

Routine Wetland Determination

DATA FORM 1 (Revised)

WA State Wetland Delineation Manual or 1987 Corps Wetland Delineation Manual

19.7R

Project/Site: 405 520 to I-5	Date: 10/13/06
Applicant/owner: WSDOT	County: King
Investigator(s): Douglas, Pursley	State: WA
	S/T/R: 33/26N/12SE

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: 38 # 1 (wet)
Explanation of atypical or problem area:	Near flag # 12

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

Dominant Plant Species	*Stratum	% cover	Indicator	Dominant Plant Species	*Stratum	% cover	Indicator
SALLAS	T	90	FACW				
THPL	T	20	FAC				
ORN, CHERRY	T	20	FACW				
SPIRON	S	40	FACW				
ACERMAC	T	5	FACW				
LVBRAO	S	5	FACW				

HYDROPHYTIC VEGETATION INDICATORS: T = 110/130 = 85% S = 40/40 = 100%

% of dominants OBL, FACW, & FAC: 150/170 = 88%

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 checked="" type="checkbox"/> Morphological adaptations	<input checked="" type="checkbox"/> Wetland plant database
<input checked="" 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: 88% Wet Veg.

HYDROLOGY

Is it the growing season? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	Water Marks: <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No on	Sediment Deposits: <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No
Based on: <input type="checkbox"/> Soil temp (record temp). <input checked="" type="checkbox"/> Other (explain) October	Drift Lines: <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No	Drainage Patterns: <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No
Depth of inundation: 0 inches	Oxidized Root (live roots) Channels <12 in.: <input checked="" type="checkbox"/> Yes <input 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 checked="" type="checkbox"/> Yes <input type="checkbox"/> No	Water-stained Leaves: <input checked="" type="checkbox"/> Yes <input 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: Assumed based on characteristics, end of day period ^{Summer}
Drainage water stained leaves

SOILS

Map Unit Name (Series and Phase):

Kittap Silt loam 2 to 8%
Taxonomy (subgroup) 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)
0-5"	Duff	organic layer	thick		small woody debris	
5-9"	1	10YR 2/2			Silt loam	
9-14"		10YR 2/2	10YR 6/2	f, f, f	Silt loam	
14-23"			+ 5/8			
14-23"		10YR 6/1	10YR 6/6	f, f, f	Silt loam	

Hydric Soil Indicators: (check all that apply)

- Histosol
- Histic Epipedon
- Sulfidic Odor
- Aquic Moisture Regime
- Reducing Conditions
- Gleyed or Low-Chroma (=1) matrix
- Matrix chroma ≤ 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, Hydric assumed based on characteristics

NOTES:

17 flags

Routine Wetland Determination

DATA FORM 1 (Revised)

Near flag #2

WA State Wetland Delineation Manual or 1987 Corps Wetland Delineation Manual

Project/Site: 405 520 to R5	Date: 10/13/06
Applicant/owner: WSDOT	County: King
Investigator(s): Douglas, Purdy	State: WA
	S/T/R: 33/26N/R5E

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: Sp #2 (up)
Explanation of atypical or problem area:	197R

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

Dominant Plant Species	*Stratum	% cover	Indicator	Dominant Plant Species	*Stratum	% cover	Indicator
ALNWB	T	25	FAC	RUBUR	S	60	FACU
OBN cherry	T	40	FACU	CEMCE	S	20	FACU
COB COB	S	20	FACU	PIMU	H	20	FACU
SALLAS	T	30	FACW				
RUBSPE	S	10	FAC+				
RUBPAC	S	20	FACU				

HYDROPHYTIC VEGETATION INDICATORS: T = 55AS = , S = 0/120 = 0, H, 0/20 = 0

% of dominants OBL, FACW, & FAC: $\frac{55}{235} = 23\%$

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

Hydrophytic vegetation present? Yes No

Rationale for decision/Remarks: 23% wetland species

HYDROLOGY

Is it the growing season? Yes No

Water Marks: <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No on	Sediment Deposits: <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No
Drift Lines: <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No	Drainage Patterns: <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No
Oxidized Root (live roots) <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	Local Soil Survey: <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No
Channels <12in.: <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No	Water-stained Leaves: <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No
FAC Neutral: <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

Check all that apply & explain below:

<input type="checkbox"/> Stream, lake or gage data	Other (explain):
<input type="checkbox"/> Aerial photographs	
<input type="checkbox"/> Other	

Wetland hydrology present? Yes No

Rationale for decision/remarks: No hydroic indicators

SOILS

Map Unit Name (Series and Phase):

Kittling Silty loam 2 to 3 ft
Taxonomy (subgroup)

Slight

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 2/4	-	-	loam w/ fill gravel	Fill material associated with road prism

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: High chroma, fill

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 19.7R

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

Name of wetland (if known): 19.7R Date of site visit: 10/13/06

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

SEC: 33 TOWNSHIP: 26N RANGE: 5E Is S/T/R in Appendix D? Yes No

Map of wetland unit: Figure Estimated size 0.19 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	14
Score for Hydrologic Functions	10
Score for Habitat Functions	12
TOTAL Score for Functions	36

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

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. 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 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 checked="" type="checkbox"/>
SP3. Does the wetland unit contain individuals of Priority species listed by the WDFW for the state?		<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 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 19.7R

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	<input checked="" type="radio"/> 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 19.72

groundwater in areas where damaging groundwater flooding does not occur. <i>Note which of the following indicators of opportunity apply.</i>			
<input checked="" type="checkbox"/>	Wetland is in a headwater of a river or stream that has flooding problems.	2	
<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 _____		
	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>	10

Comments:

Wetland name or number 19.702

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 type="checkbox"/> Aquatic Bed <input 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) 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="display: inline-table; vertical-align: middle;"> <tr> <td>4 structures or more.....</td> <td>points = 4</td> </tr> <tr> <td>2 structures.....</td> <td>points = 1</td> </tr> </table> </p> <p style="text-align: right;">Map of Cowardin vegetation classes</p> <table style="display: inline-table; vertical-align: middle;"> <tr> <td>3 structures.....</td> <td>points = 2</td> </tr> <tr> <td>1 structure.....</td> <td>points = 0</td> </tr> </table>	4 structures or more.....	points = 4	2 structures.....	points = 1	3 structures.....	points = 2	1 structure.....	points = 0	Figure <u>1</u>
4 structures or more.....	points = 4									
2 structures.....	points = 1									
3 structures.....	points = 2									
1 structure.....	points = 0									
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 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 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="display: inline-table; vertical-align: middle;"> <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> </p> <p style="text-align: right;">Map of hydroperiods</p>	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 <u>2</u>
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	<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. If you counted: <table style="display: inline-table; vertical-align: middle;"> <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: _____ _____ _____</p>	> 19 species.....	points = 2	5 – 19 species.....	points = 1	< 5 species.....	points = 0	Figure <u>1</u>		
> 19 species.....	points = 2									
5 – 19 species.....	points = 1									
< 5 species.....	points = 0									
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> <div style="display: flex; justify-content: space-around; margin-top: 10px;"> <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".</p> <p style="text-align: right;">Use map of Cowardin classes.</p>	Figure <u>1</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 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. </p>	Figure <u>3</u>								
H 1 TOTAL Score – potential for providing habitat		Add the points in the column above <u>8</u>								

Wetland name or number 19.702

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

8

TOTAL for H 1 from page 8

4

◆ **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 19,72

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 = <u> </u> 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 = <u> </u> 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 = <u> </u> 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 Kirkland-Nickel</u>	Date: <u>3/4/04</u>
Applicant/owner: <u>WSDOT</u>	County: <u>KING</u> State: <u>WA</u> S/TR: <u>28/20N/5E</u>
Investigator(s): <u>J. Collins, B. Larsen</u>	Community ID: <u>Upland 2</u> Transect ID: Plot ID: <u>19.8L-A</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:	

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>Pseudotsuga mucronata</u>	<u>T</u>	<u>75</u>	<u>FACU</u>				
<u>Agrostis sp.</u>	<u>H</u>	<u>100</u>	<u>FAC</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	_____
Technical Literature	_____	Personal knowledge of regional plant communities	_____
		Other (explain)	_____

Hydrophytic vegetation present? yes no

Rationale for decision/Remarks: Dominant plant species are not greater than 50% OBL, FACW, FAC

HYDROLOGY

Is it the growing season? <input checked="" type="radio"/> yes <input type="radio"/> no	Water Marks: <input type="radio"/> yes <input checked="" type="radio"/> no	Sediment Deposits: <input type="radio"/> yes <input checked="" type="radio"/> no
Based on: <u>DATE</u> soil temp (record temp _____) <u>DATE</u> other (explain)	Drift Lines: <input type="radio"/> yes <input checked="" type="radio"/> no	Drainage Patterns: <input type="radio"/> yes <input checked="" type="radio"/> no
Dept. of inundation: _____ inches	Oxidized Root (live roots) Channels <12 in. <input type="radio"/> yes <input checked="" type="radio"/> no	Local Soil Survey: <input type="radio"/> yes <input checked="" type="radio"/> no
Depth to free water in pit: _____ inches	FAC Neutral: <input type="radio"/> yes <input checked="" type="radio"/> no	Water-stained Leaves <input type="radio"/> yes <input checked="" type="radio"/> no
Depth to saturated soil: <u>13</u> inches	Other (explain):	
Check all that apply & explain below: Stream, Lake or gage data: _____ Aerial photographs: _____ Other: _____		
Wetland hydrology present? <input type="radio"/> yes <input checked="" type="radio"/> no		
Rationale for decision/Remarks: <u>upper soil layer not saturated</u>		

SOILS

Map Unit Name Kitsap silt loam
(Series & Phase) 2-8 percent slopes

Drainage Class moderately well drained

Taxonomy (subgroup) Dystric Xerochrepts

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)
5-16	A	2.5Y 4/2	-	-	loam	
0-5					organics	

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:
A horizon topped by layer of organic matter.
Not hydric b/c chroma of 2 w/o mottles

Wetland Determination (circle)

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

Rationale/Remarks: Does not meet any of the 3 wetland determination criteria

NOTES:

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

Project/Site: <u>WSDOT I-405 Kirkland</u>	Date: <u>3/4/04</u>
Applicant/owner: <u>WSDOT</u>	County: <u>KING</u>
Investigator(s): <u>J. Collins, B. Larsen</u>	State: <u>WA</u>
	S/TR: <u>28/26W/5E</u>
Do Normal Circumstances exist on the site? <input checked="" type="radio"/> yes <input type="radio"/> no	Community ID: <u>Wetland PEM</u>
Is the site significantly disturbed (atypical situation)? <input type="radio"/> yes <input checked="" type="radio"/> no	Transect ID: _____
Is the area a potential Problem Area? <input type="radio"/> yes <input checked="" type="radio"/> no	Plot ID: <u>19.8L-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>100</u>	<u>FACW</u>				
<u>Rubus discolor</u>	<u>S</u>	<u>150</u>	<u>FACU</u>				
<u>Agrostis sp.</u>	<u>H</u>	<u>10</u>	<u>FAC</u>				
<u>Ornamental tree</u>	<u>T</u>	<u>25</u>	<u>?</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 _____ | Physiological/reproductive adaptations _____ |
| Morphological adaptations _____ | Wetland plant database _____ |
| Technical Literature _____ | Personal knowledge of regional plant communities _____ |
| | Other (explain) _____ |

Hydrophytic vegetation present? yes no
 Rationale for decision/Remarks: Greater than 50% of dominant vegetation is OBL, FACW, FAC

HYDROLOGY

Is it the growing season? <input checked="" type="radio"/> yes <input type="radio"/> no	Water Marks: yes <input type="radio"/> no <input checked="" type="radio"/>	Sediment Deposits: yes <input type="radio"/> no <input checked="" type="radio"/>
Based on: <u>DATE</u> soil temp (record temp _____) <u>DATE</u> other (explain)	Drift Lines: yes <input type="radio"/> no <input checked="" type="radio"/>	Drainage Patterns: <input checked="" type="radio"/> yes <input type="radio"/> no
Dept. of inundation: _____ inches	Oxidized Root (live roots) Channels <12 in. yes <input type="radio"/> no <input checked="" type="radio"/>	Local Soil Survey: yes <input type="radio"/> no <input checked="" type="radio"/>
Depth to free water in pit: <u>1</u> inches	FAC Neutral: yes <input type="radio"/> no <input checked="" type="radio"/>	Water-stained Leaves <input checked="" type="radio"/> yes <input type="radio"/> no
Depth to saturated soil: <u>0</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 in soil pit and soils saturated.

SOILS

Map Unit Name Kitsap silt loam
(Series & Phase) 2-3 percent slopes

Drainage Class moderately well drained

Field observations confirm Yes No
mapped type?

Taxonomy (subgroup) Du stric Xerchrept

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)
0-16	A	10YR 3/2	10YR 4/6	f, d, 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: Soil chroma of 2 with mottles and concretions

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:
Meets all 3 criteria for wetland determination

NOTES:

DRAFT WETLAND RATING FORM – WESTERN WASHINGTON

Name of wetland (if known): 19.8L

Location: SEC: 28 TOWNSHIP: 26N RANGE: 5E (attach map with outline of wetland to rating form)

Person(s) Rating Wetland: Jeff Collins Affiliation: ¹⁴⁰⁵KIRKLAND
NICKEL Date of site visit: ^{3/4/04}10/7/04

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	4
Score for Hydrologic Functions	4
Score for Habitat Functions	11
TOTAL score for functions	19

Category based on SPECIAL CHARACTERISTICS of wetland

I ___ II ___ Does not Apply ___

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

IV

Check the appropriate type and class of wetland being rated.

Wetland Type	Wetland Class
Estuarine	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	

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: 19.8L

Date: 10-7-04

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);

- 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)	
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	1
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	1
D	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 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	2
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 — 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 X 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	4

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 = <u>1</u> Wetland has an unconstricted surface outlet points = 0	1
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 = <u>1</u> Marks of ponding less than 0.5 ft points = 0	1
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 = <u>0</u> 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>	2
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 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 _____ YES multiplier is 2 NO multiplier is 1	multiplier <u>2</u>
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 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)

2

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

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**

2

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

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

You do not have to name the species.

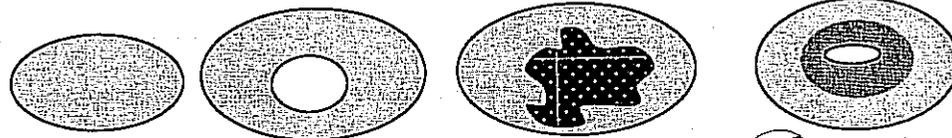
Do not include Eurasian Milfoil, reed canarygrass, purple loosestrife, Canadian Thistle

- 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)

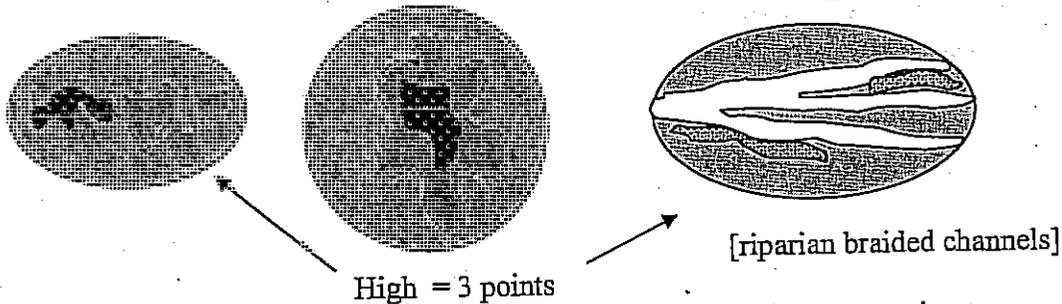
Decided from the diagrams below whether interspersion between types of vegetation (described in H 1.1), or vegetation types and unvegetated areas (can include open water or mudflats) is high, medium, low, or none.



None = 0 points

Low = 1 point

Moderate = 2 points



High = 3 points

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

2

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

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

- Large, downed, woody debris within the wetland (>4in. diameter and 6 ft long).
- Standing snags (diameter at the bottom > 4 inches) in the wetland
- Undercut banks are present for at least 6.6 ft (2m) and/or overhanging vegetation extends at least 3.3 ft (1m) over a stream 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

0

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

7

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

<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> <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>	3
<p>H 2. TOTAL Score - opportunity for providing habitat <i>Add the scores in the column above</i></p>	4
<p>Total Score for Habitat Functions – add the points for H 1, H 2 and record the result on p. 1</p>	11

Plate 26¹
WETLAND FIELD DATA FORM

WL 19.8L



WETLAND FIELD DATA FORM

BEGIN BY CHECKING ANY OF THE FOLLOWING (a. - e.) THAT APPLY:

- a. The wetland is contiguous to Lake Washington;
- b. The wetland contains at least 1/4 acre of organic soils, such as peat bogs or mucky soils;
- c. The wetland is equal to or greater than 10 acres in size and having three or more wetland classes, as defined by the U.S. Fish & Wildlife Service (Cowardin et al., 1979), one of which is open water;
- d. The wetland has significant habitat value to state or federally listed threatened or endangered wildlife species; or
- e. The wetland contains state or federally listed threatened or endangered plant species.

IF ANY OF THE CRITERIA LISTED ABOVE ARE MET, THEN THE WETLAND IS CONSIDERED TO BE TYPE 1. IF THAT IS THE CASE, PLEASE CONTINUE TO COMPLETE THE ENTIRE FORM, BUT DO NOT ASSIGN POINTS. IF THE WETLAND DOES NOT MEET THE CRITERIA LISTED ABOVE FOR TYPE 1, COMPLETE THE ENTIRE FORM, USING THE ASSIGNED POINTS TO DETERMINE IF IT IS A TYPE 2 OR TYPE 3 WETLAND.

Type 2 wetlands typically have at least two wetland vegetation classes, are at least partially surrounded by buffers of native vegetation, connected by surface water flow (perennial or intermittent) to other wetlands or streams, and contain or are associated with forested habitat.

1. Total wetland area

Estimate wetland area and score from choices Acres

Acres	Point Value	Points
>20.00	= 6	
10-19.99	= 5	
5-9.99	= 4	
1-4.99	= 3	
0.1-0.99	= 2	2
<0.1	= 1	

2. Wetland classes: Determine the number of wetland classes that qualify, and score according to the table.

	# of Classes	Points
Open Water: if the area of open water is >1/3 acre or >10% of the total wetland area	1	= 1
Aquatic Beds: if the area of aquatic beds is >10% of the open water area or >1/2 acre	2	= 3
Emergent: if the area of emergent class is >1/2 acre or >10% of the total wetland area	3	= 5
Scrub-Shrub: if the area of scrub-shrub class is >1/2 acre or >10% of the total wetland area	4	= 7
Forested: if the area of forested class is >1/2 acre or >10% of the total wetland area	5	= 10

3. Plant species diversity.

For all wetland classes which qualified in 2 above, count the number of different plant species and score according to the table below. You do not have to name them.

e.g., if a wetland has an aquatic bed class with 3 species, and emergent class with 4 species and a scrub-shrub class with 2 species, you would circle 2, 2, and 1 in the second column (below).

Class	# of Species	Point Value	Class	# of Species	Point Value
Aquatic Bed	1-2	= 1	Scrub-Shrub	1-2	= 1
	3	= 2		3-4	= 2
	>3	= 3		>4	= 3
Emergent	1-2	= 1	Forested	1-2	= 1
	3-4	= 2		3-4	= 2
	>4	= 3		>4	= 3

2

4. Structural diversity.

If the wetland has a forested class, add 1 point for each of the following attributes present:

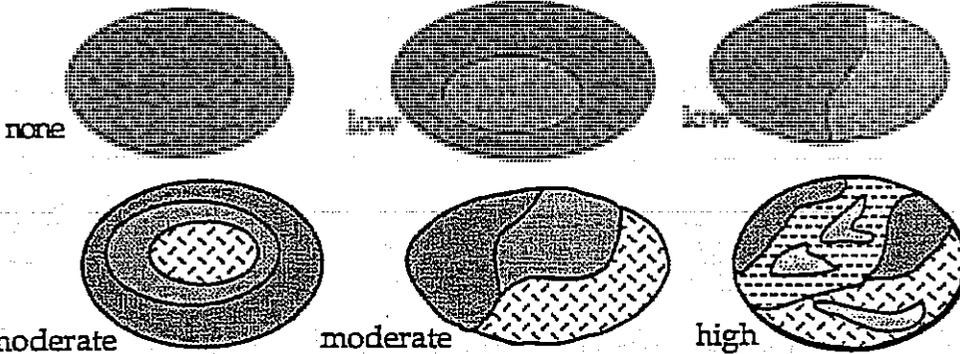
- Trees >50' tall = 1
- Trees 20' to 49' tall = 1
- shrubs = 1
- Herbaceous ground cover = 1

0

5. Interspection between wetland classes.

Decide from the diagrams below whether interspection between wetland classes is high, moderate, low or none

- 3 = High
- 2 = Moderate
- 1 = Low
- 0 = None



1

6. Habitat features

Add points associated with each habitat feature listed:

- Is there evidence of current use by beavers? = 3
- Is a heron rookery located within 300'? = 2
- Are raptor nest(s) located within 300'? = 1
- Are there at least 2 standing dead trees (snags) per acre? = 1
- Are there any other perches (wires, poles, or posts)? = 1
- Are there at least 3 downed logs per acre? = 1

7. Connection to streams

Is the wetland connected at any time of the year via surface water? (score one answer only)

Is the wetland connected at any time of the year via surface water?

- To a perennial stream or a seasonal stream *with* fish = 5
- To a seasonal stream *without* fish = 3
- Is not connected to any stream = 0

8. Buffers

Step 1: Estimate (to the nearest 5%) the percentage of each buffer or land-use type (below) that adjoins the wetland boundary. Then multiply these percentages by the factor(s) below and enter result in the column to the right.

	% of Buffer	Step 1	Width Factor	Step 2
Roads, buildings or parking lots	35 %	X 0 = 0	2	= 0
Lawn, grazed pasture, vineyards or annual crops	65 %	X 1 = 65	2	= 130
Ungrazed grassland or orchards	%	X 2 =		=
Open water or native grasslands	%	X 3 =		=
Forest or shrub	%	X 4 =		=
Add buffer total				130

Step 2: Multiply result(s) of step 1:

- By 1 if buffer width is 25-50'
- By 2 if buffer width is 50-100'
- By 3 if buffer width is >100'

Enter results and add subscores

Step 3: Score points according to the following table:

Buffer Total

- 900-1200 = 4
- 600-899 = 3
- 300-599 = 2
- 100-299 = 1

9. Connection to other habitat areas:

Is there a riparian corridor to other wetlands within 0.25 of a mile, or a corridor >100' wide with good forest or shrub cover to any other habitat area? = 5

Is there a narrow corridor <100' wide with good cover or a wide corridor >100' wide with low cover to any other habitat area? = 3

Is there a narrow corridor <100' wide with low cover or a significant habitat area within 0.25 mile but no corridor? = 1

Is the wetland and buffer completely isolated by development and/or cultivated agricultural land? = 0

10. Scoring

Add the scores to get a total: 11

Question: Is the total greater than or equal to 22 points?

Answer:

Yes = Type 2

No = Type 3

Type III

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

Project/Site: <u>405 / Kirkland Nickel</u>	Date: <u>2-18-04</u>
Applicant/owner: <u>WSDOT</u>	County: <u>King</u>
Investigator(s): <u>DLF, JC</u>	State: <u>WA</u>
	S/T/R: <u>28/26/5E</u>
Do Normal Circumstances exist on the site? <input checked="" type="radio"/> yes <input type="radio"/> no	Community ID: <u>5</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 19.9L-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>Agrostis alba</u>	<u>H</u>	<u>100</u>	<u>FAC</u>				
<u>Galium aparine</u>	<u>H</u>	<u>5</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	_____	Physiological/reproductive adaptations	_____
Morphological adaptations	_____	Wetland plant database	_____
Technical Literature	_____	Personal knowledge of regional plant communities	_____
		Other (explain)	_____

Hydrophytic vegetation present? yes no

Rationale for decision/Remarks:

Dominant species is hydrophytic

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 _____)	Drift Lines: yes <input type="radio"/> <input checked="" type="radio"/> no	Drainage Patterns: yes <input type="radio"/> <input checked="" type="radio"/> no
<u>DATE</u> other (explain)	Oxidized Root (live roots)	Local Soil Survey: yes <input type="radio"/> <input checked="" type="radio"/> no
Dept. of inundation: _____ inches	Channels <12 in. yes <input type="radio"/> <input checked="" type="radio"/> no	FAC Neutral: yes <input type="radio"/> <input checked="" type="radio"/> no
Depth to free water in pit: _____ inches		Water-stained Leaves yes <input type="radio"/> <input checked="" type="radio"/> no
Depth to saturated soil: _____ inches		
Check all that apply & explain below:	Other (explain):	
Stream, Lake or gage data: _____	<u>Soils moist from recent rain, but not saturated</u>	
Aerial photographs: _____ Other: _____		

Wetland hydrology present? yes no

Rationale for decision/Remarks:

No evidence of wetland hydrology

SOILS

Map Unit Name Kitsap silt loam
 (Series & Phase) to 8% slopes

Drainage Class moderately well drained

Taxonomy (subgroup) Oxylic Xerochrepts

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)
0-7					organic material placed over fill	
7-16					fill (gravel)	

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

Hydric soils present? yes no

Rationale for decision/Remarks:
Roadside fill w/ organics on surface

Wetland Determination (circle)

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

Rationale/Remarks:
Only one parameter met

NOTES:

Data collected upslope of wetland in road side fill.

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

Project/Site: <u>405/Kirkland Nickel</u>	Date: <u>2-18-04</u>
Applicant/owner: <u>WSDOT</u>	County: <u>King</u>
Investigator(s): <u>DLF, JTC</u>	State: <u>WA</u>
	S/TR: <u>28/26N/5E</u>
Do Normal Circumstances exist on the site? <input checked="" type="radio"/> yes <input type="radio"/> no	Community ID: <u>*</u>
Is the site significantly disturbed (atypical situation)? <input type="radio"/> yes <input checked="" type="radio"/> no	Transect ID: _____
Is the area a potential Problem Area? <input type="radio"/> yes <input checked="" type="radio"/> no	Plot ID: <u>DP 19.9LB</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>T</u>	<u>80</u>	<u>FACW</u>				
<u>Agrostis alba</u>	<u>H</u>	<u>20</u>	<u>FAC</u>				
<u>Rubus laciniatus</u>	<u>S</u>	<u>5</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 _____	Physiological/reproductive adaptations _____
Morphological adaptations _____	Wetland plant database _____
Technical Literature _____	Personal knowledge of regional plant communities _____
	Other (explain) _____

Hydrophytic vegetation present? yes no

Rationale for decision/Remarks: _____

HYDROLOGY

Is it the growing season? yes <input type="radio"/> no <input checked="" type="radio"/>	Water Marks: yes <input type="radio"/> no <input checked="" type="radio"/>	Sediment Deposits: yes <input type="radio"/> no <input checked="" type="radio"/>
Based on: <u>DATE</u> soil temp (record temp _____) <u>DATE</u> other (explain)	Drift Lines: yes <input type="radio"/> no <input checked="" type="radio"/>	Drainage Patterns: <input checked="" type="radio"/> yes <input type="radio"/> no
Dept. of inundation: _____ inches	Oxidized Root (live roots) Channels <12 in. yes <input type="radio"/> no <input checked="" type="radio"/>	Local Soil Survey: yes <input type="radio"/> no <input checked="" type="radio"/>
Depth to free water in pit: <u>16</u> inches	FAC Neutral: yes <input type="radio"/> no <input checked="" type="radio"/>	Water-stained Leaves yes <input type="radio"/> no <input type="radio"/>
Depth to saturated soil: <u>10</u> inches		

Check all that apply & explain below:

Stream, Lake or gage data: _____
 Aerial photographs: _____ Other: _____

Other (explain):
water seeping in at 16"

Wetland hydrology present? yes no

Rationale for decision/Remarks: _____

Saturated soils present

SOILS

Map Unit Name Kitsap silt loam
 (Series & Phase) 2 to 8% slopes

Drainage Class moderately well drained

Taxonomy (subgroup) Dystric Xerochrepts

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)
0-16		10YR 3/2	7.5YR 4/6	few, fine, faint	^{sandy} 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 7.5YR 4/6
 - 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:
concretions present at a bout 6 inches down to at least 16"

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 parameters met

NOTES:
Plot excavated at south end of \perp (not recorded), hydrology + veg marginal.

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

Project/Site: <u>405 / Kirkland Nickels</u>	Date: <u>2-18-04</u>
Applicant/owner: <u>WSDOT</u>	County: <u>King</u>
Investigator(s): <u>DLF, JC</u>	State: <u>WA</u>
	S/T/R: <u>28/26N/5E</u>
Do Normal Circumstances exist on the site? <input checked="" type="radio"/> yes <input type="radio"/> no	Community ID: <u>2</u>
Is the site significantly disturbed (atypical situation)? <input type="radio"/> yes <input checked="" type="radio"/> no	Transect ID:
Is the area a potential Problem Area? <input type="radio"/> yes <input checked="" type="radio"/> no	Plot ID: <u>DP19.9L-AZ</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>Agrostis alba</u>	<u>H</u>	<u>70</u>	<u>FAC</u>				
<u>Rubus discolor</u>	<u>S</u>	<u>5</u>					
<u>Vicia sp.</u>	<u>H</u>	<u>5</u>					
<u>Geranium sp</u>	<u>H</u>	<u>5</u>					
<u>Lathyrus sp.</u>	<u>H</u>	<u>5</u>					
<u>Alnus rubra</u>	<u>H</u>	<u>15</u>		<u>(provides cover - not rooted in v)</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 | _____ | Physiological/reproductive adaptations | _____ |
| Morphological adaptations | _____ | Wetland plant database | _____ |
| Technical Literature | _____ | Personal knowledge of regional plant communities | _____ |
| | | Other (explain) | _____ |

Hydrophytic vegetation present? yes no

Rationale for decision/Remarks:

Dominant sp. is hydrophytic

HYDROLOGY

Is it the growing season? <input type="radio"/> yes <input checked="" type="radio"/> no	Water Marks: <input type="radio"/> yes <input checked="" type="radio"/> no	Sediment Deposits: <input type="radio"/> yes <input checked="" type="radio"/> no
Based on: <u>date</u> soil temp (record temp _____) <u>DATE</u> other (explain)	Drift Lines: <input type="radio"/> yes <input checked="" type="radio"/> no	Drainage Patterns: <input type="radio"/> yes <input checked="" type="radio"/> no
Dept. of inundation: _____ inches	Oxidized Root (live roots) Channels <12 in. <input type="radio"/> yes <input checked="" type="radio"/> no	Local Soil Survey: <input type="radio"/> yes <input checked="" type="radio"/> no
Depth to free water in pit: <u>>16</u> inches	FAC Neutral: <input type="radio"/> yes <input checked="" type="radio"/> no	Water-stained Leaves <input type="radio"/> yes <input checked="" type="radio"/> no
Depth to saturated soil: <u>>16</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:

No evidence of wetland hydrology

SOILS

Map Unit Name Kitsap silt loam
 (Series & Phase) 2 to 8% slopes

Drainage Class moderately well drained

Taxonomy (subgroup) Dystric Xerochrepts

Field observations confirm 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)
0-2	A	10YR 2/1	-		organic layer	} mix of two soils in middle layer
2-10	B	2.5Y 3/2	10YR 4/6	common fine	gr sandy loam	
		5Y 4/2	10YR 4/6	distinct	gr clay loam	
10-18	B	2.5Y 4/3	-		gr 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:

*Upper 10" has chroma of 2 (or less) w/ mottles.
 However, clay has been mixed in w/ fill materials.*

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:

Wetland hydrology parameter not met

NOTES:

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

Project/Site: <u>405/Kirkland Nickel</u>	Date: <u>2-18-04</u>
Applicant/owner: <u>WSDOT</u>	County: <u>King</u>
Investigator(s): <u>DLF, JR</u>	State: <u>WA</u>
	S/T/R: <u>28/26N/5E</u>
Do Normal Circumstances exist on the site? <input checked="" type="checkbox"/> yes <input type="checkbox"/> no	Community ID: <u>✓</u>
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: <u>DP 1994-B2</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>Alnus rubra</u>	<u>T</u>	<u>80</u>	<u>FAC</u>				
<u>Salix sp.</u>	<u>T</u>	<u>10</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 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) <input type="checkbox"/> |

Hydrophytic vegetation present? yes no

Rationale for decision/Remarks:

Dominant sp. is hydrophytic

HYDROLOGY

Is it the growing season? <input checked="" type="checkbox"/> yes <input type="checkbox"/> no	Water Marks: <input checked="" type="checkbox"/> yes <input type="checkbox"/> no on _____	Sediment Deposits: yes <input type="checkbox"/> no <input checked="" type="checkbox"/>
Based on: <u>date</u> soil temp (record temp _____) other (explain) _____	Drift Lines: <input checked="" type="checkbox"/> yes <input type="checkbox"/> no	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 type="checkbox"/>	Local Soil Survey: yes <input type="checkbox"/> no <input checked="" type="checkbox"/>
Depth to free water in pit: <u>8"</u> inches	FAC Neutral: yes <input type="checkbox"/> no <input type="checkbox"/>	Water-stained Leaves yes <input checked="" type="checkbox"/> no <input type="checkbox"/>
Depth to saturated soil: <u>surface</u> inches	Other (explain): <u>Standing water in adjacent ditch</u>	
Check all that apply & explain below: Stream, Lake or gage data: <input type="checkbox"/> Aerial photographs: <input type="checkbox"/> Other: _____		

Wetland hydrology present? yes no

Rationale for decision/Remarks:

Soil is saturated to surface

SOILS

Map Unit Name Kitsap silt loam
 (Series & Phase) 2 to 8% slopes
 Taxonomy (subgroup) Dystric Xerochrepts

Drainage Class moderately well drained
 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)
0-6		2.5Y 3/2	2.5Y 5/6	few fine distinct	sandy loam	
6-16		5Y 4/1	2.5Y 5/6	few fine distinct	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 (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 parameters met

NOTES:

Wetland veg immediately adjacent to channel.

Wetland name or number 19.9L

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

Name of wetland (if known): 19.9L Date of site visit: 3/6/07

Rated by: C. Douglas, J. Bursley Trained by Ecology? Yes No Date of training:

SEC: 28 TOWNSHIP: 26N RANGE: 5E Is S/T/R in Appendix D? Yes No

Map of wetland unit: Figure _____ Estimated size 0.29 acre

SUMMARY OF RATING

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

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

Score for Water Quality Functions _____
Score for Hydrologic Functions _____
Score for Habitat Functions _____
TOTAL Score for Functions _____

8
2
10
20

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 19.92

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 called estuarine in the first and second editions of the rating system are called Salt Water Tidal Fringe in the Hydrogeomorphic Classification. Estuarine wetlands were categorized separately in the earlier editions, and this separation is being kept in this revision. To maintain consistency between editions, the term "Estuarine" wetland is kept. Please note, however, that the characteristics that define Category I and II estuarine wetlands have changed (see p. _____).

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

NO - go to 3

YES - The wetland class is **Flats**

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

3. Does the entire wetland 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 19.92

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 Aerial photo or map with vegetation polygons	Figure 3
Total for S 1 Add the points in the boxes above		4
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 checked="" type="checkbox"/> Grazing in the wetland or within 150 ft <input checked="" type="checkbox"/> Untreated stormwater discharges to wetland <input checked="" type="checkbox"/> Tilled fields, logging, or orchards within 150 ft. of wetland <input checked="" type="checkbox"/> Residential, urban areas, or golf courses are within 150 ft. upslope of wetland <input type="checkbox"/> Other YES multiplier is 2 NO multiplier is 1	(see p. 67) Multiplier 2
◆ TOTAL – Water Quality Functions Multiply the score from S1 by S2; then add score to table on p. 1		8
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	0
Add the points in the boxes above		1
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 checked="" 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 Multiply the score from S3 by S4; then add score to table on p. 1		2

Comments:

Wetland name or number 19.92

These questions apply to wetlands of all HGM classes. HABITAT FUNCTIONS – Indicators that wetland functions to provide important habitat.		Points (only 1 score per box)
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) – 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 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: 4 structures or more.....points = 4 2 structures.....points = 1 Map of Cowardin vegetation classes 3 structures.....points = 2 1 structure.....points = 0	Figure <u> </u> 2
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 checked="" type="checkbox"/> Seasonally flooded or inundated <input checked="" type="checkbox"/> Occasionally flooded or inundated <input checked="" 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 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 <u> </u> 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: > 19 species points = 2 5 – 19 species points = 1 < 5 species points = 0 List species below if you want to: _____ _____ _____	<u> </u> 1
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. <p>None = 0 points Low = 1 point Moderate = 2 points</p> <p>High = 3 points [riparian braided channels]</p> <p>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> </u> 1
H 1.5	Special Habitat Features (see p. 77): Check the habitat features that are present in the wetland. The number of checks is the number of points you put into the next column. <input 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.	<u> </u> 0
H 1 TOTAL Score – potential for providing habitat		Add the points in the column above 6

Wetland name or number 19.92

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>___ 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% circumference points = 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 buffer points = 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 above points = 0</p> <p style="text-align: right;">Arial photo showing buffers</p>	<p>Figure <u> </u></p> <p style="text-align: center; font-size: 2em;">1</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; font-size: 2em;">/</p>

Comments:

Wetland name or number 19.9C

	<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>___ 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>___ Aspen Stands: Pure or mixed stands of aspen greater than 0.8 ha (2 acres)</p> <p>___ Cliffs: Greater than 7.6m (25 ft) high and occurring below 5000 ft.</p> <p>___ 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>___ 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>___ Prairies: Relatively undisturbed areas (as indicated by dominance of native plants) where grasses and/or forbs form the natural climax plant community.</p> <p>___ 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>___ Caves: A naturally occurring cavity, recess, void, or system of interconnected passages.</p> <p>___ 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>___ 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>___ 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>___ 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>	
	<p>H 2.4 <u>Wetland Landscape:</u> <i>Choose the one description of the landscape around the wetland that best fits (see p. 84)</i></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>H 2 TOTAL Score – opportunity for providing habitat Add the scores from H2.1, H2.2, H2.3, H2.4</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>	

Comments:

Wetland name or number 19.9L

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 <u>Estuarine wetlands?</u> (see p. 86) Does the wetland unit meet the following criteria for Estuarine wetlands? <input type="checkbox"/> The dominant water regime is tidal, <input type="checkbox"/> Vegetated, and <input type="checkbox"/> With a salinity greater than 0.5 ppt. YES = Go to SC 1.1 NO <input checked="" type="checkbox"/>	
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. 1
SC 1.2 Is the wetland at least 1 acre in size and meets at least two of the following conditions? YES = Category I NO = Category II <input type="checkbox"/> The wetland is relatively undisturbed (has no diking, ditching, filling, cultivation, grazing, and has less than 10% cover of non-native plant species. If the non-native <i>Spartina</i> spp. are only species that cover more than 10% of the wetland, then the wetland should be given a dual rating (I/II). The area of <i>Spartina</i> would be rated a Category II while the relatively undisturbed upper marsh with native species would be a Category I. Do not, however, exclude the area of <i>Spartina</i> in determining the size threshold of 1 acre. <input type="checkbox"/> At least 3/4 of the landward edge of the wetland has a 100 ft. buffer of shrub, forest, or un-grazed or un-mowed grassland <input type="checkbox"/> The wetland has at least 2 of the following features: tidal channels, depressions with open water, or contiguous freshwater wetlands.	Cat. I Cat. II Dual Rating I/II
SC2 <u>Natural Heritage Wetlands</u> (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. 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 <input checked="" type="checkbox"/> 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 _____ not a Heritage Wetland	Cat I
SC3 <u>Bogs</u> (see p. 87) 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> 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 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 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 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. 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

Wetland name or number 19.9L

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 = ___ 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 ___ 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 ___ 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>	N/A

Comments:

WL 19.9L



WETLAND FIELD DATA FORM

BEGIN BY CHECKING ANY OF THE FOLLOWING (a. – e.) THAT APPLY:

- a. The wetland is contiguous to Lake Washington;
- b. The wetland contains at least 1/4 acre of organic soils, such as peat bogs or mucky soils;
- c. The wetland is equal to or greater than 10 acres in size and having three or more wetland classes, as defined by the U.S. Fish & Wildlife Service (Cowardin et al., 1979), one of which is open water;
- d. The wetland has significant habitat value to state or federally listed threatened or endangered wildlife species; or
- e. The wetland contains state or federally listed threatened or endangered plant species.

IF ANY OF THE CRITERIA LISTED ABOVE ARE MET, THEN THE WETLAND IS CONSIDERED TO BE TYPE 1. IF THAT IS THE CASE, PLEASE CONTINUE TO COMPLETE THE ENTIRE FORM, BUT DO NOT ASSIGN POINTS.

IF THE WETLAND DOES NOT MEET THE CRITERIA LISTED ABOVE FOR TYPE 1, COMPLETE THE ENTIRE FORM, USING THE ASSIGNED POINTS TO DETERMINE IF IT IS A TYPE 2 OR TYPE 3 WETLAND.

Type 2 wetlands typically have at least two wetland vegetation classes, are at least partially surrounded by buffers of native vegetation, connected by surface water flow (perennial or intermittent) to other wetlands or streams, and contain or are associated with forested habitat.

1. Total wetland area

Estimate wetland area and score from choices	Acres	Point Value	Points
	>20.00	= 6	
	10-19.99	= 5	
	5-9.99	= 4	
	1-4.99	= 3	
	0.1-0.99	= 2	2
	<0.1	= 1	

2. Wetland classes: Determine the number of wetland classes that qualify, and score according to the table.

	# of Classes	Points
Open Water: if the area of open water is >1/3 acre or >10% of the total wetland area	1	= 1
Aquatic Beds: if the area of aquatic beds is >10% of the open water area or >1/2 acre	2	= 3
✓ Emergent: if the area of emergent class is >1/2 acre or >10% of the total wetland area	3	= 5
Scrub-Shrub: if the area of scrub-shrub class is >1/2 acre or >10% of the total wetland area	4	= 7
✓ Forested: if the area of forested class is >1/2 acre or >10% of the total wetland area	5	= 10

3. Plant species diversity.

For all wetland classes which qualified in 2 above, count the number of different plant species and score according to the table below. You do not have to name them.

e.g., if a wetland has an aquatic bed class with 3 species, and emergent class with 4 species and a scrub-shrub class with 2 species, you would circle 2, 2, and 1 in the second column (below).

Class	# of Species	Point Value	Class	# of Species	Point Value
Aquatic Bed	1-2	= 1	Scrub-Shrub	1-2	= 1
	3	= 2		3-4	= 2
	>3	= 3		>4	= 3
Emergent	1-2	= 1	Forested	1-2	= 1
	3-4	= 2		3-4	= 2
	>4	= 3		>4	= 3

4

2

4. Structural diversity.

If the wetland has a forested class, add 1 point for each of the following attributes present:

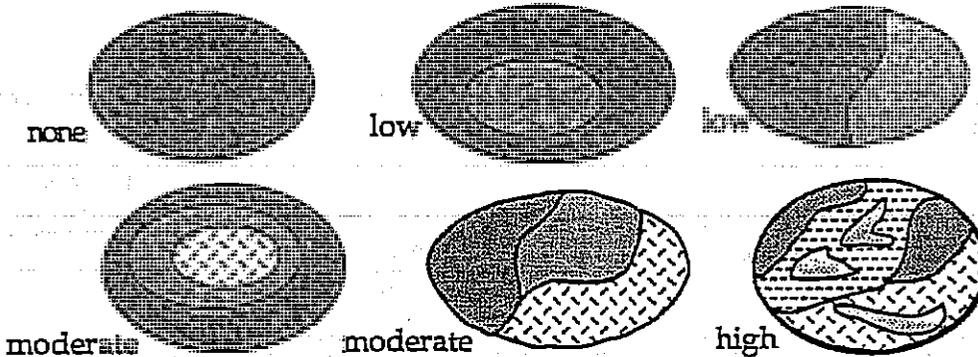
- Trees >50' tall = 1
- Trees 20' to 49' tall = 1
- shrubs = 1
- Herbaceous ground cover = 1

2

5. Interspection between wetland classes.

Decide from the diagrams below whether interspection between wetland classes is high, moderate, low or none

- 3 = High
- 2 = Moderate
- 1 = Low
- 0 = None



6. Habitat features

Add points associated with each habitat feature listed:

- Is there evidence of current use by beavers? = 3
- Is a heron rookery located within 300'? = 2
- Are raptor nest(s) located within 300'? = 1
- Are there at least 2 standing dead trees (snags) per acre? = 1
- Are there any other perches (wires, poles, or posts)? = 1
- Are there at least 3 downed logs per acre? = 1

7. Connection to streams

Is the wetland connected at any time of the year via surface water? (score one answer only)

Is the wetland connected at any time of the year via surface water?

- To a perennial stream or a seasonal stream *with* fish = 5
- To a seasonal stream *without* fish = 3
- Is not connected to any stream = 0

8. Buffers

Step 1: Estimate (to the nearest 5%) the percentage of each buffer or land-use type (below) that adjoins the wetland boundary. Then multiply these percentages by the factor(s) below and enter result in the column to the right.

	% of Buffer	Step 1	Width Factor	Step 2
Roads, buildings or parking lots	20 %	X 0 = 0		0
Lawn, grazed pasture, vineyards or annual crops	80 %	X 1 = 80	2	160
Ungrazed grassland or orchards	%	X 2 =		
Open water or native grasslands	%	X 3 =		
Forest or shrub	%	X 4 =		
Add buffer total				160

Step 2: Multiply result(s) of step 1:

- By 1 if buffer width is 25-50'
- By 2 if buffer width is 50-100'
- By 3 if buffer width is >100'

Enter results and add subscores

Step 3: Score points according to the following table:

Buffer Total	Score
900-1200	= 4
600-899	= 3
300-599	= 2
100-299	= 1

9. Connection to other habitat areas:

Is there a riparian corridor to other wetlands within 0.25 of a mile, or a corridor >100' wide with good forest or shrub cover to any other habitat area? = 5

Is there a narrow corridor <100' wide with good cover or a wide corridor >100' wide with low cover to any other habitat area? = 3

Is there a narrow corridor <100' wide with low cover or a significant habitat area within 0.25 mile but no corridor? = 1

Is the wetland and buffer completely isolated by development and/or cultivated agricultural land? = 0

10. Scoring

Add the scores to get a total: 13

Question: Is the total greater than or equal to 22 points?

Answer:

Yes = Type 2

No = Type 3

Type III

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

Project/Site: <u>WSDOT I-405 Kirkland - Nickel</u>	Date: <u>2-25-04</u>
Applicant/owner: <u>WSDOT</u>	County: <u>KING</u>
Investigator(s): <u>JC IL</u>	State: <u>WA</u>
	ST/R: <u>28/26N/5E</u>
Do Normal Circumstances exist on the site? <input checked="" type="radio"/> yes <input type="radio"/> no	Community ID: <u>Upland</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>20.0L-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>90</u>	<u>FACU</u>	<u>← appears to have been sprayed by herbicide</u>			
<u>Alnus rubra</u>	<u>T</u>	<u>50</u>	<u>FAC</u>	<u>New growth is present.</u>			
<u>Acer macrophyllum</u>	<u>T</u>	<u>30</u>	<u>FACU</u>				

HYDROPHYTIC VEGETATION INDICATORS:

% of dominants OBL, FACW, & FAC 33%

Check all indicators that apply & explain below:

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)	<input type="checkbox"/>

Hydrophytic vegetation present? yes no

Rationale for decision/Remarks: Less than 50 percent of dominant plant species is OBL, FACW, and FAC.

HYDROLOGY

Is it the growing season? <input checked="" type="radio"/> yes <input type="radio"/> no	Water Marks: yes <input type="radio"/> no <input checked="" type="radio"/>	Sediment Deposits: yes <input type="radio"/> no <input checked="" type="radio"/>
Based on: <u>new data</u> soil temp (record temp _____) DATE other (explain)	Drift Lines: yes <input type="radio"/> no <input checked="" type="radio"/>	Drainage Patterns: yes <input type="radio"/> no <input checked="" type="radio"/>
Dept. of inundation: _____ inches	Oxidized Root (live roots) Channels <12 in. yes <input type="radio"/> no <input checked="" type="radio"/>	Local Soil Survey: yes <input type="radio"/> no <input checked="" type="radio"/>
Depth to free water in pit: _____ inches	FAC Neutral: yes <input type="radio"/> no <input checked="" type="radio"/>	Water-stained Leaves yes <input type="radio"/> no <input checked="" type="radio"/>
Depth to saturated soil: _____ 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 not saturated and other indicators are not present.

SOILS

Map Unit Name Urban Land Drainage Class Variable
 (Series & Phase)

Taxonomy (subgroup) - 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)
0-12	A	10YR 2/2	-	-	loam	
12-16	B	10YR 4/3	-	-	sandy clay loam	

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: Soils are light in chroma and no mottles found.

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?	yes <input type="radio"/> no <input checked="" type="radio"/>		
Wetland hydrology present?	yes <input type="radio"/> no <input checked="" type="radio"/>		

Rationale/Remarks: All 3 wetland determination indicators are not present. Soils are dry and light in color.

NOTES: DP-A located on bench above WC 20.0L. Area cleared by 2001, either recently sprayed or cleared - much dead, some alive.

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

Project/Site: WSDOT I-405 Kirkland - Nickel Date: 2-25-04
 Applicant/owner: WSDOT County: KING
 State: WA
 S/T/R: 28/26N/5E
 Investigator(s): JC, IL Community ID: Wetland
 Do Normal Circumstances exist on the site? yes no
 Is the site significantly disturbed (atypical situation)? yes no
 Is the area a potential Problem Area? yes no
 Explanation of atypical or problem area:

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

Dominant Plant Species	Stratum	% cover	Indicator	Dominant Plant Species	Stratum	% cover	Indicator
<u>Alnus Rubra</u>	<u>T</u>	<u>40</u>	<u>FAC</u>				
<u>Phalaris arundinacea</u>	<u>H</u>	<u>40</u>	<u>FACW</u>				
<u>Juncus effusus</u>	<u>H</u>	<u>20</u>	<u>OBL</u>				
<u>Rubus discolor</u>	<u>S</u>	<u>20</u>	<u>FACU</u>	<u>← appears to have been sprayed with herbicide</u>			

HYDROPHYTIC VEGETATION INDICATORS:

% of dominants OBL, FACW, & FAC 75%

Check all indicators that apply & explain below:

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

Hydrophytic vegetation present? yes no
 Rationale for decision/Remarks: 75 percent of dominants are OBL, FACW, or FAC.

HYDROLOGY

Is it the growing season? yes no
 Based on: now growth soil temp (record temp _____)
DATE other (explain)

Dept. of inundation: _____ inches
 Depth to free water in pit: 14 inches
 Depth to saturated soil: 0 inches

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

Water Marks: yes <input type="radio"/> no <input checked="" type="radio"/>	Sediment Deposits: <input checked="" type="radio"/> yes <input type="radio"/> no
Drift Lines: yes <input checked="" type="radio"/> no <input type="radio"/>	Drainage Patterns: <input checked="" type="radio"/> yes <input type="radio"/> no
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"/>
FAC Neutral: yes <input type="radio"/> no <input type="radio"/>	Water-stained Leaves yes <input checked="" type="radio"/> no <input type="radio"/>
Other (explain):	

Wetland hydrology present? yes no
 Rationale for decision/Remarks: Soils are saturated and presence of free water in pit.
New growth present, growing season nearly begun.

SOILS

Map Unit Name Urban Land
(Series & Phase)

Drainage Class Variable

Taxonomy (subgroup) —

Field observations confirm 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)
0-11	B	5Y 4/2	2.5Y 4/3	Faint medium common	SILTY CLAY LOAM	
11-16	C	6Ley 4/10Y	10YR 4/4	DISTINCT medium common	SILTY 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:

Soils contain low chroma and mottles throughout both horizons. No organic A horizon visible - area is cut slope road shoulder.

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:

Wetland is dominated by hydrophytic vegetation, has ~~no~~ gleyed ~~soils~~ soils, and standing water is present throughout 90%.

NOTES:

DP 20.0L-B is located in the SW portion of 124th Street interchange. Wetland is associated with ditch in road shoulder. Adjacent uplands are cut bank slopes with no A horizon present, immediately showing grey or gleyed soils with heavy mottling.

WL includes hillside seep area that has been cleared of vegetation mostly ARU & RUO1. Standing H₂O & seeps obvious in hillside. Hand

DRAFT WETLAND RATING FORM – WESTERN WASHINGTON

Name of wetland (if known): 20.0L

Location: SEC: 28 TOWNSHIP: 2N RANGE: 5E (attach map with outline of wetland to rating form)

Person(s) Rating Wetland: I. LOGAN Affiliation: ¹⁴⁰⁵KIRKLAND NICKEL Date of site visit: 2-25-04
10-7-04

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	12
Score for Hydrologic Functions	4
Score for Habitat Functions	8
TOTAL score for functions	24

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		

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: 20.02

Date: 10/2/04

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
X 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)	
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 <u>points = 1</u>	1
D	D 1.2 The soil 2 inches below the surface is clay, organic, or smells anoxic (hydrogen sulfide or rotten eggs). <u>YES</u> points = 4 NO points = 0	4
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 <u>points = 1</u> Wetland has persistent, ungrazed vegetation < 1/10 of area points = 0	1
D	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 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..	1
D	Total for D 1 <i>Add the points in the boxes above</i>	6
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? <i>Note which of the following conditions provide the sources of pollutants.</i> <input type="checkbox"/> Grazing in the wetland or within 150 ft <input checked="" type="checkbox"/> Untreated stormwater discharges to wetland <input type="checkbox"/> Tilled fields or orchards within 150 ft of wetland <input checked="" 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 Other _____ <u>YES</u> multiplier is 2 NO multiplier is 1	multiplier <u>2</u>
D	TOTAL - Water Quality Functions Multiply the score from D1 by D2 <i>Add score to table on p. 1</i>	12

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	1
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	1
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>	2
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 _____ <input checked="" type="radio"/> 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

/

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**

/

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

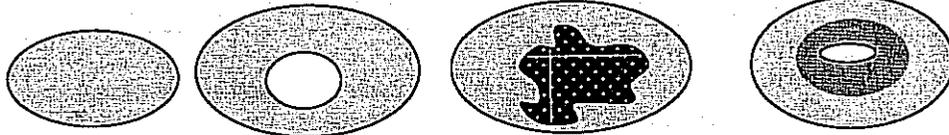
- List species below if you want to:
- If you counted: > 19 species points = 2
 - 5 - 19 species points = 1
 - < 5 species points = 0

/

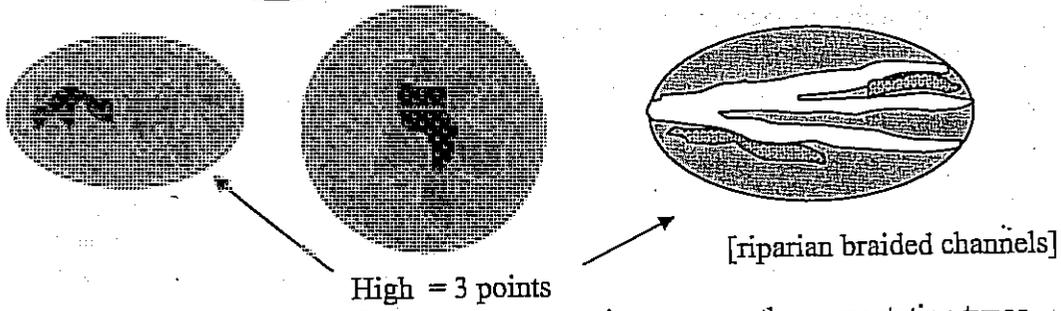
AREA CLEARED RECENTLY
WSDOT MAINTAINED ROW

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.



None = 0 points Low = 1 point Moderate = 2 points



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

4

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

<p>H 2.4 Wetland Landscape (<i>choose the one description of the landscape around the wetland that best fits</i>) (<i>see p. 84</i>)</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>3</p>
<p>H 2. TOTAL Score - opportunity for providing habitat <i>Add the scores in the column above</i></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>8</p>

WETLAND 20.0L



WETLAND FIELD DATA FORM

BEGIN BY CHECKING ANY OF THE FOLLOWING (a. – e.) THAT APPLY:

- a. The wetland is contiguous to Lake Washington;
- b. The wetland contains at least 1/4 acre of organic soils, such as peat bogs or mucky soils;
- c. The wetland is equal to or greater than 10 acres in size and having three or more wetland classes, as defined by the U.S. Fish & Wildlife Service (Cowardin et al., 1979), one of which is open water;
- d. The wetland has significant habitat value to state or federally listed threatened or endangered wildlife species; or
- e. The wetland contains state or federally listed threatened or endangered plant species.

IF ANY OF THE CRITERIA LISTED ABOVE ARE MET, THEN THE WETLAND IS CONSIDERED TO BE TYPE 1. IF THAT IS THE CASE, PLEASE CONTINUE TO COMPLETE THE ENTIRE FORM, BUT DO NOT ASSIGN POINTS.

IF THE WETLAND DOES NOT MEET THE CRITERIA LISTED ABOVE FOR TYPE 1, COMPLETE THE ENTIRE FORM, USING THE ASSIGNED POINTS TO DETERMINE IF IT IS A TYPE 2 OR TYPE 3 WETLAND.

Type 2 wetlands typically have at least two wetland vegetation classes, are at least partially surrounded by buffers of native vegetation, connected by surface water flow (perennial or intermittent) to other wetlands or streams, and contain or are associated with forested habitat.

1. Total wetland area

Estimate wetland area and score from choices	Acres	Point Value	Points
	>20.00	= 6	
	10-19.99	= 5	
	5-9.99	= 4	
	1-4.99	= 3	
	0.1-0.99	= 2	
	<0.1	= 1	

2. Wetland classes: Determine the number of wetland classes that qualify, and score according to the table.

	# of Classes	Points
Open Water: if the area of open water is >1/3 acre or >10% of the total wetland area	1	= 1
Aquatic Beds: if the area of aquatic beds is >10% of the open water area or >1/2 acre	2	= 3
Emergent: if the area of emergent class is >1/2 acre or >10% of the total wetland area	3	= 5
Scrub-Shrub: if the area of scrub-shrub class is >1/2 acre or >10% of the total wetland area	4	= 7
Forested: if the area of forested class is >1/2 acre or >10% of the total wetland area	5	= 10

3. Plant species diversity.

For all wetland classes which qualified in 2 above, count the number of different plant species and score according to the table below. You do not have to name them.

e.g., if a wetland has an aquatic bed class with 3 species, and emergent class with 4 species and a scrub-shrub class with 2 species, you would circle 2, 2, and 1 in the second column (below).

Class	# of Species	Point Value	Class	# of Species	Point Value
Aquatic Bed	1-2	= 1	Scrub-Shrub	1-2	= 1
	3	= 2		3-4	= 2
	>3	= 3		>4	= 3
Emergent	1-2	= 1	Forested	1-2	= 1
	3-4	= 2		3-4	= 2
	>4	= 3		>4	= 3

4. Structural diversity.

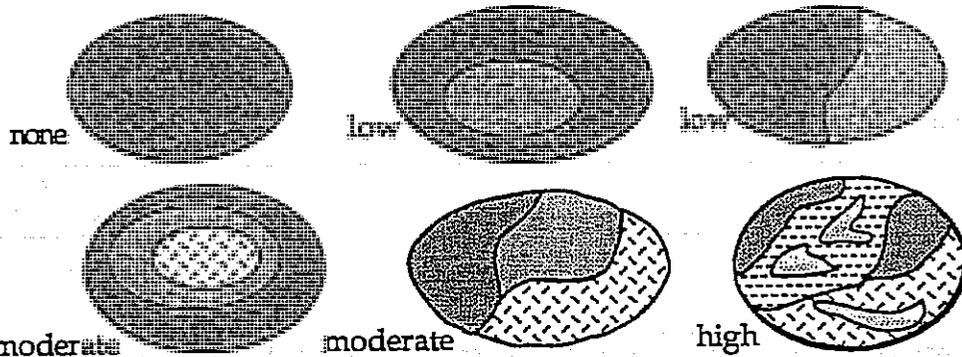
If the wetland has a forested class, add 1 point for each of the following attributes present:

- Trees >50' tall = 1
- Trees 20' to 49' tall = 1
- shrubs = 1
- Herbaceous ground cover = 1

5. Interspection between wetland classes.

Decide from the diagrams below whether interspection between wetland classes is high, moderate, low or none

- 3 = High
- 2 = Moderate
- 1 = Low
- 0 = None



6. Habitat features

Add points associated with each habitat feature listed:

- Is there evidence of current use by beavers? = 3
- Is a heron rookery located within 300'? = 2
- Are raptor nest(s) located within 300'? = 1
- Are there at least 2 standing dead trees (snags) per acre? = 1
- Are there any other perches (wires, poles, or posts)? = 1
- Are there at least 3 downed logs per acre? = 1

7. Connection to streams

Is the wetland connected at any time of the year via surface water? (score one answer only) **NO**

Is the wetland connected at any time of the year via surface water?

- To a perennial stream or a seasonal stream *with* fish = 5
- To a seasonal stream *without* fish = 3
- Is not connected to any stream = 0

8. Buffers

Step 1: Estimate (to the nearest 5%) the percentage of each buffer or land-use type (below) that adjoins the wetland boundary. Then multiply these percentages by the factor(s) below and enter result in the column to the right.

	% of Buffer	Step 1	Width Factor	Step 2
Roads, buildings or parking lots	80 %	X 0 = 0	- =	0
Lawn, grazed pasture, vineyards or annual crops	%	X 1 =	=	
Ungrazed grassland or orchards	%	X 2 =	=	
Open water or native grasslands	%	X 3 =	=	
Forest or shrub	20 %	X 4 = 80	1 =	80
Add buffer total				80

Step 2: Multiply result(s) of step 1:

By 1 if buffer width is 25-50'

By 2 if buffer width is 50-100'

By 3 if buffer width is >100'

Enter results and add subscores

Step 3: Score points according to the following table:

Buffer Total

900-1200 = 4

600-899 = 3

300-599 = 2

100-299 = 1

9. Connection to other habitat areas:

Is there a riparian corridor to other wetlands within 0.25 of a mile, or a corridor >100' wide with good forest or shrub cover to any other habitat area? = 5

Is there a narrow corridor <100' wide with good cover or a wide corridor >100' wide with low cover to any other habitat area? = 3

Is there a narrow corridor <100' wide with low cover or a significant habitat area within 0.25 mile but no corridor? = 1

Is the wetland and buffer completely isolated by development and/or cultivated agricultural land? = 0

10. Scoring

Add the scores to get a total: 6

Question: Is the total greater than or equal to 22 points?

Answer:

Yes = Type 2

No = Type 3

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

Project/Site: <u>WSDOT I-405 KIRKLAND NICKEL</u>	Date: <u>3/4/04</u>
Applicant/owner: <u>WSDOT</u>	County: <u>KING</u>
Investigator(s): <u>I. LOGAN & SARA NOLAN</u>	State: <u>WA</u>
	S/T/R: <u>28/26N/5E</u>
Do Normal Circumstances exist on the site? <input checked="" type="radio"/> yes <input type="radio"/> no	Community ID: <u>2</u>
Is the site significantly disturbed (atypical situation)? <input type="radio"/> yes <input checked="" type="radio"/> no	Transect ID:
Is the area a potential Problem Area? <input type="radio"/> yes <input checked="" type="radio"/> no	Plot ID: <u>DP 20.34L-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>Poa bulbosa</u>	<u>H</u>	<u>80</u>	<u>TUL</u>				
<u>Cardamine oligosterna</u>	<u>H</u>	<u>10</u>	<u>FACU</u>				
<u>Vicia americana</u>	<u>H</u>	<u>1</u>	<u>FAC⁺</u>				
<u>Geranium molle</u>	<u>H</u>	<u>20</u>	<u>NL</u>				
<u>Agrostis sp.</u>	<u>H</u>	<u>5</u>	<u>FAC</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	_____
Technical Literature	_____	Personal knowledge of regional plant communities	_____
		Other (explain)	_____

Hydrophytic vegetation present? yes no

Rationale for decision/Remarks:
Vegetation does not contain more than 50% of dominants that are OBL, FACW, FAC.

HYDROLOGY

Is it the growing season? <input checked="" type="radio"/> yes <input type="radio"/> no	Water Marks: <input type="radio"/> yes <input checked="" type="radio"/> no	Sediment Deposits: <input type="radio"/> yes <input checked="" type="radio"/> no
Based on: _____ soil temp (record temp _____) <u>DATE</u> other (explain)	Drift Lines: <input type="radio"/> yes <input checked="" type="radio"/> no	Drainage Patterns: <input type="radio"/> yes <input checked="" type="radio"/> no
Dept. of inundation: _____ inches	Oxidized Root (live roots) Channels <12 in. <input type="radio"/> yes <input checked="" type="radio"/> no	Local Soil Survey: <input type="radio"/> yes <input checked="" type="radio"/> no
Depth to free water in pit: <u>14</u> inches	FAC Neutral: <input type="radio"/> yes <input type="radio"/> no	Water-stained Leaves <input type="radio"/> yes <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 horizon div 13 to 10". No areas of standing water present nearby. Area is topographically higher, but ground water table is shallow.

SOILS

Map Unit Name Urban land Drainage Class variable

(Series & Phase)

Taxonomy (subgroup) - 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)
0-10	A	10YR 4/2	-	-	loamy sand	
10-16	B	5Y 5/1 5/2	-	-	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:
~~Soil~~ Soil does not contain hydric indicators.

Wetland Determination (circle)

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

Rationale/Remarks:
 No wetland criteria are present.

NOTES: DP 20.34L-A is located in NW quad of 124th St Interchange. Interchange contains two topographic low areas that have wetland vegetation, they are connected by a swale. Upland areas in interchanges are dom'd by woods & Populus, have light colored sandy soils, and no standing water. The wetland areas have been delineated by Herrera as WETLANDS "D" and "E"

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

Project/Site: <u>WSDOT I-405 KIRKLAND NICKEL</u>	Date: <u>3/1/04</u>
Applicant/owner: <u>WSDOT</u>	County: <u>KING</u>
Investigator(s): <u>I. LOGAN & S. NORAND</u>	State: <u>WA</u>
	S/T/R: <u>28/26N/5E</u>
Do Normal Circumstances exist on the site? <input checked="" type="radio"/> yes <input type="radio"/> no	Community ID: <u>X</u>
Is the site significantly disturbed (atypical situation)? <input type="radio"/> yes <input checked="" type="radio"/> no	Transect ID:
Is the area a potential Problem Area? <input type="radio"/> yes <input checked="" type="radio"/> no	Plot ID: <u>20.34L-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>Juncus effusus</u>	<u>H</u>	<u>50</u>	<u>FACW</u>				
<u>Typha latifolia</u>	<u>H</u>	<u>20</u>	<u>OBL</u>				
<u>Salix sp</u>	<u>S</u>	<u>20</u>	<u>FAC FACW</u>				
<u>Phalaris arundinacea</u>	<u>H</u>	<u>5</u>	<u>FACW</u>				
<u>Agrostis sp.</u>	<u>H</u>	<u>20</u>	<u>FAC</u>				
<u>Populus balsamifera</u>	<u>T</u>	<u>10</u>	<u>FAC</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 _____ |
| Morphological adaptations _____ | Wetland plant database _____ |
| Technical Literature _____ | Personal knowledge of regional plant communities _____ |
| | Other (explain) _____ |

Hydrophytic vegetation present? yes no

Rationale for decision/Remarks:
Vegetation growing in saturated and/or inundated conditions. All dominants are OBL, FACW, FAC

HYDROLOGY

Is it the growing season? <input checked="" type="radio"/> yes <input type="radio"/> no	Water Marks: yes <input type="radio"/> no <input checked="" type="radio"/>	Sediment Deposits: yes <input type="radio"/> no <input type="radio"/>
Based on: _____ soil temp (record temp _____) <u>DATE</u> other (explain)	Drift Lines: yes <input type="radio"/> no <input checked="" type="radio"/>	Drainage Patterns: <input checked="" type="radio"/> yes <input type="radio"/> no
Dept. of inundation: _____ inches	Oxidized Root (live roots) Channels <12 in. yes <input type="radio"/> no <input checked="" type="radio"/>	Local Soil Survey: yes <input type="radio"/> no <input checked="" type="radio"/>
Depth to free water in pit: <u>11</u> inches	FAC Neutral: yes <input type="radio"/> no <input type="radio"/>	Water-stained Leaves <input checked="" type="radio"/> yes <input type="radio"/> no
Depth to saturated soil: <u>0</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:
Area contains large depression w/ standing H₂O, soils saturated to surface around perimeter of standing H₂O areas.

SOILS

Map Unit Name Urban land
(Series & Phase)

Drainage Class variable

Taxonomy (subgroup) —

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)
0-16	B	5/5 BG	10YR 4/6	distinct many medium + lg	sandy clay loam w/ cobbles	moss + grasses on top of B layer
16-24		15Y/5 4/2 ←	(sub dom. mat. matrix)		sandy clay loam w/ cobbles	

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 checked="" type="checkbox"/> Gleyed or Low-Chroma (=1) matrix	<input type="checkbox"/> Other (explain in remarks)

Hydric soils present? yes no
 Rationale for decision/Remarks:
 Soils contain ~~gleyed~~ gleyed matrix and distinct mottling. Topsoil layer (appears) possibly ~~to~~ was removed during interchange construction.

Wetland Determination (circle)

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

Rationale/Remarks:
 All three criteria met.

NOTES: DP 20.34-B is located in NW quad of 124th St Interchange. This PERM w/ is done by TYLA and JUEF. It was previously delineated by Herrera as Wetland "E". The wetland is connected to Wetland "D" by a ~10'-15' wide swale that extends E-W in cloverleaf. The swale contains standing H₂O, gleyed soils, and Alopecurus + PHAR. Wetland "D" contains PHAR, Phragmites, and JUEF. Standing H₂O present ~2". ~~At subject~~
 No culverts or catchbasins are present in the wetland.

Revised 4/97

DRAFT WETLAND RATING FORM – WESTERN WASHINGTON

Name of wetland (if known): WETLAND 20.34L

Location: SEC: 28 TOWNSHIP: 2N RANGE: 5E (attach map with outline of wetland to rating form)

Person(s) Rating Wetland: I. LOGAN Affiliation: ^{I-405}WIKIOLAND NICKEL Date of site visit: 3/4/04
10/7/04

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	20
Score for Hydrologic Functions	10
Score for Habitat Functions	10
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
Natural Heritage Wetland	Riverine
Bog	Lake-fringe
Mature Forest	Slope
Old Growth Forest	Flats
Coastal Lagoon	Freshwater Tidal
Interdunal	
None of the above	

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: 20.34L Date: 10/7/04

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 <u>potential</u> 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 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). <u>YES</u> points = 4 NO points = 0	4
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..	4
D	Total for D 1 Add the points in the boxes above	13
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. <ul style="list-style-type: none"> <input type="checkbox"/> Grazing in the wetland or within 150 ft <input checked="" type="checkbox"/> Untreated stormwater discharges to wetland <input type="checkbox"/> Tilled fields or orchards within 150 ft of wetland <input checked="" 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 <u>YES</u> 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	26

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	3
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>	5
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 checked="" type="checkbox"/> Wetland drains to a river or stream that has flooding problems <input type="checkbox"/> Wetland has no outlet and impounds surface runoff water that might otherwise flow into a river or stream that has flooding problems <input type="checkbox"/> Other _____ <input checked="" type="checkbox"/> YES multiplier is 2 NO multiplier is 1	multiplier <u>2</u>
D	TOTAL - Hydrologic Functions Multiply the score from D 3 by D 4 <i>Add score to table on p. 1</i>	10

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

2

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**

2

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

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

You do not have to name the species.

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

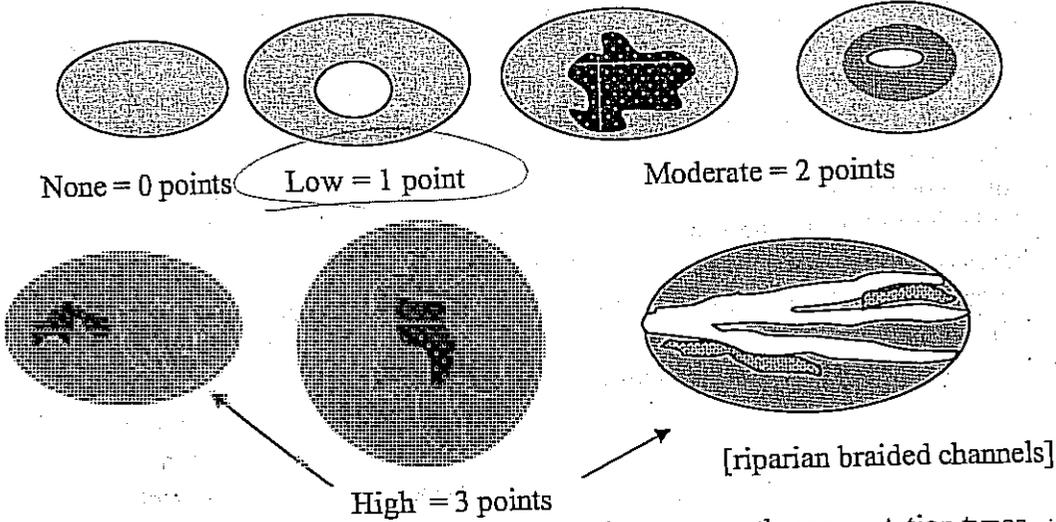
- If you counted:
- > 19 species points = 2
 - 5 - 19 species points = 1
 - < 5 species points = 0

List species below if you want to:

1

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".

1

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

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

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

0

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

6

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. <input checked="" type="checkbox"/> Buffer does not meet any of the criteria above. Points = 1 	<p><u>1</u></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? (<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>	<p>0</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

0

<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> <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>3</p>
<p>H 2. TOTAL Score - opportunity for providing habitat Add the scores in the column above</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>10</p>

Plate 26¹
WETLAND FIELD DATA FORM

WETLAND 20.34L



WETLAND FIELD DATA FORM

BEGIN BY CHECKING ANY OF THE FOLLOWING (a. – e.) THAT APPLY:

- a. The wetland is contiguous to Lake Washington;
- b. The wetland contains at least 1/4 acre of organic soils, such as peat bogs or mucky soils;
- c. The wetland is equal to or greater than 10 acres in size and having three or more wetland classes, as defined by the U.S. Fish & Wildlife Service (Cowardin et al., 1979), one of which is open water;
- d. The wetland has significant habitat value to state or federally listed threatened or endangered wildlife species; or
- e. The wetland contains state or federally listed threatened or endangered plant species.

IF ANY OF THE CRITERIA LISTED ABOVE ARE MET, THEN THE WETLAND IS CONSIDERED TO BE TYPE 1. IF THAT IS THE CASE, PLEASE CONTINUE TO COMPLETE THE ENTIRE FORM, BUT DO NOT ASSIGN POINTS.

IF THE WETLAND DOES NOT MEET THE CRITERIA LISTED ABOVE FOR TYPE 1, COMPLETE THE ENTIRE FORM, USING THE ASSIGNED POINTS TO DETERMINE IF IT IS A TYPE 2 OR TYPE 3 WETLAND.

Type 2 wetlands typically have at least two wetland vegetation classes, are at least partially surrounded by buffers of native vegetation, connected by surface water flow (perennial or intermittent) to other wetlands or streams, and contain or are associated with forested habitat.

1. Total wetland area

Estimate wetland area and score from choices	Acres	Point Value	Points
	>20.00	= 6	
	10-19.99	= 5	
	5-9.99	= 4	
	1-4.99	= 3	
	0.1-0.99	= 2	
	<0.1	= 1	

2. Wetland classes: Determine the number of wetland classes that qualify, and score according to the table.

	# of Classes	Points
Open Water: if the area of open water is >1/3 acre or >10% of the total wetland area	1	= 1
Aquatic Beds: if the area of aquatic beds is >10% of the open water area or >1/2 acre	2	= 3
X Emergent: if the area of emergent class is >1/2 acre or >10% of the total wetland area	3	= 5
X Scrub-Shrub: if the area of scrub-shrub class is >1/2 acre or >10% of the total wetland area	4	= 7
Forested: if the area of forested class is >1/2 acre or >10% of the total wetland area	5	= 10

3. Plant species diversity.

For all wetland classes which qualified in 2 above, count the number of different plant species and score according to the table below. You do not have to name them.

e.g., if a wetland has an aquatic bed class with 3 species, and emergent class with 4 species and a scrub-shrub class with 2 species, you would circle 2, 2, and 1 in the second column (below).

Class	# of Species	Point Value	Class	# of Species	Point Value
Aquatic Bed	1-2	= 1	Scrub-Shrub	1-2	= 1
	3	= 2		3-4	= 2
	>3	= 3		>4	= 3
Emergent	1-2	= 1	Forested	1-2	= 1
	3-4	= 2		3-4	= 2
	>4	= 3		>4	= 3

4. Structural diversity.

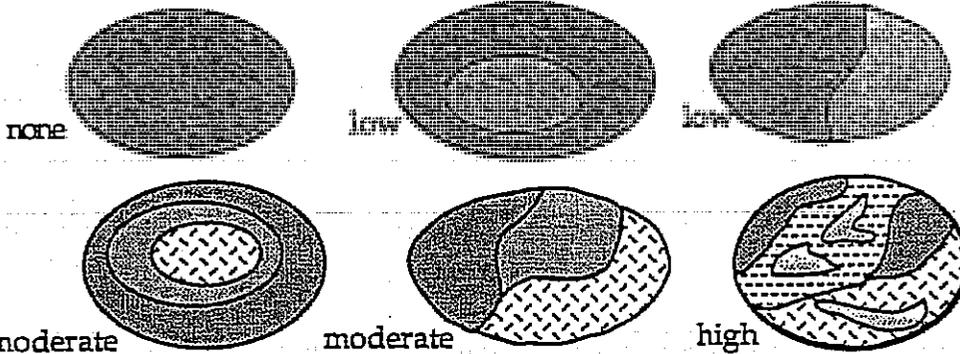
If the wetland has a forested class, add 1 point for each of the following attributes present:

- Trees >50' tall = 1
- Trees 20' to 49' tall = 1
- shrubs = 1
- Herbaceous ground cover = 1

5. Interspection between wetland classes.

Decide from the diagrams below whether interspection between wetland classes is high, moderate, low or none

- 3 = High
- 2 = Moderate
- 1 = Low
- 0 = None



6. Habitat features

Add points associated with each habitat feature listed:

- Is there evidence of current use by beavers? = 3
- Is a heron rookery located within 300'? = 2
- Are raptor nest(s) located within 300'? = 1
- Are there at least 2 standing dead trees (snags) per acre? = 1
- Are there any other perches (wires, poles, or posts)? = 1
- Are there at least 3 downed logs per acre? = 1

7. Connection to streams

Is the wetland connected at any time of the year via surface water? (score one answer only)

Is the wetland connected at any time of the year via surface water?

- To a perennial stream or a seasonal stream *with* fish = 5
- To a seasonal stream *without* fish = 3
- Is not connected to any stream = 0

8. Buffers

Step 1: Estimate (to the nearest 5%) the percentage of each buffer or land-use type (below) that adjoins the wetland boundary. Then multiply these percentages by the factor(s) below and enter result in the column to the right.

	% of Buffer	Step 1	Width Factor	Step 2
Roads, buildings or parking lots	20%	X 0 = 0	—	—
Lawn, grazed pasture, vineyards or annual crops	20%	X 1 = 20	1	20
Ungrazed grassland or orchards	%	X 2 =		
Open water or native grasslands	%	X 3 =		
Forest or shrub	%	X 4 =		
Add buffer total				20

Step 2: Multiply result(s) of step 1:

- By 1 if buffer width is 25-50'
- By 2 if buffer width is 50-100'
- By 3 if buffer width is >100'

Enter results and add subscores

Step 3: Score points according to the following table:

Buffer Total

- 900-1200 = 4
- 600-899 = 3
- 300-599 = 2
- 100-299 = 1

9. Connection to other habitat areas:

Is there a riparian corridor to other wetlands within 0.25 of a mile, or a corridor >100' wide with good forest or shrub cover to any other habitat area? = 5

Is there a narrow corridor <100' wide with good cover or a wide corridor >100' wide with low cover to any other habitat area? = 3

Is there a narrow corridor <100' wide with low cover or a significant habitat area within 0.25 mile but no corridor? = 1

Is the wetland and buffer completely isolated by development and/or cultivated agricultural land? = 0

10. Scoring

Add the scores to get a total: 13

Question: Is the total greater than or equal to 22 points?

Answer:

Yes = Type 2

No = Type 3

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

Project/Site: W500T 405 Project Applicant/owner: Kirkland Nickel	Date: 2/17/04 County: King State: WA S/TR: 28/26N/5E
Investigator(s): Ilon Logan, Adam Merrill	Community ID: Transect ID: Plot ID: 20.35L-A
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:	

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>	H	10	FACU	<i>Alopecurus lanatus</i>	H	10%	FAC
<i>Rubus discolor</i>	S	20	FACU	<i>Poa sp.</i>	H	45	FAC
Agrostis sp.	V	20	FAC				
<i>Matricaria matricaria</i>	H	10	FACU				
<i>Hypochaeris radicata</i>	H	10	FACU				
<i>Stellaria media</i>	H	15	FACU				

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 | _____ |
| Technical Literature | _____ | Personal knowledge of regional plant communities | _____ |
| | | Other (explain) | _____ |

Hydrophytic vegetation present? yes no

Rationale for decision/Remarks:

FAC or wetter plants not dominant in plot.

HYDROLOGY

Is it the growing season? yes no

Based on: _____ soil temp (record temp _____)
Time of year other (explain)

Dept. of inundation: _____ inches

Depth to free water in pit: _____ inches

Depth to saturated soil: _____ inches

Water Marks: yes <input checked="" type="radio"/> no <input type="radio"/>	Sediment Deposits: yes <input checked="" type="radio"/> no <input type="radio"/>
Drift Lines: yes <input checked="" type="radio"/> no <input type="radio"/>	Drainage Patterns: yes <input checked="" type="radio"/> no <input type="radio"/>
Oxidized Root (live roots) Channels <12 in. yes <input checked="" type="radio"/>	Local Soil Survey: <input checked="" type="radio"/> yes <input type="radio"/> no
FAC Neutral: yes <input type="radio"/> no <input 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: _____

Other (explain):

Wetland hydrology present? yes no

Rationale for decision/Remarks:

Soils are not saturated to 16" t.

SOILS

Map Unit Name Seattle Muck
(Series & Phase)

Drainage Class Very poorly drained

Taxonomy (subgroup) Typic Medihemists

Field observations confirm 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)
0-6	A	10YR 3/2	—	—	sandy loam	
6-16+	B	10YR 4/2	10YR 4/4	faint, few, 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:

Soil is typical fill material. ~~no mottles~~
~~low chroma matrix~~ Low chroma w/ mottles observed.

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:

Hydric soils observed, however, no soil saturation and upland vegetation community present.

NOTES:

Plot A is located upslope of Plot B, to the east. Plot is near existing Herrera upland plot.

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

Project/Site: <u>WS00T 405 Project</u> <u>Kirkland Nickel</u>	Date: <u>2/17/04</u>
Applicant/owner:	County: <u>King</u> State: <u>WA</u> S/T/R: <u>28/26N/5E</u>
Investigator(s): <u>Don Logan, Adam Merrill</u>	Community ID:
Do Normal Circumstances exist on the site? <input checked="" type="radio"/> yes <input type="radio"/> no	Transect ID: <u>wetland</u>
Is the site significantly disturbed (atypical situation)? <input checked="" type="radio"/> yes <input type="radio"/> no	Plot ID: <u>20.35L-B</u>
Is the area a potential Problem Area? <input checked="" type="radio"/> yes <input type="radio"/> no	
Explanation of atypical or problem area:	

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

Dominant Plant Species	Stratum	% cover	Indicator	Dominant Plant Species	Stratum	% cover	Indicator
<u>Salix sitchensis</u>	<u>S</u>	<u>20</u>	<u>FACW</u>				
<u>Juncus effusus</u>	<u>H</u>	<u>10</u>	<u>FACW</u>				
<u>Phalaris arundinacea</u>	<u>H</u>	<u>30</u>	<u>FACW</u>				
<u>Rubus discolor</u>	<u>S</u>	<u>10</u>	<u>FACW</u>				
<u>Agrostis sp.</u>	<u>H</u>	<u>60</u>	<u>FAC</u>				
<u>Populus balsamifera</u>	<u>T</u>	<u>15</u>	<u>FAC</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	<u>X</u>	Physiological/reproductive adaptations	_____
Morphological adaptations	_____	Wetland plant database	_____
Technical Literature	_____	Personal knowledge of regional plant communities	_____
		Other (explain)	_____

Hydrophytic vegetation present? yes no

Rationale for decision/Remarks:

All dominant plants FAC or wetter

HYDROLOGY

Is it the growing season? yes no

Water Marks: yes no
on _____

Sediment Deposits: yes no

Based on: _____ soil temp (record temp _____)
time of year other (explain)

Drift Lines: yes no

Drainage Patterns: yes no

Dept. of inundation: _____ inches

Oxidized Root (live roots) Channels <12 in. yes no

Local Soil Survey: yes no

Depth to free water in pit: 10 inches

FAC Neutral: yes no

Water-stained Leaves yes no

Depth to saturated soil: 0 inches

Check all that apply & explain below:

Other (explain):

Stream, Lake or gage data: _____

Aerial photographs: _____ Other: _____

Wetland hydrology present? yes no

Rationale for decision/Remarks:

Soil saturated to surface; areas of ponding nearby.

SOILS

Map Unit Name Seattle Muck
(Series & Phase)

Drainage Class Very poorly drained

Field observations confirm Yes No

Taxonomy (subgroup) Typic Medi-hemists

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)
0-5	A	2.5Y3/2	—	—	Sandy loam	
5-16+	B	2.5Y4/1	10YR4/6	d, f, fine	loamy sand w/ clay chunks	

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 w/ mottles observed

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. ~~Wetland~~

NOTES:

Area previously delineated by Herrera (wetland "C").
Wetland is PEM, located in NW portion of 124th St. interchange. Plot is located near willows at northern end of wetland, near previous wetland plot. No numbers present on existing wetland delineation flag.

DRAFT WETLAND RATING FORM – WESTERN WASHINGTON

Name of wetland (if known): 20,35L

Location: SEC: 28 TOWNSHIP: ZW RANGE: SE (attach map with outline of wetland to rating form)

Person(s) Rating Wetland: I. LOGAN Affiliation: ^{EYUS}WIKELAND NICKEL Date of site visit: ²⁻¹⁷⁻⁰⁴10-7-04

DRAFT 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	4
Score for Hydrologic Functions	2
Score for Habitat Functions	8
TOTAL score for functions	14

Category based on SPECIAL CHARACTERISTICS of wetland

I ___ II ___ Does not Apply

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

IV

Check the appropriate type and class of wetland being rated.

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

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: 20.352

Date: 10-7-04

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 <u>potential</u> 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 points = 2 Wetland has an unconstricted surface outlet <u>points = 1</u> Wetland is flat and has no obvious outlet and/or outlet is a ditch points = 1	1
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 <u>points = 0</u>	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 <u>points = 1</u> Wetland has persistent, ungrazed vegetation <1/10 of area points = 0	1
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 <i>Add the points in the boxes above</i>	2
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 <input checked="" 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 — Wetland is fed by groundwater high in phosphorus or nitrogen Other _____ <u>YES</u> multiplier is 2 NO multiplier is 1	multiplier 2
D	TOTAL - Water Quality Functions Multiply the score from D1 by D2 <i>Add score to table on p. 1</i>	4

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 <u>points = 0</u>	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 <u>points = 1</u> Marks of ponding less than 0.5 ft points = 0	1
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 <u>points = 0</u> 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>	1
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 _____ <input checked="" type="checkbox"/> 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>	2

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

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)

- 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**

2

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

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

You do not have to name the species.

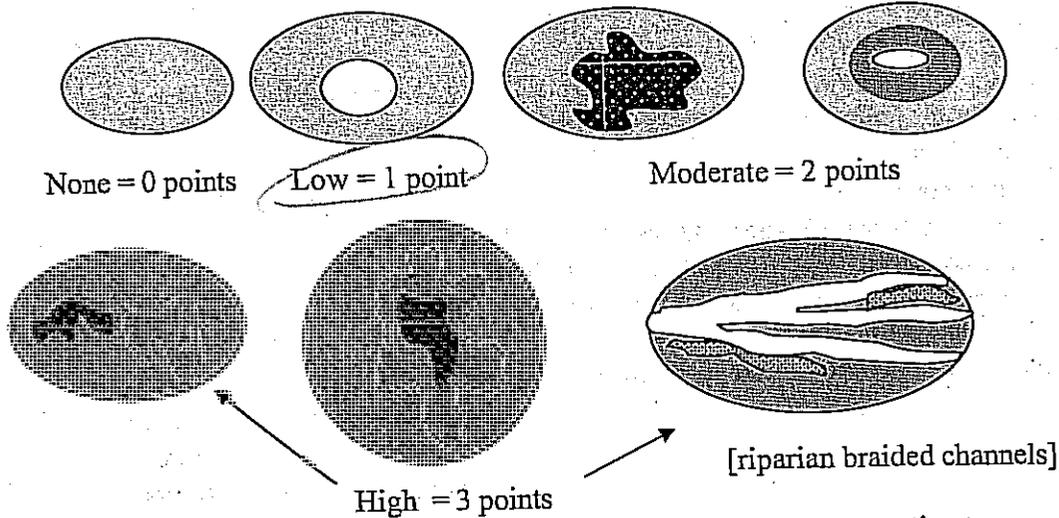
Do not include Eurasian Milfoil, reed canarygrass, purple loosestrife, Canadian Thistle

- 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

4

Comments

H 2. Does the wetland have the opportunity to provide habitat for many species?	
<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 — <input checked="" type="checkbox"/> 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 	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</p> <p style="text-align: right; border: 1px solid black; border-radius: 50%; padding: 5px; display: inline-block;">NO = 0 points</p>	0

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 <u>Wetland Landscape</u> (<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 <u>points = 3</u></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>	3
<p>H 2. TOTAL Score - opportunity for providing habitat <i>Add the scores in the column above</i></p>	4
<p>Total Score for Habitat Functions – add the points for H 1, H 2 and record the result on p. 1</p>	8

WETLAND 20.35L



WETLAND FIELD DATA FORM

BEGIN BY CHECKING ANY OF THE FOLLOWING (a. – e.) THAT APPLY:

- a. The wetland is contiguous to Lake Washington;
- b. The wetland contains at least 1/4 acre of organic soils, such as peat bogs or mucky soils;
- c. The wetland is equal to or greater than 10 acres in size and having three or more wetland classes, as defined by the U.S. Fish & Wildlife Service (Cowardin et al., 1979), one of which is open water;
- d. The wetland has significant habitat value to state or federally listed threatened or endangered wildlife species; or
- e. The wetland contains state or federally listed threatened or endangered plant species.

IF ANY OF THE CRITERIA LISTED ABOVE ARE MET, THEN THE WETLAND IS CONSIDERED TO BE TYPE 1. IF THAT IS THE CASE, PLEASE CONTINUE TO COMPLETE THE ENTIRE FORM, BUT DO NOT ASSIGN POINTS.

IF THE WETLAND DOES NOT MEET THE CRITERIA LISTED ABOVE FOR TYPE 1, COMPLETE THE ENTIRE FORM, USING THE ASSIGNED POINTS TO DETERMINE IF IT IS A TYPE 2 OR TYPE 3 WETLAND.

Type 2 wetlands typically have at least two wetland vegetation classes, are at least partially surrounded by buffers of native vegetation, connected by surface water flow (perennial or intermittent) to other wetlands or streams, and contain or are associated with forested habitat.

1. Total wetland area

Estimate wetland area and score from choices	Acres	Point Value	Points
	>20.00	= 6	
	10-19.99	= 5	
	5-9.99	= 4	
	1-4.99	= 3	
	0.1-0.99	= 2	
	<0.1	= 1	

2. Wetland classes: Determine the number of wetland classes that qualify, and score according to the table.

	# of Classes	Points
Open Water: if the area of open water is >1/3 acre or >10% of the total wetland area	1	= 1
Aquatic Beds: if the area of aquatic beds is >10% of the open water area or >1/2 acre	2	= 3
Emergent: if the area of emergent class is >1/2 acre or >10% of the total wetland area	3	= 5
Scrub-Shrub: if the area of scrub-shrub class is >1/2 acre or >10% of the total wetland area	4	= 7
Forested: if the area of forested class is >1/2 acre or >10% of the total wetland area	5	= 10

3. Plant species diversity.

For all wetland classes which qualified in 2 above, count the number of different plant species and score according to the table below. You do not have to name them.

e.g., if a wetland has an aquatic bed class with 3 species, and emergent class with 4 species and a scrub-shrub class with 2 species, you would circle 2, 2, and 1 in the second column (below).

Class	# of Species	Point Value	Class	# of Species	Point Value
Aquatic Bed	1-2	= 1	Scrub-Shrub	1-2	= 1
	3	= 2		3-4	= 2
	>3	= 3		>4	= 3
Emergent	1-2	= 1	Forested	1-2	= 1
	3-4	= 2		3-4	= 2
	>4	= 3		>4	= 3

4. Structural diversity.

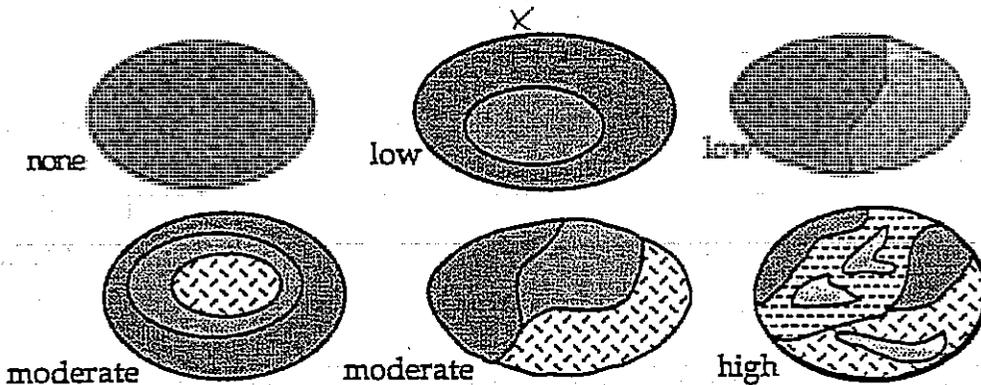
If the wetland has a forested class, add 1 point for each of the following attributes present:

- Trees >50' tall = 1
- Trees 20' to 49' tall = 1
- shrubs = 1
- Herbaceous ground cover = 1

5. Interspection between wetland classes.

Decide from the diagrams below whether interspection between wetland classes is high, moderate, low or none

- 3 = High
- 2 = Moderate
- 1 = Low
- 0 = None



6. Habitat features

Add points associated with each habitat feature listed:

- Is there evidence of current use by beavers? = 3
- Is a heron rookery located within 300'? = 2
- Are raptor nest(s) located within 300'? = 1
- Are there at least 2 standing dead trees (snags) per acre? = 1
- Are there any other perches (wires, poles, or posts)? = 1
- Are there at least 3 downed logs per acre? = 1

7. Connection to streams

Is the wetland connected at any time of the year via surface water? (score one answer only)

Is the wetland connected at any time of the year via surface water?

- To a perennial stream or a seasonal stream *with* fish
- To a seasonal stream *without* fish
- Is not connected to any stream

= 5 WETLAND DISCHARGES TO CATCHBASIN WHICH LIKELY FLOWS WEST TO TOTEM LAKE TRIBUTARY THAT CONNECTS TO JUANITA CREEK.

= 3

= 0

8. Buffers

Step 1: Estimate (to the nearest 5%) the percentage of each buffer or land-use type (below) that adjoins the wetland boundary. Then multiply these percentages by the factor(s) below and enter result in the column to the right.

	% of Buffer	Step 1	Width Factor	Step 2
Roads, buildings or parking lots	75 %	X 0 = 0	—	—
Lawn, grazed pasture, vineyards or annual crops	25 %	X 1 = 25	1	25
Ungrazed grassland or orchards	%	X 2 =		
Open water or native grasslands	%	X 3 =		
Forest or shrub	%	X 4 =		
Add buffer total				25

Step 2: Multiply result(s) of step 1:

- By 1 if buffer width is 25-50'
- By 2 if buffer width is 50-100'
- By 3 if buffer width is >100'

Enter results and add subscores

Step 3: Score points according to the following table:

Buffer Total

- 900-1200 = 4
- 600-899 = 3
- 300-599 = 2
- 100-299 = 1

9. Connection to other habitat areas:

Is there a riparian corridor to other wetlands within 0.25 of a mile, or a corridor >100' wide with good forest or shrub cover to any other habitat area? = 5

Is there a narrow corridor <100' wide with good cover or a wide corridor >100' wide with low cover to any other habitat area? = 3

Is there a narrow corridor <100' wide with low cover or a significant habitat area within 0.25 mile but no corridor? = 1

Is the wetland and buffer completely isolated by development and/or cultivated agricultural land? = 0

10. Scoring

Add the scores to get a total: 10

Question: Is the total greater than or equal to 22 points?

Answer:

Yes = Type 2

No = Type 3

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

Project/Site: <u>WSDOT KIRKLAND NICKEL</u>	Date: <u>2/17/04</u>
Applicant/owner: <u>WSDOT</u>	County: <u>KING</u>
Investigator(s): <u>I. LOGAN, A. MERRILL</u>	State: <u>WA</u>
	S/T/R: <u>28/26N/5E</u>
Do Normal Circumstances exist on the site? <input checked="" type="radio"/> yes <input type="radio"/> no	Community ID: <u>DEF WL B</u>
Is the site significantly disturbed (atypical situation)? <input type="radio"/> yes <input checked="" type="radio"/> no	Transect ID: <u>124th INTERCHANGE</u>
Is the area a potential Problem Area? <input type="radio"/> yes <input checked="" type="radio"/> no	Plot ID: <u>DP20.41A</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>Agrostis sp.</u>	<u>H</u>	<u>80</u>	<u>FAC</u>				
<u>Cytisus scoparius</u>	<u>S</u>	<u>40</u>	<u>NL</u>				
<u>Populus balsamifera</u>	<u>T</u>	<u>30</u>	<u>FAE</u>	<u>rooted at wl edge</u>			
<u>Hypochaeris radicata</u>	<u>H</u>	<u>10</u>	<u>FACU</u>				

HYDROPHYTIC VEGETATION INDICATORS:

% of dominants OBL, FACW, & FAC 67%

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	_____
Technical Literature	_____	Personal knowledge of regional plant communities	_____
		Other (explain)	_____

Hydrophytic vegetation present? yes no

Rationale for decision/Remarks:
Through more than 50% of dominants are OBL, FACW, FAC, POBA trees are rooted at edge of WL and not in upland.

HYDROLOGY

Is it the growing season? <input type="radio"/> yes <input checked="" type="radio"/> no	Water Marks: <input type="radio"/> yes <input checked="" type="radio"/> no	Sediment Deposits: <input type="radio"/> yes <input checked="" type="radio"/> no
Based on: _____ soil temp (record temp _____) <u>DATE</u> other (explain)	Drift Lines: <input type="radio"/> yes <input checked="" type="radio"/> no	Drainage Patterns: <input type="radio"/> yes <input checked="" type="radio"/> no
Dept. of inundation: _____ inches	Oxidized Root (live roots) Channels <12 in. <input type="radio"/> yes <input checked="" type="radio"/> no	Local Soil Survey: <input checked="" type="radio"/> yes <input checked="" type="radio"/> no
Depth to free water in pit: <u>>16</u> inches	FAC Neutral: <input type="radio"/> yes <input type="radio"/> no	Water-stained Leaves <input type="radio"/> yes <input checked="" type="radio"/> no
Depth to saturated soil: <u>>16</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:
No indicators present. Soils are dry, rocky, and compacted.

SOILS

Map Unit Name Seattle muck
(Series & Phase)

Drainage Class Very poorly drained

Taxonomy (subgroup) Typic Medihemists

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)
0-16	A	2.5Y 4/2	-	-	sand & gravel fill	

Hydric Soil Indicators: (check all that apply)

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

Hydric soils present? yes no

Rationale for decision/Remarks:

No indicators present. Soils are rocky and without distinct horizons - typical fill soils found on disturbed roadside.

Wetland Determination (circle)

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

Rationale/Remarks:

Area is dry and on a slope. Runoff continues downslope to wetland to the west.

NOTES: DP-A is located between 405 & Wetland B in the disturbed roadside ~~the~~ slope.

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

Project/Site: WSRT KIRKLAND NICKEL	Date: 2/17/04
Applicant/owner: WSRT	County: KING
Investigator(s): I. LUGON, A. MERRILL	State: WA
	S/T/R: 28/26N/5E
Do Normal Circumstances exist on the site? <input checked="" type="radio"/> yes <input type="radio"/> no	Community ID: 204 WL B K
Is the site significantly disturbed (atypical situation)? <input type="radio"/> yes <input checked="" type="radio"/> no	Transect ID: 124th INTERCHANGE
Is the area a potential Problem Area? <input type="radio"/> yes <input checked="" type="radio"/> no	Plot ID: DP20.4LB
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>	H	100	FACW				
<i>Salix lucida</i>	S	30	FACW				
<i>Populus balsamifera</i>	T	20	FAC				

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 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:
More than 50% of dominants are OBL, FACW, FAC. Phalaris growing in inundation.

HYDROLOGY

Is it the growing season? <input type="radio"/> yes <input checked="" type="radio"/> no	Water Marks: <input type="radio"/> yes <input checked="" type="radio"/> no	Sediment Deposits: <input type="radio"/> yes <input checked="" type="radio"/> no
Based on: _____ soil temp (record temp _____) <u>DATE</u> other (explain)	Drift Lines: <input type="radio"/> yes <input checked="" type="radio"/> no	Drainage Patterns: <input checked="" type="radio"/> yes <input type="radio"/> no
Dept. of inundation: <u>0-1</u> inches	Oxidized Root (live roots) Channels <12 in. <input type="radio"/> yes <input checked="" type="radio"/> no	Local Soil Survey: <input checked="" type="radio"/> yes <input type="radio"/> no
Depth to free water in pit: <u>0</u> inches	FAC Neutral: <input type="radio"/> yes <input type="radio"/> no	Water-stained Leaves <input checked="" type="radio"/> yes <input type="radio"/> no
Depth to saturated soil: <u>0</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:
Standing H₂O present in sample plot and throughout reach of the emergent portions of wetland.

SOILSMap Unit Name Seattle muck
(Series & Phase)Drainage Class Very poorly drainedTaxonomy (subgroup) Typic MedihemistsField 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)
0-5	A	10YR 3/2	—	—	muck	
5-16	B	2.5Y 4/2	10YR 5/6	distinct common medium	gravelly sandy loam	

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:

Soils contain mottles and have a chroma of 2 within the root zone.**Wetland Determination** (circle)

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

Rationale/Remarks:

Vegetation is hydrophytic and growing under inundation; growing season has possibly begun, or will in the next two weeks.

NOTES: DP-B taken in ~~the~~ PEM identified as WETLAND B in the NW quarter of the 124th Interchange. ^{flagged} Flags 1-49. WETLAND IS > 5 ACRES & IS primarily domd by PHAR, Salix sp, TYLA. Standing H₂O is present throughout most of wetland. All stream channel is present near the center ^{Revised 4/97} but does not continue (visibly). UWL drains to W under 120th

DRAFT WETLAND RATING FORM - WESTERN WASHINGTON

Name of wetland (if known): 20.4L

Location: SEC: 28 TOWNSHIP: 26N RANGE: 5E (attach map with outline of wetland to rating form)

Person(s) Rating Wetland: I. LOGAN Affiliation: ^{J405}WIRKLAND
NICKEL Date of site visit: 2-17-04
10-7-04

DRAFT SUMMARY OF RATING

Category based on FUNCTIONS provided by wetland

I ___ II X 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	28
Score for Hydrologic Functions	16
Score for Habitat Functions	17
TOTAL score for functions	61

Category based on SPECIAL CHARACTERISTICS of wetland

I ___ II ___ Does not Apply X

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

II

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		

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: 20.4 Date: 11-7-04

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 <u>potential</u> 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 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	1
D	D 1.2 The soil 2 inches below the surface is clay, organic, or smells anoxic (hydrogen sulfide or rotten eggs). <input checked="" type="radio"/> YES points = 4 <input type="radio"/> NO points = 0	4
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	5
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..	4
D	Total for D 1 Add the points in the boxes above	14
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. <input type="checkbox"/> Grazing in the wetland or within 150 ft <input checked="" type="checkbox"/> Untreated stormwater discharges to wetland <input type="checkbox"/> Tilled fields or orchards within 150 ft of wetland <input checked="" 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 2
D	TOTAL - Water Quality Functions Multiply the score from D1 by D2 Add score to table on p. 1	28

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 <u>points = 0</u>	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 <u>points = 5</u> 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	5
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 <u>points = 3</u> 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	3
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 checked="" 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 _____ <u>YES</u> multiplier is 2 NO multiplier is 1	multiplier <u>2</u>
D	TOTAL - Hydrologic Functions Multiply the score from D 3 by D 4 <i>Add score to table on p. 1</i>	16

X
AREA OF
BASIN?
TOTAL
AREA OF
WETLAND?

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

4

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**

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.

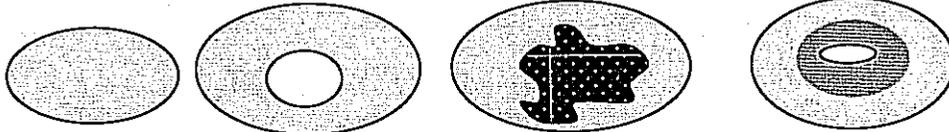
Do not include Eurasian Milfoil, reed canarygrass, purple loosestrife, Canadian Thistle

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

1

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

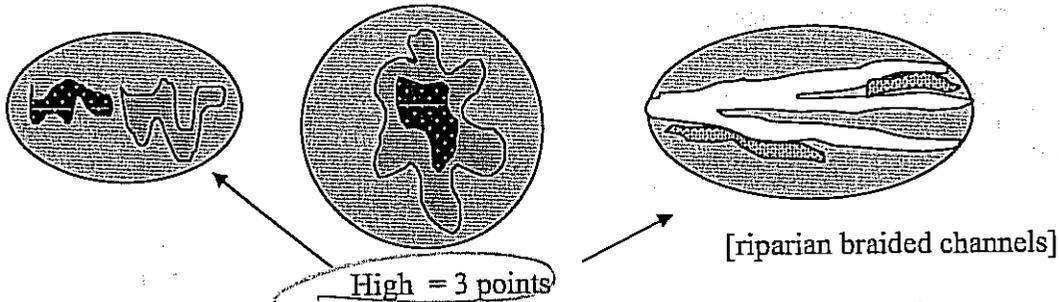
Decided from the diagrams below whether interspersion between types of vegetation (described in H 1.1), or vegetation types and unvegetated areas (can include open water or mudflats) is high, medium, low, or none.



None = 0 points

Low = 1 point

Moderate = 2 points



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

3

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

2

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

13

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. <input checked="" type="checkbox"/> Buffer does not meet any of the criteria above. Points = 1 	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) <input checked="" type="radio"/> 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) <input checked="" type="radio"/> 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 <input checked="" type="radio"/> NO = 0 points</p>	0

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

(check PHS)
0

<p>H 2.4 Wetland Landscape (<i>choose the one description of the landscape around the wetland that best fits</i>) (<i>see p. 84</i>)</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>	3
<p>H 2. TOTAL Score - opportunity for providing habitat <i>Add the scores in the column above</i></p>	4
<p>Total Score for Habitat Functions – add the points for H 1, H 2 and record the result on p. 1</p>	18



WETLAND FIELD DATA FORM

BEGIN BY CHECKING ANY OF THE FOLLOWING (a. – e.) THAT APPLY:

- a. The wetland is contiguous to Lake Washington;
- b. The wetland contains at least 1/4 acre of organic soils, such as peat bogs or mucky soils;
- c. The wetland is equal to or greater than 10 acres in size and having three or more wetland classes, as defined by the U.S. Fish & Wildlife Service (Cowardin et al., 1979), one of which is open water;
- d. The wetland has significant habitat value to state or federally listed threatened or endangered wildlife species; or
- e. The wetland contains state or federally listed threatened or endangered plant species.

IF ANY OF THE CRITERIA LISTED ABOVE ARE MET, THEN THE WETLAND IS CONSIDERED TO BE TYPE 1. IF THAT IS THE CASE, PLEASE CONTINUE TO COMPLETE THE ENTIRE FORM, BUT DO NOT ASSIGN POINTS.

IF THE WETLAND DOES NOT MEET THE CRITERIA LISTED ABOVE FOR TYPE 1, COMPLETE THE ENTIRE FORM, USING THE ASSIGNED POINTS TO DETERMINE IF IT IS A TYPE 2 OR TYPE 3 WETLAND.

Type 2 wetlands typically have at least two wetland vegetation classes, are at least partially surrounded by buffers of native vegetation, connected by surface water flow (perennial or intermittent) to other wetlands or streams, and contain or are associated with forested habitat.

1. Total wetland area

Estimate wetland area and score from choices	Acres	Point Value	Points
	>20.00	=	6
	10-19.99	=	5
	5-9.99	=	4
	1-4.99	=	3
	0.1-0.99	=	2
	<0.1	=	1

2. Wetland classes: Determine the number of wetland classes that qualify, and score according to the table.

	# of Classes	Points
Open Water: if the area of open water is >1/3 acre or >10% of the total wetland area	1	= 1
Aquatic Beds: if the area of aquatic beds is >10% of the open water area or >1/2 acre	2	= 3
Emergent: if the area of emergent class is >1/2 acre or >10% of the total wetland area	3	= 5
Scrub-Shrub: if the area of scrub-shrub class is >1/2 acre or >10% of the total wetland area	4	= 7
Forested: if the area of forested class is >1/2 acre or >10% of the total wetland area	5	= 10

3. Plant species diversity.

For all wetland classes which qualified in 2 above, count the number of different plant species and score according to the table below. You do not have to name them.

e.g., if a wetland has an aquatic bed class with 3 species, and emergent class with 4 species and a scrub-shrub class with 2 species, you would circle 2, 2, and 1 in the second column (below).

Class	# of Species	Point Value	Class	# of Species	Point Value
Aquatic Bed	1-2	= 1	Scrub-Shrub	1-2	= 1
	3	= 2		3-4	= 2
	>3	= 3		>4	= 3
Emergent	1-2	= 1	Forested	1-2	= 1
	3-4	= 2		3-4	= 2
	>4	= 3		>4	= 3

4. Structural diversity.

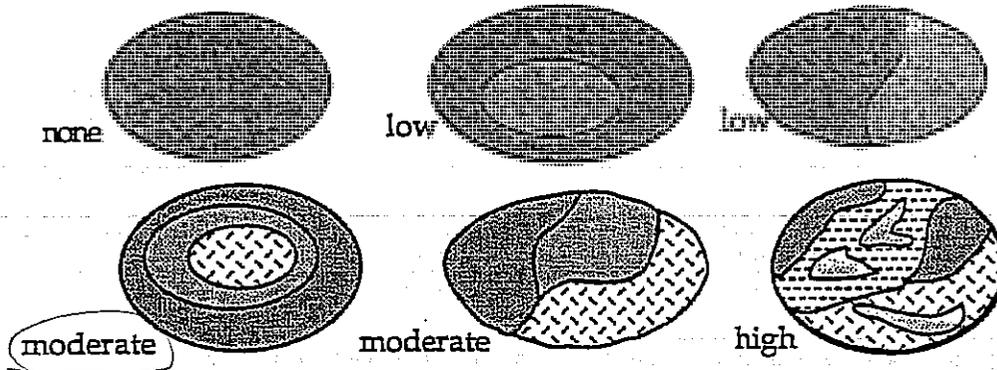
If the wetland has a forested class, add 1 point for each of the following attributes present:

- Trees >50' tall = 1
- Trees 20' to 49' tall = 1
- shrubs = 1
- Herbaceous ground cover = 1

5. Interspection between wetland classes.

Decide from the diagrams below whether interspection between wetland classes is high, moderate, low or none

- 3 = High
- 2 = Moderate
- 1 = Low
- 0 = None



6. Habitat features

Add points associated with each habitat feature listed:

- Is there evidence of current use by beavers? = 3
- Is a heron rookery located within 300'? = 2
- Are raptor nest(s) located within 300'? = 1
- Are there at least 2 standing dead trees (snags) per acre? = 1
- Are there any other perches (wires, poles, or posts)? = 1
- Are there at least 3 downed logs per acre? = 1

7. Connection to streams

Is the wetland connected at any time of the year via surface water? (score one answer only)

Is the wetland connected at any time of the year via surface water?

- To a perennial stream or a seasonal stream *with* fish
- To a seasonal stream *without* fish
- Is not connected to any stream

= 5
 = 3
 = 0

TOTEM LAKE TRIBUTARY CONNEC
 TO JUANITA CREEK

8. Buffers

Step 1: Estimate (to the nearest 5%) the percentage of each buffer or land-use type (below) that adjoins the wetland boundary. Then multiply these percentages by the factor(s) below and enter result in the column to the right.

	% of Buffer	Step 1	Width Factor	Step 2
Roads, buildings or parking lots	<u>75</u> %	X 0 = <u>0</u>	<u>-</u>	= <u>-</u>
Lawn, grazed pasture, vineyards or annual crops	<u> </u> %	X 1 = <u> </u>	<u> </u>	= <u> </u>
Ungrazed grassland or orchards	<u> </u> %	X 2 = <u> </u>	<u> </u>	= <u> </u>
Open water or native grasslands	<u> </u> %	X 3 = <u> </u>	<u> </u>	= <u> </u>
Forest or shrub	<u>25</u> %	X 4 = <u>100</u>	<u>2</u>	= <u>200</u>
Add buffer total				<u>200</u>

Step 2: Multiply result(s) of step 1:

- By 1 if buffer width is 25-50'
- By 2 if buffer width is 50-100'
- By 3 if buffer width is >100'

Enter results and add subscores

Step 3: Score points according to the following table:

Buffer Total

- 900-1200 = 4
- 600-899 = 3
- 300-599 = 2
- 100-299 = 1

9. Connection to other habitat areas:

Is there a riparian corridor to other wetlands within 0.25 of a mile, or a corridor >100' wide with good forest or shrub cover to any other habitat area? = 5

Is there a narrow corridor <100' wide with good cover or a wide corridor >100' wide with low cover to any other habitat area? = 3

Is there a narrow corridor <100' wide with low cover or a significant habitat area within 0.25 mile but no corridor? = 1

Is the wetland and buffer completely isolated by development and/or cultivated agricultural land? = 0

10. Scoring

Add the scores to get a total: 27

Question: Is the total greater than or equal to 22 points?

Answer:

Yes = Type 2

No = Type 3

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

Project/Site: I-405 - Kirkland Nickel Applicant/owner: WSDOT Investigator(s): AM, LK, JC	Date: 3-2-04 County: King State: WA S/T/R: 20/26/N/5E
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: Transect ID: Median Plot ID: 21.6A

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>Rubus discolor</i>	V	75%	FACU				
<i>Galium trifidum</i>	H	80%	FACW+				
<i>Acer macrophyllum</i>	T	30%	FACU				
<i>Alnus rubra</i>	T	20%	FAC				

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

Hydrophytic vegetation present? yes no

Rationale for decision/Remarks: **The plot is not dominated by hydrophytic vegetation**

HYDROLOGY

Is it the growing season? <input checked="" type="radio"/> yes <input type="radio"/> no plants are green	Water Marks: yes <input type="radio"/> no <input checked="" type="radio"/>	Sediment Deposits: yes <input type="radio"/> no <input checked="" type="radio"/>
Based on: _____ soil temp (record temp _____) growing other (explain) _____	Drift Lines: yes <input type="radio"/> no <input checked="" type="radio"/>	Drainage Patterns: yes <input type="radio"/> no <input checked="" type="radio"/>
Dept. of inundation: _____ inches	Oxidized Root (live roots) Channels <12 in. yes <input type="radio"/> no <input checked="" type="radio"/>	Local Soil Survey: yes <input type="radio"/> no <input checked="" type="radio"/>
Depth to free water in pit: >16 inches Depth to saturated soil: >16 inches	FAC Neutral: yes <input type="radio"/> no <input checked="" type="radio"/>	Water-stained Leaves yes <input type="radio"/> no <input checked="" 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: **No indicators of wetland hydrology are present**

piled up excavations in ^{dec.} spring

SOILS

Map Unit Name Ragnar fine sandy loam
 (Series & Phase) 6 to 15% slopes

Drainage Class well drained

Taxonomy (subgroup) Dystric Xerochrepts

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)
0-7"	A	10YR 2/2			silty loam	loam
7-16"	B	10YR 3/3			sandy gravelly	

Hydric Soil Indicators: (check all that apply)

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

Hydric soils present? yes no
 Rationale for decision/Remarks: No indicators of hydric soils are present

Wetland Determination (circle)

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

Rationale/Remarks: The 3 parameters for wetland conditions are not met.

NOTES: are not met.

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>Kirkland Nickel</u> Applicant/owner: <u>WSDOT</u> Investigator(s): <u>Linda Kripper, Adam Merrill, Jeff Collins</u>	Date: <u>3/2/04</u> County: <u>King</u> State: <u>WA</u> S/T/R: <u>20/26 N/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: Transect ID: Plot ID: <u>2L6L -B</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>Scirpus microcarpus</u> *	<u>H</u>	<u>80</u>	<u>OBL</u>				
<u>Rubus discolor</u> *	<u>S</u>	<u>30</u>	<u>FACU</u>				
<u>Equisetum telmateia</u>	<u>H</u>	<u>10</u>	<u>FACW</u>				
<u>Alnus rubra</u> *	<u>T</u>	<u>30</u>	<u>FAC</u>				

HYDROPHYTIC VEGETATION INDICATORS:

% of dominants OBL, FACW, & FAC 67

Check all indicators that apply & explain below:

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

Hydrophytic vegetation present? yes no

Rationale for decision/Remarks:
> 50% of dominants plants are FAC or wetter

HYDROLOGY

Is it the growing season? <input checked="" type="radio"/> yes <input type="radio"/> no Based on: _____ soil temp (record temp _____) <u>DATE</u> other (explain)	Water Marks: yes <input type="radio"/> no <input checked="" type="radio"/> on _____ Drift Lines: yes <input type="radio"/> no <input checked="" type="radio"/>	Sediment Deposits: yes <input type="radio"/> no <input checked="" type="radio"/> Drainage Patterns: yes <input type="radio"/> no <input checked="" type="radio"/>
Dept. of inundation: _____ inches Depth to free water in pit: <u>2</u> inches Depth to saturated soil: <u>0</u> inches	Oxidized Root (live-roots) Channels <12 in: <input checked="" type="radio"/> yes <input type="radio"/> no FAC Neutral: <input checked="" type="radio"/> yes <input type="radio"/> no	Local Soil Survey: yes <input type="radio"/> no <input checked="" type="radio"/> Water-stained Leaves: <input checked="" type="radio"/> yes <input type="radio"/> no
Check all that apply & explain below: Stream, Lake or gage data: _____ Aerial photographs: _____ Other: _____		

Wetland hydrology present? yes no

Rationale for decision/Remarks:
Water seeping into pit at 2 inches. Soil saturated to surface

SOILS
 Map Unit Name Ragnar fine sandy loam
 (Series & Phase) 6 to 15% slopes

 Drainage Class well drained

 Taxonomy (subgroup) Dystric Xerochrepts

 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)
0-11	A	10YR2/2	—	—	silty sandy loam	
11-16+	B	gley 1 3/10Y	10YR 3/6	c, p, med.	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:

Gleyed matrix w/ mottles observed

Wetland Determination (circle)

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

Rationale/Remarks:

All 3 wetland criteria met.

NOTES:

Wetland 21.6 is a stream-associated PFO in freeway median.

Wetland name or number 21.6m

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

Name of wetland (if known): 21.6m Date of site visit: 3/6/07

Rated by: C. Douglas, J. Purley Trained by Ecology? Yes No Date of training: _____

SEC: 20 TWNShp: 26N RNgE: 5R Is S/T/R in Appendix D? Yes No

Map of wetland unit: Figure _____ Estimated size 0.05

SUMMARY OF RATING

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

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

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

6
6
13
25

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. 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 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 checked="" type="checkbox"/>
SP3. Does the wetland unit contain individuals of Priority species listed by the WDFW for the state?		<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 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.