

Wetland name or number 6.95 R

<b>S Slope Wetlands</b>		<b>Points</b>
<b>WATER QUALITY FUNCTIONS - Indicators that the wetland unit functions to improve water quality</b>		(only 1 score per box)
<b>S</b>	<b>S 1. Does the wetland unit have the <u>potential</u> to improve water quality?</b>	(see p.64)
<b>S</b>	S 1.1 Characteristics of average slope of unit: Slope is 1% or less (a 1% slope has a 1 foot vertical drop in elevation for every 100 ft horizontal distance) points = 3 Slope is 1% - 2% points = 2 Slope is 2% - 5% points = 1 Slope is greater than 5% points = 0	1
<b>S</b>	S 1.2 The soil 2 inches below the surface (or duff layer) is clay or organic (use NRCS definitions) YES = 3 points NO = 0 points	0
<b>S</b>	S 1.3 Characteristics of the vegetation in the wetland that trap sediments and pollutants: Choose the points appropriate for the description that best fits the vegetation in the wetland. Dense vegetation means you have trouble seeing the soil surface (>75% cover), and uncut means not grazed or mowed and plants are higher than 6 inches. Dense, uncut, herbaceous vegetation > 90% of the wetland area points = 6 Dense, uncut, herbaceous vegetation > 1/2 of area points = 3 Dense, woody, vegetation > 1/2 of area points = 2 Dense, uncut, herbaceous vegetation > 1/4 of area points = 1 Does not meet any of the criteria above for vegetation points = 0 Aerial photo or map with vegetation polygons	Figure 0
<b>S</b>	<b>Total for S 1</b> Add the points in the boxes above	1
<b>S</b>	<b>S 2. Does the wetland unit have the <u>opportunity</u> to improve water quality?</b> 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 150ft <input type="checkbox"/> Untreated stormwater discharges to wetland <input type="checkbox"/> Filled fields, logging, or orchards within 150 feet of wetland <input checked="" type="checkbox"/> Residential, urban areas, or golf courses are within 150 ft upslope of wetland <input type="checkbox"/> Other YES multiplier is 2 NO multiplier is 1	(see p.67)  multiplier 2
<b>S</b>	<b>TOTAL - Water Quality Functions</b> Multiply the score from S1 by S2 Add score to table on p. 1	2

Comments

Wetland name or number 695R

<b>S Slope Wetlands</b> HYDROLOGIC FUNCTIONS - Indicators that the wetland unit functions to reduce flooding and stream erosion		<b>Points</b> (only 1 score per box) <i>(see p.68)</i>
<b>S</b>	<b>S 3. Does the wetland unit have the <u>potential</u> to reduce flooding and stream erosion?</b>	
<b>S</b>	<p>S 3.1 Characteristics of vegetation that reduce the velocity of surface flows during storms. Choose the points appropriate for the description that best fit conditions in the wetland. (stems of plants should be thick enough (usually &gt; 1.8in), or dense enough, to remain erect during surface flows)</p> <p>Dense, uncut, <b>rigid</b> vegetation covers &gt; 90% of the area of the wetland. points = 6</p> <p>Dense, uncut, <b>rigid</b> vegetation &gt; 1/2 area of wetland points = 3</p> <p>Dense, uncut, <b>rigid</b> vegetation &gt; 1/4 area points = 1</p> <p>More than 1/4 of area is grazed, mowed, tilled or vegetation is not rigid points = 0</p>	0
<b>S</b>	<p>S 3.2 Characteristics of slope wetland that holds back small amounts of flood flows: The slope wetland has small surface depressions that can retain water over at least 10% of its area.</p> <p>YES points = 2</p> <p>NO points = 0</p>	0
<b>S</b>	<i>Add the points in the boxes above</i>	0
<b>S</b>	<p><b>S 4. Does the wetland have the <u>opportunity</u> to reduce flooding and erosion?</b></p> <p>Is the wetland in a landscape position where the reduction in water velocity it provides helps protect downstream property and aquatic resources from flooding or excessive and/or erosive flows? Note which of the following conditions apply.</p> <p><input checked="" type="checkbox"/> Wetland has surface runoff that drains to a river or stream that has flooding problems</p> <p><input type="checkbox"/> Other _____</p> <p><i>(Answer NO if the major source of water is controlled by a reservoir (e.g. wetland is a seep that is on the downstream side of a dam))</i></p> <p>YES multiplier is <b>2</b> NO multiplier is <b>1</b></p>	<p><i>(see p. 70)</i></p> <p>multiplier</p> <p><u>2</u></p>
<b>S</b>	<b>TOTAL - Hydrologic Functions</b> Multiply the score from S 3 by S 4 <i>Add score to table on p. 1</i>	0

Comments



Wetland name or number 6.95R

**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 classes or three vegetation classes and open water the rating is always "high". Use map of Cowardin vegetation classes

Figure \_\_\_\_\_

0

- H 1.5. Special Habitat Features: (see p. 77)**  
 Check the habitat features that are present in the wetland. The number of checks is the number of points you put into the next column.
- Large, downed, woody debris within the wetland (>4in. diameter and 6 ft long).
  - Standing snags (diameter at the bottom > 4 inches) in the wetland
  - Undercut banks are present for at least 6.6 ft (2m) and/or overhanging vegetation extends at least 3.3 ft (1m) over a stream (or ditch) in, or contiguous with the unit, for at least 33 ft (10m)
  - Stable steep banks of fine material that might be used by beaver or muskrat for denning (>30degree slope) OR signs of recent beaver activity are present (*cut shrubs or trees that have not yet turned grey brown*)
  - At least 1/4 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

1

Comments

Wetland name or number 6.95R

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

Total for page 1

Wetland name or number 6.95R

H 2.3 Near or adjacent to other priority habitats listed by WDFW (see p. 82)

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

*These are DFW definitions. Check with your local DFW biologist if there are any questions.*

**Riparian:** The area adjacent to aquatic systems with flowing water that contains elements of both aquatic and terrestrial ecosystems which mutually influence each other.

**Aspen Stands:** Pure or mixed stands of aspen greater than 0.8 ha (2 acres).

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

**Old-growth 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.

**Prairies:** Relatively undisturbed areas (as indicated by dominance of native plants) where grasses and/or forbs form the natural climax plant community.

**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.

**Caves:** A naturally occurring cavity, recess, void, or system of interconnected passages

**Oregon white Oak:** Woodlands Stands of pure oak or oak/conifer associations where canopy coverage of the oak component of the stand is 25%.

**Urban Natural Open Space:** A priority species resides within or is adjacent to the open space and uses it for breeding and/or regular feeding; and/or the open space functions as a corridor connecting other *priority habitats*, especially those that would otherwise be isolated; and/or the open space is an isolated remnant of natural habitat larger than 4 ha (10 acres) and is surrounded by urban development.

**Estuary/Estuary-like:** Deepwater tidal habitats and adjacent tidal wetlands, usually semi-enclosed by land but with open, partly obstructed or sporadic access to the open ocean, and in which ocean water is at least occasionally diluted by freshwater runoff from the land. The salinity may be periodically increased above that of the open ocean by evaporation. Along some low-energy coastlines there is appreciable dilution of sea water. Estuarine habitat extends upstream and landward to where ocean-derived salts measure less than 0.5ppt. during the period of average annual low flow. Includes both estuaries and lagoons.

**Marine/Estuarine Shorelines:** Shorelines include the intertidal and subtidal zones of beaches, and may also include the backshore and adjacent components of the terrestrial landscape (e.g., cliffs, snags, mature trees, dunes, meadows) that are important to shoreline associated fish and wildlife and that contribute to shoreline function (e.g., sand/rock log recruitment, nutrient contribution, erosion control).

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

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

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

No habitats = **0 points**

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

0

Wetland name or number 6.95R

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



Wetland name or number 6.95 R

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

Wetland name or number 6.95R

<p><b>SC 4.0 Forested Wetlands (see p. 90)</b>          Does the wetland unit have at least 1 acre of forest that meet one of these criteria for the Department of Fish and Wildlife's forests as priority habitats? <i>If you answer yes you will still need to rate the wetland based on its functions.</i></p> <ul style="list-style-type: none"> <li>— <b>Old-growth forests:</b> (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.</li> </ul> <p>NOTE: The criterion for dbh is based on measurements for upland forests. Two-hundred year old trees in wetlands will often have a smaller dbh because their growth rates are often slower. The DFW criterion is and "OR" so old-growth forests do not necessarily have to have trees of this diameter.</p> <ul style="list-style-type: none"> <li>— <b>Mature forests:</b> (west of the Cascade Crest) Stands where the largest trees are 80 – 200 years old OR have average diameters (dbh) exceeding 21 inches (53cm); crown cover may be less than 100%; decay, decadence, numbers of snags, and quantity of large downed material is generally less than that found in old-growth.</li> </ul> <p>YES = Category I      NO <u>X</u> not a forested wetland with special characteristics</p>	<p><b>Cat. I</b></p>
<p><b>SC 5.0 Wetlands in Coastal Lagoons (see p. 91)</b>          Does the wetland meet all of the following criteria of a wetland in a coastal lagoon?</p> <ul style="list-style-type: none"> <li>— 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</li> <li>— The lagoon in which the wetland is located contains surface water that is saline or brackish (&gt; 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></li> </ul> <p>YES = Go to SC 5.1      NO <u>X</u> not a wetland in a coastal lagoon</p> <p><b>SC 5.1</b> Does the wetland meets all of the following three conditions?</p> <ul style="list-style-type: none"> <li>— 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).</li> <li>— At least ¼ of the landward edge of the wetland has a 100 ft buffer of shrub, forest, or un-grazed or un-mowed grassland.</li> <li>— The wetland is larger than 1/10 acre (4350 square feet)</li> </ul> <p>YES = Category I      NO = Category II</p>	<p><b>Cat. I</b></p> <p><b>Cat. II</b></p>

Wetland name or number 6.95R

<p><b>SC 6.0 Interdunal Wetlands</b> (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>YES - go to SC 6.1                      NO <del>A</del> not an interdunal wetland for rating  <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"> <li>• Long Beach Peninsula- lands west of SR 103</li> <li>• Grayland-Westport- lands west of SR 105</li> <li>• Ocean Shores-Copalis- lands west of SR 115 and SR 109</li> </ul> <p>SC 6.1 Is the wetland one acre or larger, or is it in a mosaic of wetlands that is once acre or larger?</p> <p>YES = Category II                      <del>NO</del> go to SC 6.2</p> <p>SC 6.2 Is the unit between 0.1 and 1 acre, or is it in a mosaic of wetlands that is between 0.1 and 1 acre?</p> <p>YES = Category III</p>	<p style="text-align: center;">Cat. II</p> <p style="text-align: center;">Cat. III</p>
<p><b>Category of wetland based on Special Characteristics</b></p> <p><i>Choose the "highest" rating if wetland falls into several categories, and record on p. 1.</i></p> <p>If you answered NO for all types enter "Not Applicable" on p.1</p>	

**DATA FORM**  
**ROUTINE WETLAND DETERMINATION**  
 (1987 COE Wetlands Delineation Manual)

6.95 R

Project/Site: <u>Belleve Braids</u> Applicant/Owner: <u>WSDOT</u> Investigator: <u>Purley/Douglas</u>	Date: <u>11/21/2006</u> County: <u>KING</u> State: <u>WA</u>
Do Normal Circumstances exist on the site? <input checked="" type="radio"/> Yes <input type="radio"/> No Is the site significantly disturbed (Atypical Situation)? <input type="radio"/> Yes <input checked="" type="radio"/> No Is the area a potential Problem Area? <input type="radio"/> Yes <input checked="" type="radio"/> No (If needed, explain on reverse.)	Community ID: <u>-</u> Transect ID: <u>-</u> Plot ID: <u>wet SP-1</u>

**VEGETATION**

Dominant Plant Species	Stratum	Indicator	Dominant Plant Species	Stratum	Indicator
1. <u>Festuca rubra</u>	<u>H 10</u>	<u>Fac+</u>	9. _____	_____	_____
2. <u>Phal ground</u>	<u>H 100</u>	<u>Facw</u>	10. _____	_____	_____
3. _____	_____	_____	11. _____	_____	_____
4. _____	_____	_____	12. _____	_____	_____
5. _____	_____	_____	13. _____	_____	_____
6. _____	_____	_____	14. _____	_____	_____
7. _____	_____	_____	15. _____	_____	_____
8. _____	_____	_____	16. _____	_____	_____

\*Percent of Dominant Species that are OBL, FACW or FAC\*  
 (excluding FAC-): 100%

Remarks: 100% Fac or wetter vego Reed-canary grass dominated

**HYDROLOGY**

<p><b>Recorded Data (Describe in Remarks):</b></p> <p>____ Stream, Lake, or Tide Gauge</p> <p>____ Aerial Photographs</p> <p>____ Other</p> <p>____ No Recorded Data Available</p>	<p><b>Wetland Hydrology Indicators:</b></p> <p><b>Primary Indicators:</b></p> <p><input checked="" type="checkbox"/> Inundated</p> <p><input checked="" type="checkbox"/> Saturated in Upper 12 Inches</p> <p>____ Water Marks</p> <p>____ Drift Lines</p> <p>____ Sediment Deposits</p> <p>____ Drainage Patterns in Wetlands</p> <p><b>Secondary indicators (2 or more required):</b></p> <p>____ Oxidized Root Channels in Upper 12 Inches</p> <p>____ Water-Stained Leaves</p> <p>____ Local Soil Survey Data</p> <p><input checked="" type="checkbox"/> FAC-Neutral Test</p> <p><input checked="" type="checkbox"/> Other (Explain in Remarks)</p>
<p><b>Field Observations:</b></p> <p>Depth of Surface Water: <u>none</u> (in.)</p> <p>Depth to Free Water in Pit: <u>9</u> (in.)</p> <p>Depth to Saturated Soil: <u>0</u> (in.)</p>	

Remarks: Clay soils.

**SOILS**

Map Unit Name (Series and Phase):		AgC (Alderwood Gravelly Sandy loam)		Drainage Class	_____
Taxonomy (Subgroup)		_____		Field Observations	_____
				Confirm Mapped Type?	Yes <input type="checkbox"/> No <input checked="" type="checkbox"/>

Profile Descriptions:					
Depth (inches)	Horizon	Matrix Color (Munsell Moist)	Mottle Colors (Munsell Moist)	Mottle Abundance/ Size/Contrast	Texture, Concretions, Structure, etc.
0-18	O/A	10YR 5/1			CLAY
6-18	A	10YR 5/1	10YR 5/6	F,F,F	CLAY

Hydric Soil Indicators:

<input type="checkbox"/> Histosol	<input type="checkbox"/> Concretions
<input type="checkbox"/> Histic Epipedon	<input type="checkbox"/> High Organic Content in Surface Layer in Sandy Soils
<input type="checkbox"/> Sulfidic Odor	<input type="checkbox"/> Organic Streaking in Sandy Soils
<input checked="" type="checkbox"/> Aquic Moisture Regime	<input type="checkbox"/> Listed on Local Hydric Soils List
<input checked="" type="checkbox"/> Gleyed or Low-Chroma Colors	<input type="checkbox"/> Other (Explain in Remarks)

Remarks

**WETLAND DETERMINATION**

Hydrophytic Vegetation Present?	<input checked="" type="radio"/> Yes <input type="radio"/> No	(Circle)
Wetland Hydrology Present?	<input checked="" type="radio"/> Yes <input type="radio"/> No	
Hydric Soils Present?	<input checked="" type="radio"/> Yes <input type="radio"/> No	
Is this Sampling Point Within a Wetland?		<input checked="" type="radio"/> Yes <input type="radio"/> No (Circle)

Remarks

**DATA FORM**  
**ROUTINE WETLAND DETERMINATION**  
 (1987 COE Wetlands Delineation Manual)

6.95 R

Project/Site: <u>Belleve Brails</u> Applicant/Owner: <u>WSDOT</u> Investigator: <u>Purley / Douglas</u>	Date: <u>11/21/2006</u> County: <u>PINK</u> State: <u>WA</u>
Do Normal Circumstances exist on the site? <input checked="" type="radio"/> Yes <input type="radio"/> No Is the site significantly disturbed (Atypical Situation)? <input type="radio"/> Yes <input checked="" type="radio"/> No Is the area a potential Problem Area? <input type="radio"/> Yes <input checked="" type="radio"/> No (If needed, explain on reverse.)	Community ID: <u>-</u> Transect ID: <u>-</u> Plot ID: <u>Up SP 2</u>

**VEGETATION**

Dominant Plant Species	Stratum	Indicator	Dominant Plant Species	Stratum	Indicator
1. <u>Cirsium aru</u>	<u>H</u>	<u>20</u>	9. _____	_____	_____
2. <u>Hedera helix</u>	<u>H</u>	<u>20</u>	10. _____	_____	_____
3. <u>Rubus arvensis</u>	<u>S</u>	<u>90</u>	11. _____	_____	_____
4. <u>Sequoia giga.</u>	<u>T</u>	<u>40</u>	12. _____	_____	_____
5. <u>Taraxacum offic.</u>	<u>H</u>	<u>20</u>	13. _____	_____	_____
6. <u>Thun plicata</u>	<u>T</u>	<u>30</u>	14. _____	_____	_____
7. _____	_____	_____	15. _____	_____	_____
8. _____	_____	_____	16. _____	_____	_____

"Percent of Dominant Species that are OBL, FACW or FAC"  $\frac{30}{210} = 14\%$   
 (excluding FAC-).

Remarks: Not dominant hydro. veg. Dominant < 50% obl, fac or fac!

**HYDROLOGY**

<p><b>Recorded Data (Describe in Remarks):</b></p> <input type="checkbox"/> Stream, Lake, or Tide Gauge <input type="checkbox"/> Aerial Photographs <input type="checkbox"/> Other <input checked="" type="checkbox"/> No Recorded Data Available	<p><b>Wetland Hydrology Indicators:</b></p> <p><b>Primary Indicators:</b></p> <input type="checkbox"/> Inundated <input type="checkbox"/> Saturated in Upper 12 Inches <input type="checkbox"/> Water Marks <input type="checkbox"/> Drift Lines <input type="checkbox"/> Sediment Deposits <input type="checkbox"/> Drainage Patterns in Wetlands <p><b>Secondary Indicators (2 or more required):</b></p> <input type="checkbox"/> Oxidized Root Channels in Upper 12 Inches <input type="checkbox"/> Water-Stained Leaves <input type="checkbox"/> Local Soil Survey Data <input type="checkbox"/> FAC-Neutral Test <input type="checkbox"/> Other (Explain in Remarks)
<p><b>Field Observations:</b></p> Depth of Surface Water: <u>Ø</u> (in.) Depth to Free Water in Pit: <u>&gt; 18</u> (in.) Depth to Saturated Soil: <u>Ø none</u> (in.)	

Remarks: No surface water or saturated soils. Free standing water less than 18 in.

**SOILS**

Map Unit Name (Series and Phase):		AGC - Alderwood gravelly sandy loam		Drainage Class	
Taxonomy (Subgroup)				Field Observations	
				Confirm Mapped Type?	Yes <input type="checkbox"/> No <input checked="" type="checkbox"/>

Profile Descriptions:					
Depth (inches)	Horizon	Matrix Color (Munsell Moist)	Mottle Colors (Munsell Moist)	Mottle Abundance/ Size/Contrast	Texture, Concretions, Structure, etc.
0-3		10YR 3/1			Topsoil Landscaping
3-18		10YR 5/1			Clay
8-18		10YR 5/1	10YR 5/6	fff	Clay - very compact

Hydric Soil Indicators:	
<input type="checkbox"/> Histosol	<input type="checkbox"/> Concretions
<input type="checkbox"/> Histic Epipedon	<input type="checkbox"/> High Organic Content in Surface Layer in Sandy Soils
<input type="checkbox"/> Sulfidic Odor	<input type="checkbox"/> Organic Streaking in Sandy Soils
<input type="checkbox"/> Aquic Moisture Regime	<input type="checkbox"/> Listed on Local Hydric Soils List
<input checked="" type="checkbox"/> Gleyed or Low-Chroma Colors	<input type="checkbox"/> Other (Explain in Remarks)

Remarks

**WETLAND DETERMINATION**

Hydrophytic Vegetation Present?	Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> (Circle)	
Wetland Hydrology Present?	Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> (Circle)	
Hydric Soils Present?	Yes <input checked="" type="checkbox"/> No <input type="checkbox"/>	Is this Sampling Point Within a Wetland? Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> (Circle)

Remarks: Does not meet all 3 criteria.

Wetland name or number 7.18L

**WETLAND RATING FORM – WESTERN WASHINGTON**  
Version 2 - Updated July 2006 to increase accuracy and reproducibility among users

Name of wetland (if known): 7.18L Date of site visit: \_\_\_\_\_

Rated by CKD / JRP Trained by Ecology? Yes \_\_\_ No X Date of training 10/24/2006

SEC: 20 TOWNSHIP: 25N RANGE: 2E Is S/T/R in Appendix D? Yes \_\_\_ No X

Map of wetland unit: Figure — Estimated size 0.59 acres

### SUMMARY OF RATING

Category based on FUNCTIONS provided by wetland

I \_\_\_ II \_\_\_ III X IV \_\_\_

Category I = Score $\geq 70$
Category II = Score 51-69
Category III = Score 30-50
Category IV = Score $< 30$

Score for Water Quality Functions	<u>12</u>
Score for Hydrologic Functions	<u>18</u>
Score for Habitat Functions	<u>14</u>
<b>TOTAL score for Functions</b>	<b><u>44</u></b>

Category based on SPECIAL CHARACTERISTICS of wetland

I \_\_\_ II \_\_\_ Does not Apply X

Final Category (choose the "highest" category from above)

<u>III</u>
------------

Summary of basic information about the wetland unit

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

Wetland name or number 7.18L

**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.

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

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

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

Wetland name or number 7.18L

## Classification of Wetland Units in Western Washington

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

1. Are the water levels in the entire unit usually controlled by tides (i.e. except during floods)?  
 NO - go to 2      YES - the wetland class is **Tidal Fringe**

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

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

2. The entire wetland unit is flat and precipitation is the only source (>90%) of water to it. Groundwater and surface water runoff are NOT sources of water to the unit.  
 NO - go to 3      YES - The wetland class is **Flats**

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

3. Does the entire wetland unit **meet both** of the following criteria?  
\_\_\_ The vegetated part of the wetland is on the shores of a body of permanent open water (without any vegetation on the surface) at least 20 acres (8 ha) in size;  
\_\_\_ At least 30% of the open water area is deeper than 6.6 ft (2 m)?  
 NO - go to 4      YES - The wetland class is **Lake-fringe (Lacustrine 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 type of wetlands except occasionally in very small and shallow depressions or behind hummocks (depressions are usually < 3ft diameter and less than 1 foot deep).*  
 NO - go to 5      YES - The wetland class is **Slope**

Wetland name or number 7.18L

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

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

\_\_\_ The overbank flooding occurs at least once every two years.

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

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

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

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

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

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

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

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

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

Wetland name or number 7.18L

<b>D Depressional and Flats Wetlands</b>		<b>Points</b> (only 1 score per box)
<b>WATER QUALITY FUNCTIONS - Indicators that the wetland unit functions to improve water quality</b>		
<b>D</b>	<b>D 1. Does the wetland unit have the <u>potential</u> to improve water quality?</b>	(see p.38)
<b>D</b>	<p>D 1.1 Characteristics of surface water flows out of the wetland:</p> <p>Unit is a depression with no surface water leaving it (no outlet) points = 3</p> <p>Unit has an intermittently flowing, OR highly constricted permanently flowing outlet points = 2</p> <p>Unit has an unconstricted, or slightly constricted, surface outlet (<i>permanently flowing</i>) points = 1</p> <p>Unit is a "flat" depression (Q. 7 on key), or in the Flats class, with permanent surface outflow <b>and no obvious natural outlet</b> and/or outlet is a man-made ditch points = 1 (<i>If ditch is not permanently flowing treat unit as "intermittently flowing"</i>)</p> <p style="text-align: right;">Provide photo or drawing</p>	Figure <u>3</u>
<b>D</b>	<p>S 1.2 The soil 2 inches below the surface (or duff layer) is clay or organic (<i>use NRCS definitions</i>)</p> <p>YES points = 4</p> <p>NO points = 0</p>	<u>0</u>
<b>D</b>	<p>D 1.3 Characteristics of persistent vegetation (emergent, shrub, and/or forest Cowardin class)</p> <p>Wetland has persistent, ungrazed, vegetation &gt; = 95% of area points = 5</p> <p>Wetland has persistent, ungrazed, vegetation &gt; = 1/2 of area points = 3</p> <p>Wetland has persistent, ungrazed vegetation &gt; = 1/10 of area points = 1</p> <p>Wetland has persistent, ungrazed vegetation &lt; 1/10 of area points = 0</p> <p style="text-align: right;">Map of Cowardin vegetation classes</p>	Figure <u>3</u>
<b>D</b>	<p>D 1.4 Characteristics of seasonal ponding or inundation.</p> <p><i>This is the area of the wetland unit that is ponded for at least 2 months, but dries out sometime during the year. Do not count the area that is permanently ponded. Estimate area as the average condition 5 out of 10 yrs.</i></p> <p>Area seasonally ponded is &gt; 1/2 total area of wetland points = 4</p> <p>Area seasonally ponded is &gt; 1/4 total area of wetland points = 2</p> <p>Area seasonally ponded is &lt; 1/4 total area of wetland points = 0</p> <p style="text-align: right;">Map of Hydroperiods</p>	Figure <u>0</u>
<b>D</b>	<b>Total for D 1</b>	<u>6</u> <i>Add the points in the boxes above</i>
<b>D</b>	<b>D 2. Does the wetland unit have the <u>opportunity</u> to improve water quality?</b>	(see p. 44)
	<p>Answer YES if you know or believe there are pollutants in groundwater or surface water coming into the wetland that would otherwise reduce water quality in streams, lakes or groundwater downgradient from the wetland. <i>Note which of the following conditions provide the sources of pollutants. A unit may have pollutants coming from several sources, but any single source would qualify as opportunity.</i></p> <ul style="list-style-type: none"> <li>— Grazing in the wetland or within 150 ft</li> <li>— Untreated stormwater discharges to wetland</li> <li>— Filled fields or orchards within 150 ft of wetland</li> <li>— A stream or culvert discharges into wetland that drains developed areas, residential areas, farmed fields, roads, or clear-cut logging</li> <li>— Residential, urban areas, golf courses are within 150 ft of wetland</li> <li>— Wetland is fed by groundwater high in phosphorus or nitrogen</li> <li>— Other _____</li> </ul> <p>YES multiplier is 2      NO multiplier is 1</p>	multiplier <u>2</u>
<b>D</b>	<b>TOTAL - Water Quality Functions</b>	<p>Multiply the score from D1 by D2</p> <p><i>Add score to table on p. 1</i></p> <p style="text-align: right; border: 2px solid black;"><u>12</u></p>

Wetland name or number 7.18L

<b>D Depressional and Flats Wetlands</b>		<b>Points</b> (only 1 score per box)
<b>HYDROLOGIC FUNCTIONS - Indicators that the wetland unit functions to reduce flooding and stream degradation</b>		
<b>D 3. Does the wetland unit have the <u>potential</u> to reduce flooding and erosion?</b> (see p.46)		
<b>D</b>	<p>D 3.1 Characteristics of surface water flows out of the wetland unit</p> <p>Unit is a depression with no surface water leaving it (no outlet) points = 4</p> <p>Unit has an intermittently flowing, OR highly constricted permanently flowing outlet points = 2</p> <p>Unit is a "flat" depression (Q. 7 on key), or in the Flats class, with permanent surface outflow <b>and no obvious natural outlet</b> and/or outlet is a man-made ditch points = 1</p> <p>(If ditch is not permanently flowing treat unit as "intermittently flowing")</p> <p>Unit has an unconstricted, or slightly constricted, surface outlet (permanently flowing) points = 0</p>	<b>4</b>
<b>D</b>	<p>D 3.2 Depth of storage during wet periods</p> <p>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).</p> <p>Marks of ponding are 3 ft or more above the surface or bottom of outlet points = 7</p> <p>The wetland is a "headwater" wetland points = 5</p> <p>Marks of ponding between 2 ft to &lt; 3 ft from surface or bottom of outlet points = 5</p> <p>Marks are at least 0.5 ft to &lt; 2 ft from surface or bottom of outlet points = 3</p> <p>Unit is flat (yes to Q. 2 or Q. 7 on key) but has small depressions on the surface that trap water points = 1</p> <p>Marks of ponding less than 0.5 ft points = 0</p>	<b>5</b>
<b>D</b>	<p>D 3.3 Contribution of wetland unit to storage in the watershed</p> <p>Estimate the ratio of the area of upstream basin contributing surface water to the wetland to the area of the wetland unit itself.</p> <p>The area of the basin is less than 10 times the area of unit points = 5</p> <p>The area of the basin is 10 to 100 times the area of the unit points = 3</p> <p>The area of the basin is more than 100 times the area of the unit points = 0</p> <p>Entire unit is in the FLATS class points = 5</p>	<b>0</b>
<b>D</b>	<p><b>Total for D 3</b> Add the points in the boxes above</p>	<b>9</b>
<b>D</b>	<p><b>D 4. Does the wetland unit have the <u>opportunity</u> to reduce flooding and erosion?</b> (see p. 49)</p> <p>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.</p> <p>Note which of the following indicators of opportunity apply.</p> <ul style="list-style-type: none"> <li>— Wetland is in a headwater of a river or stream that has flooding problems</li> <li>— Wetland drains to a river or stream that has flooding problems</li> <li>— Wetland has no outlet and impounds surface runoff water that might otherwise flow into a river or stream that has flooding problems</li> <li>— Other _____</li> </ul> <p>YES multiplier is <b>2</b> NO multiplier is <b>1</b></p>	multiplier <b>2</b>
<b>D</b>	<p><b>TOTAL - Hydrologic Functions</b> Multiply the score from D 3 by D 4</p> <p>Add score to table on p. 1</p>	<b>18</b>



Wetland name or number 7,18 L

**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 classes or three vegetation classes and open water the rating is always "high". Use map of Cowardin vegetation classes

Figure \_\_\_\_\_

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) in, or contiguous with the unit, for at least 33 ft (10m)
- Stable steep banks of fine material that might be used by beaver or muskrat for denning (>30degree slope) OR signs of recent beaver activity are present (cut shrubs or trees that have not yet turned grey/brown)
- At least ¼ acre of thin-stemmed persistent vegetation or woody branches are present in areas that are permanently or seasonally inundated. (structures for egg-laying by amphibians)
- Invasive plants cover less than 25% of the wetland area in each stratum of plants

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

3

**H 1. TOTAL Score - potential for providing habitat**  
 Add the scores from H 1.1, H 1.2, H 1.3, H 1.4, H 1.5

10

Comments



Wetland name or number 7.18L

H 2.3 Near or adjacent to other priority habitats listed by WDFW (see p. 82)

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

*These are DFW definitions. Check with your local DFW biologist if there are any questions.*

**Riparian:** The area adjacent to aquatic systems with flowing water that contains elements of both aquatic and terrestrial ecosystems which mutually influence each other.

**Aspen Stands:** Pure or mixed stands of aspen greater than 0.8 ha (2 acres).

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

**Old-growth 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.

**Prairies:** Relatively undisturbed areas (as indicated by dominance of native plants) where grasses and/or forbs form the natural climax plant community.

**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.

**Caves:** A naturally occurring cavity, recess, void, or system of interconnected passages

**Oregon white Oak:** Woodlands Stands of pure oak or oak/conifer associations where canopy coverage of the oak component of the stand is 25%.

**Urban Natural Open Space:** A priority species resides within or is adjacent to the open space and uses it for breeding and/or regular feeding; and/or the open space functions as a corridor connecting other *priority habitats*, especially those that would otherwise be isolated; and/or the open space is an isolated remnant of natural habitat larger than 4 ha (10 acres) and is surrounded by urban development.

**Estuary/Estuary-like:** Deepwater tidal habitats and adjacent tidal wetlands, usually semi-enclosed by land but with open, partly obstructed or sporadic access to the open ocean, and in which ocean water is at least occasionally diluted by freshwater runoff from the land. The salinity may be periodically increased above that of the open ocean by evaporation. Along some low-energy coastlines there is appreciable dilution of sea water. Estuarine habitat extends upstream and landward to where ocean-derived salts measure less than 0.5ppt. during the period of average annual low flow. Includes both estuaries and lagoons.

**Marine/Estuarine Shorelines:** Shorelines include the intertidal and subtidal zones of beaches, and may also include the backshore and adjacent components of the terrestrial landscape (e.g., cliffs, snags, mature trees, dunes, meadows) that are important to shoreline associated fish and wildlife and that contribute to shoreline function (e.g., sand/rock, log recruitment, nutrient contribution, erosion control).

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

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

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

No habitats = 0 points

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

0

Wetland name or number 7.18L

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



Wetland name or number 7.18L

<p><b>SC 2.0 Natural Heritage Wetlands</b> (see p. 87)          Natural Heritage wetlands have been identified by the Washington Natural Heritage Program/DNR as either high quality undisturbed wetlands or wetlands that support state Threatened, Endangered, or Sensitive plant species.</p> <p>SC 2.1 Is the wetland unit being rated in a Section/Township/Range that contains a Natural Heritage wetland? (this question is used to screen out most sites before you need to contact WNHP/DNR)          S/T/R information from Appendix D ___ or accessed from WNHP/DNR web site ___</p> <p>YES ___ – contact WNHP/DNR (see p. 79) and go to SC 2.2      NO <input checked="" type="checkbox"/></p> <p>SC 2.2 Has DNR identified the wetland as a high quality undisturbed wetland or as or as a site with state threatened or endangered plant species?          YES = Category I      NO <input checked="" type="checkbox"/> not a Heritage Wetland</p>	<p><b>Cat. I</b></p>
<p><b>SC 3.0 Bogs</b> (see p. 87)          Does the wetland unit (or any part of the unit) meet both the criteria for soils and vegetation in bogs? 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.</p> <p>1. Does the unit have organic soil horizons (i.e. layers of organic soil), either peats or mucks, that compose 16 inches or more of the first 32 inches of the soil profile? (See Appendix B for a field key to identify organic soils)? Yes - go to Q. 3      No - go to Q. 2</p> <p>2. Does the unit have organic soils, either peats or mucks that are less than 16 inches deep over bedrock, or an impermeable hardpan such as clay or volcanic ash, or that are floating on a lake or pond?          Yes - go to Q. 3      No - Is not a bog for purpose of rating</p> <p>3. Does the unit have more than 70% cover of mosses at ground level, AND other plants, if present, consist of the "bog" species listed in Table 3 as a significant component of the vegetation (more than 30% of the total shrub and herbaceous cover consists of species in Table 3)?          Yes – Is a bog for purpose of rating      No - go to Q. 4</p> <p>NOTE: If you are uncertain about the extent of mosses in the understory you may substitute that criterion by measuring the pH of the water that seeps into a hole dug at least 16" deep. If the pH is less than 5.0 and the "bog" plant species in Table 3 are present, the wetland is a bog.</p> <p>1. Is the unit forested (&gt; 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 (&gt; 30% coverage of the total shrub-herbaceous cover)?</p> <p>2. YES = Category I      No <input checked="" type="checkbox"/> Is not a bog for purpose of rating</p>	<p><b>Cat. I</b></p>

# Routine Wetland Determination

DATA FORM 1 (Revised)

WA State Wetland Delineation Manual or 1987 Corps Wetland Delineation Manual

7.18L

Project/Site: 405 BLASOS Applicant/owner: WSDOT Investigator(s): DOUGLAS, Rodney	Date: 10/24/06 County: King State: WA S/T/R: 19/25N/5E Community ID: - Transect ID: - Plot ID: 1 (C)
Do normal circumstances exist on the site? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No Is the site significantly disturbed (atypical situation)? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No Is the area a potential problem area? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No Explanation of atypical or problem area:	

**VEGETATION** (For \*strata, indicate T = tree; S = shrub; H = herb; V = vine)

Dominant Plant Species	*Stratum	% cover	Indicator	Dominant Plant Species	*Stratum	% cover	Indicator
ACNWB	T	40	FAC				
PRVEMA	T	20	FACW				
PRVSB	S	20	FAC				
PRVHM	H	20	FACW				
PRVARM	S	95	FACW				

**HYDROPHYTIC VEGETATION INDICATORS:** T = 40% = 67%, S = 20/115 = 17%, H = 9/20 = 45%  
 % of dominants OBL, FACW, & FAC: 60/195 = 31%

Check all indicators that apply and explain below:

- |  |  |
|--|--|
| <input type="checkbox"/> Visual observation of plant species growing in areas of prolonged inundation/saturation | <input type="checkbox"/> Physiological/reproductive adaptations                      |
| <input type="checkbox"/> Morphological adaptations   | <input checked="" type="checkbox"/> Wetland plant database                           |
| <input type="checkbox"/> Technical Literature  | <input checked="" type="checkbox"/> Personal knowledge of regional plant communities |
|  | <input type="checkbox"/> Other (explain)   |

Hydrophytic vegetation present?  Yes  No

Rationale for decision/Remarks: 31% Dom. Wetland Veg.

**HYDROLOGY**

Is it the growing season? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	Water Marks: <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No on	Sediment Deposits: <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No
Based on: <input type="checkbox"/> Soil temp (record temp). <input checked="" type="checkbox"/> Other (explain) October	Drift Lines: <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No	Drainage Patterns: <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No
Depth of inundation: 0 inches	Oxidized Root (live roots) Channels <12in: <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No	Local Soil Survey: <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No
Depth to free water in pit: 0	FAC Neutral: <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No	Water-stained Leaves: <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No
Depth to saturated soil: 0 to 18"	Other (explain):	
Check all that apply & explain below: <input type="checkbox"/> Stream, lake or gage data <input type="checkbox"/> Aerial photographs <input type="checkbox"/> Other		

Wetland hydrology present?  Yes  No

Rationale for decision/remarks: No Hydric Features

**SOILS**

Map Unit Name (Series and Phase): *EVC*  
*event gravelly sandy loam*

Drainage Class

Field observations confirm mapped type?  Yes  No

**Profile Description**

Depth (Inches)	Horizon	Matrix color (Munsell moist)	Mottle colors (Munsell moist)	Mottle abundance size and contrast	Texture, concretions, structure, etc.	Drawing of soil profile (match description)
0-3"		10YR 3/4	—	—	Sandy Loam	cobble
3-18"		10YR 3/4	—	—	Fill w/ Gravel	

**Hydric Soil Indicators:** (check all that apply)

- |   |   |
|---|---|
| <input type="checkbox"/> Histosol                         | <input type="checkbox"/> Matrix chroma ≤ 2 with mottles                       |
| <input type="checkbox"/> Histic Epipedon                  | <input type="checkbox"/> Mg or Fe Concretions                                 |
| <input type="checkbox"/> Sulfidic Odor                    | <input type="checkbox"/> High Organic Content in Surface Layer of Sandy Soils |
| <input type="checkbox"/> Aquic Moisture Regime            | <input type="checkbox"/> Organic Streaking in Sandy Soils                     |
| <input type="checkbox"/> Reducing Conditions              | <input type="checkbox"/> Listed on National/Local Hydric Soils List           |
| <input type="checkbox"/> Gleyed or Low-Chroma (=1) matrix | <input type="checkbox"/> Other (explain in remarks)                           |

Hydric soils present?  Yes  No

Rationale for decision/Remarks: *No Hydric Indicators*

**Wetland Determination**

- |   |                              |  |
|---|------------------------------|--|
| Hydrophytic vegetation present?         | <input type="checkbox"/> Yes | <input checked="" type="checkbox"/> No |
| Hydric soils present?                   | <input type="checkbox"/> Yes | <input checked="" type="checkbox"/> No |
| Wetland hydrology present?              | <input type="checkbox"/> Yes | <input checked="" type="checkbox"/> No |
| Is the sampling point within a wetland? | <input type="checkbox"/> Yes | <input checked="" type="checkbox"/> No |

Rationale/Remarks: *2 of 3 parameters*

NOTES:

*Fill prism from road.*

# Routine Wetland Determination

DATA FORM 1 (Revised)

WA State Wetland Delineation Manual or 1987 Corps Wetland Delineation Manual) 7.18L

Project/Site: <u>405 BLAGOS</u> Applicant/owner: <u>WSDOT</u> Investigator(s): <u>Douglas, Rueling</u>	Date: <u>10/24/06</u> County: <u>Kings</u> State: <u>WA</u> S/T/R: <u>1905N15E</u>
Do normal circumstances exist on the site? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No Is the site significantly disturbed (atypical situation)? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No Is the area a potential problem area? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No Explanation of atypical or problem area:	Community ID: <u>—</u> Transect ID: <u>—</u> Plot ID: <u>Sp#2 (W)</u>

**VEGETATION** (For \*strata, indicate T = tree; S = shrub; H = herb; V = vine)

Dominant Plant Species	*Stratum	% cover	Indicator	Dominant Plant Species	*Stratum	% cover	Indicator
<u>RALVEMA</u>	<u>T</u>	<u>20</u>	<u>FACW</u>	<u>ALNARB</u>	<u>T</u>	<u>60</u>	<u>FAC</u>
<u>RUBUPE</u>	<u>S</u>	<u>30</u>	<u>FAC</u>	<u>SALSC</u>	<u>T</u>	<u>30</u>	<u>FAC</u>
<u>RUBARM</u>	<u>S</u>	<u>30</u>	<u>FACV</u>	<u>LOWJAN</u>	<u>S</u>	<u>20</u>	<u>FAC</u>
<u>RITAPUR</u>	<u>T</u>	<u>20</u>	<u>FAC</u>	<u>LYSAME</u>	<u>H</u>	<u>60</u>	<u>OBL</u>
				<u>EQVARV</u>	<u>H</u>	<u>20</u>	<u>FAC</u>

**HYDROPHYTIC VEGETATION INDICATORS:**  $T = 9/10 = 69\%$ ,  $S = 50/80 = 63\%$ ,  $H = 80/80 = 100\%$   
 % of dominants OBL, FACW, & FAC:  $220/290 = 76\%$

Check all indicators that apply and explain below:

<input type="checkbox"/> Visual observation of plant species growing in areas of prolonged inundation/saturation	<input type="checkbox"/> Physiological/reproductive adaptations
<input type="checkbox"/> Morphological adaptations	<input checked="" type="checkbox"/> Wetland plant database
<input type="checkbox"/> Technical Literature	<input checked="" type="checkbox"/> Personal knowledge of regional plant communities
	<input type="checkbox"/> Other (explain)

Hydrophytic vegetation present?  Yes  No  
 Rationale for decision/Remarks: 76% Dom. WET VEG.

**HYDROLOGY**

Is it the growing season? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	Water Marks: <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No on	Sediment Deposits: <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No
Based on: <input type="checkbox"/> Soil temp (record temp), <input checked="" type="checkbox"/> Other (explain) <u>October</u>	Drift Lines: <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No	Drainage Patterns: <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No
Depth of inundation: <u>0</u> inches	Oxidized Root (live roots) Channels <12in: <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No	Local Soil Survey: <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No
Depth to free water in pit: <u>6"</u>	FAC Neutral: <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	Water-stained Leaves: <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No
Depth to saturated soil: <u>@ surface</u>	Other (explain):	

Wetland hydrology present?  Yes  No  
 Rationale for decision/remarks: Saturation, free water, drainage, stained leaves

**SOILS**

Map Unit Name (Series and Phase): *EVC*  
*Everett gravelly Sandy loam.*  
 Taxonomy (subgroup)

Drainage Class

Field observations confirm mapped type?  Yes  No

**Profile Description**

Depth (inches)	Horizon	Matrix color (Munsell moist)	Mottle colors (Munsell moist)	Mottle abundance size and contrast	Texture, concretions, structure, etc.	Drawing of soil profile (match description)
0-18"		10YR2/1	—	—	Silt loam	

**Hydric Soil Indicators: (check all that apply)**

- Histosol
- Histic Epipedon
- Sulfidic Odor
- Aquic Moisture Regime
- Reducing Conditions
- Gleyed or Low-Chroma (=1) matrix
- Matrix chroma  $\leq$  2 with mottles
- Mg or Fe Concretions
- High Organic Content in Surface Layer of Sandy Soils
- Organic Streaking in Sandy Soils
- Listed on National/Local Hydric Soils List
- Other (explain in remarks)

Hydric soils present?  Yes  No

Rationale for decision/Remarks: *low chroma*

**Wetland Determination**

- Hydrophytic vegetation present?  Yes  No
- Hydric soils present?  Yes  No
- Wetland hydrology present?  Yes  No
- Is the sampling point within a wetland?  Yes  No

Rationale/Remarks: *3 of 3 parameters*

NOTES:

Revised 4/97

Wetland name or number 7.2 L

**WETLAND RATING FORM – WESTERN WASHINGTON**  
Version 2 - Updated July 2006 to increase accuracy and reproducibility among users

Name of wetland (if known): 7.2 L Date of site visit: 10/24/2006

Rated by CKD Trained by Ecology? Yes \_\_\_ No  Date of training \_\_\_\_\_

SEC: 20 TOWNSHIP: 25N RANGE: 2E Is S/T/R in Appendix D? Yes \_\_\_ No

Map of wetland unit: Figure \_\_\_\_\_ Estimated size 0.12 acres

### SUMMARY OF RATING

Category based on **FUNCTIONS** provided by wetland

I \_\_\_ II \_\_\_ III  IV \_\_\_

Category I = Score  $\geq 70$   
Category II = Score 51-69  
Category III = Score 30-50  
Category IV = Score  $< 30$

Score for Water Quality Functions

20

Score for Hydrologic Functions

18

Score for Habitat Functions

12

**TOTAL score for Functions**

50

Category based on **SPECIAL CHARACTERISTICS** of wetland

I \_\_\_ II \_\_\_ Does not Apply

**Final Category** (choose the "highest" category from above)

III

Summary of basic information about the wetland unit

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

Wetland name or number \_\_\_\_\_

**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.

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

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

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

Wetland name or number 7,2L

## Classification of Wetland Units in Western Washington

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

1. Are the water levels in the entire unit usually controlled by tides (i.e. except during floods)?  
 NO - go to 2      YES - the wetland class is **Tidal Fringe**

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

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

2. The entire wetland unit is flat and precipitation is the only source (>90%) of water to it. Groundwater and surface water runoff are NOT sources of water to the unit.  
 NO - go to 3      YES - The wetland class is **Flats**

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

3. Does the entire wetland unit **meet both** of the following criteria?  
\_\_\_ The vegetated part of the wetland is on the shores of a body of permanent open water (without any vegetation on the surface) at least 20 acres (8 ha) in size;  
 NO - go to 4      YES - The wetland class is **Lake-fringe (Lacustrine Fringe)**  
\_\_\_ At least 30% of the open water area is deeper than 6.6 ft (2 m)?

4. Does the entire wetland unit **meet all** of the following criteria?  
\_\_\_ The wetland is on a slope (*slope can be very gradual*).  
\_\_\_ The water flows through the wetland in one direction (unidirectional) and usually comes from seeps. It may flow subsurface, as sheetflow, or in a swale without distinct banks.  
\_\_\_ The water leaves the wetland **without being impounded**?  
NOTE: *Surface water does not pond in these type of wetlands except occasionally in very small and shallow depressions or behind hummocks (depressions are usually 3ft diameter and less than 1 foot deep).*

- NO - go to 5      YES - The wetland class is **Slope**

Wetland name or number 724

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

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

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

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

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

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

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

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

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

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

Wetland name or number 724

<b>R Riverine and Freshwater Tidal Fringe Wetlands</b>		<b>Points</b>
<b>WATER QUALITY FUNCTIONS - Indicators that wetland functions to improve water quality</b>		(only 1 score per box)
<b>R</b>	<b>R 1. Does the wetland unit have the <u>potential</u> to improve water quality?</b>	(see p.52)
<b>R</b>	R 1.1 Area of surface depressions within the riverine wetland that can trap sediments during a flooding event: Depressions cover >3/4 area of wetland points = 8 Depressions cover > 1/2 area of wetland points = 4 If depressions > 1/2 of area of unit draw polygons on aerial photo or map Depressions present but cover < 1/2 area of wetland points = 2 No depressions present points = 0	Figure <u>2</u>
<b>R</b>	R 1.2 Characteristics of the vegetation in the unit (areas with >90% cover at person height): Trees or shrubs > 2/3 the area of the unit points = 8 Trees or shrubs > 1/3 area of the unit points = 6 Ungrazed, herbaceous plants > 2/3 area of unit points = 6 Ungrazed herbaceous plants > 1/3 area of unit points = 3 Trees, shrubs, and ungrazed herbaceous < 1/3 area of unit points = 0 Aerial photo or map showing polygons of different vegetation types	Figure <u>8</u>
<b>R</b>	<i>Add the points in the boxes above</i>	
<b>R</b>	<b>R 2. Does the wetland unit have the <u>opportunity</u> to improve water quality?</b> Answer YES if you know or believe there are pollutants in groundwater or surface water coming into the wetland that would otherwise reduce water quality in streams, lakes or groundwater downgradient from the wetland? <i>Note which of the following conditions provide the sources of pollutants. A unit may have pollutants coming from several sources, but any single source would qualify as opportunity.</i> — Grazing in the wetland or within 150ft — Untreated stormwater discharges to wetland — Tilled fields or orchards within 150 feet of wetland — A stream or culvert discharges into wetland that drains developed areas, residential areas, farmed fields, roads, or clear-cut logging — Residential, urban areas, golf courses are within 150 ft of wetland — The river or stream linked to the wetland has a contributing basin where human activities have raised levels of sediment, toxic compounds or nutrients in the river water above standards for water quality — Other _____ <b>YES multiplier is 2      NO multiplier is 1</b>	(see p.53)  multiplier <u>2</u>
<b>R</b>	<b>TOTAL - Water Quality Functions</b> Multiply the score from R 1 by R 2 <i>Add score to table on p. 1</i>	<b>20</b>

Comments

Wetland name or number \_\_\_\_\_

<b>R Riverine and Freshwater Tidal Fringe Wetlands</b> <b>HYDROLOGIC FUNCTIONS - Indicators that wetland functions to reduce flooding and stream erosion</b>		<b>Points</b> <small>(only 1 score per box)</small>
	<b>R 3. Does the wetland unit have the <u>potential</u> to reduce flooding and erosion?</b>	<i>(see p.54)</i>
R	R 3.1 Characteristics of the overbank storage the unit provides: <i>Estimate the average width of the wetland unit perpendicular to the direction of the flow and the width of the stream or river channel (distance between banks). Calculate the ratio: ( average width of unit)/( average width of stream between banks).</i> If the ratio is more than 20 points = 9 If the ratio is between 10 - 20 points = 6 If the ratio is 5 - <10 points = 4 If the ratio is 1 - <5 points = 2 If the ratio is < 1 points = 1 Aerial photo or map showing average widths	Figure ____  2
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 &gt;90% cover at person height NOT Cowardin classes):</i> Forest or shrub for >1/3 area OR herbaceous plants > 2/3 area points = 7 Forest or shrub for > 1/10 area OR herbaceous plants > 1/3 area points = 4 Vegetation does not meet above criteria points = 0 Aerial photo or map showing polygons of different vegetation types	Figure ____  7
R	<i>Add the points in the boxes above</i>	9
R	<b>R 4. Does the wetland unit have the <u>opportunity</u> to reduce flooding and erosion?</b> Answer YES if the unit is in a location in the watershed where the flood storage, or reduction in water velocity, it provides helps protect downstream property and aquatic resources from flooding or excessive and/or erosive flows. <i>Note which of the following conditions apply.</i> — There are human structures and activities downstream (roads, buildings, bridges, farms) that can be damaged by flooding. — There are natural resources downstream (e.g. salmon redds) that can be damaged by flooding — 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	<b>TOTAL - Hydrologic Functions</b> Multiply the score from R 3 by R 4 <i>Add score to table on p. 1</i>	18

Comments

Wetland name or number \_\_\_\_\_

**These questions apply to wetlands of all HGM classes.**

**Points**  
(only 1 score per box)

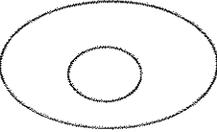
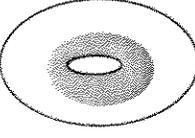
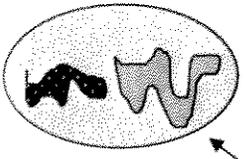
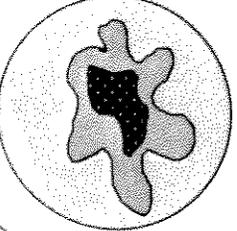
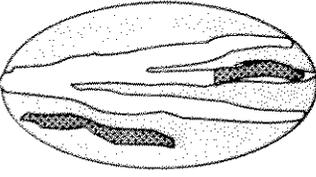
**HABITAT FUNCTIONS - Indicators that unit functions to provide important habitat**

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

<p><b>H 1.1. <u>Vegetation structure</u> (see p. 72)</b>  <i>Check the types of vegetation classes present (as defined by Cowardin)- Size threshold for each class is 1/4 acre or more than 10% of the area if unit is smaller than 2.5 acres.</i></p> <p> <input type="checkbox"/> Aquatic bed  <input type="checkbox"/> Emergent plants  <input type="checkbox"/> Scrub/shrub (areas where shrubs have &gt;30% cover)  <input checked="" type="checkbox"/> Forested (areas where trees have &gt;30% cover)  <i>If the unit has a forested class check if:</i>  <input type="checkbox"/> The forested class has 3 out of 5 strata (canopy, sub-canopy, shrubs, herbaceous, moss/ground-cover) that each cover 20% within the forested polygon  <i>Add the number of vegetation structures that qualify. If you have:</i> </p> <table border="0"> <tr> <td>4 structures or more</td> <td>points = 4</td> </tr> <tr> <td>3 structures</td> <td>points = 2</td> </tr> <tr> <td>2 structures</td> <td>points = 1</td> </tr> <tr> <td>1 structure</td> <td>points = 0</td> </tr> </table> <p>Map of Cowardin vegetation classes</p>	4 structures or more	points = 4	3 structures	points = 2	2 structures	points = 1	1 structure	points = 0	<p><b>Figure</b> _____</p> <p style="text-align: center;">1</p>				
4 structures or more	points = 4												
3 structures	points = 2												
2 structures	points = 1												
1 structure	points = 0												
<p><b>H 1.2. <u>Hydroperiods</u> (see p. 73)</b>  <i>Check the types of water regimes (hydroperiods) present within the wetland. The water regime has to cover more than 10% of the wetland or 1/4 acre to count. (see text for descriptions of hydroperiods)</i></p> <table border="0"> <tr> <td><input type="checkbox"/> Permanently flooded or inundated</td> <td>4 or more types present</td> <td>points = 3</td> </tr> <tr> <td><input type="checkbox"/> Seasonally flooded or inundated</td> <td>3 types present</td> <td>points = 2</td> </tr> <tr> <td><input checked="" type="checkbox"/> Occasionally flooded or inundated</td> <td>2 types present</td> <td>point = 1</td> </tr> <tr> <td><input checked="" type="checkbox"/> Saturated only</td> <td>1 type present</td> <td>points = 0</td> </tr> </table> <p> <input type="checkbox"/> Permanently flowing stream or river in, or adjacent to, the wetland  <input type="checkbox"/> Seasonally flowing stream in, or adjacent to, the wetland  <input type="checkbox"/> <b>Lake-fringe wetland = 2 points</b>  <input type="checkbox"/> <b>Freshwater tidal wetland = 2 points</b> </p> <p>Map of hydroperiods</p>	<input type="checkbox"/> Permanently flooded or inundated	4 or more types present	points = 3	<input type="checkbox"/> Seasonally flooded or inundated	3 types present	points = 2	<input checked="" type="checkbox"/> Occasionally flooded or inundated	2 types present	point = 1	<input checked="" type="checkbox"/> Saturated only	1 type present	points = 0	<p><b>Figure</b> _____</p> <p style="text-align: center;">1</p>
<input type="checkbox"/> Permanently flooded or inundated	4 or more types present	points = 3											
<input type="checkbox"/> Seasonally flooded or inundated	3 types present	points = 2											
<input checked="" type="checkbox"/> Occasionally flooded or inundated	2 types present	point = 1											
<input checked="" type="checkbox"/> Saturated only	1 type present	points = 0											
<p><b>H 1.3. <u>Richness of Plant Species</u> (see p. 75)</b>          Count the number of plant species in the wetland that cover at least 10 ft<sup>2</sup>. (<i>different patches of the same species can be combined to meet the size threshold</i>)  <i>You do not have to name the species.</i>  <i>Do not include Eurasian Milfoil, reed canarygrass, purple loosestrife, Canadian Thistle</i></p> <p>If you counted:</p> <table border="0"> <tr> <td>&gt; 19 species</td> <td>points = 2</td> </tr> <tr> <td>5 - 19 species</td> <td>points = 1</td> </tr> <tr> <td>&lt; 5 species</td> <td>points = 0</td> </tr> </table> <p>List species below if you want to:</p>	> 19 species	points = 2	5 - 19 species	points = 1	< 5 species	points = 0	<p style="text-align: center;">1</p>						
> 19 species	points = 2												
5 - 19 species	points = 1												
< 5 species	points = 0												

Total for page 3

Wetland name or number 724

<p><b>H 1.4. Interspersion of habitats (see p. 76)</b>          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.</p> <div style="display: flex; justify-content: space-around; align-items: center;"> <div style="text-align: center;">  <p>None = 0 points</p> </div> <div style="text-align: center;">  <p>Low = 1 point</p> </div> <div style="text-align: center;">  <p>Moderate = 2 points</p> </div> <div style="text-align: center;">  </div> </div> <div style="display: flex; justify-content: space-around; align-items: center; margin-top: 20px;"> <div style="text-align: center;">  </div> <div style="text-align: center;">  <p>High = 3 points</p> </div> <div style="text-align: center;">  <p>[riparian braided channels]</p> </div> </div> <p>NOTE: If you have four or more classes or three vegetation classes and open water the rating is always "high". Use map of Cowardin vegetation classes</p>	<p>Figure _____</p> <p style="text-align: center; font-size: 2em;">2</p>
<p><b>H 1.5. Special Habitat Features: (see p. 77)</b>          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.</p> <p><input checked="" type="checkbox"/> Large, downed, woody debris within the wetland (&gt;4in. diameter and 6 ft long).</p> <p><input checked="" type="checkbox"/> Standing snags (diameter at the bottom &gt; 4 inches) in the wetland</p> <p><input type="checkbox"/> Undercut banks are present for at least 6.6 ft (2m) and/or overhanging vegetation extends at least 3.3 ft (1m) over a stream (or ditch) in, or contiguous with the unit, for at least 33 ft (10m)</p> <p><input type="checkbox"/> Stable steep banks of fine material that might be used by beaver or muskrat for denning (&gt;30degree slope) OR signs of recent beaver activity are present (cut shrubs or trees that have not yet turned grey/brown)</p> <p><input type="checkbox"/> At least 1/4 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)</p> <p><input checked="" type="checkbox"/> Invasive plants cover less than 25% of the wetland area in each stratum of plants</p> <p>NOTE: The 20% stated in early printings of the manual on page 78 is an error.</p>	<p style="text-align: center; font-size: 2em;">3</p>
<p><b>H 1. TOTAL Score - potential for providing habitat</b>          Add the scores from H1.1, H1.2, H1.3, H1.4, H1.5</p>	<p>8</p>

Comments

Wetland name or number \_\_\_\_\_

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

Total for page 1

Wetland name or number 7.22

H 2.3 Near or adjacent to other priority habitats listed by WDFW (see p. 82)

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

*These are DFW definitions. Check with your local DFW biologist if there are any questions.*

**Riparian:** The area adjacent to aquatic systems with flowing water that contains elements of both aquatic and terrestrial ecosystems which mutually influence each other.

**Aspen Stands:** Pure or mixed stands of aspen greater than 0.8 ha (2 acres).

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

**Old-growth 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.

**Prairies:** Relatively undisturbed areas (as indicated by dominance of native plants) where grasses and/or forbs form the natural climax plant community.

**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.

**Caves:** A naturally occurring cavity, recess, void, or system of interconnected passages

**Oregon white Oak:** Woodlands Stands of pure oak or oak/conifer associations where canopy coverage of the oak component of the stand is 25%.

**Urban Natural Open Space:** A priority species resides within or is adjacent to the open space and uses it for breeding and/or regular feeding; and/or the open space functions as a corridor connecting other *priority habitats*, especially those that would otherwise be isolated; and/or the open space is an isolated remnant of natural habitat larger than 4 ha (10 acres) and is surrounded by urban development.

**Estuary/Estuary-like:** Deepwater tidal habitats and adjacent tidal wetlands, usually semi-enclosed by land but with open, partly obstructed or sporadic access to the open ocean, and in which ocean water is at least occasionally diluted by freshwater runoff from the land. The salinity may be periodically increased above that of the open ocean by evaporation. Along some low-energy coastlines there is appreciable dilution of sea water. Estuarine habitat extends upstream and landward to where ocean-derived salts measure less than 0.5ppt. during the period of average annual low flow. Includes both estuaries and lagoons.

**Marine/Estuarine Shorelines:** Shorelines include the intertidal and subtidal zones of beaches, and may also include the backshore and adjacent components of the terrestrial landscape (e.g., cliffs, snags, mature trees, dunes, meadows) that are important to shoreline associated fish and wildlife and that contribute to shoreline function (e.g., sand/rock/log recruitment, nutrient contribution, erosion control).

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

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

If wetland has **1** priority habitat = **1 point**                      No habitats = 0 points

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

0

Wetland name or number 7.2c

<p>H 2.4 <u>Wetland Landscape</u> (choose the <b>one</b> description of the landscape around the wetland that best fits) (see p. 84)</p> <p>There are at least 3 other wetlands within ½ mile, and the connections between them are relatively undisturbed (light grazing between wetlands OK, as is lake shore with some boating, but connections should NOT be bisected by paved roads, fill, fields, or other development. <span style="float: right;">points = 5</span></p> <p>The wetland is Lake-fringe on a lake with little disturbance and there are 3 other lake-fringe wetlands within ½ mile <span style="float: right;">points = 5</span></p> <p>There are at least 3 other wetlands within ½ mile, BUT the connections between them are disturbed <span style="float: right;">points = 3</span></p> <p>The wetland is Lake-fringe on a lake <b>with</b> disturbance and there are 3 other lake-fringe wetland within ½ mile <span style="float: right;">points = 3</span></p> <p>There is at least 1 wetland within ½ mile. <span style="float: right;">points = 2</span></p> <p>There are no wetlands within ½ mile. <span style="float: right;">points = 0</span></p>	<p><del>3</del> 3</p>
<p><b>H 2. TOTAL</b> Score - opportunity for providing habitat Add the scores from H2.1, H2.2, H2.3, H2.4</p>	<p><del>4</del> 4</p>
<p>TOTAL for H 1 from page 14</p>	<p><del>8</del> 8</p>
<p><b>Total Score for Habitat Functions</b> – add the points for H 1, H 2 and record the result on p. 1</p>	<p>12</p>



Wetland name or number \_\_\_\_\_

<p><b>SC 2.0 Natural Heritage Wetlands</b> (see p. 87)          Natural Heritage wetlands have been identified by the Washington Natural Heritage Program/DNR as either high quality undisturbed wetlands or wetlands that support state Threatened, Endangered, or Sensitive plant species.</p> <p>SC 2.1 Is the wetland unit being rated in a Section/Township/Range that contains a Natural Heritage wetland? (this question is used to screen out most sites before you need to contact WNHP/DNR)          S/TR information from Appendix D <input checked="" type="checkbox"/> or accessed from WNHP/DNR web site _____</p> <p>YES _____ – contact WNHP/DNR (see p. 79) and go to SC 2.2      NO <input checked="" type="checkbox"/></p> <p>SC 2.2 Has DNR identified the wetland as a high quality undisturbed wetland or as or as a site with state threatened or endangered plant species?          YES = Category I      NO <input checked="" type="checkbox"/> not a Heritage Wetland</p>	<p><b>Cat. I</b></p>
<p><b>SC 3.0 Bogs</b> (see p. 87)          Does the wetland unit (or any part of the unit) meet both the criteria for soils and vegetation in bogs? 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.</p> <ol style="list-style-type: none"> <li>1. Does the unit have organic soil horizons (i.e. layers of organic soil), either peats or mucks, that compose 16 inches or more of the first 32 inches of the soil profile? (See Appendix B for a field key to identify organic soils)? Yes - go to Q. 3      No - go to Q. 2</li> <li>2. Does the unit have organic soils, either peats or mucks that are less than 16 inches deep over bedrock, or an impermeable hardpan such as clay or volcanic ash, or that are floating on a lake or pond?              Yes - go to Q. 3      No - Is not a bog for purpose of rating</li> <li>3. Does the unit have more than 70% cover of mosses at ground level, AND other plants, if present, consist of the "bog" species listed in Table 3 as a significant component of the vegetation (more than 30% of the total shrub and herbaceous cover consists of species in Table 3)?              Yes - Is a bog for purpose of rating      No - go to Q. 4              NOTE: If you are uncertain about the extent of mosses in the understory you may substitute that criterion by measuring the pH of the water that seeps into a hole dug at least 16" deep. If the pH is less than 5.0 and the "bog" plant species in Table 3 are present, the wetland is a bog.</li> </ol> <p>1. Is the unit forested (&gt; 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 (&gt; 30% coverage of the total shrub herbaceous cover)?</p> <p>2. YES = Category I      No <input checked="" type="checkbox"/> Is not a bog for purpose of rating</p>	<p><b>Cat. I</b></p>