

# **Appendix C — Wetland Delineation — Homestead Lake**

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Wetland name or number Homestead Lake-Weland A

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

Name of wetland (if known): Wetland A

Date of site visit: 10-6-10

Rated by: Thomas D Kohl Trained by Ecology? Yes  No

Date of training: 11-8-07

SEC: 35 TOWNSHP: 2N RNGE: 6E

Is S/T/R in Appendix D? Yes  No

**SUMMARY OF RATING**

Category based on FUNCTIONS provided by wetland:  I  II  III  IV

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

Score for Water Quality Functions	<b>12</b>
Score for Hydrologic Functions	<b>20</b>
Score for Habitat Functions	<b>17</b>
<b>TOTAL Score for Functions</b>	<b>49</b>

Category based on SPECIAL CHARACTERISTICS of Wetland  I  II  Does not apply

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

**I**

**Summary of basic information about the wetland unit.**

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

**Does the wetland being rated meet any of the criteria below?** If you answer YES to any of the questions below you will need to protect the wetland according to the regulations regarding the special characteristics found in the wetland.

Check List for Wetlands that Need Additional Protection (in addition to the protection recommended for its category)	YES	NO
SP1. <i>Has the wetland unit been documented as a habitat for any Federally listed Threatened or Endangered <b>animal or plant</b> species (T/E species)?</i> For the purposes of this rating system, “documented” means the wetland is on the appropriate state or federal database.	<input checked="" type="checkbox"/>	<input type="checkbox"/>
SP2. <i>Has the wetland unit been documented as habitat for any State listed Threatened or Endangered <b>animal</b> 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 1 Natural Heritage Wetlands (see p. 19 of data form).	<input checked="" type="checkbox"/>	<input type="checkbox"/>
SP3. <i>Does the wetland unit contain individuals of Priority species listed by the WDFW for the state?</i>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
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.	<input type="checkbox"/>	<input type="checkbox"/>

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

**Classification of Vegetated Wetlands for 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 a Saltwater Tidal Fringe it is rated as an **Estuarine** wetland. Wetlands that were call 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. \_\_\_\_).*

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2. The entire wetland unit is flat and precipitation is only source (>90%) of water to it. Groundwater and surface water runoff are NOT sources of water to the unit.  
 **NO** – go to 3                       **YES** – The wetland class is **Flats**  
 If your wetland can be classified as a “Flats” wetland, use the form for **Depressional** wetlands.

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3. Does the entire wetland 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) where at least 20 acres (8ha) in size;  
 At least 30% of the open water area is deeper than 6.6 (2 m)?  
 **NO** – go to 4                       **YES** – The wetland class is **Lake-fringe (Lacustrine Fringe)**

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4. Does the entire wetland meet all of the following criteria?  
 The wetland is on a slope (*slope can be very gradual*).  
 The water flows through the wetland in one direction (unidirectional) and usually comes from seeps. It may flow subsurface, as sheetflow, or in a swale without distinct banks.  
 The water leaves the wetland **without being impounded**?  
*NOTE: Surface water does not pond in these types of wetlands except occasionally in very small and shallow depressions or behind hummocks (depressions are usually <3 ft diameter and less than 1 foot deep).*  
 **NO** – go to 5                       **YES** – The wetland class is **Slope**

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5. Does the entire wetland 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**

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6. Is the entire wetland unit in a topographic depression in which water ponds, or is saturated to the surface, at some time of 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**

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7. Is the entire wetland 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**

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

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

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







H 2	Does the wetland have the <u>opportunity</u> to provide habitat for many species?	(only 1 score per box)
	<p>H 2.1 <u>Buffers</u> (see P. 80):  <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> <p><input type="checkbox"/> 100m (330 ft) 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></p> <p><input checked="" type="checkbox"/> 100m (330 ft) of relatively undisturbed vegetated areas, rocky areas, or open water &gt; 50% circumference .....<b>points = 4</b></p> <p><input type="checkbox"/> 50m (170 ft) of relatively undisturbed vegetated areas, rocky areas, or open water &gt; 95% circumference .....<b>points = 4</b></p> <p><input type="checkbox"/> 100m (330 ft) of relatively undisturbed vegetated areas, rocky areas, or open water &gt; 25% circumference .....<b>points = 3</b></p> <p><input type="checkbox"/> 50m (170 ft) of relatively undisturbed vegetated areas, rocky areas, or open water for &gt; 50% circumference.....<b>points = 3</b></p> <p><b>If buffer does not meet any of the criteria above:</b></p> <p><input type="checkbox"/> No paved areas (except paved trails) or buildings within 25m (80 ft) of wetland &gt; 95% circumference. Light to moderate grazing or lawns are OK.....<b>points = 2</b></p> <p><input type="checkbox"/> No paved areas of buildings within 50m of wetland for &gt; 50% circumference. Light to moderate grazing or lawns are OK.....<b>points = 2</b></p> <p><input type="checkbox"/> Heavy grazing in buffer .....<b>points = 1</b></p> <p><input type="checkbox"/> Vegetated buffers are &lt; 2m wide (6.6 ft) for more than 95% circumference (e.g. tilled fields, paving, basalt bedrock extend to edge of wetland).....<b>points = 0</b></p> <p><input type="checkbox"/> Buffer does not meet any of the criteria above .....<b>points = 1</b></p> <p style="text-align: right;"><b>Arial photo showing buffers</b></p>	<b>4</b>
	<p>H 2.2 <u>Corridors and Connections</u> (see p. 81)</p> <p>H 2.2.1 Is the wetland part of a relatively undisturbed and unbroken vegetated corridor (either riparian or upland) that is at least 150 ft. wide, has at least a 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;"><input type="checkbox"/> <b>YES = 4 points</b> (go to H 2.3)                      <input type="checkbox"/> <b>NO = go to H 2.2.2</b></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 50 ft. 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 a Lake-fringe wetland</b>, if it does not have an undisturbed corridor as in the question above?</p> <p style="text-align: center;"><input type="checkbox"/> <b>YES = 2 points</b> (go to H 2.3)                      <input type="checkbox"/> <b>NO = go to H 2.2.3</b></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 miles of a large field or pasture (&gt; 40 acres) OR</li> <li>• Within 1 mile of a lake greater than 20 acres?</li> </ul> <p style="text-align: right;"><input checked="" type="checkbox"/> <b>YES = 1 point</b>  <input type="checkbox"/> <b>NO = 0 points</b></p>	<b>1</b>

Comments: \_\_\_\_\_

	<p>H 2.3 <u>Near or adjacent to other priority habitats listed by WDFW</u> (see p. 82): (<i>see new and complete descriptions of WDFW priority habitats, and the counties in which they can be found, in the PHS report <a href="http://wdfw.wa.gov/hab/phslist.htm">http://wdfw.wa.gov/hab/phslist.htm</a></i>)                  Which of the following priority habitats are within 330 ft. (100m) of the wetland unit?                  NOTE: <i>the connections do not have to be relatively undisturbed.</i></p> <p><input type="checkbox"/> <b>Aspen Stands:</b> Pure or mixed stands of aspen greater than 0.4 ha (1 acre).</p> <p><input type="checkbox"/> <b>Biodiversity Areas and Corridors:</b> Areas of habitat that are relatively important to various species of native fish and wildlife (<i>full descriptions in WDFW PHS report p. 152</i>).</p> <p><input type="checkbox"/> <b>Herbaceous Balds:</b> Variable size patches of grass and forbs on shallow soils over bedrock.</p> <p><input type="checkbox"/> <b>Old-growth/Mature forests:</b> (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) &gt; 81 cm (32 in) dbh or &gt; 200 years of age. (Mature forests) Stands with average diameters exceeding 53 cm (21 in) dbh; crown cover may be less than 100%; decay, decadence, numbers of snags, and quantity of large downed material is generally less than that found in old-growth; 80 - 200 years old west of the Cascade crest.</p> <p><input type="checkbox"/> <b>Oregon white Oak:</b> Woodlands Stands of pure oak or oak/conifer associations where canopy coverage of the oak component is important (<i>full descriptions in WDFW PHS report p. 158</i>).</p> <p><input checked="" type="checkbox"/> <b>Riparian:</b> The area adjacent to aquatic systems with flowing water that contains elements of both aquatic and terrestrial ecosystems which mutually influence each other.</p> <p><input type="checkbox"/> <b>Westside Prairies:</b> Herbaceous, non-forested plant communities that can either take the form of a dry prairie or a wet prairie (<i>full descriptions in WDFW PHS report p. 161</i>).</p> <p><input type="checkbox"/> <b>Instream:</b> The combination of physical, biological, and chemical processes and conditions that interact to provide functional life history requirements for instream fish and wildlife resources.</p> <p><input type="checkbox"/> <b>Nearshore:</b> Relatively undisturbed nearshore habitats. These include Coastal Nearshore, Open Coast Nearshore, and Puget Sound Nearshore. (<i>full descriptions of habitats and the definition of relatively undisturbed are in WDFW report: pp. 167-169 and glossary in Appendix A</i>).</p> <p><input type="checkbox"/> <b>Caves:</b> A naturally occurring cavity, recess, void, or system of interconnected passages under the earth in soils, rock, ice, or other geological formations and is large enough to contain a human.</p> <p><input type="checkbox"/> <b>Cliffs:</b> Greater than 7.6 m (25 ft) high and occurring below 5000 ft.</p> <p><input type="checkbox"/> <b>Talus:</b> 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.</p> <p><input type="checkbox"/> <b>Snags and Logs:</b> Trees are considered snags if they are dead or dying and exhibit sufficient decay characteristics to enable cavity excavation/use by wildlife. Priority snags have a diameter at breast height of &gt; 51 cm (20 in) in western Washington and are &gt; 2 m (6.5 ft) in height. Priority logs are &gt; 30 cm (12 in) in diameter at the largest end, and &gt; 6 m (20 ft) long.</p> <p style="text-align: right;">If wetland has <b>3 or more</b> priority habitats = <b>4 points</b>                  If wetland has <b>2</b> priority habitats = <b>3 points</b>                  If wetland has <b>1</b> priority habitat = <b>1 point</b>                  No habitats = 0 points</p> <p>Note: All vegetated wetlands are by definition a priority habitat but are not included in this list.                  Nearby wetlands are addressed in question H 2.4)</p>	1
	<p>H 2.4 <u>Wetland Landscape:</u> <i>Choose the <b>one</b> description of the landscape around the wetland that best fits (see p. 84)</i></p> <ul style="list-style-type: none"> <li>• There are at least 3 other wetlands within 1/2 mile, and the connections between them are relatively undisturbed (light grazing between wetlands OK, as is lake shore with some boating, but connections should NOT be bisected by paved roads, fill, fields, or other development.... points = 5 <input type="checkbox"/></li> <li>• The wetland is Lake-fringe on a lake with little disturbance and there are 3 other lake-fringe wetlands within 1/2 mile ..... points = 5 <input type="checkbox"/></li> <li>• There are at least 3 other wetlands within 1/2 mile, BUT the connections between them are disturbed. .... points = 3 <input checked="" type="checkbox"/></li> <li>• The wetland fringe on a lake <b>with</b> disturbance and there are 3 other lake-fringe wetlands within 1/2 mile..... points = 3 <input type="checkbox"/></li> <li>• There is at least 1 wetland within 1/2 mile ..... points = 2 <input type="checkbox"/></li> <li>• There are no wetlands within 1/2 mile..... points = 0 <input type="checkbox"/></li> </ul>	3
	<p><b>H 2 TOTAL Score – opportunity for providing habitat</b>      <i>Add the scores from H2.1, H2.2, H2.3, H2.4</i></p>	9
	<p><i>TOTAL for H 1 from page 8</i></p>	8
◆	<p><b>Total Score for Habitat Functions</b>      Add the points for H 1 and H 2; then <b>record the result on p. 1</b></p>	<b>17</b>

Comments: \_\_\_\_\_

**CATEGORIZATION BASED ON SPECIAL CHARACTERISTICS**

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

Wetland Type – Check off any criteria that apply to the wetland. Circle the Category when the appropriate criteria are met.	
<b>SC1</b>	<p><b>Estuarine wetlands?</b> (see p.86)</p> <p>Does the wetland unit meet the following criteria for Estuarine wetlands?</p> <p><input type="checkbox"/> The dominant water regime is tidal,  <input type="checkbox"/> Vegetated, and  <input type="checkbox"/> With a salinity greater than 0.5 ppt.</p> <p style="text-align: center;"><input type="checkbox"/> <b>YES</b> = Go to SC 1.1                      <input checked="" type="checkbox"/> <b>NO</b></p>
	<p>SC 1.1 Is the wetland unit within a National Wildlife Refuge, National Park, National Estuary Reserve, Natural Area Preserve, State Park or Educational, Environmental, or Scientific Reserve designated under WAC 332-30-151?    <input type="checkbox"/> <b>YES</b> = Category I                      <input checked="" type="checkbox"/> <b>NO</b> = go to SC 1.2</p>
	<p>SC 1.2 Is the wetland at least 1 acre in size and meets at least two of the following conditions?</p> <p style="text-align: center;"><input type="checkbox"/> <b>YES</b> = Category I                      <input type="checkbox"/> <b>NO</b> = Category II</p> <p><input type="checkbox"/> The wetland is relatively undisturbed (has no diking, ditching, filling, cultivation, grazing, and has less than 10% cover of non-native plant species. If the non-native <i>Spartina</i> spp., are only species that cover more than 10% of the wetland, then the wetland should be given a dual rating (I/II). The area of <i>Spartina</i> would be rated a Category II while the relatively undisturbed upper marsh with native species would be a Category I. Do not, however, exclude the area of <i>Spartina</i> in determining the size threshold of 1 acre.</p> <p><input type="checkbox"/> At least 3/4 of the landward edge of the wetland has a 100 ft. buffer of shrub, forest, or un-grazed or un-mowed grassland</p> <p><input type="checkbox"/> The wetland has at least 2 of the following features: tidal channels, depressions with open water, or contiguous freshwater wetlands.</p>
<b>SC2</b>	<p><b>Natural Heritage Wetlands</b> (see p. 87)</p> <p>Natural Heritage wetlands have been identified by the Washington Natural Heritage Program/DNR as either high quality undisturbed wetlands or wetlands that support state Threatened, Endangered, or Sensitive plant species.</p> <p>SC 2.1 Is the wetland being rated in a Section/Township/Range that contains a natural heritage wetland? (This question is used to screen out most sites before you need to contact WNHP/DNR.)</p> <p style="text-align: center;"><input checked="" type="checkbox"/> S/T/R information from Appendix D                      <input type="checkbox"/> or accessed from WNHP/DNR web site</p> <p style="text-align: center;"><input type="checkbox"/> <b>YES</b> Contact WNHP/DNR (see p. 79) and go to SC 2.2                      <input type="checkbox"/> <b>NO</b></p> <p>SC 2.2 Has DNR identified the wetland as a high quality undisturbed wetland or as a site with state threatened or endangered plant species?</p> <p style="text-align: center;"><input checked="" type="checkbox"/> <b>YES</b> = Category 1                      <input type="checkbox"/> <b>NO</b> not a Heritage Wetland</p>
<b>SC3</b>	<p><b>Bogs</b> (see p. 87)</p> <p>Does the wetland (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. <i>If you answer yes you will still need to rate the wetland based on its function.</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 soil profile? (See Appendix B for a field key to identify organic soils)?    <input type="checkbox"/> <b>YES</b> = go to question 3                      <input checked="" type="checkbox"/> <b>NO</b> = go to question 2</li> <li>Does the wetland have organic soils, either peats or mucks that are less than 16 inches deep over bedrock, or an impermeable hardpan such as clay or volcanic ash, or that are floating on a lake or pond?    <input type="checkbox"/> <b>YES</b> = go to question 3                      <input checked="" type="checkbox"/> <b>NO</b> = 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)?</li> </ol> <p style="text-align: center;"><input type="checkbox"/> <b>YES</b> = Is a bog for purpose of rating                      <input checked="" type="checkbox"/> <b>NO</b> = go to question 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> <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 (&gt; 30% coverage of the total shrub/herbaceous cover)?</li> </ol> <p style="text-align: center;"><input type="checkbox"/> <b>YES</b> = Category I                      <input checked="" type="checkbox"/> <b>NO</b> = Is not a bog for purpose of rating</p>

<p><b>SC4</b></p>	<p><b>Forested Wetlands</b> (see p. 90)</p> <p>Does the wetland have at least 1 acre of forest that meet one of these criteria for the Department of Fish and Wildlife’s forests as priority habitats? <i>If you answer yes you will still need to rate the wetland based on its function.</i></p> <p><input type="checkbox"/> <b>Old-growth forests:</b> (west of Cascade Crest) Stands of at least two three 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). 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> <p><input type="checkbox"/> <b>Mature forests:</b> (west of the Cascade Crest) Stands where the largest trees are 80 – 200 years old OR have an average diameters (dbh) exceeding 21 inches (53 cm); crown cover may be less than 100%; decay, decadence, numbers of snags, and quantity of large downed material is generally less than that found in old-growth.</p> <p><input type="checkbox"/> <b>YES</b> = Category I                      <input checked="" type="checkbox"/> <b>NO</b> = not a forested wetland with special characteristics</p>	<p><b>Cat. I</b> <input type="checkbox"/></p>
<p><b>SC5</b></p>	<p><b>Wetlands in Coastal Lagoons</b> (see p. 91)</p> <p>Does the wetland meet all of the following criteria of a wetland in a coastal lagoon?</p> <p><input type="checkbox"/> The wetland lies in a depression adjacent to marine waters that is wholly or partially separated from marine waters by sandbanks, gravel banks, shingle, or, less frequently, rocks.</p> <p><input type="checkbox"/> The lagoon in which the wetland is located contains 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>)</p> <p><input type="checkbox"/> <b>YES</b> = Go to SC 5.1                      <input type="checkbox"/> <b>NO</b> not a wetland in a coastal lagoon</p> <p>SC 5.1 Does the wetland meet all of the following three conditions?</p> <p><input type="checkbox"/> The wetland is relatively undisturbed (has no diking, ditching, filling, cultivation, grazing) and has less than 20% cover of invasive plant species (see list of invasive species on p. 74).</p> <p><input type="checkbox"/> At least 3/4 of the landward edge of the wetland has a 100 ft. buffer of shrub, forest, or un-grazed or un-mowed grassland.</p> <p><input type="checkbox"/> The wetland is larger than 1/10 acre (4350 square ft.)</p> <p><input type="checkbox"/> <b>YES</b> = Category I                      <input type="checkbox"/> <b>NO</b> = Category II</p>	<p style="background-color: #cccccc;"><b>Cat. I</b> <input type="checkbox"/></p> <p><b>Cat. II</b> <input type="checkbox"/></p>
<p><b>SC6</b></p>	<p><b>Interdunal Wetlands</b> (see p. 93)</p> <p>Is the wetland west of the 1889 line (also called the Western Boundary of Upland Ownership or WBUO)?</p> <p><input type="checkbox"/> <b>YES</b> = Go to SC 6.1                      <input type="checkbox"/> <b>NO</b> not an interdunal wetland for rating</p> <p><i>If you answer yes you will still need to rate the wetland based on its functions.</i></p> <p>In practical terms that means the following geographic areas:</p> <ul style="list-style-type: none"> <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 one acre or larger?</p> <p><input type="checkbox"/> <b>YES</b> = Category II                      <input type="checkbox"/> <b>NO</b> = go to SC 6.2</p> <p>SC 6.2 Is the wetland between 0.1 and 1 acre, or is it in a mosaic of wetlands that is between 0.1 and 1 acre?</p> <p><input type="checkbox"/> <b>YES</b> = Category III</p>	<p><b>Cat. II</b> <input type="checkbox"/></p> <p><b>Cat. III</b> <input type="checkbox"/></p>
<p>◆</p>	<p><b>Category of wetland based on Special Characteristics</b></p> <p>Choose the “highest” rating if wetland falls into several categories, and record on p. 1.</p> <p>If you answered <b>NO</b> for all types enter “Not Applicable” on p. 1</p>	<p>_____</p>

Comments: \_\_\_\_\_

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

Name of wetland (if known): Wetland A-Post construction

Date of site visit: 10-6-10

Rated by: Thomas D Kohl Trained by Ecology? Yes  No

Date of training: 11-8-07

SEC: 35 TOWNSHP: 2N RNGE: 6E

Is S/T/R in Appendix D? Yes  No

**SUMMARY OF RATING**

Category based on FUNCTIONS provided by wetland:  I  II  III  IV

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

Score for Water Quality Functions

Score for Hydrologic Functions

Score for Habitat Functions

TOTAL Score for Functions


Category based on SPECIAL CHARACTERISTICS of Wetland  I  II  Does not apply

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

**Summary of basic information about the wetland unit.**

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

**Does the wetland being rated meet any of the criteria below?** If you answer YES to any of the questions below you will need to protect the wetland according to the regulations regarding the special characteristics found in the wetland.

Check List for Wetlands that Need Additional Protection (in addition to the protection recommended for its category)	YES	NO
SP1. <i>Has the wetland unit been documented as a habitat for any Federally listed Threatened or Endangered <b>animal or plant</b> species (T/E species)?</i> For the purposes of this rating system, “documented” means the wetland is on the appropriate state or federal database.	<input checked="" type="checkbox"/>	<input type="checkbox"/>
SP2. <i>Has the wetland unit been documented as habitat for any State listed Threatened or Endangered <b>animal</b> 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 1 Natural Heritage Wetlands (see p. 19 of data form).	<input checked="" type="checkbox"/>	<input type="checkbox"/>
SP3. <i>Does the wetland unit contain individuals of Priority species listed by the WDFW for the state?</i>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
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.	<input type="checkbox"/>	<input type="checkbox"/>

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

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

2. The entire wetland unit is flat and precipitation is only source (>90%) of water to it. Groundwater and surface water runoff are NOT sources of water to the unit.  
 **NO** – go to 3                       **YES** – The wetland class is **Flats**  
 If your wetland can be classified as a “Flats” wetland, use the form for **Depressional** wetlands.

3. Does the entire wetland 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) where at least 20 acres (8ha) in size;  
 At least 30% of the open water area is deeper than 6.6 (2 m)?  
 **NO** – go to 4                       **YES** – The wetland class is **Lake-fringe (Lacustrine Fringe)**

4. Does the entire wetland meet all of the following criteria?  
 The wetland is on a slope (*slope can be very gradual*).  
 The water flows through the wetland in one direction (unidirectional) and usually comes from seeps. It may flow subsurface, as sheetflow, or in a swale without distinct banks.  
 The water leaves the wetland **without being impounded**?  
 NOTE: *Surface water does not pond in these types of wetlands except occasionally in very small and shallow depressions or behind hummocks (depressions are usually <3 ft diameter and less than 1 foot deep).*  
 **NO** – go to 5                       **YES** – The wetland class is **Slope**

5. Does the entire wetland 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 of 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 located in a very flat area with no obvious depression and no overbank flooding. The unit does not pond surface water more than a few inches. The unit seems to be maintained by high groundwater in the area. The wetland may be ditched, but has no obvious natural outlet.  
 **No** – go to 8                       **YES** – The wetland class is **Depressional**

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

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

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







H 2	Does the wetland have the <u>opportunity</u> to provide habitat for many species?	(only 1 score per box)
	<p>H 2.1 <u>Buffers</u> (see P. 80):  <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> <p><input type="checkbox"/> 100m (330 ft) 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></p> <p><input checked="" type="checkbox"/> 100m (330 ft) of relatively undisturbed vegetated areas, rocky areas, or open water &gt; 50% circumference .....<b>points = 4</b></p> <p><input type="checkbox"/> 50m (170 ft) of relatively undisturbed vegetated areas, rocky areas, or open water &gt; 95% circumference .....<b>points = 4</b></p> <p><input type="checkbox"/> 100m (330 ft) of relatively undisturbed vegetated areas, rocky areas, or open water &gt; 25% circumference .....<b>points = 3</b></p> <p><input type="checkbox"/> 50m (170 ft) of relatively undisturbed vegetated areas, rocky areas, or open water for &gt; 50% circumference .....<b>points = 3</b></p> <p><b>If buffer does not meet any of the criteria above:</b></p> <p><input type="checkbox"/> No paved areas (except paved trails) or buildings within 25m (80 ft) of wetland &gt; 95% circumference. Light to moderate grazing or lawns are OK.....<b>points = 2</b></p> <p><input type="checkbox"/> No paved areas of buildings within 50m of wetland for &gt; 50% circumference. Light to moderate grazing or lawns are OK.....<b>points = 2</b></p> <p><input type="checkbox"/> Heavy grazing in buffer .....<b>points = 1</b></p> <p><input type="checkbox"/> Vegetated buffers are &lt; 2m wide (6.6 ft) for more than 95% circumference (e.g. tilled fields, paving, basalt bedrock extend to edge of wetland).....<b>points = 0</b></p> <p><input type="checkbox"/> Buffer does not meet any of the criteria above .....<b>points = 1</b></p> <p style="text-align: right;"><b>Arial photo showing buffers</b></p>	<b>4</b>
	<p>H 2.2 <u>Corridors and Connections</u> (see p. 81)</p> <p>H 2.2.1 Is the wetland part of a relatively undisturbed and unbroken vegetated corridor (either riparian or upland) that is at least 150 ft. wide, has at least a 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;"><input type="checkbox"/> <b>YES = 4 points</b> (go to H 2.3)                      <input type="checkbox"/> <b>NO = go to H 2.2.2</b></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 50 ft. 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 a Lake-fringe wetland</b>, if it does not have an undisturbed corridor as in the question above?</p> <p style="text-align: center;"><input type="checkbox"/> <b>YES = 2 points</b> (go to H 2.3)                      <input type="checkbox"/> <b>NO = go to H 2.2.3</b></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 miles of a large field or pasture (&gt; 40 acres) OR</li> <li>• Within 1 mile of a lake greater than 20 acres?</li> </ul> <p style="text-align: right;"><input checked="" type="checkbox"/> <b>YES = 1 point</b>  <input type="checkbox"/> <b>NO = 0 points</b></p>	<b>1</b>

Comments: \_\_\_\_\_

	<p>H 2.3 <u>Near or adjacent to other priority habitats listed by WDFW</u> (see p. 82): <i>(see new and complete descriptions of WDFW priority habitats, and the counties in which they can be found, in the PHS report <a href="http://wdfw.wa.gov/hab/phslist.htm">http://wdfw.wa.gov/hab/phslist.htm</a> )</i>                  Which of the following priority habitats are within 330 ft. (100m) of the wetland unit?  <i>NOTE: the connections do not have to be relatively undisturbed.</i></p> <p><input type="checkbox"/> <b>Aspen Stands:</b> Pure or mixed stands of aspen greater than 0.4 ha (1 acre).</p> <p><input type="checkbox"/> <b>Biodiversity Areas and Corridors:</b> Areas of habitat that are relatively important to various species of native fish and wildlife <i>(full descriptions in WDFW PHS report p. 152).</i></p> <p><input type="checkbox"/> <b>Herbaceous Balds:</b> Variable size patches of grass and forbs on shallow soils over bedrock.</p> <p><input type="checkbox"/> <b>Old-growth/Mature forests:</b> (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) &gt; 81 cm (32 in) dbh or &gt; 200 years of age. (Mature forests) Stands with average diameters exceeding 53 cm (21 in) dbh; crown cover may be less than 100%; decay, decadence, numbers of snags, and quantity of large downed material is generally less than that found in old-growth; 80 - 200 years old west of the Cascade crest.</p> <p><input type="checkbox"/> <b>Oregon white Oak:</b> Woodlands Stands of pure oak or oak/conifer associations where canopy coverage of the oak component is important <i>(full descriptions in WDFW PHS report p. 158).</i></p> <p><input checked="" type="checkbox"/> <b>Riparian:</b> The area adjacent to aquatic systems with flowing water that contains elements of both aquatic and terrestrial ecosystems which mutually influence each other.</p> <p><input type="checkbox"/> <b>Westside Prairies:</b> Herbaceous, non-forested plant communities that can either take the form of a dry prairie or a wet prairie <i>(full descriptions in WDFW PHS report p. 161).</i></p> <p><input type="checkbox"/> <b>Instream:</b> The combination of physical, biological, and chemical processes and conditions that interact to provide functional life history requirements for instream fish and wildlife resources.</p> <p><input type="checkbox"/> <b>Nearshore:</b> Relatively undisturbed nearshore habitats. These include Coastal Nearshore, Open Coast Nearshore, and Puget Sound Nearshore. <i>(full descriptions of habitats and the definition of relatively undisturbed are in WDFW report: pp. 167-169 and glossary in Appendix A).</i></p> <p><input type="checkbox"/> <b>Caves:</b> A naturally occurring cavity, recess, void, or system of interconnected passages under the earth in soils, rock, ice, or other geological formations and is large enough to contain a human.</p> <p><input type="checkbox"/> <b>Cliffs:</b> Greater than 7.6 m (25 ft) high and occurring below 5000 ft.</p> <p><input type="checkbox"/> <b>Talus:</b> 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.</p> <p><input type="checkbox"/> <b>Snags and Logs:</b> Trees are considered snags if they are dead or dying and exhibit sufficient decay characteristics to enable cavity excavation/use by wildlife. Priority snags have a diameter at breast height of &gt; 51 cm (20 in) in western Washington and are &gt; 2 m (6.5 ft) in height. Priority logs are &gt; 30 cm (12 in) in diameter at the largest end, and &gt; 6 m (20 ft) long.</p> <p style="text-align: right;">If wetland has <b>3 or more</b> priority habitats = <b>4 points</b>                  If wetland has <b>2</b> priority habitats = <b>3 points</b>                  If wetland has <b>1</b> priority habitat = <b>1 point</b>                  No habitats = 0 points</p> <p>Note: All vegetated wetlands are by definition a priority habitat but are not included in this list.                  Nearby wetlands are addressed in question H 2.4)</p>	1
	<p>H 2.4 <u>Wetland Landscape:</u> <i>Choose the <b>one</b> description of the landscape around the wetland that best fits (see p. 84)</i></p> <ul style="list-style-type: none"> <li>• There are at least 3 other wetlands within 1/2 mile, and the connections between them are relatively undisturbed (light grazing between wetlands OK, as is lake shore with some boating, but connections should NOT be bisected by paved roads, fill, fields, or other development.... points = 5 <input type="checkbox"/></li> <li>• The wetland is Lake-fringe on a lake with little disturbance and there are 3 other lake-fringe wetlands within 1/2 mile ..... points = 5 <input type="checkbox"/></li> <li>• There are at least 3 other wetlands within 1/2 mile, BUT the connections between them are disturbed. .... points = 3 <input checked="" type="checkbox"/></li> <li>• The wetland fringe on a lake <b>with</b> disturbance and there are 3 other lake-fringe wetlands within 1/2 mile..... points = 3 <input type="checkbox"/></li> <li>• There is at least 1 wetland within 1/2 mile ..... points = 2 <input type="checkbox"/></li> <li>• There are no wetlands within 1/2 mile..... points = 0 <input type="checkbox"/></li> </ul>	3
	<p><b>H 2 TOTAL Score – opportunity for providing habitat</b>      <i>Add the scores from H2.1, H2.2, H2.3, H2.4</i></p>	9
	<p><i>TOTAL for H 1 from page 8</i></p>	8
◆	<p><b>Total Score for Habitat Functions</b>      <i>Add the points for H 1 and H 2; then <b>record the result on p. 1</b></i></p>	17

Comments: \_\_\_\_\_

**CATEGORIZATION BASED ON SPECIAL CHARACTERISTICS**

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

Wetland Type – Check off any criteria that apply to the wetland. Circle the Category when the appropriate criteria are met.	
<b>SC1</b>	<p><b>Estuarine wetlands?</b> (see p.86)</p> <p>Does the wetland unit meet the following criteria for Estuarine wetlands?</p> <p><input type="checkbox"/> The dominant water regime is tidal,  <input type="checkbox"/> Vegetated, and  <input type="checkbox"/> With a salinity greater than 0.5 ppt.</p> <p style="text-align: center;"><input type="checkbox"/> <b>YES</b> = Go to SC 1.1                      <input checked="" type="checkbox"/> <b>NO</b></p>
	<p>SC 1.1 Is the wetland unit within a National Wildlife Refuge, National Park, National Estuary Reserve, Natural Area Preserve, State Park or Educational, Environmental, or Scientific Reserve designated under WAC 332-30-151?    <input type="checkbox"/> <b>YES</b> = Category I                      <input checked="" type="checkbox"/> <b>NO</b> = go to SC 1.2</p>
	<p>SC 1.2 Is the wetland at least 1 acre in size and meets at least two of the following conditions?</p> <p style="text-align: center;"><input type="checkbox"/> <b>YES</b> = Category I                      <input type="checkbox"/> <b>NO</b> = Category II</p> <p><input type="checkbox"/> The wetland is relatively undisturbed (has no diking, ditching, filling, cultivation, grazing, and has less than 10% cover of non-native plant species. If the non-native <i>Spartina</i> spp., are only species that cover more than 10% of the wetland, then the wetland should be given a dual rating (I/II). The area of <i>Spartina</i> would be rated a Category II while the relatively undisturbed upper marsh with native species would be a Category I. Do not, however, exclude the area of <i>Spartina</i> in determining the size threshold of 1 acre.</p> <p><input type="checkbox"/> At least 3/4 of the landward edge of the wetland has a 100 ft. buffer of shrub, forest, or un-grazed or un-mowed grassland</p> <p><input type="checkbox"/> The wetland has at least 2 of the following features: tidal channels, depressions with open water, or contiguous freshwater wetlands.</p>
	<p><b>Cat. I</b> <input type="checkbox"/></p> <p><b>Cat. II</b> <input type="checkbox"/></p> <p><b>Dual Rating I/II</b> <input type="checkbox"/></p>
<b>SC2</b>	<p><b>Natural Heritage Wetlands</b> (see p. 87)</p> <p>Natural Heritage wetlands have been identified by the Washington Natural Heritage Program/DNR as either high quality undisturbed wetlands or wetlands that support state Threatened, Endangered, or Sensitive plant species.</p> <p>SC 2.1 Is the wetland being rated in a Section/Township/Range that contains a natural heritage wetland? (This question is used to screen out most sites before you need to contact WNHP/DNR.)</p> <p style="text-align: center;"><input checked="" type="checkbox"/> S/T/R information from Appendix D                      <input type="checkbox"/> or accessed from WNHP/DNR web site</p> <p style="text-align: center;"><input checked="" type="checkbox"/> <b>YES</b> Contact WNHP/DNR (see p. 79) and go to SC 2.2                      <input type="checkbox"/> <b>NO</b></p> <p>SC 2.2 Has DNR identified the wetland as a high quality undisturbed wetland or as a site with state threatened or endangered plant species?</p> <p style="text-align: center;"><input checked="" type="checkbox"/> <b>YES</b> = Category 1                      <input type="checkbox"/> <b>NO</b> not a Heritage Wetland</p>
	<p><b>Cat I</b> <input checked="" type="checkbox"/></p>
<b>SC3</b>	<p><b>Bogs</b> (see p. 87)</p> <p>Does the wetland (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. <i>If you answer yes you will still need to rate the wetland based on its function.</i></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 soil profile? (See Appendix B for a field key to identify organic soils)?    <input type="checkbox"/> <b>YES</b> = go to question 3                      <input checked="" type="checkbox"/> <b>NO</b> = go to question 2</p> <p>2. Does the wetland have organic soils, either peats or mucks that are less than 16 inches deep over bedrock, or an impermeable hardpan such as clay or volcanic ash, or that are floating on a lake or pond?    <input type="checkbox"/> <b>YES</b> = go to question 3                      <input checked="" type="checkbox"/> <b>NO</b> = 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)?</p> <p style="text-align: center;"><input type="checkbox"/> <b>YES</b> = Is a bog for purpose of rating                      <input checked="" type="checkbox"/> <b>NO</b> = go to question 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>4. 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 style="text-align: center;"><input type="checkbox"/> <b>YES</b> = Category I                      <input checked="" type="checkbox"/> <b>NO</b> = Is not a bog for purpose of rating</p>
	<p><b>Cat. I</b> <input type="checkbox"/></p>

<p><b>SC4</b></p>	<p><b>Forested Wetlands</b> (see p. 90)</p> <p>Does the wetland have at least 1 acre of forest that meet one of these criteria for the Department of Fish and Wildlife’s forests as priority habitats? <i>If you answer yes you will still need to rate the wetland based on its function.</i></p> <p><input type="checkbox"/> <b>Old-growth forests:</b> (west of Cascade Crest) Stands of at least two three 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). 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> <p><input type="checkbox"/> <b>Mature forests:</b> (west of the Cascade Crest) Stands where the largest trees are 80 – 200 years old OR have an average diameters (dbh) exceeding 21 inches (53 cm); crown cover may be less than 100%; decay, decadence, numbers of snags, and quantity of large downed material is generally less than that found in old-growth.</p> <p><input type="checkbox"/> <b>YES</b> = Category I                      <input checked="" type="checkbox"/> <b>NO</b> = not a forested wetland with special characteristics</p>	<p><b>Cat. I</b> <input type="checkbox"/></p>
<p><b>SC5</b></p>	<p><b>Wetlands in Coastal Lagoons</b> (see p. 91)</p> <p>Does the wetland meet all of the following criteria of a wetland in a coastal lagoon?</p> <p><input type="checkbox"/> The wetland lies in a depression adjacent to marine waters that is wholly or partially separated from marine waters by sandbanks, gravel banks, shingle, or, less frequently, rocks.</p> <p><input type="checkbox"/> The lagoon in which the wetland is located contains 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>)</p> <p><input type="checkbox"/> <b>YES</b> = Go to SC 5.1                      <input type="checkbox"/> <b>NO</b> not a wetland in a coastal lagoon</p> <p>SC 5.1 Does the wetland meet all of the following three conditions?</p> <p><input type="checkbox"/> The wetland is relatively undisturbed (has no diking, ditching, filling, cultivation, grazing) and has less than 20% cover of invasive plant species (see list of invasive species on p. 74).</p> <p><input type="checkbox"/> At least 3/4 of the landward edge of the wetland has a 100 ft. buffer of shrub, forest, or un-grazed or un-mowed grassland.</p> <p><input type="checkbox"/> The wetland is larger than 1/10 acre (4350 square ft.)</p> <p><input type="checkbox"/> <b>YES</b> = Category I                      <input type="checkbox"/> <b>NO</b> = Category II</p>	<p style="background-color: #cccccc;"> </p> <p><b>Cat. I</b> <input type="checkbox"/></p> <p><b>Cat. II</b> <input type="checkbox"/></p>
<p><b>SC6</b></p>	<p><b>Interdunal Wetlands</b> (see p. 93)</p> <p>Is the wetland west of the 1889 line (also called the Western Boundary of Upland Ownership or WBUO)?</p> <p><input type="checkbox"/> <b>YES</b> = Go to SC 6.1                      <input type="checkbox"/> <b>NO</b> not an interdunal wetland for rating</p> <p><i>If you answer yes you will still need to rate the wetland based on its functions.</i></p> <p>In practical terms that means the following geographic areas:</p> <ul style="list-style-type: none"> <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 one acre or larger?</p> <p><input type="checkbox"/> <b>YES</b> = Category II                      <input type="checkbox"/> <b>NO</b> = go to SC 6.2</p> <p>SC 6.2 Is the wetland between 0.1 and 1 acre, or is it in a mosaic of wetlands that is between 0.1 and 1 acre?</p> <p><input type="checkbox"/> <b>YES</b> = Category III</p>	<p><b>Cat. II</b> <input type="checkbox"/></p> <p><b>Cat. III</b> <input type="checkbox"/></p>
<p>◆</p>	<p><b>Category of wetland based on Special Characteristics</b></p> <p>Choose the “highest” rating if wetland falls into several categories, and record on p. 1.</p> <p>If you answered <b>NO</b> for all types enter “Not Applicable” on p. 1</p>	<p>_____</p>

Comments: \_\_\_\_\_

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

Project Site: \_\_\_\_\_ City/County: \_\_\_\_\_ / \_\_\_\_\_ Sampling Date: \_\_\_\_\_  
 Applicant/Owner: \_\_\_\_\_ State: \_\_\_\_\_ Sampling Point: \_\_\_\_\_  
 Investigator(s): \_\_\_\_\_ Section, Township, Range: \_\_\_\_\_  
 Landform (hillslope, terrace, etc.): \_\_\_\_\_ Local relief (concave, convex, none): \_\_\_\_\_ Slope (%): \_\_\_\_\_  
 Subregion (LRR): \_\_\_\_\_ Lat: \_\_\_\_\_ Long: \_\_\_\_\_ Datum: \_\_\_\_\_  
 Soil Map Unit Name: \_\_\_\_\_ NWI classification: \_\_\_\_\_  
 Are climatic / hydrologic conditions on the site typical for this time of year? Yes  No  (If no, explain in Remarks.)  
 Are Vegetation , Soil , or Hydrology , significantly disturbed? Are "Normal Circumstances" present? Yes  No   
 Are Vegetation , Soil , or Hydrology , naturally problematic? (If needed, explain any answers in Remarks.)

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

Hydrophytic Vegetation Present?	Yes <input type="checkbox"/> No <input type="checkbox"/>	<b>Is the Sampled Area within a Wetland?</b>	Yes <input type="checkbox"/> No <input type="checkbox"/>
Hydric Soil Present?	Yes <input type="checkbox"/> No <input type="checkbox"/>		Yes <input type="checkbox"/> No <input type="checkbox"/>
Wetland Hydrology Present?	Yes <input type="checkbox"/> No <input type="checkbox"/>		Yes <input type="checkbox"/> No <input type="checkbox"/>
Remarks:			

**VEGETATION – Use scientific names of plants**

	Absolute % Cover	Dominant Species?	Indicator Status																		
<u>Tree Stratum</u> (Plot size: _____)				<b>Dominance Test Worksheet:</b> Number of Dominant Species That Are OBL, FACW, or FAC: _____ (A) Total Number of Dominant Species Across All Strata: _____ (B) Percent of Dominant Species That Are OBL, FACW, or FAC: _____ (A/B)																	
1. _____	_____	_____	_____																		
2. _____	_____	_____	_____																		
3. _____	_____	_____	_____																		
4. _____	_____	_____	_____																		
50% = _____, 20% = _____	_____	= Total Cover	_____																		
<u>Sapling/Shrub Stratum</u> (Plot size: _____)					<b>Prevalence Index worksheet:</b> <table style="width: 100%; border: none;"> <tr> <td style="text-align: center;"><u>Total % Cover of:</u></td> <td style="text-align: center;"><u>Multiply by:</u></td> </tr> <tr> <td>OBL species _____</td> <td>x1 = _____</td> </tr> <tr> <td>FACW species _____</td> <td>x2 = _____</td> </tr> <tr> <td>FAC species _____</td> <td>x3 = _____</td> </tr> <tr> <td>FACU species _____</td> <td>x4 = _____</td> </tr> <tr> <td>UPL species _____</td> <td>x5 = _____</td> </tr> <tr> <td>Column Totals: _____ (A)</td> <td>_____ (B)</td> </tr> <tr> <td colspan="2" style="text-align: center;">Prevalence Index = B/A = _____</td> </tr> </table>	<u>Total % Cover of:</u>	<u>Multiply by:</u>	OBL species _____	x1 = _____	FACW species _____	x2 = _____	FAC species _____	x3 = _____	FACU species _____	x4 = _____	UPL species _____	x5 = _____	Column Totals: _____ (A)	_____ (B)	Prevalence Index = B/A = _____	
<u>Total % Cover of:</u>	<u>Multiply by:</u>																				
OBL species _____	x1 = _____																				
FACW species _____	x2 = _____																				
FAC species _____	x3 = _____																				
FACU species _____	x4 = _____																				
UPL species _____	x5 = _____																				
Column Totals: _____ (A)	_____ (B)																				
Prevalence Index = B/A = _____																					
1. _____	_____	_____	_____																		
2. _____	_____	_____	_____																		
3. _____	_____	_____	_____																		
4. _____	_____	_____	_____																		
5. _____	_____	_____	_____																		
50% = _____, 20% = _____	_____	= Total Cover	_____																		
<u>Herb Stratum</u> (Plot size: _____)				<b>Hydrophytic Vegetation Indicators:</b> <input type="checkbox"/> 1 – Rapid Test for Hydrophytic Vegetation <input type="checkbox"/> 2 - Dominance Test is >50% <input type="checkbox"/> 3 - Prevalence Index is $\leq 3.0^1$ <input type="checkbox"/> 4 - Morphological Adaptations <sup>1</sup> (Provide supporting data in Remarks or on a separate sheet) <input type="checkbox"/> 5 - Wetland Non-Vascular Plants <sup>1</sup> <input type="checkbox"/> Problematic Hydrophytic Vegetation <sup>1</sup> (Explain)  <sup>1</sup> Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.																	
1. _____	_____	_____	_____																		
2. _____	_____	_____	_____																		
3. _____	_____	_____	_____																		
4. _____	_____	_____	_____																		
5. _____	_____	_____	_____																		
6. _____	_____	_____	_____																		
7. _____	_____	_____	_____																		
8. _____	_____	_____	_____																		
9. _____	_____	_____	_____																		
10. _____	_____	_____	_____																		
11. _____	_____	_____	_____																		
50% = _____, 20% = _____	_____	= Total Cover	_____																		
<u>Woody Vine Stratum</u> (Plot size: _____)				<b>Hydrophytic Vegetation Present?</b> Yes <input type="checkbox"/> No <input type="checkbox"/>																	
1. _____	_____	_____	_____																		
2. _____	_____	_____	_____																		
50% = _____, 20% = _____	_____	= Total Cover	_____																		
% Bare Ground in Herb Stratum _____																					

Remarks:

Project Site: \_\_\_\_\_

**SOIL**

Sampling Point: \_\_\_\_\_

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

Depth (inches)	Matrix		Redox Features				Texture	Remarks
	Color (moist)	%	Color (moist)	%	Type <sup>1</sup>	Loc <sup>2</sup>		
_____	_____	_____	_____	_____	_____	_____	_____	_____
_____	_____	_____	_____	_____	_____	_____	_____	_____
_____	_____	_____	_____	_____	_____	_____	_____	_____
_____	_____	_____	_____	_____	_____	_____	_____	_____
_____	_____	_____	_____	_____	_____	_____	_____	_____
_____	_____	_____	_____	_____	_____	_____	_____	_____
_____	_____	_____	_____	_____	_____	_____	_____	_____
_____	_____	_____	_____	_____	_____	_____	_____	_____

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

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

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

**Indicators for Problematic Hydric Soils<sup>3</sup>:**

- 2 cm Muck (A10)
- Red Parent Material (TF2)
- Very Shallow Dark Surface (TF12)
- Other (Explain in Remarks)

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

**Restrictive Layer (if present):**

Type: \_\_\_\_\_

Depth (inches): \_\_\_\_\_

**Hydric Soils Present?** Yes  No

Remarks:

**HYDROLOGY**

**Wetland Hydrology Indicators:**

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

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

Secondary Indicators (2 or more required)

- Water-Stained Leaves (B9) **(MLRA 1, 2, 4A, and 4B)**
- Drainage Patterns (B10)
- Dry-Season Water Table (C2)
- Saturation Visible on Aerial Imagery (C9)
- Geomorphic Position (D2)
- Shallow Aquitard (D3)
- FAC-Neutral Test (D5)
- Raised Ant Mounds (D6) **(LRR A)**
- Frost-Heave Hummocks (D7)

**Field Observations:**

Surface Water Present? Yes  No  Depth (inches): \_\_\_\_\_  
 Water Table Present? Yes  No  Depth (inches): \_\_\_\_\_  
 Saturation Present? (includes capillary fringe) Yes  No  Depth (inches): \_\_\_\_\_

**Wetland Hydrology Present?** Yes  No

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

Remarks:

COMPLETED DATA FORMS WILL BE INCLUDED WITH THE FINAL REPORT