

SOILS

Map Unit Name (Series and Phase):

Drainage Class

Beavrite gravelly sandy ban
Taxonomy (subgroup)

Field observations confirm mapped type? Yes No

6 to 15% Slopes

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)
0-4"		10YR 4/1	-	-	8 Loam	
4-18"		10YR 3/2	5YR 4/6 2.5Y 6/6	Common, med, fine common, med, fine	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 ≤ 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:

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:

Routine Wetland Determination

DATA FORM 1 (Revised)

WA State Wetland Delineation Manual or 1987 Corps Wetland Delineation Manual

2.76

Project/Site: 405 TRIP Applicant/owner: WSPOT Investigator(s): C. Douglas, J. Purley	Date: 8/1/06 County: King State: WA S/T/R: 20/23N/5E
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: Transect ID: Plot ID: 2.76 SP#5 (48) 2.76

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

Dominant Plant Species	*Stratum	% cover	Indicator	Dominant Plant Species	*Stratum	% cover	Indicator
COB COB	T	10	FACV				
ALB ALB	S	10	FAC				
RUB RUB	S	90	FACV				
ILE ILE	S	T	FACV				
EQ TEL	H	40	FACW				

HYDROPHYTIC VEGETATION INDICATORS: $S = 0/90 = 0\%$, $H = 40/40 = 100\%$, $T = 70/130 = 31\%$

% of dominants OBL, FACW, & FAC: 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 type="checkbox"/> Wetland plant database |
| <input type="checkbox"/> Technical Literature | <input type="checkbox"/> Personal knowledge of regional plant communities |
| | <input type="checkbox"/> Other (explain) |

Hydrophytic vegetation present? Yes No

Rationale for decision/Remarks: 31% dom, fac 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 type="checkbox"/> Other (explain) ANSWER	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	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 hydro features

SOILS

Map Unit Name (Series and Phase):

Drainage Class

Beavrite gravelly sandy loam
Taxonomy (subgroup)

6 to 15% slopes

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)
0-6"		10YR 2/3	-	-	Loam	
6-18"		5Y 6/4	7.5YR 2/8	few, fine, ^{discrete}	Sandy clay	

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 ≤ 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: No low chroma or mottles

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: 0 of 3 parameters

NOTES:

Wetland name or number 2.702

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

Name of wetland (if known): 2.702 Date of site visit: 8/1/06

Rated by: Douglas, Pursley Trained by Ecology? Yes No Date of training: —

SEC: 20 TOWNSHIP: 23N RANGE: 5E Is S/T/R in Appendix D? Yes No

Map of wetland unit: Figure Estimated size 0.2 Acre

SUMMARY OF RATING

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

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

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

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	<input checked="" type="checkbox"/>
Natural Heritage Wetland		Riverine	
Bog		Lake-fringe	
Mature Forest		Slope	
Old Growth Forest		Flats	
Coastal Lagoon		Freshwater Tidal	
Interdunal			
None of the above.		Check if unit has multiple HGM classes present	<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 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.		<input checked="" type="checkbox"/>
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 1 Natural Heritage Wetlands (see p. 19 of data form).		<input checked="" 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"/>
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 checked="" 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.

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

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

Wetland name or number 2.7R

D Depressional and Flat Wetlands		Points
WATER QUALITY FUNCTIONS – Indicators that wetland functions to improve water quality.		(only 1 score per box)
D 1	Does the wetland have the potential to improve water quality?	(see p.38)
D 1.1	Characteristics of surface water flows out of the wetland: <ul style="list-style-type: none"> Unit is a depression with no surface water leaving it (no outlet)..... points = 3 Unit has an intermittently flowing, OR highly constricted, permanently flowing outlet points = 2 Unit has an unconstricted, or slightly constricted, surface outlet (<i>permanently flowing</i>) points = 1 Unit is a “flat” depression (Q.7 on key), or in the Flats class, with permanent surface outflow and no obvious natural outlet and/or outlet is a man-made ditch..... points = 1 (If ditch is not permanently flowing treat unit as “intermittently flowing”) Provide photo or drawing 	Figure <u>2</u>
D 1.2	The soil 2 inches below the surface (or duff layer) is clay or organic (use NRCS definitions) YES points = 4 NO points = 0	<u>0</u>
D 1.3	Characteristics of persistent vegetation (emergent, shrub, and/or forest Cowardin class): <ul style="list-style-type: none"> Wetland has persistent, ungrazed vegetation > = 95% of area points = 5 Wetland has persistent, ungrazed vegetation > = 1/2 of area points = 3 Wetland has persistent, ungrazed vegetation > = 1/10 of area..... points = 1 Wetland has persistent, ungrazed vegetation < 1/10 of area..... points = 0 Map of Cowardin vegetation classes	Figure <u>3</u>
D 1.4	Characteristics of seasonal ponding or inundation: <i>This is the area of the wetland 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 years.</i> <ul style="list-style-type: none"> Area seasonally ponded is > 1/2 total area of wetland points = 4 Area seasonally ponded is > 1/4 total area of wetland points = 2 Area seasonally ponded is < 1/4 total area of wetland points = 0 Map of Hydroperiods	Figure <u>4</u>
Total for D 1		Add the points in the boxes above <u>9</u>
D 2	Does the wetland have the opportunity to improve water quality?	(see p. 44)
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. <ul style="list-style-type: none"> <input checked="" type="checkbox"/> Grazing in the wetland or within 150 ft <input type="checkbox"/> Untreated stormwater discharges to wetland <input type="checkbox"/> Tilled fields or orchards within 150 ft. of wetland <input type="checkbox"/> A stream or culvert discharges into wetland that drains developed areas, residential areas, farmed fields, roads, or clear-cut logging <input checked="" type="checkbox"/> Residential, urban areas, golf courses are within 150 ft. of wetland <input type="checkbox"/> Wetland is fed by groundwater high in phosphorus or nitrogen <input type="checkbox"/> Other YES multiplier is 2 NO multiplier is 1		Multiplier <u>2</u>
◆ TOTAL – Water Quality Functions		Multiply the score from D1 by D2; then add score to table on p. 1 <u>18</u>
HYDROLOGIC FUNCTIONS – Indicators that wetland unit functions to reduce flooding and stream degradation.		
D 3	Does the wetland have the potential to reduce flooding and erosion?	(see p.46)
D 3.1	Characteristics of surface water flows out of the wetland unit <ul style="list-style-type: none"> Unit is a depression with no surface water leaving it (no outlet)..... points = 4 Unit has an intermittently flowing, OR highly constricted permanently flowing outlet points = 2 Unit is a “flat” depression (Q.7 on key) or in the Flats class, with permanent surface outflow and no obvious natural outlet and/or outlet is a man-made ditch..... points = 1 (If ditch is not permanently flowing treat unit as “intermittently flowing”) Unit has an unconstricted, or slightly constricted, surface outlet (<i>permanently flowing</i>) points = 0 	<u>2</u>
D 3.2	Depth of storage during wet periods. 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). <ul style="list-style-type: none"> Marks of ponding are 3 ft. or more above the surface or bottom of the outlet points = 7 The wetland is a “headwater” wetland points = 5 Marks of ponding between 2 ft. to < 3 ft. from surface or bottom of outlet..... points = 5 Marks are at least 0.5 ft. to < 2 ft. from surface or bottom of outlet..... points = 3 Wetland is flat (yes to Q.2 or Q.7 on key)but has small depressions on the surface that trap water points = 1 Marks of ponding less than 0.5 ft..... points = 0 	<u>5</u>
D 3.3	Contribution of wetland unit to storage in the watershed: Estimate the ratio of the area of upstream basin contributing surface water to the wetland to the area of the wetland unit itself. <ul style="list-style-type: none"> The area of the basin is less than 10 times the area of unit points = 5 The area of the basin is 10 to 100 times the area of the unit points = 3 The area of the basin is more than 100 times the area of the unit..... points = 0 Entire unit is in the FLATS class points = 5 	<u>0</u>
Total for D 3		Add the points in the boxes above <u>7</u>
D 4	Does the wetland have the opportunity to reduce flooding and erosion?	(see p. 49)
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		Multiplier <u>2</u>

Wetland name or number 2.70

	groundwater in areas where damaging groundwater flooding does not occur. <i>Note which of the following indicators of opportunity apply.</i>	
	<input type="checkbox"/> Wetland is in a headwater of a river or stream that has flooding problems.	
	<input checked="" type="checkbox"/> Wetland drains to a river or stream that has flooding problems	
	<input type="checkbox"/> Wetland has no outlet and impounds surface runoff water that might otherwise flow into a river or stream that has flooding problems	
	<input type="checkbox"/> Other _____	2
	YES multiplier is 2 NO multiplier is 1	
◆	TOTAL – Hydrologic Functions	Multiply the score from D3 by D4; then <i>add score to table on p. 1</i>
		14

Comments:

Wetland name or number 2.70

<i>These questions apply to wetlands of all HGM classes.</i> HABITAT FUNCTIONS – Indicators that wetland functions to provide important habitat.		Points (only 1 score per box)								
H 1	Does the wetland have the <u>potential</u> to provide habitat for many species?									
H 1.1	Vegetation structure (see P. 72): Check the types of vegetation classes present (as defined by Cowardin) – Size threshold for each class is 1/4 acre or more than 10% of the area if unit is smaller than 2.5 acres. <input checked="" type="checkbox"/> Aquatic Bed <input checked="" type="checkbox"/> Emergent plants <input type="checkbox"/> Scrub/shrub (areas where shrubs have > 30% cover) <input type="checkbox"/> Forested (areas where trees have > 30% cover) If the unit has a forested class check if: <input type="checkbox"/> The forested class has 3 out of 5 strata (canopy, sub-canopy, shrubs, herbaceous, moss/ground-cover) that each cover 20% within the forested polygon. Add the number of vegetation types that qualify. If you have: <table style="margin-left: 20px;"> <tr> <td>4 structures or more.....</td> <td>points = 4</td> <td>3 structures.....</td> <td>points = 2</td> </tr> <tr> <td>2 structures.....</td> <td>points = 1</td> <td>1 structure.....</td> <td>points = 0</td> </tr> </table>	4 structures or more.....	points = 4	3 structures.....	points = 2	2 structures.....	points = 1	1 structure.....	points = 0	Figure — 1
4 structures or more.....	points = 4	3 structures.....	points = 2							
2 structures.....	points = 1	1 structure.....	points = 0							
H 1.2	Hydroperiods (see p.73): Check the types of water regimes (hydroperiods) present within the wetland. The water regime has to cover more than 10% of the wetland or 1/4 acre to count (see text for descriptions of hydroperiods). <input type="checkbox"/> Permanently flooded or inundated <input type="checkbox"/> Seasonally flooded or inundated <input type="checkbox"/> Occasionally flooded or inundated <input type="checkbox"/> Saturated only <input type="checkbox"/> Permanently flowing stream or river in, or adjacent to, the wetland <input type="checkbox"/> Seasonally flowing stream in, or adjacent to, the wetland <input type="checkbox"/> Lake-fringe wetland.....= 2 points <input type="checkbox"/> Freshwater tidal wetland.....= 2 points <table style="margin-left: 20px;"> <tr> <td>4 or more types present</td> <td>points = 3</td> </tr> <tr> <td>3 or more types present.....</td> <td>points = 2</td> </tr> <tr> <td>2 types present.....</td> <td>points = 1</td> </tr> <tr> <td>1 type present.....</td> <td>points = 0</td> </tr> </table>	4 or more types present	points = 3	3 or more types present.....	points = 2	2 types present.....	points = 1	1 type present.....	points = 0	Figure — 2
4 or more types present	points = 3									
3 or more types present.....	points = 2									
2 types present.....	points = 1									
1 type present.....	points = 0									
H 1.3	Richness of Plant Species (see p. 75): Count the number of plant species in the wetland that cover at least 10 ft ² (different patches of the same species can be combined to meet the size threshold) You do not have to name the species. Do not include Eurasian Milfoil, reed canarygrass, purple loosestrife, Canadian Thistle. If you counted: <table style="margin-left: 20px;"> <tr> <td>> 19 species.....</td> <td>points = 2</td> </tr> <tr> <td>5 – 19 species.....</td> <td>points = 1</td> </tr> <tr> <td>< 5 species.....</td> <td>points = 0</td> </tr> </table> List species below if you want to: _____ _____ _____	> 19 species.....	points = 2	5 – 19 species.....	points = 1	< 5 species.....	points = 0	Figure — 1		
> 19 species.....	points = 2									
5 – 19 species.....	points = 1									
< 5 species.....	points = 0									
H 1.4	Interspersion of Habitats (see p. 76): Decided from the diagrams below whether interspersion between Cowardin vegetation (described in H1.1), or the classes and unvegetated areas (can include open water or mudflats) is high, medium, low, or none. <div style="display: flex; justify-content: space-around; align-items: center;"> <div style="text-align: center;"> None = 0 points </div> <div style="text-align: center;"> Low = 1 point </div> <div style="text-align: center;"> Moderate = 2 points </div> <div style="text-align: center;"> Moderate = 2 points </div> </div> <div style="display: flex; justify-content: space-around; align-items: center; margin-top: 10px;"> <div style="text-align: center;"> High = 3 points </div> <div style="text-align: center;"> High = 3 points </div> <div style="text-align: center;"> High = 3 points [riparian braided channels] </div> </div> <div style="margin-left: 20px;"> <p>Note: If you have 4 or more classes or 3 vegetation classes and open water, the rating is always “high”.</p> <p>Use map of Cowardin classes.</p> </div>	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. <ul style="list-style-type: none"> <input checked="" type="checkbox"/> Large, downed, woody debris within the wetland (> 4 in. diameter and 6 ft. long) <input type="checkbox"/> Standing snags (diameter at the bottom > 4 inches) in the wetland <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) <input type="checkbox"/> Stable steep banks of fine material that might be used by beaver or muskrat for denning (> 30 degree slope) OR signs of recent beaver activity are present (cut shrubs or trees that have not yet turned grey/brown) <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) <input type="checkbox"/> 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.	Figure — 1								
H 1 TOTAL Score – potential for providing habitat		Add the points in the column above +								

H 2.3 Near or adjacent to other priority habitats listed by WDFW (see p. 82):
 Which of the following priority habitats are within 330 ft. (100m) of the wetland? *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 7.6m (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) > 81cm (32 in) dbh or > 200 years of age.
- Mature forests:** Stands with average diameters exceeding 53cm (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.
- Prairies:** Relatively undisturbed areas (as indicated by dominance of native plants) where greases and/or forbs form the natural climax plant community.
- Talus:** Homogenous areas of rock rubble ranging in average size 0.15 – 2.0m (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 0.5 ppt. 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 1 priority habit ... = 1 point
 If wetland has 2 priority habitats = 3 points 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).



- H 2.4 Wetland Landscape: *Choose the one description of the landscape around the wetland that best fits (see p. 84)*
- 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
 - 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
 - There are at least 3 other wetlands within 1/2 mile, BUT the connections between them are disturbed..... points = 3
 - The wetland fringe on a lake with disturbance and there are 3 other lake-fringe wetlands within 1/2 mile..... points = 3
 - There is at least 1 wetland within 1/2 mile points = 2
 - There are no wetlands within 1/2 mile points = 0

3

H 2 TOTAL Score – opportunity for providing habitat Add the scores from H2.1, H2.2, H2.3, H2.4

7

TOTAL for H 1 from page 8

5

◆ Total Score for Habitat Functions Add the points for H 1 and H 2; then record the result on p. 1

12

Comments:

Wetland name or number 2.702

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.	
SC1	<p>Estuarine wetlands? (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,</p> <p><input type="checkbox"/> Vegetated, and</p> <p><input type="checkbox"/> With a salinity greater than 0.5 ppt.</p> <p>YES = Go to SC 1.1 NO <input checked="" type="checkbox"/></p>
SC 1.1	<p>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? YES = Category I NO = go to SC 1.2</p> <p style="text-align: right;">Cat. 1</p>
SC 1.2	<p>Is the wetland at least 1 acre in size and meets at least two of the following conditions?</p> <p>YES = Category I NO = 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 1. 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 style="text-align: right;">Cat. I Cat. II Dual Rating I/II</p>
SC2	<p>Natural Heritage Wetlands (see p. 87)</p> <p>Natural Heritage wetlands have been identified by the Washington Natural Heritage Program/DNR as either high quality undisturbed wetlands or wetlands that support state Threatened, Endangered, or Sensitive plant species.</p> <p>SC 2.1 Is the wetland being rated in a Section/Township/Range that contains a natural heritage wetland? (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 _____ YES _____ Contact WNHP/DNR (see p. 79) and go to SC 2.2 NO _____</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? YES = Category 1 NO <input checked="" type="checkbox"/> not a Heritage Wetland</p> <p style="text-align: right;">Cat I</p>
SC3	<p>Bogs (see p. 87)</p> <p>Does the wetland (or any part of the unit) meet both the criteria for soils and vegetation in bogs? 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"> 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)? YES = go to question 3 NO = go to question 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? YES = go to question 3 NO = is not a bog for purpose of rating Does the unit have more than 70% cover of mosses at ground level, AND other plants, if present, consist of the “bog” species listed in Table 3 as a significant component of the vegetation (more than 30% of the total shrub and herbaceous cover consists of species in Table 3)? YES = Is a bog for purpose of rating NO = go to question 4 <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"> Is the unit forested (> 30% cover) with sitka spruce, subalpine fir, western red cedar, western hemlock, lodgepole pine, quaking aspen, Englemann’s spruce, or western white pine. WITH any of the species (or combination of species) on the bog species plant list in Table 3 as a significant component of the ground cover (> 30% coverage of the total shrub/herbaceous cover)? YES = Category I NO = Is not a bog for purpose of rating <p style="text-align: right;">Cat. I</p>

SC4	<p>Forested Wetlands (see p. 90)</p> <p>Does the wetland have at least 1 acre of forest that meet one of these criteria for the Department of Fish and Wildlife's forests as priority habitats? <i>If you answer yes you will still need to rate the wetland based on its function.</i></p> <p>___ Old-growth forests: (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).</p> <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> <p>___ Mature forests: (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>YES = Category I NO = <input checked="" type="checkbox"/> not a forested wetland with special characteristics</p>	Cat. I
SC5	<p>Wetlands in Coastal Lagoons (see p. 91)</p> <p>Does the wetland meet all of the following criteria of a wetland in a coastal lagoon?</p> <p>___ 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>___ The lagoon in which the wetland is located contains surface water that is saline or brackish (> 0.5 ppt) during most of the year in at least a portion of the lagoon (<i>needs to be measured near the bottom.</i>)</p> <p>YES = Go to SC 5.1 NO <input checked="" type="checkbox"/> not a wetland in a coastal lagoon</p> <p>SC 5.1 Does the wetland meet all of the following three conditions?</p> <p>___ 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>___ 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>___ The wetland is larger than 1/10 acre (4350 square ft.)</p> <p>YES = Category I NO = Category II</p>	Cat. I Cat. II
SC6	<p>Interdunal Wetlands (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>YES = Go to SC 6.1 NO <input checked="" type="checkbox"/> not an interdunal wetland for rating</p> <p><i>If you answer yes you will still need to rate the wetland based on its functions.</i></p> <p>In practical terms that means the following geographic areas:</p> <ul style="list-style-type: none"> • Long Beach Peninsula -- lands west of SR 103 • Grayland-Westport -- lands west of SR 105 • Ocean Shores-Copalis -- lands west of SR 115 and SR 109 <p>SC 6.1 Is the wetland one acre or larger, or is it in a mosaic of wetlands that is one acre or larger?</p> <p>YES = Category II NO = 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>YES = Category III</p>	Cat. II Cat. III
◆	<p>Category of wetland based on Special Characteristics</p> <p>Choose the "highest" rating if wetland falls into several categories, and record on p. 1.</p> <p>If you answered NO for all types enter "Not Applicable" on p. 1</p>	NA

Comments:

Routine Wetland Determination

DATA FORM 1 (Revised)

WA State Wetland Delineation Manual or 1987 Corps Wetland Delineation Manual

2.9102

Project/Site: 405 TRIP Applicant/owner: WSDOT Investigator(s): Pursley, Douglas	Date: 9/28/06 County: King State: WA S/T/R: 20/23N/5E
---	--

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: Transect ID: Plot ID: #1 Wet (Near flag A)
--	---

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

Dominant Plant Species	*Stratum	% cover	Indicator	Dominant Plant Species	*Stratum	% cover	Indicator
THPL	T	30	FAC	ATFI	H	20	FAC
ALRU	T	90	FAC	URDI	H	20	FAC
JLAD	S	20	FACW	LVAM	H	20	OBL
RWSP	S	20	FAC	PHAG	H	20	FACW
Sarbs sp.	S	10	FACW	LARE	H	20	FACW
RWR	S	5	FACW	SODU	H	50	FAC

HYDROPHYTIC VEGETATION INDICATORS:

% of dominants OBL, FACW, & FAC: $290/310 = 94\%$

Check all indicators that apply and explain below:

<input checked="" 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)

Pisy back - Tolomen H 10 FAC
 $T = 120/120 = 100\%$
 $S = 20/10 = 50\%$
 $H = 150/150 = 100\%$

Hydrophytic vegetation present? Yes No

Rationale for decision/Remarks: 94% Wet Dom 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) September	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: 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: 8"	FAC Neutral: <input type="checkbox"/> Yes <input type="checkbox"/> No	Water-stained Leaves: <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No
Depth to saturated soil: @ surface	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:

SOILS

Map Unit Name (Series and Phase):

Alderwood Gravelly Sand
Taxonomy (subgroup)

loam 15 to 30% slopes

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"		10YR 8/3 to 3/1	3/1	—	Sandy loam	Sand concn. higher, deeper in pit

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 ≤ 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:

Routine Wetland Determination

DATA FORM 1 (Revised)

WA State Wetland Delineation Manual or 1987 Corps Wetland Delineation Manual

2.9102

Project/Site: 405 TRSP	Date: 9/28/06
Applicant/owner: WSDOT	County: King
Investigator(s): Purstey, Douglas	State: WA
	S/T/R: 20/23W/5E

Do normal circumstances exist on the site? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	Community ID:
Is the site significantly disturbed (atypical situation)? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No	Transect ID:
Is the area a potential problem area? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No	Plot ID: #2 UP (near flag 7)
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
COCO	T	40	FACW	PomU	H	60	FACW
ALBU	T	80	FAC	Ocean spray HOPE	S	10	UPL
ILAQ	T	20	FACW	Cherry, orn	S	30	FACW
RHOY	S	20	FAC-	prunella Emer.			
RUBR	S	30	FACW				
RUBR	S	10	FACW				

HYDROPHYTIC VEGETATION INDICATORS:

% of dominants OBL, FACW, & FAC: $80/280 = 28\%$ $T = 20/140 = 14\%$ $S = 20/80 = 25\%$ $H = 0/60 = 0\%$

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: 28% Wet Veg Dom.

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	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) September	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): <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 to 18"	Channels <12 in.: <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"	FAC Neutral: <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No	
Check all that apply & explain below: <input type="checkbox"/> Stream, lake or gage data <input type="checkbox"/> Aerial photographs <input type="checkbox"/> Other	Other (explain):	

Wetland hydrology present? Yes No

Rationale for decision/remarks: No Hydroic Indicator

SOILS

Map Unit Name (Series and Phase):

Alderwood gravelly sandy loam 15 to 30% clay

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)
0-14		10YR 3/4		—	Loam	
14-18		10YR 4/4		—	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 ≤ 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: *No Hydric indicators, High 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: *0 of 3 parameters*

NOTES:

Wetland name or number 2.81R

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

Name of wetland (if known): 2.81R Date of site visit: 9/28/06

Rated by: Douglas, Purley Trained by Ecology? Yes No Date of training:

SEC: 20 TOWNSHIP: 23N RANGE: SE Is S/T/R in Appendix D? Yes No

Map of wetland unit: Figure Estimated size 0.3 acres

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	<u>16</u>
Score for Hydrologic Functions	<u>26</u>
Score for Habitat Functions	<u>15</u>
TOTAL Score for Functions	<u>57</u>

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

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

II

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 checked="" 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"/>		
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. Has the wetland unit been documented as a habitat for any Federally listed Threatened or Endangered animal or plant species (T/E species)? For the purposes of this rating system, “documented” means the wetland is on the appropriate state or federal database.	<input type="checkbox"/>	<input checked="" type="checkbox"/>
SP2. Has the wetland unit been documented as habitat for any State listed Threatened or Endangered animal species? 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 type="checkbox"/>	<input checked="" type="checkbox"/>
SP3. Does the wetland unit contain individuals of Priority species listed by the WDFW for the state?	<input type="checkbox"/>	<input checked="" type="checkbox"/>
SP4. Does the wetland unit have a local significance in addition to its functions? 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 checked="" 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.

Wetland name or number

2.812

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.

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

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

Wetland name or number 2.912

<i>These questions apply to wetlands of all HGM classes.</i> HABITAT FUNCTIONS – Indicators that wetland functions to provide important habitat.		Points (only 1 score per box)						
H 1	Does the wetland have the <u>potential</u> to provide habitat for many species?							
H 1.1	Vegetation structure (see P. 72): Check the types of vegetation classes present (as defined by Cowardin) – Size threshold for each class is 1/4 acre or more than 10% of the area if unit is smaller than 2.5 acres. <input type="checkbox"/> Aquatic Bed <input checked="" type="checkbox"/> Emergent plants <input checked="" type="checkbox"/> Scrub/shrub (areas where shrubs have > 30% cover) <input type="checkbox"/> Forested (areas where trees have > 30% cover) If the unit has a forested class check if: <input type="checkbox"/> The forested class has 3 out of 5 strata (canopy, sub-canopy, shrubs, herbaceous, moss/ground-cover) that each cover 20% within the forested polygon. Add the number of vegetation types that qualify. If you have: <table style="float: right; margin-left: 20px;"> <tr> <td>4 structures or more.....</td> <td>points = 4</td> </tr> <tr> <td>2 structures.....</td> <td>points = 1</td> </tr> </table> Map of Cowardin vegetation classes 3 structures..... points = 2 1 structure points = 0	4 structures or more.....	points = 4	2 structures.....	points = 1	Figure — 1		
4 structures or more.....	points = 4							
2 structures.....	points = 1							
H 1.2	Hydroperiods (see p. 73): Check the types of water regimes (hydroperiods) present within the wetland. The water regime has to cover more than 10% of the wetland or 1/4 acre to count (see text for descriptions of hydroperiods). <input checked="" type="checkbox"/> Permanently flooded or inundated <input checked="" type="checkbox"/> Seasonally flooded or inundated <input checked="" type="checkbox"/> Occasionally flooded or inundated <input checked="" type="checkbox"/> Saturated only <input checked="" type="checkbox"/> Permanently flowing stream or river in, or adjacent to, the wetland <input type="checkbox"/> Seasonally flowing stream in, or adjacent to, the wetland <input type="checkbox"/> Lake-fringe wetland..... = 2 points <input type="checkbox"/> Freshwater tidal wetland..... = 2 points Map of hydroperiods 4 or more types present points = 3 3 or more types present..... points = 2 2 types present..... points = 1 1 type present points = 0	Figure — 2						
H 1.3	Richness of Plant Species (see p. 75): Count the number of plant species in the wetland that cover at least 10 ft ² (different patches of the same species can be combined to meet the size threshold) You do not have to name the species. Do not include Eurasian Milfoil, reed canarygrass, purple loosestrife, Canadian Thistle. If you counted: <table style="float: right; margin-left: 20px;"> <tr> <td>> 19 species</td> <td>points = 3</td> </tr> <tr> <td>5 – 19 species</td> <td>points = 1</td> </tr> <tr> <td>< 5 species</td> <td>points = 0</td> </tr> </table> List species below if you want to: _____ _____ _____	> 19 species	points = 3	5 – 19 species	points = 1	< 5 species	points = 0	Figure — 1
> 19 species	points = 3							
5 – 19 species	points = 1							
< 5 species	points = 0							
H 1.4	Interspersion of Habitats (see p. 76): Decided from the diagrams below whether interspersion between Cowardin vegetation (described in H1.1), or the classes and unvegetated areas (can include open water or mudflats) is high, medium, low, or none. <div style="display: flex; justify-content: space-around; align-items: center;"> <div style="text-align: center;"> None = 0 points </div> <div style="text-align: center;"> Low = 1 point </div> <div style="text-align: center;"> Moderate = 2 points </div> <div style="text-align: center;"> High = 3 points </div> </div> <div style="display: flex; justify-content: space-around; align-items: center;"> <div style="text-align: center;"> [riparian braided channels] </div> </div> <div style="border: 1px solid black; padding: 5px; margin-top: 10px;"> Note: If you have 4 or more classes or 3 vegetation classes and open water, the rating is always "high". Use map of Cowardin classes. </div>	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. <ul style="list-style-type: none"> <input checked="" type="checkbox"/> Large, downed, woody debris within the wetland (> 4 in. diameter and 6 ft. long) <input checked="" type="checkbox"/> Standing snags (diameter at the bottom > 4 inches) in the wetland <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) <input type="checkbox"/> Stable steep banks of fine material that might be used by beaver or muskrat for denning (> 30 degree slope) OR signs of recent beaver activity are present (cut shrubs or trees that have not yet turned grey/brown) <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) <input checked="" type="checkbox"/> 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.	Figure — 3						
H 1 TOTAL Score – potential for providing habitat		Add the points in the column above 9						

Wetland name or number 2,912

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>___ 100m (330 ft) of relatively undisturbed vegetated areas, rocky areas, or open water > 95% of circumference. No structures are within the undisturbed part of buffer (relatively undisturbed also means no grazing, no landscaping, no daily human use)... ..points = 5</p> <p>___ 100m (330 ft) of relatively undisturbed vegetated areas, rocky areas, or open water > 50% circumference.....points = 4</p> <p>___ 50m (170 ft) of relatively undisturbed vegetated areas, rocky areas, or open water > 95% circumference.....points = 4</p> <p>X 100m (330 ft) of relatively undisturbed vegetated areas, rocky areas, or open water > 25% circumference.....points = 3</p> <p>___ 50m (170 ft) of relatively undisturbed vegetated areas, rocky areas, or open water for > 50% circumferencepoints = 3</p> <p>If buffer does not meet any of the criteria above:</p> <p>___ No paved areas (except paved trails) or buildings within 25m (80 ft) of wetland > 95% circumference. Light to moderate grazing or lawns are OK.....points = 2</p> <p>___ No paved areas of buildings within 50m of wetland for > 50% circumference. Light to moderate grazing or lawns are OK.....points = 2</p> <p>___ Heavy grazing in bufferpoints = 1</p> <p>___ Vegetated buffers are < 2m wide (6.6 ft) for more than 95% circumference (e.g. tilled fields, paving, basalt bedrock extend to edge of wetland).....points = 0</p> <p>___ Buffer does not meet any of the criteria abovepoints = 1</p> <p style="text-align: right;">Arial photo showing buffers</p>	<p>Figure ___</p> <p style="font-size: 2em; text-align: center;">3</p>
	<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;">YES = 4 points (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 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? OR a Lake-fringe wetland, if it does not have an undisturbed corridor as in the question above?</p> <p style="text-align: center;">YES = 2 points (go to H 2.3) NO = go to H 2.2.3</p> <p>H. 2.2.3 Is the wetland:</p> <ul style="list-style-type: none"> • Within 5 mi (8km) of a brackish or salt water estuary OR • Within 3 miles of a large field or pasture (> 40 acres) OR • Within 1 mile of a lake greater than 20 acres? <p style="text-align: right;">YES = 1 point NO = 0 points</p>	<p style="text-align: center;">/</p>

Comments:

	<p>H 2.3 <u>Near or adjacent to other priority habitats listed by WDFW</u> (see p. 82): Which of the following priority habitats are within 330 ft. (100m) of the wetland? <i>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.</i></p> <p><input type="checkbox"/> Riparian: 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"/> Aspen Stands: Pure or mixed stands of aspen greater than 0.8 ha (2 acres)</p> <p><input type="checkbox"/> Cliffs: Greater than 7.6m (25 ft) high and occurring below 5000 ft.</p> <p><input type="checkbox"/> 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) > 81cm (32 in) dbh or > 200 years of age.</p> <p><input type="checkbox"/> Mature forests: Stands with average diameters exceeding 53cm (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"/> Prairies: Relatively undisturbed areas (as indicated by dominance of native plants) where greases and/or forbs form the natural climax plant community.</p> <p><input type="checkbox"/> Talus: Homogenous areas of rock rubble ranging in average size 0.15 – 2.0m (0.5 – 6.5 ft), composed of basalt, andesite, and/or sedimentary rock, including rirap slides and mine tailings. May be associated with cliffs.</p> <p><input type="checkbox"/> Caves: A naturally occurring cavity, recess, void, or system of interconnected passages.</p> <p><input type="checkbox"/> Oregon white Oak: Woodlands stands of pure oak or oak/conifer associations where canopy coverage of the oak component of the stand is 25%.</p> <p><input type="checkbox"/> 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 <i>priority habitats</i>, 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.</p> <p><input type="checkbox"/> 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 0.5 ppt. during the period of average annual low flow. Includes both estuaries and lagoons.</p> <p><input type="checkbox"/> 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).</p> <p>If wetland has 3 or more priority habitats = 4 points If wetland has 1 priority habit ... = 1 point If wetland has 2 priority habitats = 3 points 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>	
	<p>H 2.4 <u>Wetland Landscape:</u> Choose the one description of the landscape around the wetland that best fits (see p. 84)</p> <ul style="list-style-type: none"> • 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 • 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 • There are at least 3 other wetlands within 1/2 mile, BUT the connections between them are disturbed points = 3 • The wetland fringe on a lake with disturbance and there are 3 other lake-fringe wetlands within 1/2 mile points = 3 • There is at least 1 wetland within 1/2 mile points = 2 • There are no wetlands within 1/2 mile points = 0 	<p>3</p>
	<p>H 2 TOTAL Score – opportunity for providing habitat Add the scores from H2.1, H2.2, H2.3, H2.4</p>	<p>6</p>
		<p>TOTAL for H 1 from page 8</p>
	<p>◆ Total Score for Habitat Functions Add the points for H 1 and H 2; then record the result on p. 1</p>	<p>9</p>

Comments:

Wetland name or number 2.8)R

CATEGORIZATION BASED ON SPECIAL CHARACTERISTICS

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

<p>Wetland Type – Check off any criteria that apply to the wetland. Circle the Category when the appropriate criteria are met.</p>	
<p>SC1</p>	<p>Estuarine wetlands? (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,</p> <p><input type="checkbox"/> Vegetated, and</p> <p><input type="checkbox"/> With a salinity greater than 0.5 ppt.</p> <p>YES = Go to SC 1.1 NO <u> </u></p>
	<p>SC 1.1 Is the wetland unit within a National Wildlife Refuge, National Park, National Estuary Reserve, Natural Area Preserve, State Park or Educational, Environmental, or Scientific Reserve designated under WAC 332-30-151? YES = Category I NO = <u>go to SC 1.2</u></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>YES = Category I NO = 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>SC2</p>	<p>Natural Heritage Wetlands (see p. 87)</p> <p>Natural Heritage wetlands have been identified by the Washington Natural Heritage Program/DNR as either high quality undisturbed wetlands or wetlands that support state Threatened, Endangered, or Sensitive plant species.</p> <p>SC 2.1 Is the wetland being rated in a Section/Township/Range that contains a natural heritage wetland? (This question is used to screen out most sites before you need to contact WNHP/DNR.)</p> <p>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 <u> </u></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>YES = Category 1 NO <u> </u> not a Heritage Wetland</p>
<p>SC3</p>	<p>Bogs (see p. 87)</p> <p>Does the wetland (or any part of the unit) meet both the criteria for soils and vegetation in bogs? 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"> 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)? YES = go to question 3 NO = go to question 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? YES = go to question 3 NO = is not a bog for purpose of rating Does the unit have more than 70% cover of mosses at ground level, AND other plants, if present, consist of the “bog” species listed in Table 3 as a significant component of the vegetation (more than 30% of the total shrub and herbaceous cover consists of species in Table 3)? <p>YES = Is a bog for purpose of rating NO = 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"> Is the unit forested (> 30% cover) with sitka spruce, subalpine fir, western red cedar, western hemlock, lodgepole pine, quaking aspen, Englemann’s spruce, or western white pine. WITH any of the species (or combination of species) on the bog species plant list in Table 3 as a significant component of the ground cover (> 30% coverage of the total shrub/herbaceous cover)? <p>YES = Category I NO = Is not a bog for purpose of rating</p>

DATA FORM 1 (Revised)
Routine Wetland Determination
(WA State Wetland Delineation Manual or
1987 Corps Wetland Delineation Manual)

Project/Site: <u>WSDOT 405 Project</u> <u>Si. Renton</u> Applicant/owner: <u>WSDOT</u> Investigator(s): <u>AM, JR, JC</u>	Date: <u>2/11/05</u> County: <u>King</u> State: <u>WA</u> S/T/R: <u>20/23N/5E</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 checked="" type="radio"/> yes <input type="radio"/> no Is the area a potential Problem Area? <input checked="" type="radio"/> yes <input type="radio"/> no Explanation of atypical or problem area:	Community ID: <u>upland</u> Transect ID: Plot ID: <u>DP 2,31L-A</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>Rubus discolor</u>	<u>S</u>	<u>65</u>	<u>FACU</u>				
<u>Phalaris arundinacea</u>	<u>H</u>	<u>10</u>	<u>FACW</u>				

HYDROPHYTIC VEGETATION INDICATORS:

% of dominants OBL, FACW, & FAC 0

Check all indicators that apply & explain below:

Visual observation of plant species growing in areas of prolonged inundation/saturation	___	Physiological/reproductive adaptations	___
Morphological adaptations	___	Wetland plant database	<u>X</u>
Technical Literature	___	Personal knowledge of regional plant communities	___
		Other (explain)	___

Hydrophytic vegetation present? yes no

Rationale for decision/Remarks:
Dominant plant is FACU

HYDROLOGY

Is it the growing season? yes <input type="radio"/> no <input checked="" type="radio"/>	Water Marks: yes <input checked="" type="radio"/> no <input type="radio"/> on _____	Sediment Deposits: yes <input checked="" type="radio"/> no <input type="radio"/>
Based on: _____ soil temp (record temp _____) <u>time of year</u> other (explain)	Drift Lines: yes <input checked="" type="radio"/> no <input type="radio"/>	Drainage Patterns: yes <input checked="" type="radio"/> no <input type="radio"/>
Dept. of inundation: _____ inches	Oxidized Root (live roots) Channels <12 in. yes <input checked="" type="radio"/> no <input type="radio"/>	Local Soil Survey: yes <input checked="" type="radio"/> no <input type="radio"/>
Depth to free water in pit: _____ inches Depth to saturated soil: _____ inches	FAC Neutral: yes <input type="radio"/> no <input checked="" type="radio"/>	Water-stained Leaves yes <input checked="" type="radio"/> no <input type="radio"/>

Check all that apply & explain below:

Stream, Lake or gage data: _____

Aerial photographs: _____ Other: _____

Wetland hydrology present? yes no

Rationale for decision/Remarks:
Some marsh soils observed at surface, but sub-soil layer is dry.

SOILS

Map Unit Name Urban land
(Series & Phase)

Drainage Class variable

Taxonomy (subgroup) NA

Field observations confirm Yes No mapped type?

Profile Description

Depth (inches)	Horizon	Matrix color (Munsell moist)	Mottle colors (Munsell moist)	Mottle abundance size & contrast	Texture, concretions, structure, etc.	Drawing of soil profile (match description)
0-9	A	10YR 7/0			loam	
9-16	B	10YR 4/3	7.5YR 4/6	many, distinct, fine	Sandy loam	
	<i>chunks of</i>	5Y 5/0	7.5YR 4/6	many, distinct fine	Clay loam	
	<i>&</i>	7.5YR 4/6			loamy sand	

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:

Low-chroma matrix w/ mottles observed.

Wetland Determination (circle)

Hydrophytic vegetation present?	yes <input type="radio"/> no <input checked="" type="radio"/>	Is the sampling point within a wetland?	yes <input type="radio"/> no <input checked="" type="radio"/>
Hydric soils present?	<input checked="" type="radio"/> yes <input type="radio"/> no		
Wetland hydrology present?	yes <input type="radio"/> no <input checked="" type="radio"/>		

Rationale/Remarks:

2 wetland criteria not met.

NOTES:

*OP A is located north of wetland
2.816, in large RUD-dominated area.
Soils are disturbed.*

DATA FORM 1 (Revised)
Routine Wetland Determination
(WA State Wetland Delineation Manual or
1987 Corps Wetland Delineation Manual)

Project/Site: <i>W5007 405 Project S, Renton</i>	Date: <i>2/11/05</i>
Applicant/owner: <i>W5007</i>	County: <i>King</i>
Investigator(s): <i>AM, JL</i>	State: <i>WA</i>
	S/T/R: <i>20/23 N/5E</i>
Do Normal Circumstances exist on the site? <input checked="" type="radio"/> yes <input type="radio"/> no	Community ID: <i>Wetland</i>
Is the site significantly disturbed (atypical situation)? <input checked="" type="radio"/> yes <input type="radio"/> no	Transect ID:
Is the area a potential Problem Area? <input checked="" type="radio"/> yes <input type="radio"/> no	Plot ID: <i>2, BIL-B</i>
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
<i>Phalaris arundinacea</i>	<i>H</i>	<i>100</i>	<i>FACW</i>				
<i>Rubus discolor</i>	<i>S</i>	<i>15</i>	<i>FACW</i>				
<i>rooted outside of wetland</i>							

HYDROPHYTIC VEGETATION INDICATORS:

% of dominants OBL, FACW, & FAC *100*

Check all indicators that apply & explain below:

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

Hydrophytic vegetation present? yes no

Rationale for decision/Remarks: *Dominant plant is FACW.*

HYDROLOGY

Is it the growing season? <input checked="" type="radio"/> yes <input type="radio"/> no	Water Marks: <input checked="" type="checkbox"/> yes <input type="checkbox"/> no	Sediment Deposits: <input checked="" type="checkbox"/> yes <input type="checkbox"/> no
Based on: <u>soil temp</u> (record temp <u> </u>) <i>time of year</i> other (explain)	Drift Lines: <input checked="" type="checkbox"/> yes <input type="checkbox"/> no	Drainage Patterns: <input checked="" type="checkbox"/> yes <input type="checkbox"/> no
Depth of inundation: <u> </u> inches	Oxidized Root (live roots) Channels <12 in. <input checked="" type="checkbox"/> yes <input type="checkbox"/> no	Local Soil Survey: <input checked="" type="checkbox"/> yes <input type="checkbox"/> no
Depth to free water in pit: <u>9</u> inches	FAC Neutral: <input type="checkbox"/> yes <input checked="" type="checkbox"/> no	Water-stained Leaves <input checked="" type="checkbox"/> yes <input type="checkbox"/> no
Depth to saturated soil: <u>surface</u> inches	Other (explain):	
Check all that apply & explain below:		
Stream, Lake or gage data: <input type="checkbox"/>		
Aerial photographs: <input type="checkbox"/> Other: <input type="checkbox"/>		
Wetland hydrology present? <input checked="" type="radio"/> yes <input type="radio"/> no		
Rationale for decision/Remarks: <i>Soil saturated to surface, free water observed at 9 - inches depth in soil pit.</i>		

SOILS

Map Unit Name Urban land
(Series & Phase)

Drainage Class Variable

Taxonomy (subgroup) NA

Field observations confirm mapped type? Yes No

Profile Description						
Depth (inches)	Horizon	Matrix color (Munsell moist)	Mottle colors (Munsell moist)	Mottle abundance size & contrast	Texture, concretions, structure, etc.	Drawing of soil profile (match description)
0-10	A	10YR 3/2			Silt loam & organics	
10-16+	B	10YR 4/2	10YR 4/6	Common, red/pink distinct	Sandy 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 ≤ 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:
Matrix chroma of 2 w/ mottles observed at 10" depth.

Wetland Determination (circle)

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:

All 3 wetland criteria met.

NOTES:

DP B. is located in wetland 2.816. Wetland is a small Pitar-dominated depression, surrounded by RVWS. Wetland is located east of Benson/S Renton Village Place intersection. The wetland is hydrologically isolated, receives water from runoff, and maybe seep (?). Wetland is PEAR

DRAFT WETLAND RATING FORM – WESTERN WASHINGTON

Name of wetland (if known): 2.81L

Location: SEC: 20 TOWNSHIP: 23N RANGE: 5E (attach map with outline of wetland to rating form)

Person(s) Rating Wetland: A. Merrill Affiliation: WSA07 405 Project
S. Renton Date of site visit: 2/1/05

DRAFT SUMMARY OF RATING

Category based on FUNCTIONS provided by wetland

I ___ II ___ III ___ IV X

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

Score for Water Quality Functions	10
Score for Hydrologic Functions	14
Score for Habitat Functions	8
TOTAL score for functions	22

Category based on SPECIAL CHARACTERISTICS of wetland

I ___ II ___ Does not Apply X

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

IV

Check the appropriate type and class of wetland being rated.

Wetland Type	Wetland Class	
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>

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 Special Protection, and That Are Not Included in the Rating	YES	NO
<p>SP1. <i>Has the wetland been documented as a habitat for any Federally listed Threatened or Endangered plant or animal species (T/E species)?</i> For the purposes of this rating system, "documented" means the wetland is on the appropriate state or federal database.</p>		X
<p>SP2. <i>Has the wetland been documented as habitat for any State listed Threatened or Endangered plant or animal species?</i> For the purposes of this rating system, "documented" means the wetland is on the appropriate state database.</p>		X
<p>SP3. <i>Does the wetland contain individuals of Priority species listed by the WDFW for the state?</i></p>		X
<p>SP4. <i>Does the wetland have a local significance in addition to its functions? 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.</i></p>		X

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

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

Classification of Vegetated Wetlands for Western Washington

Wetland Name: _____

Date: _____

1. Are the water levels in the wetland 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. Is the topography within the wetland flat and precipitation is only source (>90%) of water to it.

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 wetland **meet both** of the following criteria?

The vegetated part of the wetland is on the shores of a body of open water (without any vegetation on the surface) where at least 20 acres (8 ha) are permanently inundated (ponded or flooded);

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 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 type of wetlands except occasionally in very small and shallow depressions or behind hummocks (depressions are usually <3ft diameter and less than 1 foot deep).

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

5. Is the wetland in a valley, or stream channel, where it gets inundated by overbank flooding from that stream or river? The flooding should occur at least once every two years, on the average, to answer "yes." *The wetland 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 wetland 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 wetland located in a very flat area with no obvious depression and no stream or river running through it and providing water. The wetland 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 seems to be difficult to classify. 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. Sometimes we find characteristics of several different hydrogeomorphic classes within one wetland boundary. 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 being rated. If the area of the second class is less than 10% classify the wetland using the first class.

HGM Classes Within a Delineated Wetland Boundary	Class to Use in Rating
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.

D Depressional and Flats Wetlands		Points
WATER QUALITY FUNCTIONS - Indicators that wetland functions to improve water quality		
D	D 1. Does the wetland have the <u>potential</u> to improve water quality? (see p. 38)	X
D	D 1.1 Characteristics of surface water flows out of the wetland: Wetland is a depression with no surface water outlet points = 3 Wetland has an intermittently flowing, or highly constricted, outlet points = 2 Wetland has an unconstricted surface outlet points = 1 Wetland is flat and has no obvious outlet and/or outlet is a ditch points = 1	2
D	D 1.2 The soil 2 inches below the surface is clay, organic, or smells anoxic (hydrogen sulfide or rotten eggs). YES points = 4 NO points = 0	0
D	D 1.3 Characteristics of persistent vegetation (emergent, shrub, and/or forest class): Wetland has persistent, ungrazed, vegetation >= 95% of area points = 5 Wetland has persistent, ungrazed, vegetation >= 1/2 of area points = 3 Wetland has persistent, ungrazed vegetation >= 1/10 of area points = 1 Wetland has persistent, ungrazed vegetation <1/10 of area points = 0	3
D	D1.4 Characteristics of seasonal ponding or inundation. <i>This is the area of the wetland 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> Area seasonally ponded is > 1/2 total area of wetland points = 4 Area seasonally ponded is > 1/4 total area of wetland points = 2 Area seasonally ponded is < 1/4 total area of wetland points = 0 NOTE: See text for indicators of seasonal and permanent inundation..	0
D	Total for D 1 Add the points in the boxes above	5
D	D 2. Does the wetland have the <u>opportunity</u> to improve water quality? (see p. 44) 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. — Grazing in the wetland or within 150 ft <input checked="" type="checkbox"/> Untreated stormwater discharges to wetland — Tilled fields or orchards within 150 ft of wetland — A stream or culvert discharges into wetland that drains developed areas, residential areas, farmed fields, roads, or clear-cut logging <input checked="" type="checkbox"/> Residential, urban areas, golf courses are within 150 ft of wetland — Wetland is fed by groundwater high in phosphorus or nitrogen — Other _____ (YES, multiplier is 2 NO multiplier is 1	multiplier 2
D	TOTAL - Water Quality Functions Multiply the score from D1 by D2 Add score to table on p. 1	10

D Depressional and Flats Wetlands		Points
HYDROLOGIC FUNCTIONS - Indicators that wetland functions to reduce flooding and stream degradation		
D 3. Does the wetland have the <u>potential</u> to reduce flooding and erosion? (see p. 46)		
D	D 3.1 Characteristics of surface water flows out of the wetland Wetland has no surface water outlet points = 4 Wetland has an intermittently flowing, or highly constricted, outlet points = 2 Wetland is flat and has no obvious outlet and/or outlet is a small ditch points = 1 Wetland has an unconstricted surface outlet points = 0	2
D	D 3.2 Depth of storage during wet periods <i>Estimate the height of ponding above the bottom of the outlet</i> Marks of ponding are 3 ft or more above the surface points = 7 The wetland is a "headwater" wetland points = 5 Marks of ponding between 2 ft to < 3 ft from surface points = 5 Marks are at least 0.5 ft to < 2 ft from surface points = 3 Wetland is flat but has small depressions on the surface that trap water points = 1 Marks of ponding less than 0.5 ft points = 0	0
D	D 3.3 Contribution of wetland to storage in the watershed <i>Estimate the ratio of the area of upstream basin contributing surface water to the wetland to the area of the wetland itself.</i> The area of the basin is less than 10 times the area of wetland points = 5 The area of the basin is 10 to 100 times the area of the wetland points = 3 The area of the basin is more than 100 times the area of the wetland points = 0 Wetland is in the FLATS class (basin = the wetland, by definition) points = 5	0
D	Total for D 3 <i>Add the points in the boxes above</i>	8
D	D 4. Does the wetland have the <u>opportunity</u> to reduce flooding and erosion? (see p. 49) Answer YES if the wetland is in a location in the watershed where the flood storage, or reduction in water velocity, it provides helps protect downstream property and aquatic resources from flooding or excessive and/or erosive flows. 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. <i>Note which of the following indicators of opportunity apply.</i> <input type="checkbox"/> Wetland is in a headwater of a river or stream that has flooding problems <input type="checkbox"/> Wetland drains to a river or stream that has flooding problems <input checked="" type="checkbox"/> Wetland has no outlet and impounds surface runoff water that might otherwise flow into a river or stream that has flooding problems <input type="checkbox"/> Other _____ YES multiplier is 2 NO multiplier is 1	multiplier 2
D	TOTAL - Hydrologic Functions Multiply the score from D 3 by D 4 <i>Add score to table on p. 1</i>	4

These questions apply to wetlands of all HGM classes.

Points

HABITAT FUNCTIONS - Indicators that wetland functions to provide important habitat

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

H 1.1 Vegetation structure (see p. 72)

Check the types of vegetation classes present (as defined by Cowardin) if the class covers more than 10% of the area of the wetland or 1/4 acre.

- Aquatic bed
- Emergent plants
- Scrub/shrub (areas where shrubs have >30% cover)
- Forested (areas where trees have >30% cover)
- Forested areas have 3 out of 5 strata (canopy, sub-canopy, shrubs, herbaceous, moss/ground-cover)

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

- 4 types or more points = 4
- 3 types points = 2
- 2 types points = 1
- 1 type points = 0

0

H 1.2. Hydroperiods (see p. 73)

Check the types of water regimes (hydroperiods) present within the wetland. The water regime has to cover more than 10% of the wetland or 1/4 acre to count. (see text for descriptions of hydroperiods)

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

1

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

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

You do not have to name the species.

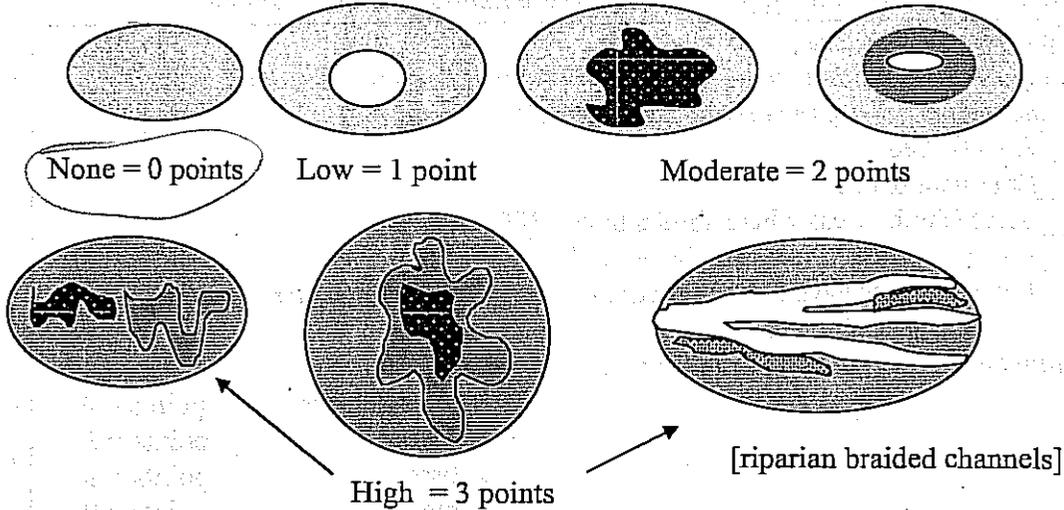
Do not include Eurasian Milfoil, reed canarygrass, purple loosestrife, Canadian Thistle

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

0

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

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



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

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

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

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

H 1. TOTAL Score - potential for providing habitat
Add the scores in the column above

0

0

1

Comments

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

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?

(see text for a more detailed description of these priority habitats)

 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 0.5% 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

<p>H 2.4 Wetland Landscape (<i>choose the one description of the landscape around the wetland that best fits</i>) (see p. 84)</p> <p>There are at least 3 other wetlands within ½ mile, and the connections between them are relatively undisturbed (light grazing between wetlands OK, as is lake shore with some boating, but connections should NOT be bisected by paved roads, fill, fields, or other development. points = 5</p> <p>The wetland is Lake-fringe on a lake with little disturbance and there are 3 other lake-fringe wetlands within ½ mile points = 5</p> <p>There are at least 3 other wetlands within ½ mile, BUT the connections between them are disturbed points = 3</p> <p>The wetland is Lake-fringe on a lake with disturbance and there are 3 other lake-fringe wetland within ½ mile points = 3</p> <p>There is at least 1 wetland within ½ mile. points = 2</p> <p>There are no wetlands within ½ mile. points = 0</p>	2
<p>H 2. TOTAL Score - opportunity for providing habitat <i>Add the scores in the column above</i></p>	7
<p>Total Score for Habitat Functions – add the points for H 1, H 2 and record the result on p. 1</p>	8

Routine Wetland Determination

WES 2.82R

DATA FORM 1 (Revised)

WA State Wetland Delineation Manual or 1987 Corps Wetland Delineation Manual

Project/Site: <u>405 TOLSP</u> Applicant/owner: <u>WSDOT</u> Investigator(s): <u>Douglas, Purley</u>	Date: <u>2/21/07</u> County: <u>King</u> State: <u>WA</u> S/T/R: <u>2723N/5E</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#1 (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>ALONIS</u>	<u>T</u>	<u>30</u>	<u>FAC</u>				
<u>RUBRAN</u>	<u>S</u>	<u>50</u>	<u>FACV</u>				
<u>PHACW</u>	<u>H</u>	<u>40</u>	<u>FACW</u>				
<u>ATHFEL</u>	<u>H</u>	<u>30</u>	<u>FAC</u>				

HYDROPHYTIC VEGETATION INDICATORS: $T=30/30=100\%$, $S=0/50=0\%$, $H=70/70=100\%$
 % of dominants OBL, FACW, & FAC: $100/150=67\%$

Check all indicators that apply and explain below:

<input checked="" 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: 67% DOM. WET. VEG.

HYDROLOGY

Is it the growing season? <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>February</u>	Water Marks: <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No on Drift Lines: <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No	Sediment Deposits: <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 Depth to free water in pit: <u>@ 14"</u> Depth to saturated soil: <u>@ surface</u>	Oxidized Root (live roots) Channels <12in.: <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No FAC Neutral: <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	Local Soil Survey: <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No Water-stained Leaves: <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No
Check all that apply & explain below: <input type="checkbox"/> Stream, lake or gage data <input type="checkbox"/> Aerial photographs <input type="checkbox"/> Other	Other (explain):	

Wetland hydrology present? Yes No
 Rationale for decision/remarks: Soil saturation and free water in pit.

SOILS

Map Unit Name (Series and Phase):

Drainage Class

Beausite gravelly sandy loam,
Taxonomy (subgroup) 15 to 30% slopes

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)
0-6"		10YR 2 ³ / ₁	—	—	Silt loam	
6-16"		10YR 2 ³ / ₁	5Y 2 ³ / ₁	m, m, p	Sandy loam	
16-18"+		10YR 6 ⁶ / ₆	—	—	Loamy sand	
18-19"+		10YR 6 ⁶ / ₄	—	—	"	

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 ≤ 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:

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: 10:00, clear sky, cool-mid 40's

Narrow, linear shape between T05 and abandoned road.

Connects 2 wetlands identified as separate under the Nickel project.

Routine Wetland Determination

DATA FORM 1 (Revised)

Wetland 2.82R

WA State Wetland Delineation Manual or 1987 Corps Wetland Delineation Manual

Project/Site: 405 TRIP Applicant/owner: WSDOT Investigator(s): Douglas, Bostes	Date: 2/21/07 County: King State: WA S/T/R: 20/23/15E
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: - Transect ID: - Plot ID: SP#2 (up)

VEGETATION (For *strata, indicate T = tree; S = shrub; H = herb; V = vine)							
Dominant Plant Species	*Stratum	% cover	Indicator	Dominant Plant Species	*Stratum	% cover	Indicator
ACEMAC	T	80	FACU				
OIONCER	S	60	FACU				
ALNARB	T	20	FAC				
RUBARON	S	30	FACU				
ILEAQU	S	5	VPL				
RHARU	H	20	FACU				

HYDROPHYTIC VEGETATION INDICATORS: $T = 20/100 = 20\%$, $S = 0/90 = 0\%$, $H = 20/20 = 100\%$
 % of dominants OBL, FACW, & FAC: $40/210 = 19\%$

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: **19% Dom. FAC. VEG.**

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

Wetland hydrology present? Yes No
 Rationale for decision/remarks: **No Hydroic features**

SOILS

Map Unit Name (Series and Phase):

Drainage Class

Beausite gravelly sandy loam
Taxonomy (subgroup)

15 to 30% slopes

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)
0-5"		10YR 3/4	—	—	Sandy loam	
5-10"		10YR 6/5	—	—	Loamy sand	
5-10"		7.5YR 6/5	—	—	" "	
10-18"		10YR 4/4	7.5YR 3/5		LS.	

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 ≤ 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: no hydric features, probably all soils

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: 0 of 3 parameters

NOTES: 10:15, clear sky, cool, mid 40s

Routine Wetland Determination

DATA FORM 1 (Revised)

Wetland 2,926

WA State Wetland Delineation Manual or 1987 Corps Wetland Delineation Manual

Project/Site: 405 TR258 Applicant/owner: WSDOT Investigator(s): Douglas, Bursten	Date: 2/21/07 County: King State: WA S/T/R: 20/23N/5E
--	--

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: — Transect ID: — Plot ID: SPT# 3 (w)
--	--

VEGETATION (For *strata, indicate T = tree; S = shrub; H = herb; V = vine)							
Dominant Plant Species	*Stratum	% cover	Indicator	Dominant Plant Species	*Stratum	% cover	Indicator
ALOUAUB	T	20	FAC	- dead/dying			
SALSO	T	30	FAC				
RUBARM	S	100	FAC				

HYDROPHYTIC VEGETATION INDICATORS: $T = 50/50 = 100\%$, $S = 0/100 = 0\%$
 % of dominants OBL, FACW, & FAC: $= 50/150 = 33\%$

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 H. virginiana blackberry dominant
 Rationale for decision/Remarks: 33% Dom. FAC. VCB. encroaching into wetland.

HYDROLOGY		
Is it the growing season? <input type="checkbox"/> Yes <input checked="" 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) February	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: \emptyset 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: 6"	FAC Neutral: <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No	Water-stained Leaves: <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No
Depth to saturated soil: @ surface	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: Saturation & standing water

SOILS

Map Unit Name (Series and Phase):

Drainage Class

Taxonomy (subgroup)

Beavrite gravelly sandy loam
15 to 30% slopes

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)
0-7"		10YR 4/1	10YR 5/6	C, m, D	sandy loam	
7-18"		10YR 5/1	10YR 5/6	C, m, D	loamy sand	
7-18"			10YR 5/3	C, m, D	loamy sand	

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 ≤ 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 & mottles.

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: 2 of 3 parameters

NOTES: 11:30, clear sky, upper 405

RWB Adam Domina, clearly Hydric soils & Hydrology.

Routine Wetland Determination

Westland 2,820

DATA FORM 1 (Revised)

WA State Wetland Delineation Manual or 1987 Corps Wetland Delineation Manual

Project/Site: <i>405 TRIP</i>	Date: <i>2/27/07</i>
Applicant/owner: <i>WSDOT</i>	County: <i>Kits</i>
Investigator(s): <i>Douglas, Puarley</i>	State: <i>WA</i>
	S/T/R: <i>20/23N/5E</i>

Do normal circumstances exist on the site? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	Community ID: <i>-</i>
Is the site significantly disturbed (atypical situation)? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No	Transect ID: <i>-</i>
Is the area a potential problem area? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No	Plot ID: <i>S# 4(W)</i>
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
<i>ROPTRI</i>	<i>T</i>	<i>20</i>	<i>FAC</i>				
<i>ACEMAC</i>	<i>T</i>	<i>40</i>	<i>FACW</i>	<i>- noted outside wet.</i>			
<i>RUBARM</i>	<i>S</i>	<i>30</i>	<i>FACW</i>				
<i>PHARW</i>	<i>H</i>	<i>100</i>	<i>FACW</i>				

HYDROPHYTIC VEGETATION INDICATORS: $T = 20/60 = 33\%$, $S = 0/30 = 0\%$,
 $\%$ of dominants OBL, FACW, & FAC: $= 120/190 = 63\%$, $H = 100/100 = 100\%$

Check all indicators that apply and explain below:

<input type="checkbox"/> Visual observation of plant species growing in areas of prolonged inundation/saturation	<input checked="" 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: *63% Dom. FAC. VEG.*

HYDROLOGY

Is it the growing season? <input type="checkbox"/> Yes <input checked="" 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) <i>February</i>	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: <i>0</i> 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: <i>3"</i>	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: <i>@ surface</i>	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: *Saturation and standing water*

SOILS

Map Unit Name (Series and Phase):

Drainage Class

Beavrite gravelly sandy loam
Taxonomy (subgroup)

Field observations confirm mapped type? Yes No

15 to 30% slope

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)
0-2"		10YR 4/3	—	—	Sandy loam	
2-9"		10YR 4/1	10YR 6/4	c, m, D	Loamy sand	
9-19"		10YR 2/5	10YR 6/4	c, m, D	Loamy sand	

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, mottles*

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:

NOTES: *13:00, clear sky, Low 50% middle section identified as upland in Nickel 28 total flags*

Routine Wetland Determination

Wetland 2.82a

DATA FORM 1 (Revised)

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

Project/Site: <u>405 TRIP</u> Applicant/owner: <u>WSDOT</u> Investigator(s): <u>Douglas, Purvisley</u>	Date: <u>2/21/07</u> County: <u>King</u> State: <u>WA</u> S/T/R: <u>20/20N/5E</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: _____ Transect ID: _____ Plot ID: <u>SPT#5 (up)</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>ACE MAC</u>	<u>T</u>	<u>80</u>	<u>FACV</u>				
<u>RUB AOBM</u>	<u>S</u>	<u>40</u>	<u>FACV</u>				
<u>OEC CER</u>	<u>S</u>	<u>30</u>	<u>FACV</u>				
<u>SYR ALB</u>	<u>S</u>	<u>20</u>	<u>FACV</u>				
<u>POPTOR</u>	<u>T</u>	<u>5</u>	<u>FAC</u>				
<u>ACE CER</u>	<u>S</u>	<u>20</u>	<u>FAC</u>				

HYDROPHYTIC VEGETATION INDICATORS: $T = 0/80 = 0\%$, $S = 0/110 = 0\%$
 % of dominants OBL, FACW, & FAC: $0/190 = 0\%$

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 type="checkbox"/> Personal knowledge of regional plant communities
	<input type="checkbox"/> Other (explain)

Hydrophytic vegetation present? Yes No
 Rationale for decision/Remarks: 0% DOM. FAC VEG.

HYDROLOGY

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

Wetland hydrology present? Yes No
 Rationale for decision/remarks: No hydrolic features

SOILS

Map Unit Name (Series and Phase):

Drainage Class

Beausite gravelly sandy loam
Taxonomy (subgroup)

15 to 30% slopes

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)
0-9		10YR 2/3	—	—	Loam	
9-18		10YR 2/3	—	—	Loam	
9-18		10YR 2/5	—	—	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 ≤ 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: No hydric features

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: 2 of 3 parameters

NOTES: 12:45, clear sky, low - 50's

Wetland name or number 2.92R

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

Name of wetland (if known): 2.92R Date of site visit: 2/2/07

Rated by: Douglas, Purvis Trained by Ecology? Yes No Date of training:

SEC: 20 TWSHP: 23N RNGE: SE Is S/T/R in Appendix D? Yes No

Map of wetland unit: Figure Estimated size

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	<u>2</u>
Score for Hydrologic Functions	<u>6</u>
Score for Habitat Functions	<u>13</u>
TOTAL Score for Functions	<u>21</u>

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

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

Summary of basic information about the wetland unit.

Wetland Unit has Special Characteristics		Wetland HGM Class used for Rating	
Estuarine		Depressional	
Natural Heritage Wetland		Riverine	
Bog		Lake-fringe	
Mature Forest		Slope	<input checked="" type="checkbox"/>
Old Growth Forest		Flats	
Coastal Lagoon		Freshwater Tidal	
Interdunal			
None of the above		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 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.		<input checked="" type="checkbox"/>
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 1 Natural Heritage Wetlands (see p. 19 of data form).		<input checked="" 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"/>
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 checked="" 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.

Wetland name or number 2.82R

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.

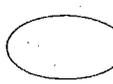
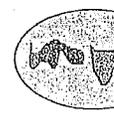
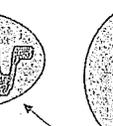
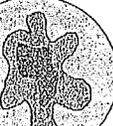
HGM Classes within the wetland unit being rated	HGM Class to Use in Rating
Slope + Riverine	Riverine
Slope + Depressional	Depressional
Slope + Lake-fringe	Lake-fringe
Depressional + Riverine along stream within boundary	Depressional
Depressional + Lake-fringe	Depressional
Salt Water Tidal Fringe and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

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

Wetland name or number 2.82R

S Slope Wetlands		Points
WATER QUALITY FUNCTIONS – Indicators that wetland functions to improve water quality.		(only 1 score per box) (see p.64)
S 1	Does the wetland have the potential to improve water quality?	
S 1.1	Characteristics of average slope of unit: <ul style="list-style-type: none"> Slope is 1% or less (a 1% slope has a 1 ft. 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
S 1.2	The soil 2 inches below the surface (or duff layer) is clay, organic (Use NRCS definitions). YES = 3 points NO = 0 points	0
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. <ul style="list-style-type: none"> 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 	Figure 0
Total for S 1		4
<i>Add the points in the boxes above</i>		
S 2	Does the wetland have the opportunity to improve water quality? Answer YES if you know or believe there are pollutants in groundwater or surface water coming into the wetland that would otherwise reduce water quality in streams, lakes or groundwater downgradient from the wetland? Note which of the following conditions provide the sources of pollutants. A unit may have pollutants coming from several sources, but any single source would qualify as opportunity. <input type="checkbox"/> Grazing in the wetland or within 150 ft <input type="checkbox"/> Untreated stormwater discharges to wetland <input type="checkbox"/> Tilled fields, logging, or orchards within 150 ft. of wetland <input 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
◆ TOTAL – Water Quality Functions		2
Multiply the score from S1 by S2; then add score to table on p. 1		
HYDROLOGIC FUNCTIONS – Indicators that wetland functions to reduce flooding and stream erosion.		
S 3	Does the wetland have the potential to reduce flooding and stream erosion?	(see p.68)
S 3.1	Characteristics of vegetation that reduce the velocity of surface flows during storms: Choose the points appropriate for the description that best fits conditions in the wetland (stems of plants should be thick enough (usually > 1/8in), or dense enough to remain erect during surface flows). <ul style="list-style-type: none"> Dense, uncut, rigid vegetation covers > 90% of the area of the wetland points = 6 Dense, uncut, rigid vegetation > 1/2 area of wetland points = 3 Dense, uncut, rigid vegetation > 1/4 area points = 1 More than 1/4 of area is grazed, mowed, tilled, or vegetation is not rigid points = 0 	1
S 3.2	Characteristics of slope wetland that holds back small amounts of flood flows. The slope has small surface depressions that can retain water over at least 10% of its area. YES = 2 points NO = 0 points	2
Total for S 3		3
<i>Add the points in the boxes above</i>		
S 4	Does the wetland have the opportunity to reduce flooding and erosion? 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. <input type="checkbox"/> Wetland has surface runoff that drains to a river or stream that has flooding problems <input type="checkbox"/> Other (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) YES multiplier is 2 NO multiplier is 1	(see p. 70) Multiplier 2
◆ TOTAL – Hydrologic Functions		6
Multiply the score from S3 by S4; then add score to table on p. 1		

Comments:

These questions apply to wetlands of all HGM classes.		Points (only 1 score per box)
HABITAT FUNCTIONS – Indicators that wetland functions to provide important habitat.		
H 1	Does the wetland have the potential to provide habitat for many species?	
H 1.1	<p>Vegetation structure (see P. 72): 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.</p> <p><input checked="" type="checkbox"/> Aquatic Bed <input checked="" type="checkbox"/> Emergent plants <input checked="" type="checkbox"/> Scrub/shrub (areas where shrubs have > 30% cover) <input checked="" type="checkbox"/> Forested (areas where trees have > 30% cover)</p> <p>If the unit has a forested class check if: <input type="checkbox"/> The forested class has 3 out of 5 strata (canopy, sub-canopy, shrubs, herbaceous, moss/ground-cover) that each cover 20% within the forested polygon. Add the number of vegetation types that qualify. If you have:</p> <p style="text-align: right;"> Map of Cowardin vegetation classes 4 structures or more.....points = 4 3 structures.....points = 2 2 structures.....points = 1 1 structure points = 0 </p>	Figure <u>2</u>
H 1.2	<p>Hydroperiods (see p.73): Check the types of water regimes (hydroperiods) present within the wetland. The water regime has to cover more than 10% of the wetland or 1/4 acre to count (see text for descriptions of hydroperiods).</p> <p><input checked="" type="checkbox"/> Permanently flooded or inundated <input checked="" type="checkbox"/> Seasonally flooded or inundated <input checked="" type="checkbox"/> Occasionally flooded or inundated <input type="checkbox"/> Saturated only <input type="checkbox"/> Permanently flowing stream or river in, or adjacent to, the wetland <input type="checkbox"/> Seasonally flowing stream in, or adjacent to, the wetland <input type="checkbox"/> Lake-fringe wetland.....= 2 points <input type="checkbox"/> Freshwater tidal wetland.....= 2 points</p> <p style="text-align: right;"> Map of hydroperiods 4 or more types present points = 3 3 or more types present.....points = 2 2 types present.....points = 1 1 type present points = 0 </p>	Figure <u>2</u>
H 1.3	<p>Richness of Plant Species (see p. 75): Count the number of plant species in the wetland that cover at least 10 ft² (different patches of the same species can be combined to meet the size threshold) You do not have to name the species. Do not include Eurasian Milfoil, reed canarygrass, purple loosestrife, Canadian Thistle.</p> <p>If you counted: > 19 species points = 2 5 – 19 species points = 1 < 5 species points = 0</p> <p>List species below if you want to: _____ _____ _____</p>	Figure <u>1</u>
H 1.4	<p>Interspersion of Habitats (see p. 76): Decided from the diagrams below whether interspersion between Cowardin vegetation (described in H1.1), 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;"> <div style="text-align: center;">  None = 0 points </div> <div style="text-align: center;">  Low = 1 point </div> <div style="text-align: center;">  Moderate = 2 points </div> <div style="text-align: center;">  </div> </div> <div style="display: flex; justify-content: space-around; margin-top: 20px;"> <div style="text-align: center;">  </div> <div style="text-align: center;">  High = 3 points </div> <div style="text-align: center;">  [riparian braided channels] </div> </div> <p style="text-align: right;"> Note: If you have 4 or more classes or 3 vegetation classes and open water, the rating is always “high”. Use map of Cowardin classes. </p>	Figure <u>2</u>
H 1.5	<p>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.</p> <p><input checked="" type="checkbox"/> Large, downed, woody debris within the wetland (> 4 in. diameter and 6 ft. long) <input checked="" type="checkbox"/> Standing snags (diameter at the bottom > 4 inches) in the wetland <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) <input type="checkbox"/> Stable steep banks of fine material that might be used by beaver or muskrat for denning (> 30 degree slope) OR signs of recent beaver activity are present (cut shrubs or trees that have not yet turned grey/brown) <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) <input type="checkbox"/> Invasive plants cover less than 25% of the wetland area in each stratum of plants</p> <p><i>NOTE: The 20% stated in early printings of the manual on page 78 is an error.</i></p>	Figure <u>2</u>
H 1 TOTAL Score – potential for providing habitat		Figure <u>9</u>

H 2.3	<p><u>Near or adjacent to other priority habitats listed by WDFW (see p. 82):</u> Which of the following priority habitats are within 330 ft. (100m) of the wetland? <i>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.</i></p> <p><input type="checkbox"/> Riparian: 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"/> Aspen Stands: Pure or mixed stands of aspen greater than 0.8 ha (2 acres)</p> <p><input type="checkbox"/> Cliffs: Greater than 7.6m (25 ft) high and occurring below 5000 ft.</p> <p><input type="checkbox"/> 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) > 81cm (32 in) dbh or > 200 years of age.</p> <p><input type="checkbox"/> Mature forests: Stands with average diameters exceeding 53cm (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"/> Prairies: Relatively undisturbed areas (as indicated by dominance of native plants) where greases and/or forbs form the natural climax plant community.</p> <p><input type="checkbox"/> Talus: Homogenous areas of rock rubble ranging in average size 0.15 – 2.0m (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"/> Caves: A naturally occurring cavity, recess, void, or system of interconnected passages.</p> <p><input type="checkbox"/> Oregon white Oak: Woodlands stands of pure oak or oak/conifer associations where canopy coverage of the oak component of the stand is 25%.</p> <p><input type="checkbox"/> 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 <i>priority habitats</i>, 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.</p> <p><input type="checkbox"/> 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 0.5 ppt. during the period of average annual low flow. Includes both estuaries and lagoons.</p> <p><input type="checkbox"/> 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).</p> <p>If wetland has 3 or more priority habitats = 4 points If wetland has 1 priority habit ... = 1 point If wetland has 2 priority habitats = 3 points No habitats..... = 0 points Note: All vegetated wetlands are by definition a priority habitat but are not included in this list. (Nearby wetlands are addressed in question H 2.4).</p>	
H 2.4	<p><u>Wetland Landscape:</u> Choose the <i>one</i> description of the landscape around the wetland that best fits (see p. 84)</p> <ul style="list-style-type: none"> • 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 • 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 • There are at least 3 other wetlands within 1/2 mile, BUT the connections between them are disturbed. points = 3 • The wetland fringe on a lake with disturbance and there are 3 other lake-fringe wetlands within 1/2 mile..... points = 3 • There is at least 1 wetland within 1/2 mile points = 2 • There are no wetlands within 1/2 mile points = 0 	3
H 2 TOTAL Score – opportunity for providing habitat Add the scores from H2.1, H2.2, H2.3, H2.4		9
TOTAL for H 1 from page 8		4
◆ Total Score for Habitat Functions	Add the points for H 1 and H 2; then <i>record the result on p. 1</i>	13

Comments:

Wetland name or number 2,322

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.	
SC1	<p>Estuarine wetlands? (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,</p> <p><input type="checkbox"/> Vegetated, and</p> <p><input type="checkbox"/> With a salinity greater than 0.5 ppt.</p> <p>YES = Go to SC 1.1 NO <input checked="" type="checkbox"/></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? YES = Category I NO = go to SC 1.2 Cat. I</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>YES = Category I NO = 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>Cat. I Cat. II Dual Rating I/II</p>
SC2	<p>Natural Heritage Wetlands (see p. 87)</p> <p>Natural Heritage wetlands have been identified by the Washington Natural Heritage Program/DNR as either high quality undisturbed wetlands or wetlands that support state Threatened, Endangered, or Sensitive plant species.</p> <p>SC 2.1 Is the wetland being rated in a Section/Township/Range that contains a natural heritage wetland? (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 _____ YES _____ Contact WNHP/DNR (see p. 79) and go to SC 2.2 NO _____</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? YES = Category I NO <input checked="" type="checkbox"/> not a Heritage Wetland Cat I</p>
SC3	<p>Bogs (see p. 87)</p> <p>Does the wetland (or any part of the unit) meet both the criteria for soils and vegetation in bogs? 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)? YES = go to question 3 NO = 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? YES = go to question 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 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 (> 30% cover) with sitka spruce, subalpine fir, western red cedar, western hemlock, lodgepole pine, quaking aspen, Englemann’s spruce, or western white pine. WITH any of the species (or combination of species) on the bog species plant list in Table 3 as a significant component of the ground cover (> 30% coverage of the total shrub/herbaceous cover)? YES = Category I NO = Is not a bog for purpose of rating Cat. I</p>

Wetland name or number 2.820

SC4	<p>Forested Wetlands (see p. 90)</p> <p>Does the wetland have at least 1 acre of forest that meet one of these criteria for the Department of Fish and Wildlife's forests as priority habitats? <i>If you answer yes you will still need to rate the wetland based on its function.</i></p> <p>___ Old-growth forests: (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).</p> <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> <p>___ Mature forests: (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>YES = Category I NO = <input checked="" type="checkbox"/> not a forested wetland with special characteristics</p>	Cat. I
SC5	<p>Wetlands in Coastal Lagoons (see p. 91)</p> <p>Does the wetland meet all of the following criteria of a wetland in a coastal lagoon?</p> <p>___ 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>___ The lagoon in which the wetland is located contains surface water that is saline or brackish (> 0.5 ppt) during most of the year in at least a portion of the lagoon (<i>needs to be measured near the bottom.</i>)</p> <p>YES = Go to SC 5.1 NO = <input checked="" type="checkbox"/> not a wetland in a coastal lagoon</p> <p>SC 5.1 Does the wetland meet all of the following three conditions?</p> <p>___ 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>___ 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>___ The wetland is larger than 1/10 acre (4350 square ft.)</p> <p>YES = Category I NO = Category II</p>	Cat. I Cat. II
SC6	<p>Interdunal Wetlands (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>YES = Go to SC 6.1 NO = <input checked="" type="checkbox"/> not an interdunal wetland for rating</p> <p><i>If you answer yes you will still need to rate the wetland based on its functions.</i></p> <p>In practical terms that means the following geographic areas:</p> <ul style="list-style-type: none"> • Long Beach Peninsula -- lands west of SR 103 • Grayland-Westport -- lands west of SR 105 • Ocean Shores-Copalis -- lands west of SR 115 and SR 109 <p>SC 6.1 Is the wetland one acre or larger, or is it in a mosaic of wetlands that is one acre or larger?</p> <p>YES = Category II NO = 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>YES = Category III</p>	Cat. II Cat. III
◆	<p>Category of wetland based on Special Characteristics</p> <p>Choose the "highest" rating if wetland falls into several categories, and record on p. 1.</p> <p>If you answered NO for all types enter "Not Applicable" on p. 1</p>	NA

Comments:

DATA FORM 1 (Revised)
Routine Wetland Determination
(WA State Wetland Delineation Manual or
1987 Corps Wetland Delineation Manual)

Project/Site: <u>WSDOT I-405 S. Renton Nickel</u>	Date: <u>2/11/05</u>
Applicant/owner: <u>WSDOT</u>	County: <u>King</u>
Investigator(s): <u>Jeff Collins, Adam Merrill</u>	State: <u>WA</u>
	S/T/R: <u>20/23N/5E</u>
Do Normal Circumstances exist on the site? <input checked="" type="radio"/> yes <input type="radio"/> no	Community ID: <u>U</u>
Is the site significantly disturbed (atypical situation)? <input checked="" type="radio"/> yes <input type="radio"/> no	Transect ID:
Is the area a potential Problem Area? <input checked="" type="radio"/> yes <input type="radio"/> no	Plot ID: <u>DP 2.9L-A</u>
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
<u>Rubus discolor</u>	<u>S</u>	<u>100</u>	<u>FACU</u>				
<u>Cornus stolonifera</u>	<u>S</u>	<u>20</u>	<u>FACW</u>				

HYDROPHYTIC VEGETATION INDICATORS:

% of dominants OBL, FACW, & FAC 50%

Check all indicators that apply & explain below:

Visual observation of plant species growing in areas of prolonged inundation/saturation	_____	Physiological/reproductive adaptations	_____
Morphological adaptations	_____	Wetland plant database	<u>X</u>
Technical Literature	_____	Personal knowledge of regional plant communities	_____
		Other (explain)	_____

Hydrophytic vegetation present? yes no

Rationale for decision/Remarks:

Vegetation that is FAC, FACW, or OBL does not exceed 50%.

HYDROLOGY

Is it the growing season? yes <input type="radio"/> <input checked="" type="radio"/> no	Water Marks: yes <input type="radio"/> <input checked="" type="radio"/> no	Sediment Deposits: yes <input type="radio"/> <input checked="" type="radio"/> no
Based on: <u>date</u> soil temp (record temp _____) other (explain) _____	Drift Lines: yes <input type="radio"/> <input checked="" type="radio"/> no	Drainage Patterns: yes <input type="radio"/> <input checked="" type="radio"/> no
Dept. of inundation: _____ inches	Oxidized Root (live roots) Channels <12 in. yes <input type="radio"/> <input checked="" type="radio"/> no	Local Soil Survey: yes <input type="radio"/> <input checked="" type="radio"/> no
Depth to free water in pit: <u>15</u> inches	FAC Neutral: yes <input type="radio"/> <input checked="" type="radio"/> no	Water-stained Leaves yes <input type="radio"/> <input checked="" type="radio"/> no
Depth to saturated soil: <u>10</u> inches	Other (explain):	
Check all that apply & explain below:		
Stream, Lake or gage data: _____		
Aerial photographs: _____ Other: _____		

Wetland hydrology present? yes no

Rationale for decision/Remarks:

Soils saturated at 10 inches.

SOILS

Map Unit Name Urban land
(Series & Phase)

Drainage Class Variable

Taxonomy (subgroup) NA

Field observations confirm mapped type? Yes No

Profile Description						
Depth (inches)	Horizon	Matrix color (Munsell moist)	Mottle colors (Munsell moist)	Mottle abundance size & contrast	Texture, concretions, structure, etc.	Drawing of soil profile (match description)
0-14	A	10YR 3/2	—	—	Sandy loam	
14-18	B	10YR 4/2	7.5YR 4/6	medium, common, distinct	Sandy 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 ≤ 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:
Soils with chroma of 2 with mottles occur below 12 inches.
~~Soils above 14 inches have no hydric soil indicators~~

Wetland Determination (circle)

- 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:

Does not meet all 3 wetland determination criteria

NOTES: Upland Data Plot was dug on a hill side seep. Not all wetland criteria are met.

Dense blackberry cover.

DATA FORM 1 (Revised)
Routine Wetland Determination
(WA State Wetland Delineation Manual or
1987 Corps Wetland Delineation Manual)

Project/Site: <u>WSPOT 405 Project</u> <u>Si Reunion</u>	Date: <u>2/1/05</u>
Applicant/owner: <u>WSPOT</u>	County: <u>King</u>
Investigator(s): <u>AM, JC</u>	State: <u>WA</u>
	S/T/R: <u>20/23/5E</u>
Do Normal Circumstances exist on the site? <input checked="" type="checkbox"/> yes <input type="checkbox"/> no	Community ID: <u>Wetland</u>
Is the site significantly disturbed (atypical situation)? <input checked="" type="checkbox"/> yes <input type="checkbox"/> no	Transect ID:
Is the area a potential Problem Area? <input checked="" type="checkbox"/> yes <input type="checkbox"/> no	Plot ID: <u>OP 2.9L-B</u>
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
<u>Phalaris arundinacea</u>	<u>H</u>	<u>75</u>	<u>FACW</u>				
<u>Typha latifolia</u>	<u>H</u>	<u>25</u>	<u>OBL</u>				

HYDROPHYTIC VEGETATION INDICATORS:

% of dominants OBL, FACW, & FAC 100

Check all indicators that apply & explain below:

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

Hydrophytic vegetation present? yes no

Rationale for decision/Remarks:
Both dominants are FAC on wetland.

HYDROLOGY

Is it the growing season? yes <input type="checkbox"/> no <input checked="" type="checkbox"/>	Water Marks: yes <input type="checkbox"/> no <input checked="" type="checkbox"/>	Sediment Deposits: yes <input type="checkbox"/> no <input checked="" type="checkbox"/>
Based on: _____ soil temp (record temp _____) <u>time of year</u> other (explain)	Drift Lines: yes <input type="checkbox"/> no <input checked="" type="checkbox"/>	Drainage Patterns: yes <input type="checkbox"/> no <input checked="" type="checkbox"/>
Dept. of inundation: _____ inches	Oxidized Root (live roots) Channels <12 in. yes <input type="checkbox"/> no <input checked="" type="checkbox"/>	Local Soil Survey: yes <input type="checkbox"/> no <input checked="" type="checkbox"/>
Depth to free water in pit: <u>2</u> inches	FAC Neutral: yes <input type="checkbox"/> no <input checked="" type="checkbox"/>	Water-stained Leaves <input checked="" type="checkbox"/> yes <input type="checkbox"/> no
Depth to saturated soil: <u>surface</u> inches	Other (explain):	
Check all that apply & explain below:		
Stream, Lake or gage data: _____		
Aerial photographs: _____ Other: _____		

Wetland hydrology present? yes no

Rationale for decision/Remarks:
free water observed at 2" depth in soil pit.

Areas of inundation occurs within wetland.

SOILS

Map Unit Name Urban land
(Series & Phase)

Drainage Class variable

Taxonomy (subgroup) NA

Field observations confirm Yes No

mapped type?

Profile Description						
Depth (inches)	Horizon	Matrix color (Munsell moist)	Mottle colors (Munsell moist)	Mottle abundance size & contrast	Texture, concretions, structure, etc.	Drawing of soil profile (match description)
0-8	A	5Y2.5/1			loam	
8-16	B	2.5Y4/0	7.5YR 4/0	many, distinct, media	loamy sand	

Hydric Soil Indicators: (check all that apply)

<input type="checkbox"/> Histosol	<input checked="" 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:
Change of 2 w/ mottles in B horizon.

Wetland Determination (circle)

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

Rationale/Remarks:
All 3 wetland criteria met.

NOTES:
Plot B is located in PEM section of wetland, near south end. Wetland is on Walt-Mart/Travis Club property. Area is seasonally inundated; areas of perched water occur. Wetland receives flow from surface runoff and possibly a hillside seep.

DATA FORM 1 (Revised)
Routine Wetland Determination
(WA State Wetland Delineation Manual or
1987 Corps Wetland Delineation Manual)

Project/Site: <u>WS001 405 Project - S. Renton</u> Applicant/owner: <u>WS001</u> Investigator(s): <u>AM, JC</u>	Date: <u>3/3/05</u> County: <u>Kis</u> State: <u>WA</u> S/TR: <u>20/23 N/5 E</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 Explanation of atypical or problem area:	Community ID: <u>Wetland</u> Transect ID: <u>(scrub-scrub)</u> Plot ID: <u>OP 291-C</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>Salix lucida</u>	<u>S</u>	<u>40</u>	<u>FACW</u>				
<u>Alnus rubra</u>	<u>T</u>	<u>40</u>	<u>FAC</u>				
<u>Rubus discolor</u>	<u>S</u>	<u>35</u>	<u>FACU</u>				
<u>Pteridium aquilinum</u>	<u>H</u>	<u>40</u>	<u>FACU</u>				

HYDROPHYTIC VEGETATION INDICATORS:

% of dominants OBL, FACW, & FAC 50

Check all indicators that apply & explain below:

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

Hydrophytic vegetation present? yes no

Rationale for decision/Remarks:
Visual observation of plants growing in saturated soil. Saturation is likely to persist for at least 2 weeks.

HYDROLOGY

Is it the growing season? <input checked="" type="radio"/> yes <input type="radio"/> no Based on: _____ soil temp (record temp _____) time of year _____ other (explain) _____ Dept. of inundation: _____ inches Depth to free water in pit: <u>3</u> inches Depth to saturated soil: <u>Surface</u> inches	Water Marks: <input checked="" type="radio"/> yes <input type="radio"/> no Sediment Deposits: yes <input type="radio"/> no Drift Lines: yes <input type="radio"/> no Drainage Patterns: <input checked="" type="radio"/> yes <input type="radio"/> no Oxidized Root (live roots) Channels <12 in. yes <input type="radio"/> no Local Soil Survey: yes <input type="radio"/> no FAC Neutral: yes <input type="radio"/> no Water-stained Leaves <input checked="" type="radio"/> yes <input type="radio"/> no Other (explain): _____
--	--

Check all that apply & explain below:
 Stream, Lake or gage data: _____
 Aerial photographs: _____ Other: _____

Wetland hydrology present? yes no

Rationale for decision/Remarks:
Free water observed at 3" depth in soil. Areas of permanent ponding are nearby.

SOILS

Map Unit Name Urban land
(Series & Phase)

Drainage Class variable

Taxonomy (subgroup) NA

Field observations confirm Yes No mapped type?

Profile Description

Depth (inches)	Horizon	Matrix color (Munsell moist)	Mottle colors (Munsell moist)	Mottle abundance size & contrast	Texture, concretions, structure, etc.	Drawing of soil profile (match description)
0-8	A	10YR 3/2			silt loam w/ peat	
8-16	B	10YR 2/1			sandy 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 ≤ 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 matrix observed to B horizon (8" depth)

Wetland Determination (circle)

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:

All 3 wetland criteria met.

NOTES:

Plot 3 is in approximate east-center portion of wetland 2.9L, in PSS section. Plot is near blackberry slope, and ponded area to the west. Soils in blackberry slope are generally 2/1 sand loam, which appears well-drained. The wetland boundary on the slope was flagged where saturation ~~was~~ was not observed. Revised 4/97

DRAFT WETLAND RATING FORM – WESTERN WASHINGTON

Name of wetland (if known): 2.9L

Location: SEC: 20 TOWNSHIP: 23^N RANGE: 5E (attach map with outline of wetland to rating form)

Person(s) Rating Wetland: A. Merrill Affiliation: S. Renton Date of site visit: 2/11/05

DRAFT SUMMARY OF RATING

Category based on FUNCTIONS provided by wetland

I II III X IV

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

Score for Water Quality Functions	10
Score for Hydrologic Functions	16
Score for Habitat Functions	14
TOTAL score for functions	40

Category based on SPECIAL CHARACTERISTICS of wetland

I II Does not Apply X

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

III

Check the appropriate type and class of wetland being rated.

Wetland Type	Wetland Class
Estuarine	Depressional X
Natural Heritage Wetland	Riverine
Bog	Lake-fringe
Mature Forest	Slope
Old Growth Forest	Flats
Coastal Lagoon	Freshwater Tidal
Interdunal	
None of the above	X

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 Special Protection, and That Are Not Included in the Rating	YES	NO
<p>SP1. <i>Has the wetland been documented as a habitat for any Federally listed Threatened or Endangered plant or animal species (T/E species)?</i> For the purposes of this rating system, "documented" means the wetland is on the appropriate state or federal database.</p>		✓
<p>SP2. <i>Has the wetland been documented as habitat for any State listed Threatened or Endangered plant or animal species?</i> For the purposes of this rating system, "documented" means the wetland is on the appropriate state database.</p>		X
<p>SP3. <i>Does the wetland contain individuals of Priority species listed by the WDFW for the state?</i></p>		X
<p>SP4. <i>Does the wetland have a local significance in addition to its functions? 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.</i></p>		X

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

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

Classification of Vegetated Wetlands for Western Washington

Wetland Name: _____

Date: _____

1. Are the water levels in the wetland 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. Is the topography within the wetland flat and precipitation is only source (>90%) of water to it.

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 wetland meet both of the following criteria?

The vegetated part of the wetland is on the shores of a body of open water (without any vegetation on the surface) where at least 20 acres (8 ha) are permanently inundated (ponded or flooded);

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 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 type of wetlands except occasionally in very small and shallow depressions or behind hummocks (depressions are usually <3ft diameter and less than 1 foot deep).*

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

5. Is the wetland in a valley, or stream channel, where it gets inundated by overbank flooding from that stream or river? The flooding should occur at least once every two years, on the average, to answer "yes." *The wetland 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 wetland 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 wetland located in a very flat area with no obvious depression and no stream or river running through it and providing water. The wetland 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 seems to be difficult to classify. 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. Sometimes we find characteristics of several different hydrogeomorphic classes within one wetland boundary. 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 being rated. If the area of the second class is less than 10% classify the wetland using the first class.

<i>HGM Classes Within a Delineated Wetland Boundary</i>	<i>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.

D Depressional and Flats Wetlands		Points
WATER QUALITY FUNCTIONS - Indicators that wetland functions to improve water quality		
D	D 1. Does the wetland have the potential to improve water quality? (see p. 38)	
D	D 1.1 Characteristics of surface water flows out of the wetland: Wetland is a depression with no surface water outlet points = 3 Wetland has an intermittently flowing, or highly constricted, outlet <u>points = 2</u> Wetland has an unconstricted surface outlet points = 1 Wetland is flat and has no obvious outlet and/or outlet is a ditch points = 1	2
D	D 1.2 The soil 2 inches below the surface is clay, organic, or smells anoxic (hydrogen sulfide or rotten eggs). YES <u>points = 4</u> NO points = 0	0
D	D 1.3 Characteristics of persistent vegetation (emergent, shrub, and/or forest class): Wetland has persistent, ungrazed, vegetation > = 95% of area points = 5 Wetland has persistent, ungrazed, vegetation > = 1/2 of area <u>points = 3</u> Wetland has persistent, ungrazed vegetation > = 1/10 of area points = 1 Wetland has persistent, ungrazed vegetation < 1/10 of area points = 0	3
D	D1.4 Characteristics of seasonal ponding or inundation. <i>This is the area of the wetland 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> Area seasonally ponded is > 1/2 total area of wetland points = 4 Area seasonally ponded is > 1/4 total area of wetland points = 2 Area seasonally ponded is < 1/4 total area of wetland <u>points = 0</u> NOTE: See text for indicators of seasonal and permanent inundation..	0
D	Total for D 1 Add the points in the boxes above	5
D	D 2. Does the wetland have the opportunity to improve water quality? (see p. 44) 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. — Grazing in the wetland or within 150 ft — Untreated stormwater discharges to wetland — Tilled fields or orchards within 150 ft of wetland — A stream or culvert discharges into wetland that drains developed areas, residential areas, farmed fields, roads, or clear-cut logging <input checked="" type="checkbox"/> Residential, urban areas, golf courses are within 150 ft of wetland — Wetland is fed by groundwater high in phosphorus or nitrogen Other _____ <input checked="" type="radio"/> YES multiplier is 2 NO multiplier is 1	multiplier 2
D	TOTAL - Water Quality Functions Multiply the score from D1 by D2 Add score to table on p. 1	10

D Depressional and Flats Wetlands		Points
HYDROLOGIC FUNCTIONS - Indicators that wetland functions to reduce flooding and stream degradation		
	D 3. Does the wetland have the <u>potential</u> to reduce flooding and erosion? (see p. 46)	
D	D 3.1 Characteristics of surface water flows out of the wetland Wetland has no surface water outlet points = 4 Wetland has an intermittently flowing, or highly constricted, outlet points = 2 Wetland is flat and has no obvious outlet and/or outlet is a small ditch points = 1 Wetland has an unconstricted surface outlet points = 0	0
D	D 3.2 Depth of storage during wet periods <i>Estimate the height of ponding above the bottom of the outlet</i> Marks of ponding are 3 ft or more above the surface points = 7 The wetland is a "headwater" wetland" points = 5 Marks of ponding between 2 ft to < 3 ft from surface points = 5 Marks are at least 0.5 ft to < 2 ft from surface points = 3 Wetland is flat but has small depressions on the surface that trap water points = 1 Marks of ponding less than 0.5 ft points = 0	W
D	D 3.3 Contribution of wetland to storage in the watershed <i>Estimate the ratio of the area of upstream basin contributing surface water to the wetland to the area of the wetland itself.</i> The area of the basin is less than 10 times the area of wetland points = 5 The area of the basin is 10 to 100 times the area of the wetland points = 3 The area of the basin is more than 100 times the area of the wetland points = 0 Wetland is in the FLATS class (basin = the wetland, by definition) points = 5	W
D	Total for D 3 Add the points in the boxes above	8
D	D 4. Does the wetland have the <u>opportunity</u> to reduce flooding and erosion? (see p. 49) Answer YES if the wetland is in a location in the watershed where the flood storage, or reduction in water velocity, it provides helps protect downstream property and aquatic resources from flooding or excessive and/or erosive flows. 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. <i>Note which of the following indicators of opportunity apply.</i> — Wetland is in a headwater of a river or stream that has flooding problems <input checked="" type="checkbox"/> Wetland drains to a river or stream that has flooding problems — Wetland has no outlet and impounds surface runoff water that might otherwise flow into a river or stream that has flooding problems — Other _____ (YES) multiplier is 2 NO multiplier is 1	multiplier 2
D	TOTAL - Hydrologic Functions Multiply the score from D 3 by D 4 Add score to table on p. 1	16

These questions apply to wetlands of all HGM classes.

Points

HABITAT FUNCTIONS - Indicators that wetland functions to provide important habitat

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

H 1.1 Vegetation structure (see p. 72)

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

- Aquatic bed
- Emergent plants
- Scrub/shrub (areas where shrubs have >30% cover)
- Forested (areas where trees have >30% cover)
- Forested areas have 3 out of 5 strata (canopy, sub-canopy, shrubs, herbaceous, moss/ground-cover)

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

- 4 types or more points = 4
- 3 types points = 2
- 2 types points = 1
- 1 type points = 0

1

H 1.2. Hydroperiods (see p. 73)

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

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

3

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

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

You do not have to name the species.

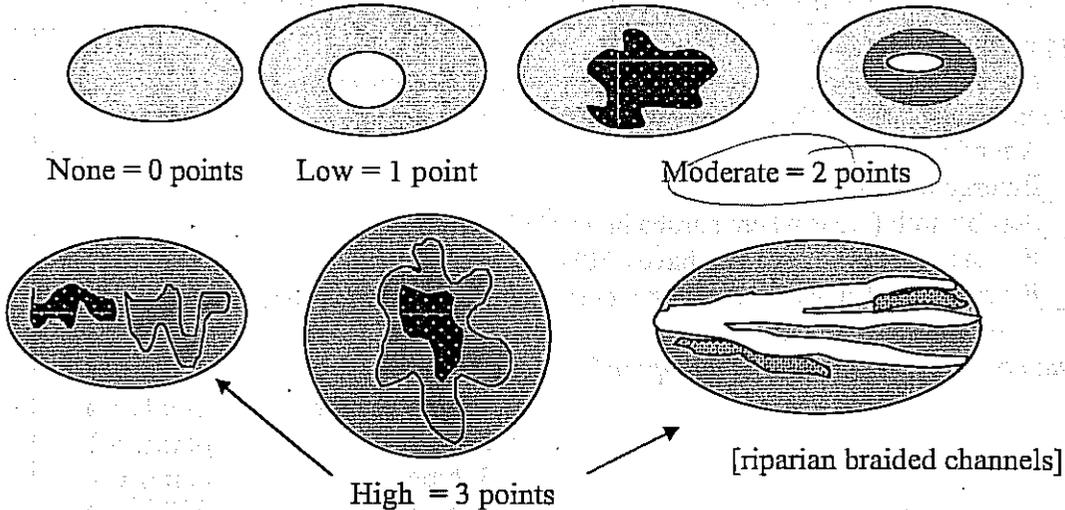
Do not include Eurasian Milfoil, reed canarygrass, purple loosestrife, Canadian Thistle

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

1

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

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



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

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

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

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

H 1. TOTAL Score - potential for providing habitat
Add the scores in the column above

Comments

H 2. Does the wetland have the opportunity to provide habitat for many species?

H 2.1 Buffers (see p. 80)

Choose the description that best represents condition of buffer of wetland. The highest scoring criterion that applies to the wetland is to be used in the rating. See text for definition of "undisturbed."

- 100 m (330ft) of relatively undisturbed vegetated areas, rocky areas, or open water >95% of circumference. No developed areas within undisturbed part of buffer. **(relatively undisturbed also means no-grazing) Points = 5**
- 100 m (330 ft) of relatively undisturbed vegetated areas, rocky areas, or open water > 50% circumference. **Points = 4**
- 50 m (170ft) of relatively undisturbed vegetated areas, rocky areas, or open water >95% circumference. **Points = 4**
- + 100 m (330ft) of relatively undisturbed vegetated areas, rocky areas, or open water > 25% circumference, **Points = 3**
- 50 m (170ft) of relatively undisturbed vegetated areas, rocky areas, or open water for > 50% circumference. **Points = 3**

If buffer does not meet any of the three criteria above

- No paved areas (except paved trails) or buildings within 25 m (80ft) of wetland > 95% circumference. Light to moderate grazing, or lawns are OK. **Points = 2**
- No paved areas or buildings within 50m of wetland for >50% circumference. Light to moderate grazing, or lawns are OK. **Points = 2**
- Heavy grazing in buffer. **Points = 1**
- Vegetated buffers are <2m wide (6.6ft) for more than 95% of the circumference (e.g. tilled fields, paving, basalt bedrock extend to edge of wetland) **Points = 0.**
- Buffer does not meet any of the criteria above. **Points = 1**

H 2.2 Corridors and Connections (see p. 81)

H 2.2.1 Is the wetland part of a relatively undisturbed and unbroken vegetated corridor (either riparian or upland) that is at least 150 ft wide, has at least 30% cover of shrubs, forest or native undisturbed prairie, that connects to estuaries, other wetlands or undisturbed uplands that are at least 250 acres in size? (dams in riparian corridors, heavily used gravel roads, paved roads, are considered breaks in the corridor).

YES = 4 points (go to H 2.3) **NO** = go to H 2.2.2

H 2.2.2 Is the wetland part of a relatively undisturbed and unbroken vegetated corridor (either riparian or upland) that is at least 50ft wide, has at least 30% cover of shrubs or forest, and connects to estuaries, other wetlands or undisturbed uplands that are at least 25 acres in size? OR a Lake-fringe wetland, if it does not have an undisturbed corridor as in the question above?

YES = 2 points (go to H 2.3) **NO** = H 2.2.3

H 2.2.3 Is the wetland:

- within 5 mi (8km) of a brackish or salt water estuary OR
- within 3 mi of a large field or pasture (>40 acres) OR
- within 1 mi of a lake greater than 20 acres?

YES = 1 point

NO = 0 points

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?

(see text for a more detailed description of these priority habitats)

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 0.5% 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

1

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

Handwritten initials/signature

Routine Wetland Determination

DATA FORM 1 (Revised)

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

Project/Site: <u>1-405</u> Applicant/owner: <u>ASDOT</u> Investigator(s): <u>ADAM GALE / JOSEPH PURSLEY</u>	Date: <u>2/2/2007</u> County: <u>KING</u> State: <u>WA</u> S/T/R: <u>20/23/5</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: Transect ID: <u>Wet</u> Plot ID: <u>3.0 R wetland plot</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>Phalaris arundinacea</u>	<u>H</u>	<u>80</u>	<u>FACW</u>				
<u>Equisetum arvense</u>	<u>H</u>	<u>10</u>	<u>FAC</u>				
<u>Rubus armeniacus</u>	<u>S</u>	<u>20</u>	<u>FACU</u>				
<u>Alnus rubra</u>	<u>T</u>	<u>20</u>	<u>FAC</u>				
<u>Gallium aparine</u>	<u>H</u>	<u>10</u>	<u>FACU</u>				
<u>Ranunculus repens</u>	<u>H</u>	<u>10</u>	<u>FACW</u>				

HYDROPHYTIC VEGETATION INDICATORS:

% of dominants OBL, FACW, & FAC: > 50%

Check all indicators that apply and explain below:

<input checked="" 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 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:

HYDROLOGY

Is it the growing season? Yes No

Based on: <input type="checkbox"/> Soil temp (record temp)	Water Marks: <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No	Sediment Deposits: <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No
<input checked="" type="checkbox"/> Other (explain) <u>Time of Year</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: _____ inches	Oxidized Root (live roots) Channels <12 in: <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>0</u>	FAC Neutral: <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No	Water-stained Leaves: <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No
Depth to saturated soil: <u>4 IN</u>	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: Evidence of hydrology

SOILS

Map Unit Name (Series and Phase):

Drainage Class

Field observations confirm mapped type? Yes No

Taxonomy (subgroup)

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)
0-2	A	3/2 10YR	-	-	Sandy loam	
2-10	AB	3/1 10YR	4/6 7.5YR	C, M, d	Clay loam	
10-18	B		2.5 Y	C, C, P		

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 ≥ 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:

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:

NOTES: All 3 parameters met.

Routine Wetland Determination

DATA FORM 1 (Revised)

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

Project/Site: I-405 Applicant/owner: WSDOT Investigator(s): ADAM GALE/Joe Pursley	Date: 2/2/07 County: KING State: WA S/T/R: 20/23/5
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: Transect ID: UPLAND Plot ID: 3.0R

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

Dominant Plant Species	*Stratum	% cover	Indicator	Dominant Plant Species	*Stratum	% cover	Indicator
<i>Corylus cornuta</i>	T	45	FACU				
<i>Rubus armeniacus</i>	S	25	FACU				
<i>Tellima grandiflora</i>	H	5	NONE				
<i>Polygonatum multiflorum</i>	H	5	FACU				
<i>Oemleria cerasiflora</i>	S	10	FACU				
<i>Hedera helix</i>	H	20	FACU				

HYDROPHYTIC VEGETATION INDICATORS:

% of dominants OBL, FACW, & FAC:

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 type="checkbox"/> Wetland plant database
<input type="checkbox"/> Technical Literature	<input type="checkbox"/> Personal knowledge of regional plant communities
	<input type="checkbox"/> Other (explain)

Hydrophytic vegetation present? Yes No

Rationale for decision/Remarks: **<50% hydric species**

HYDROLOGY

Is it the growing season? Yes No

Based on: <input type="checkbox"/> Soil temp (record temp) <input checked="" type="checkbox"/> Other (explain) Time of Year	Water Marks: <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No on	Sediment Deposits: <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No
Depth of inundation: _____ inches	Drift Lines: <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No	Drainage Patterns: <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No
Depth to free water in pit: 0	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 saturated soil: 0	FAC Neutral: <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No	Water-stained Leaves: <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No

Check all that apply & explain below:

Stream, lake or gage data
 Aerial photographs
 Other

Wetland hydrology present? Yes No

Rationale for decision/remarks: **No hydric indicators**

SOILS

Map Unit Name (Series and Phase):

Drainage Class

Field observations confirm mapped type? Yes No

Taxonomy (subgroup)

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	A	3/2 10YR	-	-	Sandy loam	
3-10	AB	3/2 10YR	4/6 7.5 YR	f, m, f	fine	
			4/2 7.5 YR	m, m, d	coarse	

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 ≤ 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:

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:

NOTES: Soils hydric, but lacking in vegetation & hydrology.

Wetland name or number 3.0R

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

Name of wetland (if known): 3.0R Date of site visit: 2/2/2007

Rated by Joseph R. Purvisley Trained by Ecology? Yes ___ No X Date of training _____

NW SEC: 20 TOWNSHIP: 23 RANGE: 05 Is S/T/R in Appendix D? Yes ___ No X

Map of wetland unit: Figure _____ Estimated size 0.04 acres

SUMMARY OF RATING

Category based on FUNCTIONS provided by wetland

I ___ II ___ III X IV ___

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

Score for Water Quality Functions	<u>10</u>
Score for Hydrologic Functions	<u>20</u>
Score for Habitat Functions	<u>11</u>
TOTAL score for Functions	<u>41</u>

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

Wetland name or number 3.0R

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

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

Check List for Wetlands That May Need Additional Protection (in addition to the protection recommended for its category)	YES	NO
<p>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.</p>		X
<p>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).</p>		X
<p>SP3. <i>Does the wetland unit contain individuals of Priority species listed by the WDFW for the state?</i></p>		X
<p>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.</p>		X

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

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

Classification of Wetland Units in Western Washington

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

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

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

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

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

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

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

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

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

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

NO go to 4 **YES** – The wetland class is **Lake-fringe (Lacustrine 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 3.0R

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 3.0R

R Riverine and Freshwater Tidal Fringe Wetlands HYDROLOGIC FUNCTIONS - Indicators that wetland functions to reduce flooding and stream erosion		Points <small>(only 1 score per box)</small>
	R 3. Does the wetland unit have the <u>potential</u> to reduce flooding and erosion?	<i>(see p.54)</i>
R	R 3.1 Characteristics of the overbank storage the 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 <u>points = 6</u> 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 ___ 6
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.</i> (polygons need to have >90% cover at person height NOT Cowardin classes): Forest or shrub for >1/3 area OR herbaceous plants > 2/3 area points = 7 Forest or shrub for > 1/10 area OR herbaceous plants > 1/3 area <u>points = 4</u> Vegetation does not meet above criteria points = 0 Aerial photo or map showing polygons of different vegetation types	Figure ___ 4
R	<i>Add the points in the boxes above</i>	<u>10</u>
R	R 4. Does the wetland unit have the <u>opportunity</u> to reduce flooding and erosion? Answer YES if the unit is in a location in the watershed where the flood storage, or reduction in water velocity, it provides helps protect downstream property and aquatic resources from flooding or excessive and/or erosive flows. <i>Note which of the following conditions apply.</i> <input checked="" type="checkbox"/> There are human structures and activities downstream (roads, buildings, bridges, farms) that can be damaged by flooding. <input checked="" type="checkbox"/> 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> <u>YES</u> multiplier is 2 NO multiplier is 1	<i>(see p.57)</i> multiplier <u>2</u>
R	TOTAL - Hydrologic Functions Multiply the score from R 3 by R 4 <i>Add score to table on p. 1</i>	<u>20</u>

Comments

Wetland name or number 3.0R

<p>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.</p> <p>None = 0 points Low = 1 point Moderate = 2 points</p> <p>High = 3 points [riparian braided channels]</p> <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>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.</p> <p><input type="checkbox"/> Large, downed, woody debris within the wetland (>4in. diameter and 6 ft long).</p> <p><input type="checkbox"/> Standing snags (diameter at the bottom > 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 (>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 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)</p> <p><input type="checkbox"/> Invasive plants cover less than 25% of the wetland area in each stratum of plants</p> <p><i>NOTE: The 20% stated in early printings of the manual on page 78 is an error.</i></p>	<p>0</p>	
<p>H 1. TOTAL Score - potential for providing habitat Add the scores from H1.1, H1.2, H1.3, H1.4, H1.5</p>		<p>4</p>

Comments

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

Total for page 5

Wetland name or number 3, OR

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)

Wetland name or number 3.0R

<p>H 2.4 Wetland Landscape (choose the one 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. points = 5</p> <p>The wetland is Lake-fringe on a lake with little disturbance and there are 3 other lake-fringe wetlands within ½ mile points = 5</p> <p>There are at least 3 other wetlands within ½ mile, BUT the connections between them are disturbed points = 3</p> <p>The wetland is Lake-fringe on a lake with disturbance and there are 3 other lake-fringe wetland within ½ mile points = 3</p> <p><input checked="" type="checkbox"/> There is at least 1 wetland within ½ mile. points = 2</p> <p><input type="checkbox"/> There are no wetlands within ½ mile. points = 0</p>	<p>2</p>
<p>H 2. TOTAL Score - opportunity for providing habitat Add the scores from H2.1, H2.2, H2.3, H2.4</p>	<p>7</p>
<p>TOTAL for H 1 from page 14</p>	<p>4</p>
<p>Total Score for Habitat Functions – add the points for H 1, H 2 and record the result on p. 1</p>	<p>11</p>

Wetland name or number 3.02

<p>SC 2.0 Natural Heritage Wetlands (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</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 not a Heritage Wetland</p>	<p>Cat. I</p>
<p>SC 3.0 Bogs (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">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. 22. 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 rating3. 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>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">1. Is the unit forested (> 30% cover) with sitka spruce, subalpine fir, western red cedar, western hemlock, lodgepole pine, quaking aspen, Englemann's spruce, or western white pine, WITH any of the species (or combination of species) on the bog species plant list in Table 3 as a significant component of the ground cover (> 30% coverage of the total shrub/herbaceous cover)?2. YES = Category I No Is not a bog for purpose of rating	<p>Cat. I</p>