	Freshwater Tidal	<input type="checkbox"/>
Interdunal	<input type="checkbox"/>		
None of the above	<input type="checkbox"/>	Check if unit has multiple HGM classes present	<input checked="" type="checkbox"/>

Wetland name or number: **Wetland A**

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

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

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

*The study area was reviewed for the presence of endangered, threatened, and priority species using WDFW online Priority Habitat and Species Data, PHS on the Web (<http://wdfw.wa.gov/mapping/phs/>).

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

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

Wetland name or number: **Wetland A**

Classification of Wetland Units in Western Washington

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

1. Are the water levels in the wetland unit usually controlled by tides (i.e. except during floods)?

☒ NO – go to 2 ☐ YES – the wetland class is **Tidal Fringe**

If yes, is the salinity of the water during periods of annual low flow below 0.5 ppt (parts per thousand)? **YES – Freshwater Tidal Fringe** **NO – Saltwater Tidal Fringe (Estuarine)**

*If your wetland can be classified as a Freshwater Tidal Fringe use the forms for **Riverine** wetlands. If it is Saltwater Tidal Fringe it is rated as an **Estuarine** wetland. Wetlands that were called estuarine in the first and second editions of the rating system are called Salt Water Tidal Fringe in the Hydrogeomorphic Classification. Estuarine wetlands were categorized separately in the earlier editions, and this separation is being kept in this revision. To maintain consistency between editions, the term “Estuarine” wetland is kept. Please note, however, that the characteristics that define Category I and II estuarine wetlands have changed (see p.).*

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

☒ NO – go to 3 ☐ YES – The wetland class is **Flats**

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

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

- ☐ The vegetated part of the wetland is on the shores of a body of open water (without any vegetation on the surface) at least 20 acres (8 ha) in size;
☐ At least 30% of the open water area is deeper than 6.6 ft (2 m)?

☒ NO – go to 4 ☐ YES – The wetland class is **Lake-fringe (Lacustrine Fringe)**

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

- ☐ The wetland is on a slope (*slope can be very gradual*),
☐ The water flows through the wetland in one direction (unidirectional) and usually comes from seeps. It may flow subsurface, as sheetflow, or in a swale without distinct banks.
☐ The water leaves the wetland **without being impounded?**

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

☐ NO – go to 5 ☐ YES – The wetland class is **Slope**

Wetland name or number: **Wetland A**

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

- ☐ The unit is in a valley, or stream channel, where it gets inundated by overbank flooding from that stream or river.
- ☐ The overbank flooding occurs at least once every two years

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

☒ NO - go to 6

☐ YES - The wetland class is **Riverine**

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

☐ NO - go to 7

☐ YES - The wetland class is **Depressional**

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

☒ NO - go to 8

☐ YES - The wetland class is **Depressional**

8. Your wetland unit seems to be difficult to classify and probably contains several different HGM classes. For example, seeps at the base of a slope may grade into a riverine floodplain, or a small stream within a depressional wetland has a zone of flooding along its sides. **GO BACK AND IDENTIFY WHICH OF THE HYDROLOGIC REGIMES DESCRIBED IN QUESTIONS 1-7 APPLY TO DIFFERENT AREAS IN THE UNIT** (make a rough sketch to help you decide). Use the following table to identify the appropriate class to use for the rating system if you have several HGM classes present within your wetland. **NOTE:** Use this table only if the class that is recommended in the second column represents 10% or more of the total area of the wetland unit being rated. If the area of the class listed in column 2 is less than 10% of the unit, classify the wetland using the class that represents more than 90% of the total area.

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

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

Wetland name or number: **Wetland A**

D	Depressional and Flats Wetlands	Points
WATER QUALITY FUNCTIONS - Indicators that wetland functions to improve water quality		
D	D 1. Does the wetland have the potential to improve water quality?	(see p. 38)
D	D 1.1 Characteristics of surface water flows out of the wetland: <input type="checkbox"/> Unit is a depression with no surface water leaving it (no outlet)points = 3 <input type="checkbox"/> Unit has an intermittently flowing, or highly constricted permanently flowing outlet.....points = 2 <input checked="" type="checkbox"/> Unit has an unconstricted, or slightly constricted, surface outlet (<i>permanently flowing</i>)points = 1 <input type="checkbox"/> Unit is a "flat" depression (Q.7 on key), or in the Flats class, with permanent surface outflow and no obvious natural outlet, and/or outlet is a man-made ditch.....points = 1 <i>(If ditch is not permanently flowing treat unit as "intermittently flowing")</i>	1
D	D 1.2 The soil 2 inches below the surface (or duff layer) is clay or organic (use NRCS definitions). <input type="checkbox"/> YES points = 4 <input checked="" type="checkbox"/> NO points = 0	0
D	D 1.3 Characteristics of persistent vegetation (emergent, shrub, and/or forest Cowardin class): <input type="checkbox"/> Wetland has persistent, ungrazed, vegetation > = 95% of areapoints = 5 <input checked="" type="checkbox"/> Wetland has persistent, ungrazed, vegetation > = 1/2 of areapoints = 3 <input type="checkbox"/> Wetland has persistent, ungrazed vegetation > = 1/10 of areapoints = 1 <input type="checkbox"/> Wetland has persistent, ungrazed vegetation <1/10 of areapoints = 0	3
D	D1.4 Characteristics of seasonal ponding or inundation. <i>This is the area of the wetland unit that is ponded for at least 2 months, but dries out sometime during the year. Do not count the area that is permanently ponded. Estimate area as the average condition 5 out of 10 yrs.</i> <input type="checkbox"/> Area seasonally ponded is > 1/2 total area of wetlandpoints = 4 <input type="checkbox"/> Area seasonally ponded is > 1/4 total area of wetlandpoints = 2 <input checked="" type="checkbox"/> Area seasonally ponded is < 1/4 total area of wetlandpoints = 0 NOTE: See text for indicators of seasonal and permanent inundation.	0
D	Total for D 1 <i>Add the points in the boxes above</i>	4
D	D 2. Does the wetland unit have the opportunity to improve water quality? Answer YES if you know or believe there are pollutants in groundwater or surface <u>water coming into the wetland</u> that would otherwise reduce water quality in streams, lakes or groundwater downgradient from the wetland? <i>Note which of the following conditions provide the sources of pollutants. A unit may have pollutants coming from several sources, but any single source would qualify as opportunity.</i> <input type="checkbox"/> Grazing in the wetland or within 150 ft <input type="checkbox"/> Untreated stormwater discharges to wetland <input type="checkbox"/> Tilled fields or orchards within 150 ft of wetland <input type="checkbox"/> A stream or culvert discharges into wetland that drains developed areas, residential areas, farmed fields, roads, or clear-cut logging <input checked="" type="checkbox"/> Residential, urban areas, golf courses are within 150 ft of wetland <input type="checkbox"/> Wetland is fed by groundwater high in phosphorus or nitrogen <input checked="" type="checkbox"/> Other: <u>industrial operations</u> YES multiply score in D 1. by 2 NO multiply score in D 1. by 1	(see p. 44) multiplier 2
D	TOTAL - Water Quality Functions Multiply the score from D1 by D2 <i>Add score to table on p. 1</i>	8

Wetland name or number: **Wetland A**

D Depressional and Flats Wetlands		
HYDROLOGIC FUNCTIONS - Indicators that wetland functions to reduce flooding and stream degradation		
	D 3. Does the wetland have the <u>potential</u> to reduce flooding and erosion?	(see p. 46)
D	D 3.1 Characteristics of surface water flows out of the wetland unit <input type="checkbox"/> Unit is a depression with no surface water leaving it (no outlet).....points = 4 <input type="checkbox"/> Unit has an intermittently flowing, or highly constricted permanently flowing outlet .points = 2 <input type="checkbox"/> Unit is a "flat" depression (Q.7 on key), or in the Flats class, with permanent surface outflow and no obvious natural outlet , and/or outlet is a man-made ditchpoints = 1 <i>(If ditch is not permanently flowing treat unit as "intermittently flowing")</i> <input checked="" type="checkbox"/> Unit has an unconstricted, or slightly constricted, surface outlet (<i>permanently flowing</i>)points = 0	0
D	D 3.2 Depth of storage during wet periods <i>Estimate the height of ponding above the bottom of the outlet For units with no outlet measure from the surface of permanent water or deepest part (if dry).</i> <input type="checkbox"/> Marks of ponding are at least 3 ft or more above the surface or bottom of outletpoints = 7 <input type="checkbox"/> The wetland is a "headwater" wetland"points = 5 <input type="checkbox"/> Marks of ponding between 2 ft to < 3 ft from surface or bottom of outletpoints = 5 <input checked="" type="checkbox"/> Marks are at least 0.5 ft to < 2 ft from surface or bottom of outletpoints = 3 <input type="checkbox"/> Unit is flat (yes to Q.2 or Q.7 on key) but has small depressions on the surface that trap waterpoints = 1 <input type="checkbox"/> Marks of ponding less than 0.5 ftpoints = 0	3
D	D 3.3 Contribution of wetland unit to storage in the watershed <i>Estimate the ratio of the area of upstream basin contributing surface water to the wetland to the area of the wetland unit itself.</i> <input type="checkbox"/> The area of the basin is less than 10 times the area of the unitpoints = 5 <input type="checkbox"/> The area of the basin is 10 to 100 times the area of the unitpoints = 3 <input checked="" type="checkbox"/> The area of the basin is more than 100 times the area of the unitpoints = 0 <input type="checkbox"/> Entire unit is in the FLATS classpoints = 5	0
D	Total for D 3 <i>Add the points in the boxes above</i>	3
D	D 4. Does the wetland unit have the <u>opportunity</u> to reduce flooding and erosion? Answer YES if the unit is in a location in the watershed where the flood storage, or reduction in water velocity, it provides helps protect downstream property and aquatic resources from flooding or excessive and/or erosive flows. Answer NO if the water coming into the wetland is controlled by a structure such as flood gate, tide gate, flap valve, reservoir etc. OR you estimate that more than 90% of the water in the wetland is from groundwater in areas where damaging groundwater flooding does not occur. <i>Note which of the following conditions apply.</i> <input type="checkbox"/> Wetland is in a headwater of a river or stream that has flooding problems <input checked="" type="checkbox"/> Wetland drains to a river or stream that has flooding problems <input type="checkbox"/> Wetland has no outlet and impounds surface runoff water that might otherwise flow into a river or stream that has flooding problems <input type="checkbox"/> Other _____ <input checked="" type="checkbox"/> YES multiplier is 2 <input type="checkbox"/> NO multiplier is 1	(see p. 49) Multiplier 2
D	TOTAL - Hydrologic Functions Multiply the score from D 3 by D 4 <i>Add score to table on p. 1</i>	6

Wetland name or number: **Wetland A**

These questions apply to wetlands of all HGM classes.

HABITAT FUNCTIONS - Indicators that wetland functions to provide important habitat

H 1. Does the wetland have the potential to provide habitat for many species?

H 1.1 Vegetation structure (see p. 72)

Check the types of vegetation classes present (as defined by Cowardin) if the class is ¼ acre or covers more than 10% of the area of the wetland if unit smaller than 2.5 acres.

- ☐ Aquatic bed
- ☒ Emergent plants
- ☒ Scrub/shrub (areas where shrubs have >30% cover)
- ☐ Forested (areas where trees have >30% cover)
- ☐ Forested areas have 3 out of 5 strata (canopy, sub-canopy, shrubs, herbaceous, moss/ground-cover) that each cover 20% within the forested polygon

Add the number of vegetation types that qualify. If you have:

- 4 structures or morepoints = 4
- 3 structurespoints = 2
- 2 structurespoints = 1
- 1 structurepoints = 0

1

H 1.2. Hydroperiods (see p. 73)

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

- ☒ Permanently flooded or inundated 4 or more types presentpoints = 3
- ☐ Seasonally flooded or inundated 3 types present.....points = 2
- ☐ Occasionally flooded or inundated 2 types present.....points = 1
- ☒ Saturated only 1 types present points = 0
- ☐ Permanently flowing stream or river in, or adjacent to, the wetland
- ☐ Seasonally flowing stream in, or adjacent to, the wetland
- ☐ Lake-fringe wetland = 2 points
- ☐ Freshwater tidal wetland = 2 points

1

H 1.3. Richness of Plant Species (see p. 75)

Count the number of plant species in the wetland that cover at least 10 ft². (different patches of the same species can be combined to meet the size threshold)

You do not have to name the species.

Do not include Eurasian milfoil, reed canarygrass, purple loosestrife, Canadian thistle

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

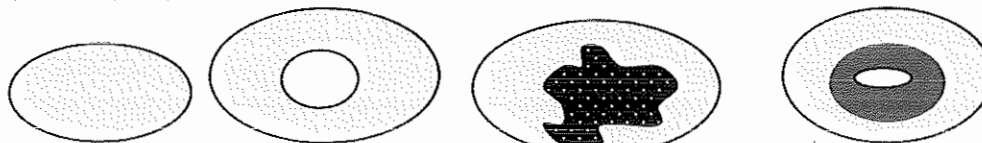
List species below if you want to:

1

Wetland name or number: **Wetland A**

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

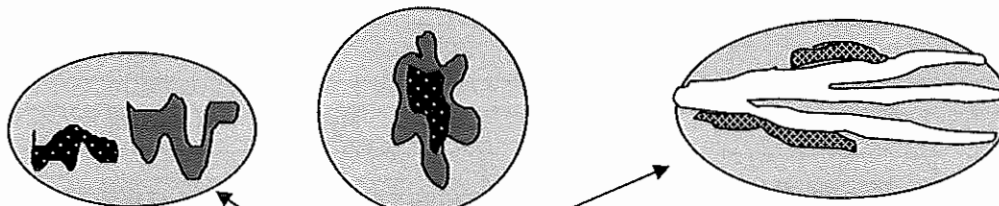
Decide from the diagrams below whether interspersion between Cowardin vegetation classes (described in H 1.1), or the classes and unvegetated areas (can include open water or mudflats) is high, medium, low, or none.



☐ None = 0 points

☒ Low = 1 point

☐ Moderate = 2 points



☐ High = 3 points

[riparian braided channels]

NOTE: If you have four or more vegetation types or three vegetation types and open water the rating is always "high".

1

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

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

- ☐ Large, downed, woody debris within the wetland (>4in. diameter and 6 ft long).
- ☐ Standing snags (diameter at the bottom > 4 inches) in the wetland.
- ☒ Undercut banks are present for at least 6.6 ft (2m) and/or overhanging vegetation extends at least 3.3 ft (1m) over a stream (or ditch) for at least 33 ft (10m).
- ☐ Stable steep banks of fine material that might be used by beaver or muskrat for denning (>30degree slope) OR signs of recent beaver activity are present.
- ☐ At least ¼ acre of thin-stemmed persistent vegetation or woody branches are present in areas that are permanently or seasonally inundated. (structures for egg-laying by amphibians)
- ☐ Invasive plants cover less than 25% of the wetland area in each stratum of plants.

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

1

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

5

Wetland name or number: **Wetland A**

<p>H 2. Does the wetland have the opportunity to provide habitat for many species?</p> <p>H 2.1 Buffers (see p. 80)</p> <p>Choose the description that best represents condition of buffer of wetland. The highest scoring criterion that applies to the wetland is to be used in the rating. See text for definition of "undisturbed."</p> <p><input type="checkbox"/> 100 m (330ft) of relatively undisturbed vegetated areas, rocky areas, or open water >95% of circumference. No developed areas within undisturbed part of buffer. (relatively undisturbed also means no-grazing) Points = 5</p> <p><input type="checkbox"/> 100 m (330 ft) of relatively undisturbed vegetated areas, rocky areas, or open water > 50% circumference..... Points = 4</p> <p><input type="checkbox"/> 50 m (170ft) of relatively undisturbed vegetated areas, rocky areas, or open water >95% circumference..... Points = 4</p> <p><input type="checkbox"/> 100 m (330ft) of relatively undisturbed vegetated areas, rocky areas, or open water > 25% circumference..... Points = 3</p> <p><input type="checkbox"/> 50 m (170ft) of relatively undisturbed vegetated areas, rocky areas, or open water for > 50% circumference. Points = 3</p> <p>If buffer does not meet any of the criteria above</p> <p><input type="checkbox"/> No paved areas (except paved trails) or buildings within 25 m (80ft) of wetland > 95% circumference. Light to moderate grazing, or lawns are OK..... Points = 2</p> <p><input type="checkbox"/> No paved areas or buildings within 50m of wetland for >50% circumference. Light to moderate grazing, or lawns are OK..... Points = 2</p> <p><input type="checkbox"/> Heavy grazing in buffer. Points = 1</p> <p><input type="checkbox"/> Vegetated buffers are <2m wide (6.6ft) for more than 95% of the circumference (e.g. tilled fields, paving, basalt bedrock extend to edge of wetland. Points = 0</p> <p><input checked="" type="checkbox"/> Buffer does not meet any of the criteria above..... Points = 1</p>		1
<p>H 2.2 Corridors and Connections (see p. 81)</p> <p>H 2.2.1 Is the wetland part of a relatively undisturbed and unbroken vegetated corridor (either riparian or upland) that is at least 150 ft wide, has at least 30% cover of shrubs, forest or native undisturbed prairie, that connects to estuaries, other wetlands or undisturbed uplands that are at least 250 acres in size? (dams in riparian corridors, heavily used gravel roads, paved roads, are considered breaks in the corridor).</p> <p><input type="checkbox"/> YES = 4 points (go to H 2.3) <input checked="" type="checkbox"/> NO = go to H 2.2.2</p> <p>H 2.2.2 Is the wetland part of a relatively undisturbed and unbroken vegetated corridor (either riparian or upland) that is at least 50ft wide, has at least 30% cover of shrubs or forest, and connects to estuaries, other wetlands or undisturbed uplands that are at least 25 acres in size? OR a Lake-fringe wetland, if it does not have an undisturbed corridor as in the question above?</p> <p><input checked="" type="checkbox"/> YES = 2 points (go to H 2.3) <input type="checkbox"/> NO – H 2.2.3</p> <p>H 2.2.3 Is the wetland:</p> <p><input type="checkbox"/> within 5 mi (8km) of a brackish or salt water estuary OR</p> <p><input type="checkbox"/> within 3 mi of a large field or pasture (>40 acres) OR</p> <p><input type="checkbox"/> within 1 mi of a lake greater than 20 acres?</p> <p><input type="checkbox"/> YES = 1 point <input type="checkbox"/> NO = 0 points</p>		2

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

Which of the following priority habitats are within 330ft (100m) of the wetland?

(NOTE: the connections do not have to be relatively undisturbed)

- ☐ **Aspen Stands:** Pure or mixed stands of aspen greater than 0.4 ha (1 acres).
- ☐ **Biodiversity Areas and Corridors:** Areas of habitat that are relatively important to various species of native fish and wildlife (full description in WDFW PHS report p. 152)
- ☐ **Herbaceous Balds:** Variable size patches of grass and forbs on shallow soils over bedrock.
- ☐ **Old-growth/Mature forests:** (Old-growth west of Cascade crest) Stands of at least 2 tree species, forming a multi-layered canopy with occasional small openings; with at least 20 trees/ha (8 trees/acre) > 81 cm (32 in) dbh or > 200 years of age. (Mature forests.) Stands with average diameters exceeding 53 cm (21 in) dbh; crown cover may be less than 100%; crown cover may be less than 100%; decay, decadence, numbers of snags, and quantity of large downed material is generally less than that found in old-growth; 80 - 200 years old west of the Cascade crest.
- ☐ **Oregon white Oak:** Woodlands Stands of pure oak or oak/conifer associations where canopy coverage of the oak component is important (full descriptions in WDFW PHS report p. 158.)
- ☒ **Riparian:** The area adjacent to aquatic systems with flowing water that contains elements of both aquatic and terrestrial ecosystems which mutually influence each other.
- ☐ **Westside Prairies:** Herbaceous, non-forested plant communities that can either take the form of a dry prairie or a wet prairie (full descriptions in WDFW PHS report p. 161)
- ☒ **Instream:** The combination of physical, biological, and chemical processes and conditions that interact to provide functional life history requirements for instream fish and wildlife resources.
- ☐ **Nearshore:** Relatively undisturbed nearshore habitats. These include Coastal Nearshore, Open Coast Nearshore, and Puget Sound Nearshore. (full descriptions of habitats and the definition of relatively undisturbed are in WDFW report: pp. 167-169 and glossary in Appendix A.)
- ☐ **Caves:** A naturally occurring cavity, recess, void, or system of interconnected passages under the earth in soils, rock, ice, or other geological formations and is large enough to contain a human.
- ☐ **Cliffs:** Greater than 7.6 m (25 ft) high and occurring below 5000 ft.
- ☐ **Talus:** Homogenous areas of rock rubble ranging in average size 0.15 - 2.0 m (0.5 - 6.5 ft), composed of basalt, andesite, and/or sedimentary rock, including riprap slides and mine tailings. May be associated with cliffs.
- ☒ **Snags and Logs:** Trees are considered snags if they are dead or dying and exhibit sufficient decay characteristics to enable cavity excavation/use by wildlife. Priority snags have a diameter at breast height of >51 cm (20 in) in western Washington and are > 2 m (6.5 ft) in height. Priority logs are > 30cm (12 in) in diameter at the largest end, and > 6m (20 ft) long.

If wetland has 3 or more priority habitats = 4 points

If wetland has 2 priority habitats = 3 points

If wetland has 1 priority habitat = 1 point

No habitats = 0 points

Note: All vegetated wetland are by definition a priority habitat but are not included in this list. Nearby wetlands are addressed in question H2.4.

Wetland name or number: **Wetland A**

<p>H 2.4 Wetland Landscape (choose the <i>one</i> description of the landscape around the wetland that best fits) (see p. 84)</p> <p><input type="checkbox"/> There are at least 3 other wetlands within ½ mile, and the connections between them are relatively undisturbed (light grazing between wetlands OK, as is lake shore with some boating, but connections should NOT be bisected by paved roads, fill, fields, or other development.points = 5</p> <p><input type="checkbox"/> The wetland is Lake-fringe on a lake with little disturbance and there are 3 other lake-fringe wetlands within ½ milepoints = 5</p> <p><input checked="" type="checkbox"/> There are at least 3 other wetlands within ½ mile, BUT the connections between them are disturbedpoints = 3</p> <p><input type="checkbox"/> The wetland is Lake-fringe on a lake with disturbance and there are 3 other lake-fringe wetland within ½ milepoints = 3</p> <p><input type="checkbox"/> There is at least 1 wetland within ½ mile.points = 2</p> <p><input type="checkbox"/> There are no wetlands within ½ mile.points = 0</p>	3
<p>H 2. TOTAL Score - opportunity for providing habitat Add the scores from H2.1, H2.2, H2.3, H2.4</p>	10
<p>TOTAL for H1 from page 14</p>	5
<p>Total Score for Habitat Functions – add the points for H 1, H 2 and record the result on p. 1</p>	15

Wetland name or number: **Wetland A**

CATEGORIZATION BASED ON SPECIAL CHARACTERISTICS

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

Wetland Type <i>Check off any criteria that apply to the wetland. Circle the Category when the appropriate criteria are met.</i>	Category
SC 1.0 Estuarine wetlands (see p. 86) Does the wetland unit meet the following criteria for Estuarine wetlands? <input type="checkbox"/> The dominant water regime is tidal, <input type="checkbox"/> Vegetated, and <input type="checkbox"/> With a salinity greater than 0.5 ppt. <input type="checkbox"/> YES = Go to SC 1.1 <input checked="" type="checkbox"/> NO, not an estuarine wetland	
SC 1.1 Is the wetland unit within a National Wildlife Refuge, National Park, National Estuary Reserve, Natural Area Preserve, State Park or Educational, Environmental, or Scientific Reserve designated under WAC 332-151? <input type="checkbox"/> YES = Category I <input type="checkbox"/> NO = go to SC 1.2	Cat. I
SC 1.2 Is the wetland unit at least 1 acre in size and meets at least two of the following three conditions? <input type="checkbox"/> YES = Category I <input type="checkbox"/> NO = Category II <input type="checkbox"/> The wetland is relatively undisturbed (has no diking, ditching, filling, cultivation, grazing, and has less than 10% cover of non-native plant species. If the non-native <i>Spartina</i> spp. are the only species that cover more than 10% of the wetland, then the wetland should be given a dual rating (I/II). The area of <i>Spartina</i> would be rated a Category II while the relatively undisturbed upper marsh with native species would be a Category I. Do not, however, exclude the area of <i>Spartina</i> in determining the size threshold of 1 acre. <input type="checkbox"/> At least ¼ of the landward edge of the wetland has a 100 ft buffer of shrub, forest, or ungrazed or un-mowed wetland. <input type="checkbox"/> The wetland has at least 2 of the following features: tidal channels, depressions with open water, or contiguous freshwater wetlands.	Cat. I Cat. II Dual rating I/II

<p>SC 2.0 Natural Heritage Wetlands (see p. 87)</p> <p>Natural Heritage wetlands have been identified by the Washington Natural Heritage Program/DNR as either high quality undisturbed wetlands or wetlands that support state Threatened, Endangered, or Sensitive plant species.</p> <p>SC 2.1 Is the wetland being rated in a Section/Township/Range that contains a Natural Heritage wetland? <i>(this question is used to screen out most sites before you need to contact WNHP/DNR)</i></p> <p><input type="checkbox"/> S/T/R information from Appendix D – OR – <input checked="" type="checkbox"/> Accessed from WNHP/DNR web site</p> <p><input type="checkbox"/> YES – contact WNHP/DNR (see p. 79) and go to SC 2.2</p> <p><input checked="" type="checkbox"/> NO</p> <p>SC 2.2 Has DNR identified the wetland as a high quality undisturbed wetland or as or as a site with state threatened or endangered plant species?</p> <p><input type="checkbox"/> YES = Category I</p> <p><input checked="" type="checkbox"/> NO = Not a Heritage Wetland</p>	Cat. I
<p>SC 3.0 Bogs (see p. 87)</p> <p>Does the wetland (or any part of the unit) meet both the criteria for soils and vegetation in bogs? <i>Use the key below to identify if the wetland is a bog. If you answer yes, you will still need to rate the wetland based on its functions.</i></p> <ol style="list-style-type: none"> Does the wetland have organic soils horizons (i.e. layers of organic soil), either peats or mucks, that compose 16" or more of the first 32 inches of the soil profile? (See Appendix B for a field key to identify organic soils.) <p><input type="checkbox"/> Yes – go to Q.3</p> <p><input checked="" type="checkbox"/> NO – go to Q.2</p> <ol style="list-style-type: none"> Does the wetland have organic soils, either peats or mucks, that are less than 16 inches deep over bedrock or an impermeable hardpan such as clay or volcanic ash, or that are floating on top of a lake or pond? <p><input type="checkbox"/> Yes – go to Q.3</p> <p><input checked="" type="checkbox"/> NO – is not a bog for purpose of rating</p> <ol style="list-style-type: none"> Does the wetland have more than 70% cover of mosses at ground level, AND other plants, if present, consist of the "bog" species listed in Table 3 as a significant component of the vegetation (more than 30% of the total shrub and herbaceous cover consists species in Table 3)? <p><input type="checkbox"/> Yes – Is a bog for purpose of rating</p> <p><input type="checkbox"/> NO – go to Q.4</p> <p><i>NOTE: If you are uncertain about the extent of mosses in the understory, you may substitute that criterion by measuring the pH of the water that seeps into a hole dug at least 16" deep. If the pH is less than 5.0 and the "bog" plant species in Table 3 are present, the wetland is a bog.</i></p> <ol style="list-style-type: none"> Is the wetland forested (>30% cover) with sitka spruce, subalpine fir, western red cedar, western hemlock, lodgepole pine, quaking aspen, Englemann's spruce, or western white pine, WITH any of the species (or combination of species) on the bog species plant list in Table 3 as a significant component of the ground cover (>30% coverage of the total shrub/herbaceous cover)? <p><input type="checkbox"/> YES = Category I</p> <p><input type="checkbox"/> NO – is not a bog for purpose of rating</p>	Cat. I

Wetland name or number: **Wetland A**

<p>SC 4.0 Forested Wetlands (see p. 90)</p> <p>Does the wetland have at least 1 acre of forest that meet one of these criteria for the Department of Fish and Wildlife's forests as priority habitats? <i>If you answer yes you will still need to rate the wetland based on its functions.</i></p> <p><input type="checkbox"/> Old growth forests: (west of Cascade crest) Stands of at least two tree species, forming a multi-layered canopy with occasional small openings; with at least 8 trees/acre (20 trees/hectare) that are at least 200 years of age OR have a diameter at breast height (dbh) of 32 inches (81 cm) or more.</p> <p><i>Note: The criterion for dbh is based on measurements for upland forests. Two hundred year old trees in wetlands will often have a smaller dbh because their growth rates are often slower. The DFW criterion is and "OR" so old-growth forests do not necessarily have to have trees of this diameter.</i></p> <p><input type="checkbox"/> Mature forests: (west of the Cascade crest) Stands where the largest trees are 80-200 years old OR have average diameters (dbh) exceeding 21 in (53 cm); crown cover may be less than 100%; decay, decadence, numbers of snags, and quantity of large downed material is generally less than that found in old-growth.</p> <p><input type="checkbox"/> YES = Category 1 <input checked="" type="checkbox"/> NO – not a forested wetland with special characteristics</p>	<p>Cat. I</p>
<p>SC 5.0 Wetlands in Coastal Lagoons (see p. 91)</p> <p>Does the wetland meet all of the following criteria of a wetland in a coastal lagoon?</p> <p><input type="checkbox"/> The wetland lies in a depression adjacent to marine waters that is wholly or partially separated from marine waters by sandbanks, gravel banks, shingle, or, less frequently, rocks.</p> <p><input type="checkbox"/> The lagoon in which the wetland is located contains surge water that is saline or brackish (> 0.5 ppt) during most of the year in at least a portion of the lagoon (<i>needs to be measured near the bottom</i>)</p> <p><input type="checkbox"/> YES – Go to SC 5.1 <input checked="" type="checkbox"/> NO – not a wetland in a coastal lagoon</p> <p>SC 5.1 Does the wetland meet all of the following three conditions?</p> <p><input type="checkbox"/> The wetland is relatively undisturbed (has no diking, ditching, filling, cultivation, grazing), and has less than 20% cover of invasive plant species (see list of invasive species on p. 74).</p> <p><input type="checkbox"/> At least ¼ of the landward edge of the wetland has a 100 ft buffer of shrub, forest, or un-grazed or un-mowed grassland.</p> <p><input type="checkbox"/> The wetland is larger than 1/10 acre (4350 square feet)</p> <p><input type="checkbox"/> YES = Category I <input type="checkbox"/> NO = Category II</p>	<p>Cat. I</p> <p>Cat. II</p>
<p>SC 6.0 Interdunal Wetlands (see p. 93)</p> <p>Is the wetland unit west of the 1889 line (also called the Western Boundary of Upland Ownership or WBUO)?</p> <p><input type="checkbox"/> YES – go to SC 6.1 <input checked="" type="checkbox"/> NO – not an interdunal wetland for rating</p> <p><i>If you answer yes you will still need to rate the wetland based on its functions.</i></p> <p>In practical terms that means the following geographic areas:</p> <ul style="list-style-type: none"> - Long Beach Peninsula – lands west of SR 103 - Grayland-Westport – lands west of SR 105 - Ocean Shores-Copalis – lands west of SR 115 and SR 109 <p>SC 6.1 Is the wetland 1 acre or larger, or is it in a mosaic of wetlands that is 1 acre or larger?</p> <p><input type="checkbox"/> YES = Category II <input type="checkbox"/> NO – go to SC 6.2</p> <p>SC 6.2 Is the unit between 0.1 and 1 acre, or is it in a mosaic of wetlands that is between 0.1 and 1 acre?</p> <p><input type="checkbox"/> YES = Category III</p>	<p>Cat. II</p> <p>Cat. III</p>
<p>Category of wetland based on Special Characteristics</p> <p><i>Choose the "highest" rating if wetland falls into several categories, and record on p. 1 .</i></p> <p><i>If you answered NO for all types enter "Not Applicable" on p.1.</i></p>	<p>NA</p>

Wetland name or number: **Wetland A**



Wetland name or number: **Wetland B**

WETLAND RATING FORM – WESTERN WASHINGTON
Version 2 – Updated July 2006 to increase accuracy and reproducibility among users
Updated Oct 2008 with the new WDFW definitions for priority habitats

Name of wetland: Renton Maple Valley SE – Wetland B

Date of Site visit: 1/10/2017

Rated by: Nell Lund, Anna Hoening Trained by Ecology? Yes ☒ No ☐

Date of Training: 10/2008, 10/2015

SEC: 19 TWSHP: 23N RNGE: 16 Is S/T/R in Appendix D? Yes ☐ No ☒

SUMMARY OF RATING

Category based on FUNCTIONS provided by wetland

I ☐ II ☐ III ☐ IV ☒

Category I = Score ≥ 70
Category II = Score 51-69
Category III = Score 30-50
Category IV = Score < 30

Score for Water Quality Functions
Score for Hydrologic Functions
Score for Habitat Functions
TOTAL score for functions

16
14
17
47

Category based on SPECIAL CHARACTERISTICS of wetland

I ☐ II ☐ Does not Apply ☒

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

III

Check the appropriate type and class of wetland being rated.

Wetland Type		Wetland Class	
Estuarine	<input type="checkbox"/>	Depressional	<input checked="" type="checkbox"/>
Natural Heritage Wetland	<input type="checkbox"/>	Riverine	<input type="checkbox"/>
Bog	<input type="checkbox"/>	Lake-fringe	<input type="checkbox"/>
Mature Forest	<input type="checkbox"/>	Slope	<input checked="" type="checkbox"/>
Old Growth Forest	<input type="checkbox"/>	Flats	<input type="checkbox"/>
Coastal Lagoon	<input type="checkbox"/>	Freshwater Tidal	<input type="checkbox"/>
Interdunal	<input type="checkbox"/>		
None of the above	<input type="checkbox"/>	Check if unit has multiple HGM classes present	<input checked="" type="checkbox"/>

Wetland name or number: **Wetland B**

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

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

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

***The study area was reviewed for the presence of endangered, threatened, and priority species using WDFW online Priority Habitat and Species Data, PHS on the Web (<http://wdfw.wa.gov/mapping/phs/>).**

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

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

Wetland name or number: **Wetland B**

Classification of Wetland Units in Western Washington

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

1. Are the water levels in the wetland unit usually controlled by tides (i.e. except during floods)?

☒ NO – go to 2 ☐ YES – the wetland class is **Tidal Fringe**

If yes, is the salinity of the water during periods of annual low flow below 0.5 ppt (parts per thousand)? **YES – Freshwater Tidal Fringe** **NO – Saltwater Tidal Fringe (Estuarine)**

*If your wetland can be classified as a Freshwater Tidal Fringe use the forms for **Riverine** wetlands. If it is Saltwater Tidal Fringe it is rated as an **Estuarine** wetland. Wetlands that were called estuarine in the first and second editions of the rating system are called Salt Water Tidal Fringe in the Hydrogeomorphic Classification. Estuarine wetlands were categorized separately in the earlier editions, and this separation is being kept in this revision. To maintain consistency between editions, the term "Estuarine" wetland is kept. Please note, however, that the characteristics that define Category I and II estuarine wetlands have changed (see p.).*

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

☒ NO – go to 3 ☐ YES – The wetland class is **Flats**

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

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

- ☐ The vegetated part of the wetland is on the shores of a body of open water (without any vegetation on the surface) at least 20 acres (8 ha) in size;
☐ At least 30% of the open water area is deeper than 6.6 ft (2 m)?

☒ NO – go to 4 ☐ YES – The wetland class is **Lake-fringe (Lacustrine Fringe)**

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

- ☐ The wetland is on a slope (*slope can be very gradual*),
☐ The water flows through the wetland in one direction (unidirectional) and usually comes from seeps. It may flow subsurface, as sheetflow, or in a swale without distinct banks.
☐ The water leaves the wetland **without being impounded?**

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

☐ NO – go to 5 ☐ YES – The wetland class is **Slope**

Wetland name or number: **Wetland B**

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

- ☐ The unit is in a valley, or stream channel, where it gets inundated by overbank flooding from that stream or river.
☐ The overbank flooding occurs at least once every two years

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

☒ NO - go to 6

☐ YES - The wetland class is **Riverine**

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

☐ NO - go to 7

☐ YES - The wetland class is **Depressional**

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

☒ NO - go to 8

☐ YES - The wetland class is **Depressional**

8. Your wetland unit seems to be difficult to classify and probably contains several different HGM classes. For example, seeps at the base of a slope may grade into a riverine floodplain, or a small stream within a depressional wetland has a zone of flooding along its sides. **GO BACK AND IDENTIFY WHICH OF THE HYDROLOGIC REGIMES DESCRIBED IN QUESTIONS 1-7 APPLY TO DIFFERENT AREAS IN THE UNIT** (make a rough sketch to help you decide). Use the following table to identify the appropriate class to use for the rating system if you have several HGM classes present within your wetland. **NOTE:** Use this table only if the class that is recommended in the second column represents 10% or more of the total area of the wetland unit being rated. If the area of the class listed in column 2 is less than 10% of the unit, classify the wetland using the class that represents more than 90% of the total area.

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

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

Wetland name or number: **Wetland B**

D	Depressional and Flats Wetlands	Points
WATER QUALITY FUNCTIONS - Indicators that wetland functions to improve water quality		
D	D 1. Does the wetland have the potential to improve water quality?	(see p. 38)
D	D 1.1 Characteristics of surface water flows out of the wetland: <input checked="" type="checkbox"/> Unit is a depression with no surface water leaving it (no outlet) points = 3 <input type="checkbox"/> Unit has an intermittently flowing, or highly constricted permanently flowing outlet points = 2 <input type="checkbox"/> Unit has an unconstricted, or slightly constricted, surface outlet (<i>permanently flowing</i>) points = 1 <input type="checkbox"/> Unit is a "flat" depression (Q.7 on key), or in the Flats class, with permanent surface outflow and no obvious natural outlet, and/or outlet is a man-made ditch points = 1 <i>(If ditch is not permanently flowing treat unit as "intermittently flowing")</i>	3
D	D 1.2 The soil 2 inches below the surface (or duff layer) is clay or organic (use NRCS definitions). <input type="checkbox"/> YES points = 4 <input checked="" type="checkbox"/> NO points = 0	0
D	D 1.3 Characteristics of persistent vegetation (emergent, shrub, and/or forest Cowardin class): <input checked="" type="checkbox"/> Wetland has persistent, ungrazed, vegetation > = 95% of area points = 5 <input type="checkbox"/> Wetland has persistent, ungrazed, vegetation > = 1/2 of area points = 3 <input type="checkbox"/> Wetland has persistent, ungrazed vegetation > = 1/10 of area points = 1 <input type="checkbox"/> Wetland has persistent, ungrazed vegetation < 1/10 of area points = 0	5
D	D1.4 Characteristics of seasonal ponding or inundation. <i>This is the area of the wetland unit that is ponded for at least 2 months, but dries out sometime during the year. Do not count the area that is permanently ponded. Estimate area as the average condition 5 out of 10 yrs.</i> <input type="checkbox"/> Area seasonally ponded is > 1/2 total area of wetland points = 4 <input type="checkbox"/> Area seasonally ponded is > 1/4 total area of wetland points = 2 <input checked="" type="checkbox"/> Area seasonally ponded is < 1/4 total area of wetland points = 0 NOTE: See text for indicators of seasonal and permanent inundation.	0
D	Total for D 1 <i>Add the points in the boxes above</i>	8
D	D 2. Does the wetland unit have the opportunity to improve water quality? Answer YES if you know or believe there are pollutants in groundwater or surface water coming into the wetland that would otherwise reduce water quality in streams, lakes or groundwater downgradient from the wetland? Note which of the following conditions provide the sources of pollutants. A unit may have pollutants coming from several sources, but any single source would qualify as opportunity. <input type="checkbox"/> Grazing in the wetland or within 150 ft <input type="checkbox"/> Untreated stormwater discharges to wetland <input type="checkbox"/> Tilled fields or orchards within 150 ft of wetland <input type="checkbox"/> A stream or culvert discharges into wetland that drains developed areas, residential areas, farmed fields, roads, or clear-cut logging <input checked="" type="checkbox"/> Residential, urban areas, golf courses are within 150 ft of wetland <input type="checkbox"/> Wetland is fed by groundwater high in phosphorus or nitrogen <input checked="" type="checkbox"/> Other: <u>industrial operations</u> YES multiply score in D 1. by 2 NO multiply score in D 1. by 1	(see p. 44) multiplier 2
D	TOTAL - Water Quality Functions Multiply the score from D1 by D2 <i>Add score to table on p. 1</i>	16

Wetland name or number: **Wetland B**

D Depressional and Flats Wetlands		
HYDROLOGIC FUNCTIONS - Indicators that wetland functions to reduce flooding and stream degradation		
	D 3. Does the wetland have the <u>potential</u> to reduce flooding and erosion?	<i>(see p. 46)</i>
D	D 3.1 Characteristics of surface water flows out of the wetland unit <input checked="" type="checkbox"/> Unit is a depression with no surface water leaving it (no outlet).....points = 4 <input type="checkbox"/> Unit has an intermittently flowing, or highly constricted permanently flowing outlet .points = 2 <input type="checkbox"/> Unit is a "flat" depression (Q.7 on key), or in the Flats class, with permanent surface outflow and no obvious natural outlet , and/or outlet is a man-made ditchpoints = 1 <i>(If ditch is not permanently flowing treat unit as "intermittently flowing")</i> <input type="checkbox"/> Unit has an unconstricted, or slightly constricted, surface outlet (<i>permanently flowing</i>)points = 0	4
D	D 3.2 Depth of storage during wet periods <i>Estimate the height of ponding above the bottom of the outlet For units with no outlet measure from the surface of permanent water or deepest part (if dry).</i> <input type="checkbox"/> Marks of ponding are at least 3 ft or more above the surface or bottom of outletpoints = 7 <input type="checkbox"/> The wetland is a "headwater" wetland".....points = 5 <input type="checkbox"/> Marks of ponding between 2 ft to < 3 ft from surface or bottom of outletpoints = 5 <input checked="" type="checkbox"/> Marks are at least 0.5 ft to < 2 ft from surface or bottom of outlet.....points = 3 <input type="checkbox"/> Unit is flat (yes to Q.2 or Q.7 on key) but has small depressions on the surface that trap water.....points = 1 <input type="checkbox"/> Marks of ponding less than 0.5 ftpoints = 0	3
D	D 3.3 Contribution of wetland unit to storage in the watershed <i>Estimate the ratio of the area of upstream basin contributing surface water to the wetland to the area of the wetland unit itself.</i> <input type="checkbox"/> The area of the basin is less than 10 times the area of the unitpoints = 5 <input type="checkbox"/> The area of the basin is 10 to 100 times the area of the unit.....points = 3 <input checked="" type="checkbox"/> The area of the basin is more than 100 times the area of the unit.....points = 0 <input type="checkbox"/> Entire unit is in the FLATS class.....points = 5	0
D	Total for D 3 <i>Add the points in the boxes above</i>	7
D	D 4. Does the wetland unit have the <u>opportunity</u> to reduce flooding and erosion? Answer YES if the unit is in a location in the watershed where the flood storage, or reduction in water velocity, it provides <u>helps protect downstream property and aquatic resources from flooding or excessive and/or erosive flows</u> . Answer NO if the water coming into the wetland is controlled by a structure such as flood gate, tide gate, flap valve, reservoir etc. OR you estimate that more than 90% of the water in the wetland is from groundwater in areas where damaging groundwater flooding does not occur. <i>Note which of the following conditions apply.</i> <input type="checkbox"/> Wetland is in a headwater of a river or stream that has flooding problems <input type="checkbox"/> Wetland drains to a river or stream that has flooding problems <input type="checkbox"/> Wetland has no outlet and impounds surface runoff water that might otherwise flow into a river or stream that has flooding problems <input type="checkbox"/> Other _____ <input checked="" type="checkbox"/> YES multiplier is 2 <input type="checkbox"/> NO multiplier is 1	<i>(see p. 49)</i> Multiplier 2
D	TOTAL - Hydrologic Functions Multiply the score from D 3 by D 4 <i>Add score to table on p. 1</i>	14

Wetland name or number: **Wetland B**

These questions apply to wetlands of all HGM classes.

HABITAT FUNCTIONS - Indicators that wetland functions to provide important habitat

H 1. Does the wetland have the potential to provide habitat for many species?

H 1.1. Vegetation structure (see p. 72)

Check the types of vegetation classes present (as defined by Cowardin) if the class is ¼ acre or covers more than 10% of the area of the wetland if unit smaller than 2.5 acres.

- ☐ Aquatic bed
- ☒ Emergent plants
- ☐ Scrub/shrub (areas where shrubs have >30% cover)
- ☒ Forested (areas where trees have >30% cover)
- ☐ Forested areas have 3 out of 5 strata (canopy, sub-canopy, shrubs, herbaceous, moss/ground-cover) that each cover 20% within the forested polygon

1

Add the number of vegetation types that qualify. If you have:

- 4 structures or morepoints = 4
- 3 structurespoints = 2
- 2 structurespoints = 1
- 1 structurepoints = 0

H 1.2. Hydroperiods (see p. 73)

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

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

1

H 1.3. Richness of Plant Species (see p. 75)

Count the number of plant species in the wetland that cover at least 10 ft². (different patches of the same species can be combined to meet the size threshold)

You do not have to name the species.

Do not include Eurasian milfoil, reed canarygrass, purple loosestrife, Canadian thistle

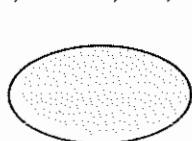
- List species below if you want to:*
- If you counted: ☐ > 19 species points = 2
 - ☒ 5 - 19 species points = 1
 - ☐ < 5 species points = 0

1

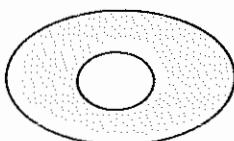
Wetland name or number: **Wetland B**

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

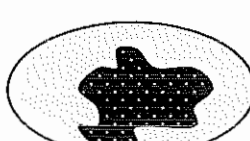
Decide from the diagrams below whether interspersion between Cowardin vegetation classes (described in H 1.1), or the classes and unvegetated areas (can include open water or mudflats) is high, medium, low, or none.



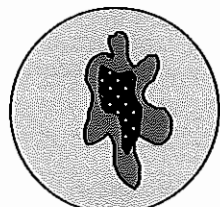
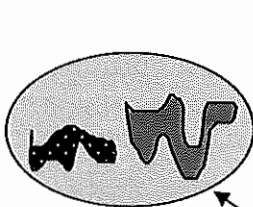
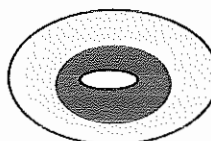
☐ None = 0 points



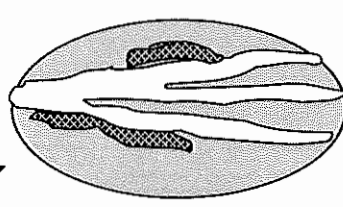
☒ Low = 1 point



☐ Moderate = 2 points



☐ High = 3 points



[riparian braided channels]

NOTE: If you have four or more vegetation types or three vegetation types and open water the rating is always "high".

1

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

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

- ☐ Large, downed, woody debris within the wetland (>4in. diameter and 6 ft long).
- ☐ Standing snags (diameter at the bottom > 4 inches) in the wetland.
- ☐ Undercut banks are present for at least 6.6 ft (2m) and/or overhanging vegetation extends at least 3.3 ft (1m) over a stream (or ditch) for at least 33 ft (10m).
- ☐ Stable steep banks of fine material that might be used by beaver or muskrat for denning (>30degree slope) OR signs of recent beaver activity are present.
- ☐ At least ¼ acre of thin-stemmed persistent vegetation or woody branches are present in areas that are permanently or seasonally inundated. (structures for egg-laying by amphibians)
- ☐ Invasive plants cover less than 25% of the wetland area in each stratum of plants.

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

0

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

4

H 2. Does the wetland have the opportunity to provide habitat for many species?	
<p>H 2.1 Buffers (see p. 80)</p> <p>Choose the description that best represents condition of buffer of wetland. The highest scoring criterion that applies to the wetland is to be used in the rating. See text for definition of "undisturbed."</p> <p><input type="checkbox"/> 100 m (330ft) of relatively undisturbed vegetated areas, rocky areas, or open water >95% of circumference. No developed areas within undisturbed part of buffer. (relatively undisturbed also means no-grazing) Points = 5</p> <p><input checked="" type="checkbox"/> 100 m (330 ft) of relatively undisturbed vegetated areas, rocky areas, or open water > 50% circumference..... Points = 4</p> <p><input type="checkbox"/> 50 m (170ft) of relatively undisturbed vegetated areas, rocky areas, or open water >95% circumference..... Points = 4</p> <p><input type="checkbox"/> 100 m (330ft) of relatively undisturbed vegetated areas, rocky areas, or open water > 25% circumference..... Points = 3</p> <p><input type="checkbox"/> 50 m (170ft) of relatively undisturbed vegetated areas, rocky areas, or open water for > 50% circumference..... Points = 3</p> <p>If buffer does not meet any of the criteria above</p> <p><input type="checkbox"/> No paved areas (except paved trails) or buildings within 25 m (80ft) of wetland > 95% circumference. Light to moderate grazing, or lawns are OK. Points = 2</p> <p><input type="checkbox"/> No paved areas or buildings within 50m of wetland for >50% circumference. Light to moderate grazing, or lawns are OK. Points = 2</p> <p><input type="checkbox"/> Heavy grazing in buffer. Points = 1</p> <p><input type="checkbox"/> Vegetated buffers are <2m wide (6.6ft) for more than 95% of the circumference (e.g. tilled fields, paving, basalt bedrock extend to edge of wetland. Points = 0</p> <p><input checked="" type="checkbox"/> Buffer does not meet any of the criteria above..... Points = 1</p>	4
<p>H 2.2 Corridors and Connections (see p. 81)</p> <p>H 2.2.1 Is the wetland part of a relatively undisturbed and unbroken vegetated corridor (either riparian or upland) that is at least 150 ft wide, has at least 30% cover of shrubs, forest or native undisturbed prairie, that connects to estuaries, other wetlands or undisturbed uplands that are at least 250 acres in size? (dams in riparian corridors, heavily used gravel roads, paved roads, are considered breaks in the corridor).</p> <p><input type="checkbox"/> YES = 4 points (go to H 2.3) <input checked="" type="checkbox"/> NO = go to H 2.2.2</p> <p>H 2.2.2 Is the wetland part of a relatively undisturbed and unbroken vegetated corridor (either riparian or upland) that is at least 50ft wide, has at least 30% cover of shrubs or forest, and connects to estuaries, other wetlands or undisturbed uplands that are at least 25 acres in size? OR a Lake-fringe wetland, if it does not have an undisturbed corridor as in the question above?</p> <p><input checked="" type="checkbox"/> YES = 2 points (go to H 2.3) <input type="checkbox"/> NO = H 2.2.3</p> <p>H 2.2.3 Is the wetland:</p> <p><input type="checkbox"/> within 5 mi (8km) of a brackish or salt water estuary OR</p> <p><input type="checkbox"/> within 3 mi of a large field or pasture (>40 acres) OR</p> <p><input type="checkbox"/> within 1 mi of a lake greater than 20 acres?</p> <p><input type="checkbox"/> YES = 1 point <input type="checkbox"/> NO = 0 points</p>	2

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

Which of the following priority habitats are within 330ft (100m) of the wetland?

(NOTE: the connections do not have to be relatively undisturbed)

- ☐ **Aspen Stands:** Pure or mixed stands of aspen greater than 0.4 ha (1 acres).
- ☐ **Biodiversity Areas and Corridors:** Areas of habitat that are relatively important to various species of native fish and wildlife (full description in WDFW PHS report p. 152)
- ☐ **Herbaceous Balds:** Variable size patches of grass and forbs on shallow soils over bedrock.
- ☐ **Old-growth/Mature forests:** (Old-growth west of Cascade crest) Stands of at least 2 tree species, forming a multi-layered canopy with occasional small openings; with at least 20 trees/ha (8 trees/acre) > 81 cm (32 in) dbh or > 200 years of age. (Mature forests.) Stands with average diameters exceeding 53 cm (21 in) dbh; crown cover may be less than 100%; crown cover may be less than 100%; decay, decadence, numbers of snags, and quantity of large downed material is generally less than that found in old-growth; 80 - 200 years old west of the Cascade crest.
- ☐ **Oregon white Oak:** Woodlands Stands of pure oak or oak/conifer associations where canopy coverage of the oak component is important (full descriptions in WDFW PHS report p. 158.)
- ☒ **Riparian:** The area adjacent to aquatic systems with flowing water that contains elements of both aquatic and terrestrial ecosystems which mutually influence each other.
- ☐ **Westside Prairies:** Herbaceous, non-forested plant communities that can either take the form of a dry prairie or a wet prairie (full descriptions in WDFW PHS report p. 161)
- ☒ **Instream:** The combination of physical, biological, and chemical processes and conditions that interact to provide functional life history requirements for instream fish and wildlife resources.
- ☐ **Nearshore:** Relatively undisturbed nearshore habitats. These include Coastal Nearshore, Open Coast Nearshore, and Puget Sound Nearshore. (full descriptions of habitats and the definition of relatively undisturbed are in WDFW report: pp. 167-169 and glossary in Appendix A.)
- ☐ **Caves:** A naturally occurring cavity, recess, void, or system of interconnected passages under the earth in soils, rock, ice, or other geological formations and is large enough to contain a human.
- ☐ **Cliffs:** Greater than 7.6 m (25 ft) high and occurring below 5000 ft.
- ☐ **Talus:** Homogenous areas of rock rubble ranging in average size 0.15 - 2.0 m (0.5 - 6.5 ft), composed of basalt, andesite, and/or sedimentary rock, including riprap slides and mine tailings. May be associated with cliffs.
- ☒ **Snags and Logs:** Trees are considered snags if they are dead or dying and exhibit sufficient decay characteristics to enable cavity excavation/use by wildlife. Priority snags have a diameter at breast height of >51 cm (20 in) in western Washington and are > 2 m (6.5 ft) in height. Priority logs are > 30cm (12 in) in diameter at the largest end, and > 6m (20 ft) long.

If wetland has 3 or more priority habitats = 4 points

If wetland has 2 priority habitats = 3 points

If wetland has 1 priority habitat = 1 point

No habitats = 0 points

Note: All vegetated wetland are by definition a priority habitat but are not included in this list. Nearby wetlands are addressed in question H2.4.

4

Wetland name or number: **Wetland B**

<p>H 2.4 Wetland Landscape (choose the <i>one</i> description of the landscape around the wetland that best fits) (see p. 84)</p> <p><input type="checkbox"/> There are at least 3 other wetlands within ½ mile, and the connections between them are relatively undisturbed (light grazing between wetlands OK, as is lake shore with some boating, but connections should NOT be bisected by paved roads, fill, fields, or other development.points = 5</p> <p><input type="checkbox"/> The wetland is Lake-fringe on a lake with little disturbance and there are 3 other lake-fringe wetlands within ½ milepoints = 5</p> <p><input checked="" type="checkbox"/> There are at least 3 other wetlands within ½ mile, BUT the connections between them are disturbedpoints = 3</p> <p><input type="checkbox"/> The wetland is Lake-fringe on a lake with disturbance and there are 3 other lake-fringe wetland within ½ mile.....points = 3</p> <p><input type="checkbox"/> There is at least 1 wetland within ½ mile.points = 2</p> <p><input type="checkbox"/> There are no wetlands within ½ mile.points = 0</p>	3
<p>H 2. TOTAL Score - opportunity for providing habitat Add the scores from H2.1, H2.2, H2.3, H2.4</p>	13
<p>TOTAL for H1 from page 14</p>	4
<p>Total Score for Habitat Functions – add the points for H 1, H 2 and record the result on p. 1</p>	17

Wetland name or number: **Wetland B**

CATEGORIZATION BASED ON SPECIAL CHARACTERISTICS

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

Wetland Type <i>Check off any criteria that apply to the wetland. Circle the Category when the appropriate criteria are met.</i>	Category
SC 1.0 Estuarine wetlands (see p. 86) Does the wetland unit meet the following criteria for Estuarine wetlands? <input type="checkbox"/> The dominant water regime is tidal, <input type="checkbox"/> Vegetated, and <input type="checkbox"/> With a salinity greater than 0.5 ppt. <input type="checkbox"/> YES = Go to SC 1.1 <input checked="" type="checkbox"/> NO, not an estuarine wetland	
SC 1.1 Is the wetland unit within a National Wildlife Refuge, National Park, National Estuary Reserve, Natural Area Preserve, State Park or Educational, Environmental, or Scientific Reserve designated under WAC 332-151? <input type="checkbox"/> YES = Category I <input type="checkbox"/> NO = go to SC 1.2	Cat. I
SC 1.2 Is the wetland unit at least 1 acre in size and meets at least two of the following three conditions? <input type="checkbox"/> YES = Category I <input type="checkbox"/> NO = Category II <input type="checkbox"/> The wetland is relatively undisturbed (has no diking, ditching, filling, cultivation, grazing, and has less than 10% cover of non-native plant species. If the non-native <i>Spartina</i> spp. are the only species that cover more than 10% of the wetland, then the wetland should be given a dual rating (I/II) The area of <i>Spartina</i> would be rated a Category II while the relatively undisturbed upper marsh with native species would be a Category I. Do not, however, exclude the area of <i>Spartina</i> in determining the size threshold of 1 acre. <input type="checkbox"/> At least ¼ of the landward edge of the wetland has a 100 ft buffer of shrub, forest, or ungrazed or un-mowed wetland. <input type="checkbox"/> The wetland has at least 2 of the following features: tidal channels, depressions with open water, or contiguous freshwater wetlands.	Cat. I Cat. II Dual rating I/II

<p>SC 2.0 Natural Heritage Wetlands (see p. 87)</p> <p>Natural Heritage wetlands have been identified by the Washington Natural Heritage Program/DNR as either high quality undisturbed wetlands or wetlands that support state Threatened, Endangered, or Sensitive plant species.</p> <p>SC 2.1 Is the wetland being rated in a Section/Township/Range that contains a Natural Heritage wetland? <i>(this question is used to screen out most sites before you need to contact WNHP/DNR)</i></p> <p><input type="checkbox"/> S/T/R information from Appendix D – OR – <input checked="" type="checkbox"/> Accessed from WNHP/DNR web site</p> <p><input type="checkbox"/> YES – contact WNHP/DNR (see p. 79) and go to SC 2.2</p> <p><input checked="" type="checkbox"/> NO</p> <p>SC 2.2 Has DNR identified the wetland as a high quality undisturbed wetland or as or as a site with state threatened or endangered plant species?</p> <p><input type="checkbox"/> YES = Category I</p> <p><input checked="" type="checkbox"/> NO = Not a Heritage Wetland</p>	<p>Cat. I</p>
<p>SC 3.0 Bogs (see p. 87)</p> <p>Does the wetland (or any part of the unit) meet both the criteria for soils and vegetation in bogs? <i>Use the key below to identify if the wetland is a bog. If you answer yes, you will still need to rate the wetland based on its functions.</i></p> <ol style="list-style-type: none"> Does the wetland have organic soils horizons (i.e. layers of organic soil), either peats or mucks, that compose 16" or more of the first 32 inches of the soil profile? (See Appendix B for a field key to identify organic soils.) <p><input type="checkbox"/> Yes – go to Q.3</p> <p><input checked="" type="checkbox"/> NO – go to Q.2</p> <ol style="list-style-type: none"> Does the wetland have organic soils, either peats or mucks, that are less than 16 inches deep over bedrock or an impermeable hardpan such as clay or volcanic ash, or that are floating on top of a lake or pond? <p><input type="checkbox"/> Yes – go to Q.3</p> <p><input checked="" type="checkbox"/> NO – is not a bog for purpose of rating</p> <ol style="list-style-type: none"> Does the wetland have more than 70% cover of mosses at ground level, AND other plants, if present, consist of the "bog" species listed in Table 3 as a significant component of the vegetation (more than 30% of the total shrub and herbaceous cover consists species in Table 3)? <p><input type="checkbox"/> Yes – Is a bog for purpose of rating</p> <p><input type="checkbox"/> NO – go to Q.4</p> <p><i>NOTE: If you are uncertain about the extent of mosses in the understory, you may substitute that criterion by measuring the pH of the water that seeps into a hole dug at least 16" deep. If the pH is less than 5.0 and the "bog" plant species in Table 3 are present, the wetland is a bog.</i></p> <ol style="list-style-type: none"> Is the wetland forested (>30% cover) with sitka spruce, subalpine fir, western red cedar, western hemlock, lodgepole pine, quaking aspen, Englemann's spruce, or western white pine, WITH any of the species (or combination of species) on the bog species plant list in Table 3 as a significant component of the ground cover (>30% coverage of the total shrub/herbaceous cover)? <p><input type="checkbox"/> YES = Category I</p> <p><input type="checkbox"/> NO – is not a bog for purpose of rating</p>	<p>Cat. I</p>

<p>SC 4.0 Forested Wetlands (see p. 90)</p> <p>Does the wetland have at least 1 acre of forest that meet one of these criteria for the Department of Fish and Wildlife's forests as priority habitats? <i>If you answer yes you will still need to rate the wetland based on its functions.</i></p> <p><input type="checkbox"/> Old growth forests: (west of Cascade crest) Stands of at least two tree species, forming a multi-layered canopy with occasional small openings; with at least 8 trees/acre (20 trees/hectare) that are at least 200 years of age OR have a diameter at breast height (dbh) of 32 inches (81 cm) or more.</p> <p><i>Note: The criterion for dbh is based on measurements for upland forests. Two hundred year old trees in wetlands will often have a smaller dbh because their growth rates are often slower. The DFW criterion is and "OR" so old-growth forests do not necessarily have to have trees of this diameter.</i></p> <p><input type="checkbox"/> Mature forests: (west of the Cascade crest) Stands where the largest trees are 80-200 years old OR have average diameters (dbh) exceeding 21 in (53 cm); crown cover may be less than 100%; decay, decadence, numbers of snags, and quantity of large downed material is generally less than that found in old-growth.</p> <p><input type="checkbox"/> YES = Category 1 <input checked="" type="checkbox"/> NO – not a forested wetland with special characteristics</p>	<p>Cat. I</p>
<p>SC 5.0 Wetlands in Coastal Lagoons (see p. 91)</p> <p>Does the wetland meet all of the following criteria of a wetland in a coastal lagoon?</p> <p><input type="checkbox"/> The wetland lies in a depression adjacent to marine waters that is wholly or partially separated from marine waters by sandbanks, gravel banks, shingle, or, less frequently, rocks.</p> <p><input type="checkbox"/> The lagoon in which the wetland is located contains surge water that is saline or brackish (> 0.5 ppt) during most of the year in at least a portion of the lagoon (<i>needs to be measured near the bottom</i>)</p> <p><input type="checkbox"/> YES – Go to SC 5.1 <input checked="" type="checkbox"/> NO – not a wetland in a coastal lagoon</p> <p>SC 5.1 Does the wetland meet all of the following three conditions?</p> <p><input type="checkbox"/> The wetland is relatively undisturbed (has no diking, ditching, filling, cultivation, grazing), and has less than 20% cover of invasive plant species (see list of invasive species on p. 74).</p> <p><input type="checkbox"/> 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.</p> <p><input type="checkbox"/> The wetland is larger than 1/10 acre (4350 square feet)</p> <p><input type="checkbox"/> YES = Category I <input type="checkbox"/> NO = Category II</p>	<p>Cat. I</p> <p>Cat. II</p>
<p>SC 6.0 Interdunal Wetlands (see p. 93)</p> <p>Is the wetland unit west of the 1889 line (also called the Western Boundary of Upland Ownership or WBUO)?</p> <p><input type="checkbox"/> YES – go to SC 6.1 <input checked="" type="checkbox"/> NO – not an interdunal wetland for rating</p> <p><i>If you answer yes you will still need to rate the wetland based on its functions.</i></p> <p>In practical terms that means the following geographic areas:</p> <ul style="list-style-type: none"> – Long Beach Peninsula – lands west of SR 103 – Grayland-Westport – lands west of SR 105 – Ocean Shores-Copalis – lands west of SR 115 and SR 109 <p>SC 6.1 Is the wetland 1 acre or larger, or is it in a mosaic of wetlands that is 1 acre or larger?</p> <p><input type="checkbox"/> YES = Category II <input type="checkbox"/> NO – go to SC 6.2</p> <p>SC 6.2 Is the unit between 0.1 and 1 acre, or is it in a mosaic of wetlands that is between 0.1 and 1 acre?</p> <p><input type="checkbox"/> YES = Category III</p>	<p>Cat. II</p> <p>Cat. III</p>
<p>Category of wetland based on Special Characteristics</p> <p>Choose the "highest" rating if wetland falls into several categorie, and record on p. 1 .</p> <p>If you answered NO for all types enter "Not Applicable" on p.1.</p>	<p>NA</p>

Wetland name or number: **Wetland B**



Wetland name or number: **Wetland C**

WETLAND RATING FORM – WESTERN WASHINGTON
Version 2 – Updated July 2006 to increase accuracy and reproducibility among users
Updated Oct 2008 with the new WDFW definitions for priority habitats

Name of wetland: Renton Maple Valley SE – Wetland C

Date of Site visit: 1/12/2017

Rated by: Nell Lund, Anna Hoenig Trained by Ecology? Yes ☒ No ☐

Date of Training: 10/2008, 10/2015

SEC: 19 TWSHP: 23N RNGE: 16 Is S/T/R in Appendix D? Yes ☐ No ☒

SUMMARY OF RATING

Category based on FUNCTIONS provided by wetland

I ☐ II ☐ III ☒ IV ☐

Category I = Score ≥ 70
Category II = Score 51-69
Category III = Score 30-50
Category IV = Score < 30

Score for Water Quality Functions
Score for Hydrologic Functions
Score for Habitat Functions
TOTAL score for functions

16
6
22
44

Category based on SPECIAL CHARACTERISTICS of wetland

I ☐ II ☐ Does not Apply ☒

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

III

Check the appropriate type and class of wetland being rated.

Wetland Type		Wetland Class	
Estuarine	<input type="checkbox"/>	Depressional	<input checked="" type="checkbox"/>
Natural Heritage Wetland	<input type="checkbox"/>	Riverine	<input checked="" type="checkbox"/>
Bog	<input type="checkbox"/>	Lake-fringe	<input type="checkbox"/>
Mature Forest	<input type="checkbox"/>	Slope	<input checked="" type="checkbox"/>
Old Growth Forest	<input type="checkbox"/>	Flats	<input type="checkbox"/>
Coastal Lagoon	<input type="checkbox"/>	Freshwater Tidal	<input type="checkbox"/>
Interdunal	<input type="checkbox"/>		
None of the above	<input type="checkbox"/>	Check if unit has multiple HGM classes present	<input checked="" type="checkbox"/>

Wetland name or number: **Wetland C**

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

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

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

*The study area was reviewed for the presence of endangered, threatened, and priority species using WDFW online Priority Habitat and Species Data, PHS on the Web (<http://wdfw.wa.gov/mapping/phs/>).

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

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

Classification of Wetland Units in Western Washington

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

1. Are the water levels in the wetland unit usually controlled by tides (i.e. except during floods)?

☒ NO – go to 2 ☐ YES – the wetland class is **Tidal Fringe**

If yes, is the salinity of the water during periods of annual low flow below 0.5 ppt (parts per thousand)? **YES – Freshwater Tidal Fringe** **NO – Saltwater Tidal Fringe (Estuarine)**

*If your wetland can be classified as a Freshwater Tidal Fringe use the forms for **Riverine** wetlands. If it is Saltwater Tidal Fringe it is rated as an **Estuarine** wetland. Wetlands that were called estuarine in the first and second editions of the rating system are called Salt Water Tidal Fringe in the Hydrogeomorphic Classification. Estuarine wetlands were categorized separately in the earlier editions, and this separation is being kept in this revision. To maintain consistency between editions, the term "Estuarine" wetland is kept. Please note, however, that the characteristics that define Category I and II estuarine wetlands have changed (see p.).*

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

☒ NO – go to 3 ☐ YES – The wetland class is **Flats**

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

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

- ☐ The vegetated part of the wetland is on the shores of a body of open water (without any vegetation on the surface) at least 20 acres (8 ha) in size;
☐ At least 30% of the open water area is deeper than 6.6 ft (2 m)?

☒ NO – go to 4 ☐ YES – The wetland class is **Lake-fringe (Lacustrine Fringe)**

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

- ☐ The wetland is on a slope (*slope can be very gradual*),
☐ The water flows through the wetland in one direction (unidirectional) and usually comes from seeps. It may flow subsurface, as sheetflow, or in a swale without distinct banks.
☐ The water leaves the wetland **without being impounded**?

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

☐ NO – go to 5 ☐ YES – The wetland class is **Slope**

Wetland name or number: **Wetland C**

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

- ☐ The unit is in a valley, or stream channel, where it gets inundated by overbank flooding from that stream or river.
- ☐ The overbank flooding occurs at least once every two years

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

☒ NO - go to 6

☐ YES - The wetland class is **Riverine**

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

☐ NO - go to 7

☐ YES - The wetland class is **Depressional**

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

☒ NO - go to 8

☐ YES - The wetland class is **Depressional**

8. Your wetland unit seems to be difficult to classify and probably contains several different HGM classes. For example, seeps at the base of a slope may grade into a riverine floodplain, or a small stream within a depressional wetland has a zone of flooding along its sides. **GO BACK AND IDENTIFY WHICH OF THE HYDROLOGIC REGIMES DESCRIBED IN QUESTIONS 1-7 APPLY TO DIFFERENT AREAS IN THE UNIT** (make a rough sketch to help you decide). Use the following table to identify the appropriate class to use for the rating system if you have several HGM classes present within your wetland. **NOTE:** Use this table only if the class that is recommended in the second column represents 10% or more of the total area of the wetland unit being rated. If the area of the class listed in column 2 is less than 10% of the unit, classify the wetland using the class that represents more than 90% of the total area.

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

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

Wetland C has three HGM classes: depressional, riverine and slope. Rated as Depressional.

Wetland name or number: **Wetland C**

D	Depressional and Flats Wetlands	Points
WATER QUALITY FUNCTIONS - Indicators that wetland functions to improve water quality		
D	D 1. Does the wetland have the <u>potential</u> to improve water quality?	(see p. 38)
D	D 1.1 Characteristics of surface water flows out of the wetland: <input type="checkbox"/> Unit is a depression with no surface water leaving it (no outlet)points = 3 <input type="checkbox"/> Unit has an intermittently flowing, or highly constricted permanently flowing outletpoints = 2 <input checked="" type="checkbox"/> Unit has an unconstricted, or slightly constricted, surface outlet (<i>permanently flowing</i>)points = 1 <input type="checkbox"/> Unit is a "flat" depression (Q.7 on key), or in the Flats class, with permanent surface outflow and no obvious natural outlet, and/or outlet is a man-made ditchpoints = 1 <i>(If ditch is not permanently flowing treat unit as "intermittently flowing")</i>	1
D	D 1.2 The soil 2 inches below the surface (or duff layer) is clay or organic (use NRCS definitions). <input type="checkbox"/> YES points = 4 <input checked="" type="checkbox"/> NO points = 0	0
D	D 1.3 Characteristics of persistent vegetation (emergent, shrub, and/or forest Cowardin class): <input checked="" type="checkbox"/> Wetland has persistent, ungrazed, vegetation > = 95% of areapoints = 5 <input type="checkbox"/> Wetland has persistent, ungrazed, vegetation > = 1/2 of areapoints = 3 <input type="checkbox"/> Wetland has persistent, ungrazed vegetation > = 1/10 of areapoints = 1 <input type="checkbox"/> Wetland has persistent, ungrazed vegetation <1/10 of areapoints = 0	5
D	D1.4 Characteristics of seasonal ponding or inundation. <i>This is the area of the wetland unit that is ponded for at least 2 months, but dries out sometime during the year. Do not count the area that is permanently ponded. Estimate area as the average condition 5 out of 10 yrs.</i> <input type="checkbox"/> Area seasonally ponded is > ½ total area of wetlandpoints = 4 <input checked="" type="checkbox"/> Area seasonally ponded is > ¼ total area of wetlandpoints = 2 <input type="checkbox"/> Area seasonally ponded is < ¼ total area of wetlandpoints = 0 NOTE: See text for indicators of seasonal and permanent inundation.	2
D	Total for D 1 <i>Add the points in the boxes above</i>	8
D	D 2. Does the wetland unit have the <u>opportunity</u> to improve water quality? Answer YES if you know or believe there are pollutants in groundwater or surface <u>water coming into the wetland</u> that would otherwise reduce water quality in streams, lakes or groundwater downgradient from the wetland? <i>Note which of the following conditions provide the sources of pollutants. A unit may have pollutants coming from several sources, but any single source would qualify as opportunity.</i> <input type="checkbox"/> Grazing in the wetland or within 150 ft <input type="checkbox"/> Untreated stormwater discharges to wetland <input type="checkbox"/> Tilled fields or orchards within 150 ft of wetland <input type="checkbox"/> A stream or culvert discharges into wetland that drains developed areas, residential areas, farmed fields, roads, or clear-cut logging <input checked="" type="checkbox"/> Residential, urban areas, golf courses are within 150 ft of wetland <input type="checkbox"/> Wetland is fed by groundwater high in phosphorus or nitrogen <input checked="" type="checkbox"/> Other: <u>industrial operations</u> YES multiply score in D 1. by 2 NO multiply score in D 1. by 1	(see p. 44) multiplier 2
D	TOTAL - Water Quality Functions Multiply the score from D1 by D2 <i>Add score to table on p. 1</i>	16

Wetland name or number: **Wetland C**

D Depressional and Flats Wetlands		
HYDROLOGIC FUNCTIONS - Indicators that wetland functions to reduce flooding and stream degradation		
	D 3. Does the wetland have the potential to reduce flooding and erosion?	(see p. 46)
D	D 3.1 Characteristics of surface water flows out of the wetland unit <input type="checkbox"/> Unit is a depression with no surface water leaving it (no outlet)points = 4 <input type="checkbox"/> Unit has an intermittently flowing, or highly constricted permanently flowing outletpoints = 2 <input type="checkbox"/> Unit is a "flat" depression (Q.7 on key), or in the Flats class, with permanent surface outflow and no obvious natural outlet , and/or outlet is a man-made ditchpoints = 1 <i>(If ditch is not permanently flowing treat unit as "intermittently flowing")</i> <input checked="" type="checkbox"/> Unit has an unconstricted, or slightly constricted, surface outlet (<i>permanently flowing</i>)points = 0	0
D	D 3.2 Depth of storage during wet periods <i>Estimate the height of ponding above the bottom of the outlet For units with no outlet measure from the surface of permanent water or deepest part (if dry).</i> <input type="checkbox"/> Marks of ponding are at least 3 ft or more above the surface or bottom of outletpoints = 7 <input type="checkbox"/> The wetland is a "headwater" wetland"points = 5 <input type="checkbox"/> Marks of ponding between 2 ft to < 3 ft from surface or bottom of outletpoints = 5 <input checked="" type="checkbox"/> Marks are at least 0.5 ft to < 2 ft from surface or bottom of outletpoints = 3 <input type="checkbox"/> Unit is flat (yes to Q.2 or Q.7 on key) but has small depressions on the surface that trap waterpoints = 1 <input type="checkbox"/> Marks of ponding less than 0.5 ftpoints = 0	3
D	D 3.3 Contribution of wetland unit to storage in the watershed <i>Estimate the ratio of the area of upstream basin contributing surface water to the wetland to the area of the wetland unit itself.</i> <input type="checkbox"/> The area of the basin is less than 10 times the area of the unitpoints = 5 <input type="checkbox"/> The area of the basin is 10 to 100 times the area of the unitpoints = 3 <input checked="" type="checkbox"/> The area of the basin is more than 100 times the area of the unitpoints = 0 <input type="checkbox"/> Entire unit is in the FLATS classpoints = 5	0
D	Total for D 3 <i>Add the points in the boxes above</i>	3
D	D 4. Does the wetland unit have the opportunity to reduce flooding and erosion? Answer YES if the unit is in a location in the watershed where the flood storage, or reduction in water velocity, it provides helps protect downstream property and aquatic resources from flooding or excessive and/or erosive flows. Answer NO if the water coming into the wetland is controlled by a structure such as flood gate, tide gate, flap valve, reservoir etc. OR you estimate that more than 90% of the water in the wetland is from groundwater in areas where damaging groundwater flooding does not occur. <i>Note which of the following conditions apply.</i> <input type="checkbox"/> Wetland is in a headwater of a river or stream that has flooding problems <input checked="" type="checkbox"/> Wetland drains to a river or stream that has flooding problems <input type="checkbox"/> Wetland has no outlet and impounds surface runoff water that might otherwise flow into a river or stream that has flooding problems <input type="checkbox"/> Other _____ <input checked="" type="checkbox"/> YES multiplier is 2 <input type="checkbox"/> NO multiplier is 1	(see p. 49) Multiplier 2
D	TOTAL - Hydrologic Functions Multiply the score from D 3 by D 4 <i>Add score to table on p. 1</i>	6

These questions apply to wetlands of all HGM classes.**HABITAT FUNCTIONS - Indicators that wetland functions to provide important habitat****H 1. Does the wetland have the potential to provide habitat for many species?****H 1.1 Vegetation structure (see p. 72)**

Check the types of vegetation classes present (as defined by Cowardin) if the class is ¼ acre or covers more than 10% of the area of the wetland if unit smaller than 2.5 acres.

- ☐ Aquatic bed
☐ Emergent plants
☒ Scrub/shrub (areas where shrubs have >30% cover)
☒ Forested (areas where trees have >30% cover)
☒ Forested areas have 3 out of 5 strata (canopy, sub-canopy, shrubs, herbaceous, moss/ground-cover) that each cover 20% within the forested polygon

2

Add the number of vegetation types that qualify. If you have:

- 4 structures or morepoints = 4
 3 structurespoints = 2
 2 structurespoints = 1
 1 structurepoints = 0

H 1.2. Hydroperiods (see p. 73)

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

- ☐ Permanently flooded or inundated 4 or more types presentpoints = 3
☒ Seasonally flooded or inundated 3 types present.....points = 2
☐ Occasionally flooded or inundated 2 types present.....points = 1
☒ Saturated only 1 types 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

2

H 1.3. Richness of Plant Species (see p. 75)

Count the number of plant species in the wetland that cover at least 10 ft². (different patches of the same species can be combined to meet the size threshold)

You do not have to name the species.

Do not include Eurasian milfoil, reed canarygrass, purple loosestrife, Canadian thistle

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

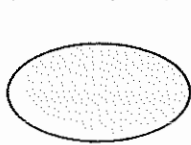
List species below if you want to:

1

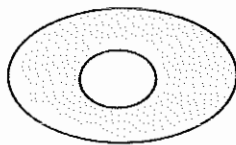
Wetland name or number: **Wetland C**

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

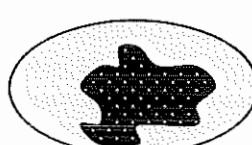
Decide from the diagrams below whether interspersion between Cowardin vegetation classes (described in H 1.1), or the classes and unvegetated areas (can include open water or mudflats) is high, medium, low, or none.



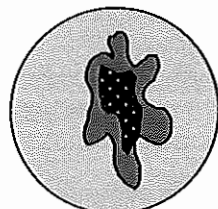
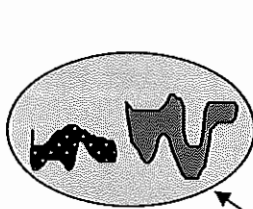
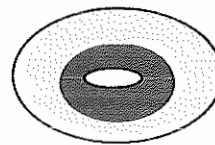
☐ None = 0 points



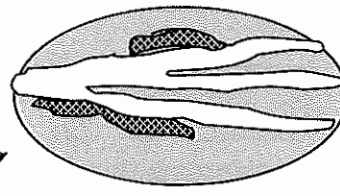
☐ Low = 1 point



☒ Moderate = 2 points



☐ High = 3 points



[riparian braided channels]

NOTE: If you have four or more vegetation types or three vegetation types and open water the rating is always "high".

2

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

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

- ☒ Large, downed, woody debris within the wetland (>4in. diameter and 6 ft long).
- ☒ Standing snags (diameter at the bottom > 4 inches) in the wetland.
- ☒ Undercut banks are present for at least 6.6 ft (2m) and/or overhanging vegetation extends at least 3.3 ft (1m) over a stream (or ditch) for at least 33 ft (10m).
- ☐ Stable steep banks of fine material that might be used by beaver or muskrat for denning (>30degree slope) OR signs of recent beaver activity are present.
- ☐ At least ¼ acre of thin-stemmed persistent vegetation or woody branches are present in areas that are permanently or seasonally inundated. (structures for egg-laying by amphibians)
- ☐ Invasive plants cover less than 25% of the wetland area in each stratum of plants.

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

3

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

10

H 2. Does the wetland have the opportunity to provide habitat for many species?	
H 2.1 Buffers (see p. 80) Choose the description that best represents condition of buffer of wetland. The highest scoring criterion that applies to the wetland is to be used in the rating. See text for definition of "undisturbed." <input type="checkbox"/> 100 m (330ft) of relatively undisturbed vegetated areas, rocky areas, or open water >95% of circumference. No developed areas within undisturbed part of buffer. (relatively undisturbed also means no-grazing) Points = 5 <input type="checkbox"/> 100 m (330 ft) of relatively undisturbed vegetated areas, rocky areas, or open water > 50% circumference..... Points = 4 <input type="checkbox"/> 50 m (170ft) of relatively undisturbed vegetated areas, rocky areas, or open water >95% circumference..... Points = 4 <input checked="" type="checkbox"/> 100 m (330ft) of relatively undisturbed vegetated areas, rocky areas, or open water > 25% circumference..... Points = 3 <input type="checkbox"/> 50 m (170ft) of relatively undisturbed vegetated areas, rocky areas, or open water for > 50% circumference. Points = 3 If buffer does not meet any of the criteria above <input type="checkbox"/> No paved areas (except paved trails) or buildings within 25 m (80ft) of wetland > 95% circumference. Light to moderate grazing, or lawns are OK. Points = 2 <input type="checkbox"/> No paved areas or buildings within 50m of wetland for >50% circumference. Light to moderate grazing, or lawns are OK. Points = 2 <input type="checkbox"/> Heavy grazing in buffer. Points = 1 <input type="checkbox"/> Vegetated buffers are <2m wide (6.6ft) for more than 95% of the circumference (e.g. tilled fields, paving, basalt bedrock extend to edge of wetland. Points = 0 <input checked="" type="checkbox"/> Buffer does not meet any of the criteria above..... Points = 1	3
H 2.2 Corridors and Connections (see p. 81) H 2.2.1 Is the wetland part of a relatively undisturbed and unbroken vegetated corridor (either riparian or upland) that is at least 150 ft wide, has at least 30% cover of shrubs, forest or native undisturbed prairie, that connects to estuaries, other wetlands or undisturbed uplands that are at least 250 acres in size? (dams in riparian corridors, heavily used gravel roads, paved roads, are considered breaks in the corridor). <input type="checkbox"/> YES = 4 points (go to H 2.3) <input checked="" type="checkbox"/> NO = go to H 2.2.2 H 2.2.2 Is the wetland part of a relatively undisturbed and unbroken vegetated corridor (either riparian or upland) that is at least 50ft wide, has at least 30% cover of shrubs or forest, and connects to estuaries, other wetlands or undisturbed uplands that are at least 25 acres in size? OR a Lake-fringe wetland, if it does not have an undisturbed corridor as in the question above? <input checked="" type="checkbox"/> YES = 2 points (go to H 2.3) <input type="checkbox"/> NO = H 2.2.3 H 2.2.3 Is the wetland: <input type="checkbox"/> within 5 mi (8km) of a brackish or salt water estuary OR <input type="checkbox"/> within 3 mi of a large field or pasture (>40 acres) OR <input type="checkbox"/> within 1 mi of a lake greater than 20 acres? <input type="checkbox"/> YES = 1 point <input type="checkbox"/> NO = 0 points	2

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

Which of the following priority habitats are within 330ft (100m) of the wetland?

(NOTE: the connections do not have to be relatively undisturbed)

- ☐ **Aspen Stands:** Pure or mixed stands of aspen greater than 0.4 ha (1 acres).
- ☐ **Biodiversity Areas and Corridors:** Areas of habitat that are relatively important to various species of native fish and wildlife (full description in WDFW PHS report p. 152)
- ☐ **Herbaceous Balds:** Variable size patches of grass and forbs on shallow soils over bedrock.
- ☐ **Old-growth/Mature forests:** (Old-growth west of Cascade crest) Stands of at least 2 tree species, forming a multi-layered canopy with occasional small openings; with at least 20 trees/ha (8 trees/acre) > 81 cm (32 in) dbh or > 200 years of age. (Mature forests.) Stands with average diameters exceeding 53 cm (21 in) dbh; crown cover may be less than 100%; crown cover may be less than 100%; decay, decadence, numbers of snags, and quantity of large downed material is generally less than that found in old-growth; 80 - 200 years old west of the Cascade crest.
- ☐ **Oregon white Oak:** Woodlands Stands of pure oak or oak/conifer associations where canopy coverage of the oak component is important (full descriptions in WDFW PHS report p. 158.)
- ☒ **Riparian:** The area adjacent to aquatic systems with flowing water that contains elements of both aquatic and terrestrial ecosystems which mutually influence each other.
- ☐ **Westside Prairies:** Herbaceous, non-forested plant communities that can either take the form of a dry prairie or a wet prairie (full descriptions in WDFW PHS report p. 161)
- ☒ **Instream:** The combination of physical, biological, and chemical processes and conditions that interact to provide functional life history requirements for instream fish and wildlife resources.
- ☐ **Nearshore:** Relatively undisturbed nearshore habitats. These include Coastal Nearshore, Open Coast Nearshore, and Puget Sound Nearshore. (full descriptions of habitats and the definition of relatively undisturbed are in WDFW report: pp. 167-169 and glossary in Appendix A.)
- ☐ **Caves:** A naturally occurring cavity, recess, void, or system of interconnected passages under the earth in soils, rock, ice, or other geological formations and is large enough to contain a human.
- ☐ **Cliffs:** Greater than 7.6 m (25 ft) high and occurring below 5000 ft.
- ☐ **Talus:** Homogenous areas of rock rubble ranging in average size 0.15 - 2.0 m (0.5 - 6.5 ft), composed of basalt, andesite, and/or sedimentary rock, including riprap slides and mine tailings. May be associated with cliffs.
- ☒ **Snags and Logs:** Trees are considered snags if they are dead or dying and exhibit sufficient decay characteristics to enable cavity excavation/use by wildlife. Priority snags have a diameter at breast height of >51 cm (20 in) in western Washington and are > 2 m (6.5 ft) in height. Priority logs are > 30cm (12 in) in diameter at the largest end, and > 6m (20 ft) long.

If wetland has 3 or more priority habitats = 4 points

If wetland has 2 priority habitats = 3 points

If wetland has 1 priority habitat = 1 point

No habitats = 0 points

Note: All vegetated wetland are by definition a priority habitat but are not included in this list. Nearby wetlands are addressed in question H2.4.

Wetland name or number: **Wetland C**

<p>H 2.4 Wetland Landscape (<i>choose the one description of the landscape around the wetland that best fits</i>) (see p. 84)</p> <p><input type="checkbox"/> There are at least 3 other wetlands within ½ mile, and the connections between them are relatively undisturbed (light grazing between wetlands OK, as is lake shore with some boating, but connections should NOT be bisected by paved roads, fill, fields, or other development.points = 5</p> <p><input type="checkbox"/> The wetland is Lake-fringe on a lake with little disturbance and there are 3 other lake-fringe wetlands within ½ milepoints = 5</p> <p><input checked="" type="checkbox"/> There are at least 3 other wetlands within ½ mile, BUT the connections between them are disturbedpoints = 3</p> <p><input type="checkbox"/> The wetland is Lake-fringe on a lake with disturbance and there are 3 other lake-fringe wetland within ½ milepoints = 3</p> <p><input type="checkbox"/> There is at least 1 wetland within ½ mile.points = 2</p> <p><input type="checkbox"/> There are no wetlands within ½ mile.points = 0</p>	3
<p>H 2. TOTAL Score - opportunity for providing habitat <i>Add the scores from H2.1, H2.2, H2.3, H2.4</i></p>	12
<p>TOTAL for H1 from page 14</p>	10
<p>Total Score for Habitat Functions – add the points for H 1, H 2 and record the result on p. 1</p>	22

Wetland name or number: **Wetland C**

CATEGORIZATION BASED ON SPECIAL CHARACTERISTICS

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

Wetland Type <i>Check off any criteria that apply to the wetland. Circle the Category when the appropriate criteria are met.</i>	Category
SC 1.0 Estuarine wetlands (see p. 86) Does the wetland unit meet the following criteria for Estuarine wetlands? <input type="checkbox"/> The dominant water regime is tidal, <input type="checkbox"/> Vegetated, and <input type="checkbox"/> With a salinity greater than 0.5 ppt. <input type="checkbox"/> YES = Go to SC 1.1 <input checked="" type="checkbox"/> NO, not an estuarine wetland	
SC 1.1 Is the wetland unit within a National Wildlife Refuge, National Park, National Estuary Reserve, Natural Area Preserve, State Park or Educational, Environmental, or Scientific Reserve designated under WAC 332-151? <input type="checkbox"/> YES = Category I <input type="checkbox"/> NO = go to SC 1.2	Cat. I
SC 1.2 Is the wetland unit at least 1 acre in size and meets at least two of the following three conditions? <input type="checkbox"/> YES = Category I <input type="checkbox"/> NO = Category II <input type="checkbox"/> The wetland is relatively undisturbed (has no diking, ditching, filling, cultivation, grazing, and has less than 10% cover of non-native plant species. If the non-native <i>Spartina</i> spp. are the only species that cover more than 10% of the wetland, then the wetland should be given a dual rating (I/II). The area of <i>Spartina</i> would be rated a Category II while the relatively undisturbed upper marsh with native species would be a Category I. Do not, however, exclude the area of <i>Spartina</i> in determining the size threshold of 1 acre. <input type="checkbox"/> At least ¼ of the landward edge of the wetland has a 100 ft buffer of shrub, forest, or ungrazed or un-mowed wetland. <input type="checkbox"/> The wetland has at least 2 of the following features: tidal channels, depressions with open water, or contiguous freshwater wetlands.	Cat. I Cat. II Dual rating I/II

<p>SC 2.0 Natural Heritage Wetlands (see p. 87)</p> <p>Natural Heritage wetlands have been identified by the Washington Natural Heritage Program/DNR as either high quality undisturbed wetlands or wetlands that support state Threatened, Endangered, or Sensitive plant species.</p> <p>SC 2.1 Is the wetland being rated in a Section/Township/Range that contains a Natural Heritage wetland? <i>(this question is used to screen out most sites before you need to contact WNHP/DNR)</i></p> <p><input type="checkbox"/> S/T/R information from Appendix D – OR – <input checked="" type="checkbox"/> Accessed from WNHP/DNR web site</p> <p><input type="checkbox"/> YES – contact WNHP/DNR (see p. 79) and go to SC 2.2</p> <p><input checked="" type="checkbox"/> NO</p> <p>SC 2.2 Has DNR identified the wetland as a high quality undisturbed wetland or as or as a site with state threatened or endangered plant species?</p> <p><input type="checkbox"/> YES = Category I</p> <p><input checked="" type="checkbox"/> NO = Not a Heritage Wetland</p>	Cat. I
<p>SC 3.0 Bogs (see p. 87)</p> <p>Does the wetland (or any part of the unit) meet both the criteria for soils and vegetation in bogs? <i>Use the key below to identify if the wetland is a bog. If you answer yes, you will still need to rate the wetland based on its functions.</i></p> <ol style="list-style-type: none"> Does the wetland have organic soils horizons (i.e. layers of organic soil), either peats or mucks, that compose 16" or more of the first 32 inches of the soil profile? (See Appendix B for a field key to identify organic soils.) <p><input type="checkbox"/> Yes – go to Q.3</p> <p><input checked="" type="checkbox"/> NO – go to Q.2</p> <ol style="list-style-type: none"> Does the wetland have organic soils, either peats or mucks, that are less than 16 inches deep over bedrock or an impermeable hardpan such as clay or volcanic ash, or that are floating on top of a lake or pond? <p><input type="checkbox"/> Yes – go to Q.3</p> <p><input checked="" type="checkbox"/> NO – is not a bog for purpose of rating</p> <ol style="list-style-type: none"> Does the wetland have more than 70% cover of mosses at ground level, AND other plants, if present, consist of the "bog" species listed in Table 3 as a significant component of the vegetation (more than 30% of the total shrub and herbaceous cover consists species in Table 3)? <p><input type="checkbox"/> Yes – Is a bog for purpose of rating</p> <p><input type="checkbox"/> NO – go to Q.4</p> <p><i>NOTE: If you are uncertain about the extent of mosses in the understory, you may substitute that criterion by measuring the pH of the water that seeps into a hole dug at least 16" deep. If the pH is less than 5.0 and the "bog" plant species in Table 3 are present, the wetland is a bog.</i></p> <ol style="list-style-type: none"> Is the wetland forested (>30% cover) with sitka spruce, subalpine fir, western red cedar, western hemlock, lodgepole pine, quaking aspen, Englemann's spruce, or western white pine, WITH any of the species (or combination of species) on the bog species plant list in Table 3 as a significant component of the ground cover (>30% coverage of the total shrub/herbaceous cover)? <p><input type="checkbox"/> YES = Category I</p> <p><input type="checkbox"/> NO – is not a bog for purpose of rating</p>	Cat. I

<p>SC 4.0 Forested Wetlands (see p. 90)</p> <p>Does the wetland have at least 1 acre of forest that meet one of these criteria for the Department of Fish and Wildlife's forests as priority habitats? <i>If you answer yes you will still need to rate the wetland based on its functions.</i></p> <p><input type="checkbox"/> Old growth forests: (west of Cascade crest) Stands of at least two tree species, forming a multi-layered canopy with occasional small openings; with at least 8 trees/acre (20 trees/hectare) that are at least 200 years of age OR have a diameter at breast height (dbh) of 32 inches (81 cm) or more.</p> <p><i>Note: The criterion for dbh is based on measurements for upland forests. Two hundred year old trees in wetlands will often have a smaller dbh because their growth rates are often slower. The DFW criterion is and "OR" so old-growth forests do not necessarily have to have trees of this diameter.</i></p> <p><input type="checkbox"/> Mature forests: (west of the Cascade crest) Stands where the largest trees are 80-200 years old OR have average diameters (dbh) exceeding 21 in (53 cm); crown cover may be less than 100%; decay, decadence, numbers of snags, and quantity of large downed material is generally less than that found in old-growth.</p> <p><input type="checkbox"/> YES = Category 1 <input checked="" type="checkbox"/> NO – not a forested wetland with special characteristics</p>	<p>Cat. I</p>
<p>SC 5.0 Wetlands in Coastal Lagoons (see p. 91)</p> <p>Does the wetland meet all of the following criteria of a wetland in a coastal lagoon?</p> <p><input type="checkbox"/> The wetland lies in a depression adjacent to marine waters that is wholly or partially separated from marine waters by sandbanks, gravel banks, shingle, or, less frequently, rocks.</p> <p><input type="checkbox"/> The lagoon in which the wetland is located contains surge water that is saline or brackish (> 0.5 ppt) during most of the year in at least a portion of the lagoon (<i>needs to be measured near the bottom</i>)</p> <p><input type="checkbox"/> YES – Go to SC 5.1 <input checked="" type="checkbox"/> NO – not a wetland in a coastal lagoon</p> <p>SC 5.1 Does the wetland meet all of the following three conditions?</p> <p><input type="checkbox"/> The wetland is relatively undisturbed (has no diking, ditching, filling, cultivation, grazing), and has less than 20% cover of invasive plant species (see list of invasive species on p. 74).</p> <p><input type="checkbox"/> 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.</p> <p><input type="checkbox"/> The wetland is larger than 1/10 acre (4350 square feet)</p> <p><input type="checkbox"/> YES = Category I <input type="checkbox"/> NO = Category II</p>	<p>Cat. I</p> <p>Cat. II</p>
<p>SC 6.0 Interdunal Wetlands (see p. 93)</p> <p>Is the wetland unit west of the 1889 line (also called the Western Boundary of Upland Ownership or WBUO)?</p> <p><input type="checkbox"/> YES – go to SC 6.1 <input checked="" type="checkbox"/> NO – not an interdunal wetland for rating</p> <p><i>If you answer yes you will still need to rate the wetland based on its functions.</i></p> <p>In practical terms that means the following geographic areas:</p> <ul style="list-style-type: none"> – Long Beach Peninsula – lands west of SR 103 – Grayland-Westport – lands west of SR 105 – Ocean Shores-Copalis – lands west of SR 115 and SR 109 <p>SC 6.1 Is the wetland 1 acre or larger, or is it in a mosaic of wetlands that is 1 acre or larger?</p> <p><input type="checkbox"/> YES = Category II <input type="checkbox"/> NO – go to SC 6.2</p> <p>SC 6.2 Is the unit between 0.1 and 1 acre, or is it in a mosaic of wetlands that is between 0.1 and 1 acre?</p> <p><input type="checkbox"/> YES = Category III</p>	<p>Cat. II</p> <p>Cat. III</p>
<p>Category of wetland based on Special Characteristics</p> <p><i>Choose the "highest" rating if wetland falls into several categorie, and record on p. 1 .</i></p> <p><i>If you answered NO for all types enter "Not Applicable" on p.1.</i></p>	<p>NA</p>

Wetland name or number: **Wetland C**

Wetland name or number: **Wetland ROW**

WETLAND RATING FORM – WESTERN WASHINGTON
Version 2 – Updated July 2006 to increase accuracy and reproducibility among users
Updated Oct 2008 with the new WDFW definitions for priority habitats

Name of wetland: Renton Maple Valley SE – Wetland ROW

Date of Site visit: 1/12/2017

Rated by: Nell Lund, Anna Hoenig

Trained by Ecology? Yes ☒ No ☐

Date of Training: 10/2008, 10/2015

SEC: 19 TOWNSHIP: 23N RANGE: 16

Is S/T/R in Appendix D? Yes ☐ No ☒

SUMMARY OF RATING

Category based on FUNCTIONS provided by wetland

I ☐ II ☒ III ☐ IV ☐

Category I = Score ≥ 70
Category II = Score 51-69
Category III = Score 30-50
Category IV = Score < 30

Score for Water Quality Functions
Score for Hydrologic Functions
Score for Habitat Functions
TOTAL score for functions

16
22
15
53

Category based on SPECIAL CHARACTERISTICS of wetland

I ☐ II ☐ Does not Apply ☒

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

II

Check the appropriate type and class of wetland being rated.

Wetland Type		Wetland Class	
Estuarine	<input type="checkbox"/>	Depressional	<input type="checkbox"/>
Natural Heritage Wetland	<input type="checkbox"/>	Riverine	<input checked="" type="checkbox"/>
Bog	<input type="checkbox"/>	Lake-fringe	<input type="checkbox"/>
Mature Forest	<input type="checkbox"/>	Slope	<input checked="" type="checkbox"/>
Old Growth Forest	<input type="checkbox"/>	Flats	<input type="checkbox"/>
Coastal Lagoon	<input type="checkbox"/>	Freshwater Tidal	<input type="checkbox"/>
Interdunal	<input type="checkbox"/>		
None of the above	<input type="checkbox"/>	Check if unit has multiple HGM classes present	<input checked="" type="checkbox"/>

Wetland name or number: **Wetland ROW**

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

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

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

***The study area was reviewed for the presence of endangered, threatened, and priority species using WDFW online Priority Habitat and Species Data, PHS on the Web (<http://wdfw.wa.gov/mapping/phs/>).**

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

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

Classification of Wetland Units in Western Washington

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

1. Are the water levels in the wetland unit usually controlled by tides (i.e. except during floods)?

☐ NO – go to 2 ☐ YES – the wetland class is **Tidal Fringe**

If yes, is the salinity of the water during periods of annual low flow below 0.5 ppt (parts per thousand)? **YES – Freshwater Tidal Fringe** **NO – Saltwater Tidal Fringe (Estuarine)**

*If your wetland can be classified as a Freshwater Tidal Fringe use the forms for **Riverine** wetlands. If it is Saltwater Tidal Fringe it is rated as an **Estuarine** wetland. Wetlands that were called estuarine in the first and second editions of the rating system are called Salt Water Tidal Fringe in the Hydrogeomorphic Classification. Estuarine wetlands were categorized separately in the earlier editions, and this separation is being kept in this revision. To maintain consistency between editions, the term “Estuarine” wetland is kept. Please note, however, that the characteristics that define Category I and II estuarine wetlands have changed (see p.).*

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

☐ NO – go to 3 ☐ YES – The wetland class is **Flats**

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

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

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

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

☐ NO – go to 4 ☐ YES – The wetland class is **Lake-fringe (Lacustrine Fringe)**

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

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

☐ The water flows through the wetland in one direction (unidirectional) and usually comes from seeps. It may flow subsurface, as sheetflow, or in a swale without distinct banks.

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

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

☐ NO – go to 5 ☐ YES – The wetland class is **Slope**

Wetland name or number: **Wetland ROW**

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

- ☐ The unit is in a valley, or stream channel, where it gets inundated by overbank flooding from that stream or river.
- ☐ The overbank flooding occurs at least once every two years

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

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

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

☐ NO - go to 7 ☐ YES - The wetland class is **Depressional**

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

☐ NO - go to 8 ☐ YES - The wetland class is **Depressional**

8. Your wetland unit seems to be difficult to classify and probably contains several different HGM classes. For example, seeps at the base of a slope may grade into a riverine floodplain, or a small stream within a depressional wetland has a zone of flooding along its sides. **GO BACK AND IDENTIFY WHICH OF THE HYDROLOGIC REGIMES DESCRIBED IN QUESTIONS 1-7 APPLY TO DIFFERENT AREAS IN THE UNIT** (make a rough sketch to help you decide). Use the following table to identify the appropriate class to use for the rating system if you have several HGM classes present within your wetland. **NOTE:** Use this table only if the class that is recommended in the second column represents 10% or more of the total area of the wetland unit being rated. If the area of the class listed in column 2 is less than 10% of the unit, classify the wetland using the class that represents more than 90% of the total area.

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

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

Wetland name or number: **Wetland ROW**[illegible]

Comments

Wetland name or number: **Wetland ROW**

R	Riverine and Freshwater Tidal Fringe Wetlands	
	HYDROLOGIC FUNCTIONS - Indicators that wetland functions to reduce flooding and stream erosion	
	R 3. Does the wetland have the <u>potential</u> to reduce flooding and erosion?	<i>(see p. 54)</i>
R	R 3.1 Characteristics of the overbank storage the wetland provides: <i>Estimate the average width of the wetland perpendicular to the direction of the flow and the width of the stream or river channel (distance between banks). Calculate the ratio: (width of wetland)/(width of stream).</i> <input type="checkbox"/> If the ratio is more than 20.....points = 9 <input type="checkbox"/> If the ratio is between 10 – 20.....points = 6 <input checked="" type="checkbox"/> If the ratio is 5- <10points = 4 <input type="checkbox"/> If the ratio is 1- <5points = 2 <input type="checkbox"/> If the ratio is < 1points = 1	4
R	R 3.2 Characteristics of vegetation that slow down water velocities during floods: <i>Treat large woody debris as "forest or shrub". Choose the points appropriate for the best description. (polygons need to have >90% cover at person height NOT Cowardin classes)</i> <input checked="" type="checkbox"/> Forest or shrub for >1/3 area OR Emergent plants > 2/3 areapoints = 7 <input type="checkbox"/> Forest or shrub for > 1/10 area OR Emergent plants > 1/3 areapoints = 4 <input type="checkbox"/> Vegetation does not meet above criteria.....points = 0	7
R	Total for R 3 <i>Add the points in the boxes above</i>	11
R	R 4. Does the wetland have the <u>opportunity</u> to reduce flooding and erosion? <i>(see p. 57)</i> Answer YES if the wetland is in a location in the watershed where the flood storage, or reduction in water velocity, it provides helps protect downstream property and aquatic resources from flooding or excessive and/or erosive flows. <i>Note which of the following conditions apply.</i> <input type="checkbox"/> There are human structures and activities downstream (roads, buildings, bridges, farms) that can be damaged by flooding. <input checked="" type="checkbox"/> There are natural resources downstream (e.g. salmon redds) that can be damaged by flooding <input type="checkbox"/> Other _____ <i>(Answer NO if the major source of water to the wetland is controlled by a reservoir or the wetland is tidal fringe along the sides of a dike)</i> YES multiplier is 2 NO multiplier is 1	<i>(see p. 57)</i> multiplier 2
R	TOTAL - Hydrologic Functions Multiply the score from R 3 by R 4 <i>Add score to table on p. 1</i>	22

Wetland name or number: **Wetland ROW**

These questions apply to wetlands of all HGM classes.

HABITAT FUNCTIONS - Indicators that wetland functions to provide important habitat

H 1. Does the wetland have the potential to provide habitat for many species?

H 1.1 Vegetation structure (see p. 72)

Check the types of vegetation classes present (as defined by Cowardin) if the class is ¼ acre or covers more than 10% of the area of the wetland if unit smaller than 2.5 acres.

- ☐ Aquatic bed
- ☒ Emergent plants
- ☐ Scrub/shrub (areas where shrubs have >30% cover)
- ☐ Forested (areas where trees have >30% cover)
- ☐ Forested areas have 3 out of 5 strata (canopy, sub-canopy, shrubs, herbaceous, moss/ground-cover) that each cover 20% within the forested polygon

0

Add the number of vegetation types that qualify. If you have:

- 4 structures or morepoints = 4
- 3 structurespoints = 2
- 2 structurespoints = 1
- 1 structurepoints = 0

H 1.2. Hydroperiods (see p. 73)

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

- ☐ Permanently flooded or inundated 4 or more types presentpoints = 3
- ☐ Seasonally flooded or inundated 3 types present.....points = 2
- ☐ Occasionally flooded or inundated 2 types present.....points = 1
- ☒ Saturated only 1 types present points = 0
- ☐ Permanently flowing stream or river in, or adjacent to, the wetland
- ☒ Seasonally flowing stream in, or adjacent to, the wetland
- ☐ Lake-fringe wetland = 2 points
- ☐ Freshwater tidal wetland = 2 points

1

H 1.3. Richness of Plant Species (see p. 75)

Count the number of plant species in the wetland that cover at least 10 ft². (different patches of the same species can be combined to meet the size threshold)

You do not have to name the species.

Do not include Eurasian milfoil, reed canarygrass, purple loosestrife, Canadian thistle

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

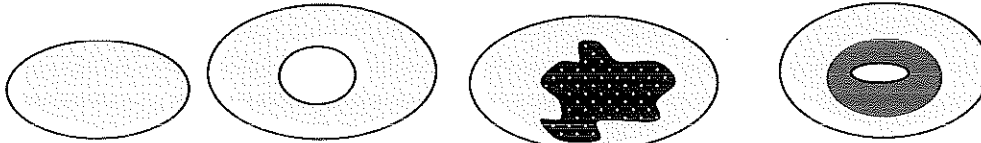
List species below if you want to:

1

Wetland name or number: **Wetland ROW**

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

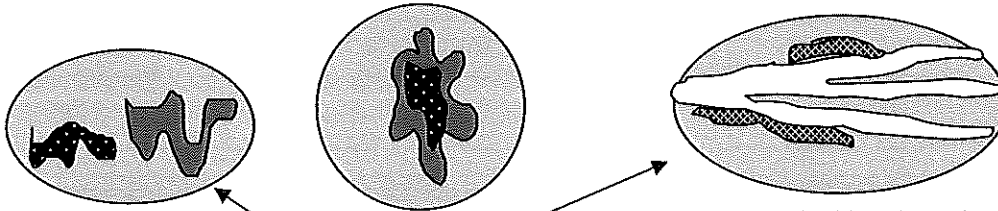
Decide from the diagrams below whether interspersion between Cowardin vegetation classes (described in H 1.1), or the classes and unvegetated areas (can include open water or mudflats) is high, medium, low, or none.



☐ None = 0 points

☒ Low = 1 point

☐ Moderate = 2 points



☐ High = 3 points

[riparian braided channels]

NOTE: If you have four or more vegetation types or three vegetation types and open water the rating is always "high".

1

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

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

- ☐ Large, downed, woody debris within the wetland (>4in. diameter and 6 ft long).
- ☐ Standing snags (diameter at the bottom > 4 inches) in the wetland.
- ☐ Undercut banks are present for at least 6.6 ft (2m) and/or overhanging vegetation extends at least 3.3 ft (1m) over a stream for at least 33 ft (10m).
- ☐ Stable steep banks of fine material that might be used by beaver or muskrat for denning (>30degree slope) OR signs of recent beaver activity are present.
- ☐ At least ¼ acre of thin-stemmed persistent vegetation or woody branches are present in areas that are permanently or seasonally inundated. (structures for egg-laying by amphibians)
- ☐ Invasive plants cover less than 25% of the wetland area in each stratum of plants.

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

0

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

3

H 2. Does the wetland have the opportunity to provide habitat for many species?	
<p>H 2.1 Buffers (see p. 80)</p> <p>Choose the description that best represents condition of buffer of wetland. The highest scoring criterion that applies to the wetland is to be used in the rating. See text for definition of "undisturbed."</p> <p><input type="checkbox"/> 100 m (330ft) of relatively undisturbed vegetated areas, rocky areas, or open water >95% of circumference. No developed areas within undisturbed part of buffer. (relatively undisturbed also means no-grazing) Points = 5</p> <p><input type="checkbox"/> 100 m (330 ft) of relatively undisturbed vegetated areas, rocky areas, or open water > 50% circumference..... Points = 4</p> <p><input type="checkbox"/> 50 m (170ft) of relatively undisturbed vegetated areas, rocky areas, or open water >95% circumference..... Points = 4</p> <p><input checked="" type="checkbox"/> 100 m (330ft) of relatively undisturbed vegetated areas, rocky areas, or open water > 25% circumference..... Points = 3</p> <p><input type="checkbox"/> 50 m (170ft) of relatively undisturbed vegetated areas, rocky areas, or open water for > 50% circumference..... Points = 3</p> <p style="text-align: center;">If buffer does not meet any of the criteria above</p> <p><input type="checkbox"/> No paved areas (except paved trails) or buildings within 25 m (80ft) of wetland > 95% circumference. Light to moderate grazing, or lawns are OK. Points = 2</p> <p><input type="checkbox"/> No paved areas or buildings within 50m of wetland for >50% circumference. Light to moderate grazing, or lawns are OK. Points = 2</p> <p><input type="checkbox"/> Heavy grazing in buffer. Points = 1</p> <p><input type="checkbox"/> Vegetated buffers are <2m wide (6.6ft) for more than 95% of the circumference (e.g. tilled fields, paving, basalt bedrock extend to edge of wetland. Points = 0</p> <p><input type="checkbox"/> Buffer does not meet any of the criteria above. Points = 1</p>	3
<p>H 2.2 Corridors and Connections (see p. 81)</p> <p>H 2.2.1 Is the wetland part of a relatively undisturbed and unbroken vegetated corridor (either riparian or upland) that is at least 150 ft wide, has at least 30% cover of shrubs, forest or native undisturbed prairie, that connects to estuaries, other wetlands or undisturbed uplands that are at least 250 acres in size? (dams in riparian corridors, heavily used gravel roads, paved roads, are considered breaks in the corridor).</p> <p style="text-align: center;"><input type="checkbox"/> YES = 4 points (go to H 2.3) <input type="checkbox"/> NO = go to H 2.2.2</p> <p>H 2.2.2 Is the wetland part of a relatively undisturbed and unbroken vegetated corridor (either riparian or upland) that is at least 50ft wide, has at least 30% cover of shrubs or forest, and connects to estuaries, other wetlands or undisturbed uplands that are at least 25 acres in size? OR a Lake-fringe wetland, if it does not have an undisturbed corridor as in the question above?</p> <p style="text-align: center;"><input checked="" type="checkbox"/> YES = 2 points (go to H 2.3) <input type="checkbox"/> NO = H 2.2.3</p> <p>H 2.2.3 Is the wetland:</p> <p style="padding-left: 20px;"><input type="checkbox"/> within 5 mi (8km) of a brackish or salt water estuary OR</p> <p style="padding-left: 20px;"><input type="checkbox"/> within 3 mi of a large field or pasture (>40 acres) OR</p> <p style="padding-left: 20px;"><input type="checkbox"/> within 1 mi of a lake greater than 20 acres?</p> <p style="text-align: center;"><input type="checkbox"/> YES = 1 point <input type="checkbox"/> NO = 0 points</p>	2

Wetland name or number: **Wetland ROW**

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

Which of the following priority habitats are within 330ft (100m) of the wetland?

(NOTE: the connections do not have to be relatively undisturbed)

- ☐ **Aspen Stands:** Pure or mixed stands of aspen greater than 0.4 ha (1 acres).
- ☐ **Biodiversity Areas and Corridors:** Areas of habitat that are relatively important to various species of native fish and wildlife (full description in WDFW PHS report p. 152)
- ☐ **Herbaceous Balds:** Variable size patches of grass and forbs on shallow soils over bedrock.
- ☐ **Old-growth/Mature forests:** (Old-growth west of Cascade crest) Stands of at least 2 tree species, forming a multi-layered canopy with occasional small openings; with at least 20 trees/ha (8 trees/acre) > 81 cm (32 in) dbh or > 200 years of age. (Mature forests.) Stands with average diameters exceeding 53 cm (21 in) dbh; crown cover may be less than 100%; crown cover may be less than 100%; decay, decadence, numbers of snags, and quantity of large downed material is generally less than that found in old-growth; 80 - 200 years old west of the Cascade crest.
- ☐ **Oregon white Oak:** Woodlands Stands of pure oak or oak/conifer associations where canopy coverage of the oak component is important (full descriptions in WDFW PHS report p. 158.)
- ☒ **Riparian:** The area adjacent to aquatic systems with flowing water that contains elements of both aquatic and terrestrial ecosystems which mutually influence each other.
- ☐ **Westside Prairies:** Herbaceous, non-forested plant communities that can either take the form of a dry prairie or a wet prairie (full descriptions in WDFW PHS report p. 161)
- ☒ **Instream:** The combination of physical, biological, and chemical processes and conditions that interact to provide functional life history requirements for instream fish and wildlife resources.
- ☐ **Nearshore:** Relatively undisturbed nearshore habitats. These include Coastal Nearshore, Open Coast Nearshore, and Puget Sound Nearshore. (full descriptions of habitats and the definition of relatively undisturbed are in WDFW report: pp. 167-169 and glossary in Appendix A.)
- ☐ **Caves:** A naturally occurring cavity, recess, void, or system of interconnected passages under the earth in soils, rock, ice, or other geological formations and is large enough to contain a human.
- ☐ **Cliffs:** Greater than 7.6 m (25 ft) high and occurring below 5000 ft.
- ☐ **Talus:** Homogenous areas of rock rubble ranging in average size 0.15 - 2.0 m (0.5 - 6.5 ft), composed of basalt, andesite, and/or sedimentary rock, including riprap slides and mine tailings. May be associated with cliffs.
- ☒ **Snags and Logs:** Trees are considered snags if they are dead or dying and exhibit sufficient decay characteristics to enable cavity excavation/use by wildlife. Priority snags have a diameter at breast height of >51 cm (20 in) in western Washington and are > 2 m (6.5 ft) in height. Priority logs are > 30cm (12 in) in diameter at the largest end, and > 6m (20 ft) long.

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

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

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

No habitats = **0 points**

Note: All vegetated wetland are by definition a priority habitat but are not included in this list. Nearby wetlands are addressed in question H2.4.

4

Wetland name or number: **Wetland ROW**

<p>H 2.4 Wetland Landscape (choose the <i>one</i> description of the landscape around the wetland that best fits), (see p. 84)</p> <p><input type="checkbox"/> There are at least 3 other wetlands within ½ mile, and the connections between them are relatively undisturbed (light grazing between wetlands OK, as is lake shore with some boating, but connections should NOT be bisected by paved roads, fill, fields, or other development.points = 5</p> <p><input type="checkbox"/> The wetland is Lake-fringe on a lake with little disturbance and there are 3 other lake-fringe wetlands within ½ milepoints = 5</p> <p><input checked="" type="checkbox"/> There are at least 3 other wetlands within ½ mile, BUT the connections between them are disturbedpoints = 3</p> <p><input type="checkbox"/> The wetland is Lake-fringe on a lake with disturbance and there are 3 other lake-fringe wetland within ½ milepoints = 3</p> <p><input type="checkbox"/> There is at least 1 wetland within ½ mile.points = 2</p> <p><input type="checkbox"/> There are no wetlands within ½ mile.points = 0</p>	3
<p>H 2. TOTAL Score - opportunity for providing habitat Add the scores from H2.1, H2.2, H2.3, H2.4</p>	12
<p>TOTAL for H1 from page 14</p>	3
<p>Total Score for Habitat Functions – add the points for H 1, H 2 and record the result on p. 1</p>	15

Wetland name or number: **Wetland ROW**

CATEGORIZATION BASED ON SPECIAL CHARACTERISTICS

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

Wetland Type <i>Check off any criteria that apply to the wetland. Circle the Category when the appropriate criteria are met.</i>	Category
SC 1.0 Estuarine wetlands (see p. 86) Does the wetland unit meet the following criteria for Estuarine wetlands? <input type="checkbox"/> The dominant water regime is tidal, <input type="checkbox"/> Vegetated, and <input type="checkbox"/> With a salinity greater than 0.5 ppt. <input type="checkbox"/> YES = Go to SC 1.1 <input checked="" type="checkbox"/> NO	
SC 1.1 Is the wetland unit within a National Wildlife Refuge, National Park, National Estuary Reserve, Natural Area Preserve, State Park or Educational, Environmental, or Scientific Reserve designated under WAC 332-151? <input type="checkbox"/> YES = Category I <input type="checkbox"/> NO = go to SC 1.2	Cat. I
SC 1.2 Is the wetland unit at least 1 acre in size and meets at least two of the following three conditions? <input type="checkbox"/> YES = Category I <input type="checkbox"/> NO = Category II <input type="checkbox"/> The wetland is relatively undisturbed (has no diking, ditching, filling, cultivation, grazing, and has less than 10% cover of non-native plant species. If the non-native <i>Spartina</i> spp. are the only species that cover more than 10% of the wetland, then the wetland should be given a dual rating (I/II). The area of <i>Spartina</i> would be rated a Category II while the relatively undisturbed upper marsh with native species would be a Category I. Do not, however, exclude the area of <i>Spartina</i> in determining the size threshold of 1 acre. <input type="checkbox"/> At least ¼ of the landward edge of the wetland has a 100 ft buffer of shrub, forest, or ungrazed or un-mowed wetland. <input type="checkbox"/> The wetland has at least 2 or the following features: tidal channels, depressions with open water, or contiguous freshwater wetlands.	Cat. I Cat. II Dual rating I/II

<p>SC 2.0 Natural Heritage Wetlands (<i>see p. 87</i>)</p> <p>Natural Heritage wetlands have been identified by the Washington Natural Heritage Program/DNR as either high quality undisturbed wetlands or wetlands that support state Threatened, Endangered, or Sensitive plant species.</p> <p>SC 2.1 Is the wetland being rated in a Section/Township/Range that contains a Natural Heritage wetland? (<i>this question is used to screen out most sites before you need to contact WNHP/DNR</i>)</p> <p><input type="checkbox"/> S/T/R information from Appendix D – OR – <input checked="" type="checkbox"/> Accessed from WNHP/DNR web site</p> <p><input type="checkbox"/> YES – contact WNHP/DNR (see p. 79) and go to SC 2.2</p> <p><input checked="" type="checkbox"/> NO</p> <p>SC 2.2 Has DNR identified the wetland as a high quality undisturbed wetland or as or as a site with state threatened or endangered plant species?</p> <p><input type="checkbox"/> YES = Category I</p> <p><input checked="" type="checkbox"/> NO = Not a Heritage Wetland</p>	<p>Cat. I</p>
<p>SC 3.0 Bogs (<i>see p. 87</i>)</p> <p>Does the wetland (or any part of the unit) meet both the criteria for soils and vegetation in bogs? <i>Use the key below to identify if the wetland is a bog. If you answer yes, you will still need to rate the wetland based on its functions.</i></p> <ol style="list-style-type: none"> Does the wetland have organic soils horizons (i.e. layers of organic soil), either peats or mucks, that compose 16" or more of the first 32 inches of the soil profile? (See Appendix B for a field key to identify organic soils.) <p><input type="checkbox"/> Yes – go to Q.3</p> <p><input checked="" type="checkbox"/> NO – go to Q.2</p> Does the wetland have organic soils, either peats or mucks, that are less than 16 inches deep over bedrock or an impermeable hardpan such as clay or volcanic ash, or that are floating on top of a lake or pond? <p><input type="checkbox"/> Yes – go to Q.3</p> <p><input checked="" type="checkbox"/> NO – is not a bog for purpose of rating</p> Does the wetland have more than 70% cover of mosses at ground level, AND other plants, if present, consist of the "bog" species listed in Table 3 as a significant component of the vegetation (more than 30% of the total shrub and herbaceous cover consists species in Table 3)? <p><input type="checkbox"/> Yes – is a bog for purpose of rating</p> <p><input type="checkbox"/> NO – go to Q.4</p> <p><i>NOTE: If you are uncertain about the extent of mosses in the understory, you may substitute that criterion by measuring the pH of the water that seeps into a hole dug at least 16" deep. If the pH is less than 5.0 and the "bog" plant species in Table 3 are present, the wetland is a bog.</i></p> <ol style="list-style-type: none"> Is the wetland forested (>30% cover) with sitka spruce, subalpine fir, western red cedar, western hemlock, lodgepole pine, quaking aspen, Englemann's spruce, or western white pine, WITH any of the species (or combination of species) on the bog species plant list in Table 3 as a significant component of the ground cover (>30% coverage of the total shrub/herbaceous cover)? <p><input type="checkbox"/> YES = Category I</p> <p><input type="checkbox"/> NO – is not a bog for purpose of rating</p> 	<p>Cat. I</p>

Wetland name or number: **Wetland ROW**

<p>SC 4.0 Forested Wetlands (see p. 90)</p> <p>Does the wetland have at least 1 acre of forest that meet one of these criteria for the Department of Fish and Wildlife's forests as priority habitats? <i>If you answer yes you will still need to rate the wetland based on its functions.</i></p> <p><input type="checkbox"/> Old growth forests: (west of Cascade crest) Stands of at least two tree species, forming a multi-layered canopy with occasional small openings; with at least 8 trees/acre (20 trees/hectare) that are at least 200 years of age OR have a diameter at breast height (dbh) of 32 inches (81 cm) or more.</p> <p><i>Note: The criterion for dbh is based on measurements for upland forests. Two hundred year old trees in wetlands will often have a smaller dbh because their growth rates are often slower. The DFW criterion is and "OR" so old-growth forests do not necessarily have to have trees of this diameter.</i></p> <p><input type="checkbox"/> Mature forests: (west of the Cascade crest) Stands where the largest trees are 80-200 years old OR have average diameters (dbh) exceeding 21 in (53 cm); crown cover may be less than 100%; decay, decadence, numbers of snags, and quantity of large downed material is generally less than that found in old-growth.</p> <p><input type="checkbox"/> YES = Category I <input checked="" type="checkbox"/> NO – not a forested wetland with special characteristics</p>	<p>Cat. I</p>
<p>SC 5.0 Wetlands in Coastal Lagoons (see p. 91)</p> <p>Does the wetland meet all of the following criteria of a wetland in a coastal lagoon?</p> <p><input type="checkbox"/> The wetland lies in a depression adjacent to marine waters that is wholly or partially separated from marine waters by sandbanks, gravel banks, shingle, or, less frequently, rocks.</p> <p><input type="checkbox"/> The lagoon in which the wetland is located contains surge water that is saline or brackish (> 0.5 ppt) during most of the year in at least a portion of the lagoon (<i>needs to be measured near the bottom</i>)</p> <p><input type="checkbox"/> YES – Go to SC 5.1 <input checked="" type="checkbox"/> NO – not a wetland in a coastal lagoon</p> <p>SC 5.1 Does the wetland meet all of the following three conditions?</p> <p><input type="checkbox"/> The wetland is relatively undisturbed (has no diking, ditching, filling, cultivation, grazing), and has less than 20% cover of invasive plant species (see list of invasive species on p. 74).</p> <p><input type="checkbox"/> At least ¾ of the landward edge of the wetland has a 100 ft buffer of shrub, forest, or ungrazed or un-mowed grassland.</p> <p><input type="checkbox"/> The wetland is larger than 1/10 acre (4350 square feet)</p> <p><input type="checkbox"/> YES = Category I <input type="checkbox"/> NO = Category II</p>	<p>Cat. I</p> <p>Cat. II</p>
<p>SC 6.0 Interdunal Wetlands (see p. 93)</p> <p>Is the wetland unit west of the 1889 line (also called the Western Boundary of Upland Ownership or WBUO)?</p> <p><input type="checkbox"/> YES – go to SC 6.1 <input checked="" type="checkbox"/> NO – not an interdunal wetland for rating</p> <p><i>If you answer yes you will still need to rate the wetland based on its functions.</i></p> <p>In practical terms that means the following geographic areas:</p> <ul style="list-style-type: none"> - Long Beach Peninsula – lands west of SR 103 - Grayland-Westport – lands west of SR 105 - Ocean Shores-Copalis – lands west of SR 115 and SR 109 <p>SC 6.1 Is the wetland 1 acre or larger, or is it in a mosaic of wetlands that is 1 acre or larger?</p> <p><input type="checkbox"/> YES = Category II <input type="checkbox"/> NO – go to SC 6.2</p> <p>SC 6.2 Is the unit between 0.1 and 1 acre, or is it in a mosaic of wetlands that is between 0.1 and 1 acre?</p> <p><input type="checkbox"/> YES = Category III</p>	<p>Cat. II</p> <p>Cat. III</p>
<p>Category of wetland based on Special Characteristics</p> <p><i>Choose the "highest" rating if wetland falls into several categorie, and record on p. 1 .</i></p> <p><i>If you answered NO for all types enter "Not Applicable" on p.1.</i></p>	<p>NA</p>

Wetland name or number: **Wetland ROW**