AQUATICA

Environmental Consulting, LLC PO Box 308 Duvall, Washington 98019

April 7, 2020

AQ#18-322

Ms. Pesha Klein, Environmental Scientist, III King County Department of Permitting and Environmental Review 35030 SE Douglas Street, Ste. 210 Snoqualmie, Washington 98065

REFERENCE: Oxbow Farms, Parcel 362606-9037

10819 Carnation Duvall Rd., Carnation, Washington

SUBJECT: Critical Area Report (Revised with New Rating Forms)

Dear Pesha:

This letter summarizes the results of a wetland study conducted on a portion of Oxbow Farms, located between Carnation and Duvall (**Figure1**). The purpose of this study was to identify the location of wetlands and streams and describe regulatory constraints of these features. The extent of the study included the area within approximately 200 feet of an already constructed farm access drive located on the eastern half of the above referenced parcel. This letter will summarize background information reviewed, wetland and stream classifications and buffer setbacks according to Chapter 21A.24 of the King County Code (KCC), as well as supporting data for our conclusions.



Figure 1. Vicinity Map

SITE DESCRIPTION and REVIEW OF BACKGROUND MATERIALS

This parcel is located east of the Snoqualmie River, it is one parcel in an assemblage of parcels that are part of Oxbow Farms. The project area is used for farming, including growing hay and produce. The scope of the study included the area within 200 feet of the new farm access drive shown below in **Figure 2**.

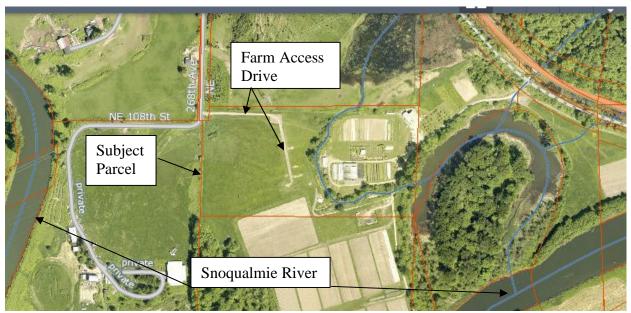


Figure 2. Aerial Photo

Background material reviewed prior to my site visit included King County's iMAP, the Washington Department of Natural Resources (DNR) stream type map, and the King County soil survey. According to iMAP, the entire property is within the 100-year preliminary FEMA floodplain. Also shown on iMAP is a wetland to the north of the project area (shown on Figure 2), and a Class 2 salmonid stream to the east of the farm access drive in the project area. The Washington DNR also shows the drainage feature east of the gravel road as a Type F (fish bearing stream).

The Natural Resources Conservation Service (NRCS) has mapped soil in the project area as Nooksack silt loam, 0-2 percent slopes. This moderately well drained soil type formed from alluvium in floodplains. It is not listed as a hydric soil. Within this soil type there may be unmapped inclusions of Oridia silt loam and Puget soils, which are hydric soils.

Precipitation

Precipitation in the months prior to the wetland delineation (late December) was reviewed to ensure that the wetland delineation occurred during a time of sufficient rainfall. The property lies in the 100-year floodplain of the Snoqualmie River. Due to the complexity in these types of delineation, where the soil, vegetation, and potentially hydrology of the area may have been altered, the delineation was conducted during the wet season to enable observations of the wet season water table. As shown in Table 1, the fall of 2018 experienced rainfall that was within

the range of normal, at about 95% of normal. From this information it was determined that the delineation occurred during a period of normal rainfall and water levels observed should be considered accurate for the wet season.

Table 1.	Monthly	[,] 2018 and	l Historical	Average	Precipit	ation (in inches))

	September	October	November	December	Total (OctDec.)
2018	1.59	4.56	6.84	7.12	20.11
Historical					
Average	2.6	4.78	7.45	6.42	21.25
2018 Percent					
of Normal	61	95	92	111	95

^{*}Data obtained from the National Oceanic and Atmospheric Administration, accessed at: http://agacis.rcc-acis.org/. Monthly totals were obtained from the Carnation, 3.6N Station and historical monthly averages were obtained from the Monroe, Washington Station.

METHODS

Wetlands were delineated according to the Army Corps of Engineers 1987 Wetland Delineation Manual and the 2010 Regional Supplement for the Western Mountains, Valleys, and Coast Region. The wetland boundaries were flagged with pink wire flags and wood stakes, due to the height of the reed canary grass in the field. Pairs of sample plots bracketing the wetland boundaries were established to aid in determining their location and were also flagged with wire flags. Sample plot data forms are attached. Wetlands were rated utilizing the Washington State Department of Ecology Wetland Rating System for Western Washington (2014).

The ordinary high water mark (OHWM) was identified according to King County Code 21A.06.825, which defines the OHWM as, "the mark found by examining the bed and banks of a stream, lake, pond or tidal water and ascertaining where the presence and action of waters are so common and long maintained in ordinary years as to mark upon the soil a vegetative character distinct from that of the abutting upland. In an area where the ordinary high-water mark cannot be found, the line of mean high water in areas adjoining freshwater or mean higher high tide in areas adjoining saltwater is the "ordinary high-water mark." In an area where neither can be found, the top of the channel bank is the "ordinary high-water mark." In braided channels and alluvial fans, the ordinary high-water mark or line of mean high water include the entire water or stream feature. A distinct high-water mark was observed and delineated in the drainage feature east of the gravel road.

RESULTS

Two wetland areas were delineated on-site (Attached Site Plan). Wetland A is located in a closed depression near the northeastern corner of the property, south of the farm access drive. Wetland B is a very small shallow closed depression located northeast of the farm access drive just south of the northern property boundary.

Both wetlands are in pastureland that has been managed for hay production. Consequently, vegetation in the wetlands is dominated by pasture grasses and common weeds. Common species included creeping buttercup (*Ranunculus repens*), reed canarygrass (*Phalaris*

arundinacea), bentgrass (Agrostis spp.), tall fescue (Festuca arundinacea) and velvet grass (Holcus lanatus). Both wetlands appear to be seasonally saturated or flooded wetlands, as indicated by the presence of redoxymorphic features including iron concentrations in the matrix. Soil in Wetland A was a very dark grayish brown (10YR4/2) silt loam with dark yellowish brown (10YR 4/6) concentrations and gray (10YR5/1) depletions in the matrix. Soil in Wetland B was a gray silt loam with dark yellowish brown (10YR3/6) concentrations in the matrix. Both areas delineated as wetlands had soil that was obviously hydric and distinct from the adjacent surrounding uplands. Upland areas were observed to have a very dark grayish brown (10YR 4/2) silt loam without concentrations or depletions in the matrix. There were no hydric soil characteristics in the upland areas and the vegetation in the wetland was distinctive from the upland areas. There was no indication of ambiguity between wetland and upland areas, and it was determined that hydrology monitoring was not needed to accurately delineate the wetlands.

Both Wetlands A and B were categorized as a Category III wetlands, per the DOE rating system. Wetlands with this wetland category and a habitat score lower than six require a buffer width that is dependent on the land use intensity summarized in the table below. The assumed buffer width without a farm plan is highlighted in gray.

Land Use Intensity*	Buffer Width (feet)
High Impact	80
Moderate Impact	60
Low Impact	40

^{*}a. High impact includes:

- (1) sites zoned commercial or industrial;
- (2) commercial, institutional or industrial use on a site regardless of the zoning designation;
- (3) nonresidential use on a site zoned for residential use;
- (4) high-intensity active recreation use on a site regardless of zoning[, such as] golf courses, ball fields and similar use;
 - (5) all sites within the Urban Growth Area; or
 - (6) Residential zoning greater than one dwelling unit per acre;
 - b. Moderate impact includes:
 - (1) residential uses on sites zoned residential one dwelling unit per acre or less;
 - (2) residential use on a site zoned rural area, agriculture or forestry;
 - (3) agricultural uses without an approved farm management plan;
 - (4) utility corridors or right-of-way shared by several utilities, including maintenance roads; or
- (5) moderate-intensity active recreation or open space use, such as paved trails, parks with biking, jogging and similar use; and
 - c. Low impact includes:
 - (1) forestry use on a site regardless of zoning designation;
- (2) passive recreation uses, such as unpaved trails, nature viewing areas, fishing and camping areas, and other similar uses that do not require permanent structures, on a site regardless of zoning;
- (3) agricultural uses carried out in accordance with an approved farm management plan and in accordance with K.C.C. 21A.24.045.D.53. and K.C.C. 21A.24.045.D.54.; or
 - (4) utility corridors without a maintenance road and little or no vegetation maintenance.

The wetland shown on iMAP to the north is greater than 200 feet from the farm access drive and its buffer does not appear to extend near it.

An aquatic area was delineated east of the farm access drive. This feature is mapped by iMAP as a Class 2 salmonid stream under the old Sensitive Areas Ordinance. Under the current Critical Areas Ordinance, streams with fish or fish habitat are classified as Type F aquatic areas. This stream is also classified as a Type F aquatic area by the Washington DNR. A 165' buffer applies to Type F aquatic areas outside the UGA, which would cause a small portion of the road to encroach into the outer approximately 12 feet of the stream buffer. This encroachment could be addressed with buffer averaging or other modification under KCC 21A.24.358.E or through a farm management plan. Parts of this aquatic area also meet the wetland criteria, although it was not rated as the aquatic area buffer is assumed to be larger than any wetland buffer.

SUMMARY

Two wetlands and an aquatic/wetland area in the project area were identified rated and require buffer setbacks of 60 feet assuming a moderate intensity adjacent land use. The Type F aquatic area was identified that requires 165-foot buffers. It is possible that through an approved farm plan, the buffers can be modified. Sincerely,

Teresa Opolka, PWS Wetland Ecologist

Jerusa Jorka

Attachments: Site Plan, Wetland Delineation Forms, Wetland Rating Forms

RATING SUMMARY – Western Washington

Name of wetland (or ID #):	Date of site visit: 3/2020
_{Rated by} T.Opolka	_Trained by Ecology?(Yes)No Date of training5/2005
HGM Class used for rating Depression	34/015
NOTE: Form is not complete without Source of base aerial photo/map	ut the figures requested (figures can be combined). iMAP
OVERALL WETLAND CATEGORY	lll (based on functions or special characteristics)

1. Category of wetland based on FUNCTIONS

Category I – Total score = 23 - 27
Category II – Total score = 20 - 22
Category III – Total score = 16 - 19
Category IV - Total score = 9 - 15

FUNCTION	Improving Water Quality	Hydrologic	Habitat	
		Circle the ap	propriate ratings	
Site Potential	H (M) L	H (M) L	H M L	
Landscape Potential	H M L	H M L	H M L	
Value	H M L	H M L	H M L	TOTAL
Score Based on Ratings	7	7	4	18

Score for each function based on three ratings (order of ratings is not *important)* 9 = H,H,H8 = H,H,M7 = H,H,L 7 = H,M,M6 = H,M,L6 = M,M,M5 = H,L,L 5 = M,M,L4 = M, L, L3 = L, L, L

2. Category based on SPECIAL CHARACTERISTICS of wetland

CHARACTERISTIC	CATEGORY	
Estuarine	I II	
Wetland of High Conservation Value	I	
Bog	I	
Mature Forest	I	
Old Growth Forest	I	
Coastal Lagoon	I II	
Interdunal	erdunal I II III I	
None of the above	⊘ ,	

Maps and figures required to answer questions correctly for Western Washington

<u>Depressional Wetlands</u>

Map of:	To answer questions:	Figure #
Cowardin plant classes	D 1.3, H 1.1, H 1.4	1
Hydroperiods	D 1.4, H 1.2	1
Location of outlet (can be added to map of hydroperiods)	D 1.1, D 4.1	1
Boundary of area within 150 ft of the wetland (can be added to another figure)	D 2.2, D 5.2	2
Map of the contributing basin	D 4.3, D 5.3	*
1 km Polygon: Area that extends 1 km from entire wetland edge - including	H 2.1, H 2.2, H 2.3	
polygons for accessible habitat and undisturbed habitat		3
Screen capture of map of 303(d) listed waters in basin (from Ecology website)	D 3.1, D 3.2	4
Screen capture of list of TMDLs for WRIA in which unit is found (from web)	D 3.3	5

<u>Riverine Wetlands</u> *not mapped, flood plain wetland has a very large contributing basin.

Map of:	To answer questions:	Figure #
Cowardin plant classes	H 1.1, H 1.4	
Hydroperiods	H 1.2	
Ponded depressions	R 1.1	
Boundary of area within 150 ft of the wetland (can be added to another figure)	R 2.4	
Plant cover of trees, shrubs, and herbaceous plants	R 1.2, R 4.2	
Width of unit vs. width of stream (can be added to another figure)	R 4.1	
Map of the contributing basin	R 2.2, R 2.3, R 5.2	
1 km Polygon: Area that extends 1 km from entire wetland edge - including	H 2.1, H 2.2, H 2.3	
polygons for accessible habitat and undisturbed habitat		
Screen capture of map of 303(d) listed waters in basin (from Ecology website)	R 3.1	
Screen capture of list of TMDLs for WRIA in which unit is found (from web)	R 3.2, R 3.3	

Lake Fringe Wetlands

Map of:	To answer questions:	Figure #
Cowardin plant classes	L 1.1, L 4.1, H 1.1, H 1.4	
Plant cover of trees, shrubs, and herbaceous plants	L 1.2	
Boundary of area within 150 ft of the wetland (can be added to another figure)	L 2.2	
1 km Polygon: Area that extends 1 km from entire wetland edge - including polygons for accessible habitat and undisturbed habitat	H 2.1, H 2.2, H 2.3	
Screen capture of map of 303(d) listed waters in basin (from Ecology website)	L 3.1, L 3.2	
Screen capture of list of TMDLs for WRIA in which unit is found (from web)	L 3.3	

Slope Wetlands

Map of:	To answer questions:	Figure #
Cowardin plant classes	H 1.1, H 1.4	
Hydroperiods	H 1.2	
Plant cover of dense trees, shrubs, and herbaceous plants	S 1.3	
Plant cover of dense, rigid trees, shrubs, and herbaceous plants	S 4.1	
(can be added to figure above)		
Boundary of 150 ft buffer (can be added to another figure)	S 2.1, S 5.1	
1 km Polygon: Area that extends 1 km from entire wetland edge - including	H 2.1, H 2.2, H 2.3	
polygons for accessible habitat and undisturbed habitat		
Screen capture of map of 303(d) listed waters in basin (from Ecology website)	S 3.1, S 3.2	
Screen capture of list of TMDLs for WRIA in which unit is found (from web)	S 3.3	

HGM Classification of Wetlands in Western Washington

For questions 1-7, the criteria described must apply to the entire unit being rated.

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.

n 8.
t usually controlled by tides except during floods?
YES – the wetland class is Tidal Fringe – go to 1.1
periods of annual low flow below 0.5 ppt (parts per thousand)?
warine) YES – Freshwater Tidal Fringe a Freshwater Tidal Fringe use the forms for Riverine wetlands. If it tuarine wetland and is not scored. This method cannot be used to ads.
recipitation is the only source (>90%) of water to it. Groundwater urces of water to the unit.
YES – The wetland class is Flats Flats wetland, use the form for Depressional wetlands.
II of the following criteria? is on the shores of a body of permanent open water (without any of the year) at least 20 ac (8 ha) in size; ea is deeper than 6.6 ft (2 m).
- The wetland class is Lake Fringe (Lacustrine Fringe)
ll of the following criteria? can be very gradual), land in one direction (unidirectional) and usually comes from sheetflow, or in a swale without distinct banks, thout being impounded.
YES – The wetland class is Slope
in these type of wetlands except occasionally in very small and nocks (depressions are usually <3 ft diameter and less than 1 ft
ll of the following criteria? channel, where it gets inundated by overbank flooding from that least once every 2 years.

Wetland name or number ____

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

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

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

NO - go to 7

YES – The wetland class is **Depressional**

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

NO - go to 8

YES - The wetland class is **Depressional**

8. Your wetland unit seems to be difficult to classify and probably contains several different HGM classes. For example, seeps at the base of a slope may grade into a riverine floodplain, or a small stream within a Depressional wetland has a zone of flooding along its sides. GO BACK AND IDENTIFY WHICH OF THE HYDROLOGIC REGIMES DESCRIBED IN QUESTIONS 1-7 APPLY TO DIFFERENT AREAS IN THE UNIT (make a rough sketch to help you decide). Use the following table to identify the appropriate class to use for the rating system if you have several HGM classes present within the wetland unit being scored.

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 HGM 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	HGM class to
being rated	use in rating
Slope + Riverine	Riverine
Slope + Depressional	Depressional
Slope + Lake Fringe	Lake Fringe
Depressional + Riverine along stream	Depressional
within boundary of depression	
Depressional + Lake Fringe	Depressional
Riverine + Lake Fringe	Riverine
Salt Water Tidal Fringe and any other	Treat as
class of freshwater wetland	ESTUARINE

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

<u>DEPRESSIONAL AND FLATS WETLANDS</u> Water Quality Functions - Indicators that the site functions to improve water quality	
D 1.0. Does the site have the potential to improve water quality?	
D 1.1. Characteristics of surface water outflows from the wetland: Wetland is a depression or flat depression (QUESTION 7 on key) with no surface water leaving it (no outlet) points = 3	
Wetland has an intermittently flowing stream or ditch, OR highly constricted permanently flowing outlet. points = 2 Wetland has an unconstricted, or slightly constricted, surface outlet that is permanently flowing points = 1	3
Wetland is a flat depression (QUESTION 7 on key), whose outlet is a permanently flowing ditch. points = 1	
D 1.2. The soil 2 in below the surface (or duff layer) is true clay or true organic (use NRCS definitions). Yes = 4 No = 0	0
D 1.3. Characteristics and distribution of persistent plants (Emergent, Scrub-shrub, and/or Forested Cowardin classes): Wetland has persistent, ungrazed, plants > 95% of area Wetland has persistent, ungrazed, plants > ½ of area Wetland has persistent, ungrazed plants > ¹/10 of area Wetland has persistent, ungrazed plants < ¹/10 of area points = 0	1
D 1.4. Characteristics of seasonal ponding or inundation: This is the area that is ponded for at least 2 months. See description in manual. Area seasonally ponded is > ½ total area of wetland Area seasonally ponded is > ½ total area of wetland Area seasonally ponded is < ½ total area of wetland points = 2 points = 0	2
Total for D 1 Add the points in the boxes above	6
Rating of Site Potential If score is:12-16 = H6-11(= M)0-5 = L Record the rating on the first p	age
D 2.0. Does the landscape have the potential to support the water quality function of the site?	
D 2.1. Does the wetland unit receive stormwater discharges? Yes = $1 \times 10^{\circ} = 0$	0
D 2.2. Is > 10% of the area within 150 ft of the wetland in land uses that generate pollutants? Yes (1) No = 0	1
D 2.3. Are there septic systems within 250 ft of the wetland? Yes = 1×0	0
D 2.4. Are there other sources of pollutants coming into the wetland that are not listed in questions D 2.1-D 2.3? Source Yes = 1 (No) = 0	0
Total for D 2 Add the points in the boxes above	1
Rating of Landscape Potential If score is:3 or 4 = H1 or 2 = M0 = L Record the rating on the p	first page
D 3.0. Is the water quality improvement provided by the site valuable to society?	
D 3.1. Does the wetland discharge directly (i.e., within 1 mi) to a stream, river, lake, or marine water that is on the $303(d)$ list?	0
D 3.2. Is the wetland in a basin or sub-basin where an aquatic resource is on the 303(d) list? $(Yes)=1$ No = 0	1
D 3.3. Has the site been identified in a watershed or local plan as important for maintaining water quality (answer YES if there is a TMDL for the basin in which the unit is found)? $(Ye) = 2$ No = 0	2
Total for D 3 Add the points in the boxes above	3
Rating of Value If score is:2-4 = \text{\text{\$\bar{U}\$}}_1 = M0 = L	

DEPRESSIONAL AND FLATS WETLANDS	
Hydrologic Functions - Indicators that the site functions to reduce flooding and stream degradate	ion
D 4.0. Does the site have the potential to reduce flooding and erosion?	
D 4.1. <u>Characteristics of surface water outflows from the wetland</u> :	
Wetland is a depression or flat depression with no surface water leaving it (no outlet) points 4	
Wetland has an intermittently flowing stream or ditch, OR highly constricted permanently flowing outletpoints = 2	2
Wetland is a flat depression (QUESTION 7 on key), whose outlet is a permanently flowing ditch points = 1 Wetland has an unconstricted, or slightly constricted, surface outlet that is permanently flowing points = 0	
D 4.2. Depth of storage during wet periods: Estimate the height of ponding above the bottom of the outlet. For wetlands	
with no outlet, measure from the surface of permanent water or if dry, the deepest part.	
Marks of ponding are 3 ft or more above the surface or bottom of outlet points = 7	
Marks of ponding between 2 ft to < 3 ft from surface or bottom of outlet points €5	_
Marks are at least 0.5 ft to < 2 ft from surface or bottom of outlet points = 3	5
The wetland is a "headwater" wetland 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 (6 in) points = 0	
D 4.3. Contribution of the wetland to storage in the watershed: Estimate the ratio of the area of upstream basin	
contributing surface water to the wetland to the area of the wetland unit itself.	_
The area of the basin is less than 10 times the area of the unit points = 5	0
The area of the basin is 10 to 100 times the area of the unit The area of the basis is more than 100 times the area of the unit	
The area of the basin is more than 100 times the area of the unit points $= 0$ Entire wetland is in the Flats class points $= 5$	
	7
Total for D 4 Add the points in the boxes above Rating of Site Potential If score is: 12-16 = H 6-11 (M) 0-5 = L Record the rating on the	•
	- Jiist page
D 5.0. Does the landscape have the potential to support hydrologic functions of the site?	_
D 5.1. Does the wetland receive stormwater discharges? Yes = 1 No = 0	0
D 5.2. Is >10% of the area within 150 ft of the wetland in land uses that generate excess runoff? Yes 1 No = 0	1
D 5.3. Is more than 25% of the contributing basin of the wetland covered with intensive human land uses (residential at	1
>1 residence/ac, urban, commercial, agriculture, etc.)? (es) 1 No = 0	<u>'</u>
Total for D 5 Add the points in the boxes above	2
Rating of Landscape Potential If score is:3 = H1 or 2 = M0 = L Record the rating on the	first page
D 6.0. Are the hydrologic functions provided by the site valuable to society?	-
D 6.1. The unit is in a landscape that has flooding problems. Choose the description that best matches conditions around	
the wetland unit being rated. Do not add points. Choose the highest score if more than one condition is met.	
The wetland captures surface water that would otherwise flow down-gradient into areas where flooding has	
damaged human or natural resources (e.g., houses or salmon redds):	
• Flooding occurs in a sub-basin that is immediately down-gradient of unit. points €2	2
• Surface flooding problems are in a sub-basin farther down-gradient. points = 1	
Flooding from groundwater is an issue in the sub-basin. points = 1	
The existing or potential outflow from the wetland is so constrained by human or natural conditions that the water stored by the wetland cannot reach areas that flood. Explain why points = 0	
There are no problems with flooding downstream of the wetland. points = 0	
D 6.2. Has the site been identified as important for flood storage or flood conveyance in a regional flood control plan? Yes = 2 $(No) = 0$	0

Rating of Value If score is: 2-4 = H 1 = M 0 = L

Record the rating on the first page

These questions apply to wetlands of all HGM classes. **HABITAT FUNCTIONS** - Indicators that site functions to provide important habitat H 1.0. Does the site have the potential to provide habitat? H 1.1. Structure of plant community: Indicators are Cowardin classes and strata within the Forested class. Check the Cowardin plant classes in the wetland. Up to 10 patches may be combined for each class to meet the threshold of ¼ ac or more than 10% of the unit if it is smaller than 2.5 ac. Add the number of structures checked. Aquatic bed 4 structures or more: points = 4 X_Emergent 3 structures: points = 2 1 Scrub-shrub (areas where shrubs have > 30% cover) 2 structures: points (= 1) ___Forested (areas where trees have > 30% cover) 1 structure: points = 0 If the unit has a Forested class, check if: 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 H 1.2. Hydroperiods 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 ac to count (see text for descriptions of hydroperiods). Permanently flooded or inundated 4 or more types present: points = 3 X Seasonally flooded or inundated 3 types present: points = 2 Occasionally flooded or inundated 2 types present: points € 1 1 X Saturated only 1 type present: points = 0Permanently 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 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 and you do not have to name the species. Do not include Eurasian milfoil, reed canarygrass, purple loosestrife, Canadian thistle 0 If you counted: > 19 species points = 2 5 - 19 species points = 1€ 5 species points ≠ 0 H 1.4. Interspersion of habitats Decide from the diagrams below whether interspersion among Cowardin plants classes (described in H 1.1), or the classes and unvegetated areas (can include open water or mudflats) is high, moderate, low, or none. If you have four or more plant classes or three classes and open water, the rating is always high. 1 None = 0 points Moderate = 2 points Low = 1 point All three diagrams in this row are **HIGH** = 3points

H 1.5. Special habitat features:	
Check the habitat features that are present in the wetland. The number of checks is the number of points.	
Large, downed, woody debris within the wetland (> 4 in diameter and 6 ft long).	
Standing snags (dbh > 4 in) within the wetland	
Undercut banks are present for at least 6.6 ft (2 m) and/or overhanging plants extends at least 3.3 ft (1 m)	
over a stream (or ditch) in, or contiguous with the wetland, for at least 33 ft (10 m)	
Stable steep banks of fine material that might be used by beaver or muskrat for denning (> 30 degree	0
slope) OR signs of recent beaver activity are present (cut shrubs or trees that have not yet weathered	
where wood is exposed)	
$__$ At least $rac{1}{4}$ ac of thin-stemmed persistent plants 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 every stratum of plants (see H 1.1 for list of	
strata)	
Total for H 1 Add the points in the boxes above	3
Rating of Site Potential If score is:15-18 = H7-14 = M0-6 = L Record the rating or	the first page
H 2.0. Does the landscape have the potential to support the habitat functions of the site?	
H 2.1. Accessible habitat (include only habitat that directly abuts wetland unit).	
Calculate: % undisturbed habitat $0 + [(\% \text{ moderate and low intensity land uses})/2] 20 = 20 %$	
If total accossible habitatics	
$40/2$ > $\frac{1}{3}$ (33.3%) of 1 km Polygon points = 3	
20-33% of 1 km Polygon points = 2	2
10-19% of 1 km Polygon points = 1	
< 10% of 1 km Polygon points = 0	
H 2.2. Undisturbed habitat in 1 km Polygon around the wetland.	
Calculate: % undisturbed habitat 19 + [(% moderate and low intensity land uses)/2] 20 = 39 %	
/s unabled to a new test and t	
Undisturbed habitat > 50% of Polygon points = 3	1
Undisturbed habitat 10-50% and in 1-3 patches points = 2	'
Undisturbed habitat 10-50% and > 3 patches Points = 1	
Undisturbed habitat < 10% of 1 km Polygon points = 0	
H 2.3. Land use intensity in 1 km Polygon: If	_
> 50% of 1 km Polygon is high intensity land use points = (-2)	0
≤ 50% of 1 km Polygon is high intensity points = 0	
Total for H 2 Add the points in the boxes above	3
Rating of Landscape Potential If score is:4-6 = H1-3 = (M)< 1 = L Record the rating on	the first page
H 3.0. Is the habitat provided by the site valuable to society?	-
H 3.1. Does the site provide habitat for species valued in laws, regulations, or policies? Choose only the highest score	
that applies to the wetland being rated.	
Site meets ANY of the following criteria: points = 2	1
 — It has 3 or more priority habitats within 100 m (see next page) 	_
 It provides habitat for Threatened or Endangered species (any plant or animal on the state or federal lists) 	0
It is mapped as a location for an individual WDFW priority species	
It is a Wetland of High Conservation Value as determined by the Department of Natural Resources	
It has been categorized as an important habitat site in a local or regional comprehensive plan, in a	
Shoreline Master Plan, or in a watershed plan	
Site has 1 or 2 priority habitats (listed on next page) within 100 m points = 1	
Site does not meet any of the criteria above points = 0	
Rating of Value If score is: $2 = H$ $1 = M$ $0 \neq L$ Record the rating of	the first nage

WDFW Priority Habitats

<u>Priority habitats listed by WDFW</u> (see complete descriptions of WDFW priority habitats, and the counties in which they can be found, in: Washington Department of Fish and Wildlife. 2008. Priority Habitat and Species List. Olympia, Washington. 177 pp. http://wdfw.wa.gov/publications/00165/wdfw00165.pdf or access the list from here: http://wdfw.wa.gov/conservation/phs/list/)

Count how many of the following priority habitats are within 330 ft (100 m) of the wetland unit: *NOTE:* This question is independent of the land use between the wetland unit and the priority habitat.

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

Note: All vegetated wetlands are by definition a priority habitat but are not included in this list because they are addressed elsewhere.

CATEGORIZATION BASED ON SPECIAL CHARACTERISTICS

Cat. I Cat. II Cat.	CATEGORIZATION BASED ON SPECIAL CHARACTERISTICS	0.1
SC 1.0. Estuarine wetlands Does the wetland meet the following criteria for Estuarine wetlands? — The dominant water regime is tidal, — Vegetated, and — With a salinity greater than 0.5 ppt Yes—Go to SC 1.1 (No=flot an estuarine wetland) SC 1.1. Is the wetland within a National Wildlife Refuge, National Park, National Estuary Reserve, Natural Area Preserve, State Park or Educational, Environmental, or Scientific Reserve designated under WAC 332-30-1517 Yes—Category 1 No—Go to SC 1.2 SC 1.2. Is the wetland unit at least 1 ac in size and meets at least two of the following three conditions? — The wetland is relatively undisturbed (has no diking, ditching, filling, cultivation, grazing, and has less than 10% cover of non-native plant species. (If non-native species are Spartina, see page 25) — At least % of the landward edge of the wetland has a 100 ft buffer of shrub, forest, or un-grazed or un-mowed grassland. — The wetland has at least two of the following features: tidal channels, depressions with open water, or contiguous freshwater wetlands. Yes—Category 1 No—Category I SC 2.0. Wetlands of High Conservation Value (WHCV) SC 2.1. Has the WA Department of Natural Resources updated their website to include the list of Wetlands of High Conservation Value? Yes—Go to SC 2.2 No—Go to SC 2.3 Yes—Category 1 No—No ta WHCV SC 2.4. Has WDNR identified the wetland within the SyT/R as a Wetland of High Conservation Value and listed it on their website? Yes—Contact WNHP/WDNR and go to SC 2.4 Yes—On to SC 2.3 No—No Not a WHCV SC 3.0. Bogs Does the wetland (or any part of the unit) meet both the criteria for soils and vegetation in bogs? Use the key below. If you are uncertain about the extent of mosses in the understory, you may substitute that criterion by measuring the plant species in Table 4? Yes—Go to SC 3.3 No—So to SC 3.4 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	Wetland Type	Category
SC 1.0. Estuarine wetlands Does the wetland meet the following criteria for Estuarine wetlands? — The dominant water regime is tidal, — Vegetated, and — With a salinity greater than 0.5 ppt Yes—Go to SC 1.1 (No=flot an estuarine wetland) SC 1.1. Is the wetland within a National Wildlife Refuge, National Park, National Estuary Reserve, Natural Area Preserve, State Park or Educational, Environmental, or Scientific Reserve designated under WAC 332-30-1517 Yes—Category 1 No—Go to SC 1.2 SC 1.2. Is the wetland unit at least 1 ac in size and meets at least two of the following three conditions? — The wetland is relatively undisturbed (has no diking, ditching, filling, cultivation, grazing, and has less than 10% cover of non-native plant species. (If non-native species are Spartina, see page 25) — At least % of the landward edge of the wetland has a 100 ft buffer of shrub, forest, or un-grazed or un-mowed grassland. — The wetland has at least two of the following features: tidal channels, depressions with open water, or contiguous freshwater wetlands. Yes—Category 1 No—Category I SC 2.0. Wetlands of High Conservation Value (WHCV) SC 2.1. Has the WA Department of Natural Resources updated their website to include the list of Wetlands of High Conservation Value? Yes—Go to SC 2.2 No—Go to SC 2.3 Yes—Category 1 No—No ta WHCV SC 2.4. Has WDNR identified the wetland within the SyT/R as a Wetland of High Conservation Value and listed it on their website? Yes—Contact WNHP/WDNR and go to SC 2.4 Yes—On to SC 2.3 No—No Not a WHCV SC 3.0. Bogs Does the wetland (or any part of the unit) meet both the criteria for soils and vegetation in bogs? Use the key below. If you are uncertain about the extent of mosses in the understory, you may substitute that criterion by measuring the plant species in Table 4? Yes—Go to SC 3.3 No—So to SC 3.4 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	Check off any criteria that apply to the wetland. Circle the category when the appropriate criteria are met.	
Does the wetland meet the following criteria for Estuarine wetlands? — The dominant water regime is tidal, — Vegetated, and SC 1.1. Is the wetland within a National Wildlife Refuge, National Park, National Estuary Reserve, Natural Area Preserve, State Park or Educational, Environmental, or Scientific Reserve designated under WAG 332-30-1517 Yes = Category 1 No - Go to SC 1.2 SC 1.2. Is the wetland unit at least 1 ac in size and meets at least two of the following three conditions? — The wetland is relatively undisturbed (has no diking, ditching, filling, cultivation, grazing, and has less than 10% cover of non-native plant species. (If non-native species are Spartina, see page 25) — At least & of the landward edge of the wetland has a 100 ft buffer of shrub, forest, or un-grazed or un-mowed grassland. — The wetland has at least two of the following features: tidal channels, depressions with open water, or contiguous freshwater wetlands. Yes = Category 1 No = Category II SC 2.0. Wetlands of High Conservation Value (WHCV) SC 2.1. Has the WA Department of Natural Resources updated their website to include the list of Wetlands of High Conservation Value? Yes = Co to SC 2.2 No = Go to SC 2.3 SC 2.2. Is the wetland listed on the WDNR database as a Wetland of High Conservation Value? Yes = Category 1 No = Not a WHCV SC 2.3. Is the wetland in a Section/Township/Range that contains a Natural Heritage wetland? http://www1.dnr.wa.gov/nhp/refdesk/datasearch/wnhpwetlands.pdf Yes = Contact WNHP/WDNR and go to SC 2.4 No = Not a WHCV SC 3.0. Bogs Does the wetland (or any part of the unit) meet both the criteria for soils and vegetation in bogs? Use the key below. If you answer YES you will still need to rate the wetland based on its functions. SC 3.1. Does an area within the wetland unit have organic soils, either peats or mucks, that peaps on both and the pant species in Table 4? Yes = Go to SC 3.3 (b) So to SC 3.3 (c) So to SC 3.3 (c) So to SC 3.4 No Test in the wetland in the wetland unit have orga		
- Vegetated, and - With a salinity greater than 0.5 ppt Yes -Go to SC 1.1 (No=Not an estuarine wetland SC 1.1. Is the wetland 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 No - Go to SC 1.2 SC 1.2. Is the wetland unit at least 1 ac in size and meets at least two of the following three conditions? - The wetland is relatively undisturbed (has no diking, ditching, filling, cultivation, grazing, and has less than 10% cover of non-native plant species. (If non-native species are Spartina, see page 25) - At least % of the landward edge of the wetland has a 100 ft buffer of shrub, forest, or un-grazed or unmowed grassland. - The wetland has at least two of the following features: tidal channels, depressions with open water, or contiguous freshwater wetlands. Yes - Category No - Category Sc 2.1. Has the WA Department of Natural Resources updated their website to include the list of Wetlands of High Conservation Value? Yes - Category No - Not a WHCV Sc 2.3. Is the wetland in a Section/Township/Range that contains a Natural Heritage wetland? http://www1.dnr.wa.gov/nhp/refdesk/datasearch/whipwetlands.pdf		
SC 1.1. Is the wetland within a National Wildlife Refuge, National Park, National Estuary Reserve, Natural Area Preserve, State Park or Educational, Environmental, or Scientific Reserve designated under WAC 332-30-1512 Yes = Category 1 No - Go to SC 1.2 SC 1.2. Is the wetland unit at least 1 ac in size and meets at least two of the following three conditions? — The wetland is relatively undisturbed (has no diking, ditching, filling, cultivation, grazing, and has less than 10% cover of non-native plant species. (If non-native species are <i>Spartina</i> , see page 25) — At least ¼ of the landward edge of the wetland has a 100 ft buffer of shrub, forest, or un-grazed or un-mowed grassland. — The wetland has at least two of the following features: tidal channels, depressions with open water, or contiguous freshwater wetlands. Yes = Category 1 No = Category II SC 2.0. Wetlands of High Conservation Value (WHCV) SC 2.1. Has the WAD epartment of Natural Resources updated their website to include the list of Wetlands of High Conservation Value? Yes = Go to SC 2.2 No)— Go to SC 2.3 Yes = Category 1 No = Not a WHCV SC 2.3. Is the wetland in a Section/Township/Range that contains a Natural Heritage wetland? http://www1.dnr.wa.gov/nhp/refdesk/datasearch/wnhpwetlands.pdf Yes = Category 1 No = Not a WHCV SC 2.4. Has WDNR identified the wetland within the S/T/R as a Wetland of High Conservation Value and listed it on their website? Yes = Category 1 No = Not a WHCV SC 3.0. Bogs Does the wetland (or any part of the unit) meet both the criteria for soils and vegetation in bogs? <i>Use the key below. If you answer YES you will still need to rate the wetland based on its functions.</i> SC 3.1. Does an area within the wetland unit have organic soils, either peats or mucks, that are least go no top of a lake or pond? Yes = Go to SC 3.3 No)— Is not a bog SC 3.4. 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 a	_	
SC 1.1. Is the wetland within a National Wildlife Refuge, National Park, National Estuary Reserve, Natural Area Preserve, State Park or Educational, Environmental, or Scientific Reserve designated under WAC 332-31-51? Yes = Category I No - Go to SC 1.2 SC 1.2. Is the wetland unit at least 1 ac in size and meets at least two of the following three conditions? — The wetland is relatively undisturbed (has no diking, ditching, filling, cultivation, grazing, and has less than 10% cover of non-native plant species. (If non-native species are Spartina, see page 25) — At least % of the landward edge of the wetland has a 100 ft buffer of shrub, forest, or un-grazed or un-mowed grassland. — The wetland has at least two of the following features: tidal channels, depressions with open water, or contiguous freshwater wetlands. Yes = Category I No = Category II SC 2.0. Wetlands of High Conservation Value (WHCV) SC 2.1. Has the WA Department of Natural Resources updated their website to include the list of Wetlands of High Conservation Value? Yes = Go to SC 2.2 Yes = Go to SC 2.2 Yes = Go to SC 2.2 No = Not a WHCV SC 2.3. Is the wetland listed on the WDNR database as a Wetland of High Conservation Value and listed it on their website? Yes = Contact WNHP/WDNR and go to SC 2.4 Yes = Category I No = Not a WHCV SC 3.0. Bogs Does the wetland (or any part of the unit) meet both the criteria for soils and vegetation in bogs? Use the key below. If you answer YES you will still need to rate the wetland based on its functions. SC 3.1. Does an area within the wetland unit have organic soils, either peats or mucks, that are less than 16 in deep over bedrock, or an impermeable hardpan such as clay or volcanic ash, or that are floating on top of a lake or pond? Yes = Go to SC 3.3 No = Is not a bog SC 3.3. Does an area within the wetland unit have organic soils, either peats or mucks, that are less than 16 in deep over bedrock, or an impermeable hardpan such as clay or volcanic ash, or that are floating on top of a lak		
Preserve, State Park or Educational, Environmental, or Scientific Reserve designated under WAC 332-30-151? Yes = Category! No - Go to SC1.2 SC 1.2. Is the wetland unit at least 1 ac in size and meets at least two of the following three conditions? —The wetland is relatively undisturbed (has no diking, ditching, filling, cultivation, grazing, and has less than 10% cover of non-native plant species. (If non-native species are Sporting, see page 25) —At least ¼ of the landward edge of the wetland has a 100 ft buffer of shrub, forest, or un-grazed or un-mowed grassland. —The wetland has at least two of the following features: tidal channels, depressions with open water, or contiguous freshwater wetlands. Yes = Category! No = Category! SC 2.0. Wetlands of High Conservation Value (WHCV) SC 2.1. Has the WA Department of Natural Resources updated their website to include the list of Wetlands of High Conservation Value? Yes = Go to SC 2.2 No — Go to SC 2.3 SC 2.2. Is the wetland listed on the WDNR database as a Wetland of High Conservation Value? Yes = Category! No = Not a WHCV SC 2.3. Is the wetland in a Section/Township/Range that contains a Natural Heritage wetland? http://www1.dnr.wa.gov/nhp/refdesk/datasearch/wnhpwetlands.pdf Yes = Contact WNHP/WDNR and go to SC 2.4 No — So to WHCV SC 2.4. Has WDNR identified the wetland within the S/T/R as a Wetland of High Conservation Value and listed it on their website? Yes = Category! No = Not a WHCV SC 3.0. Bogs Does the wetland (or any part of the unit) meet both the criteria for soils and vegetation in bogs? Use the key below. If you answer YES you will still need to rate the wetland based on its functions. SC 3.1. Does an area within the wetland unit have organic soil horizons, either peats or mucks, that are less than 16 in deep over bedrock, or an impermeable hardpan such as clay or volcanic ash, or that are flost than 16 in deep over bedrock, or an impermeable hardpan such as clay or volcanic ash, or that are flost than 16 in deep over bedrock, or an	SC 1.1 Is the wetland within a National Wildlife Refuge National Park National Estuary Reserve Natural Area	
SC 1.2. Is the wetland unit at least 1 ac in size and meets at least two of the following three conditions? — The wetland is relatively undisturbed (has no diking, ditching, filling, cultivation, grazing, and has less than 10% cover of non-native plant species. (If non-native species are Sporting, see page 25) — At least ¼ of the landward edge of the wetland has a 100 ft buffer of shrub, forest, or un-grazed or un-mowed grassland. — The wetland has at least two of the following features: tidal channels, depressions with open water, or contiguous freshwater wetlands. Yes = Category I SC 2.0. Wetlands of High Conservation Value (WHCV) SC 2.1. Has the WA Department of Natural Resources updated their website to include the list of Wetlands of High Conservation Value? Yes = Category I No = Not a WHCV SC 2.3. Is the wetland listed on the WDNR database as a Wetland of High Conservation Value? Yes = Category I No = Not a WHCV SC 2.4. Has WDNR identified the wetland within the S/T/R as a Wetland of High Conservation Value and listed it on their website? Yes = Category I No = Not a WHCV SC 2.4. Has WDNR identified the wetland within the S/T/R as a Wetland of High Conservation Value and listed it on their website? Yes = Category I No = Not a WHCV SC 3.0. Bogs Does the wetland (or any part of the unit) meet both the criteria for soils and vegetation in bogs? Use the key below. If you answer YES you will still need to rate the wetland based on its functions. SC 3.1. Does an area within the wetland unit have organic soil, either peats or mucks, that are less than 16 in deep over bedrock, or an impermeable hardpan such as clay or volcanic ash, or that are floating on top of a lake or pond? Yes = Go to SC 3.3 No = Go to SC 3.3 No = Go to SC 3.4 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 in deep. If the pH is less than 5.0 and the plant species in Table 4 are present, th	=	
SC 1.2. Is the wetland unit at least 1 ac in size and meets at least two of the following three conditions? — The wetland is relatively undisturbed (has no diking, ditching, filling, cultivation, grazing, and has less than 10% cover of non-native plant species. (If non-native species are Spartina, see page 25) — At least % of the landward edge of the wetland has a 100 ft buffer of shrub, forest, or un-grazed or unmowed grassland. — The wetland has at least two of the following features: tidal channels, depressions with open water, or contiguous freshwater wetlands. SC 2.0. Wetlands of High Conservation Value (WHCV) SC 2.1. Has the WA Department of Natural Resources updated their website to include the list of Wetlands of High Conservation Value? SC 2.2. Is the wetland listed on the WDNR database as a Wetland of High Conservation Value of the WDNR database as a Wetland of High Conservation Value with the wetland in a Section/Township/Range that contains a Natural Heritage wetland? http://www1.dnr.wa.gov/nhp/refdesk/datasearch/wnhpwetlands.pdf Yes = Contact WNHP/WDNR and go to SC 2.4 SC 2.4. Has WDNR identified the wetland within the S/T/R as a Wetland of High Conservation Value and listed it on their website? Yes = Category I No = Not a WHCV SC 3.0. Bogs Does the wetland (or any part of the unit) meet both the criteria for soils and vegetation in bogs? Use the key below. If you answer YES you will still need to rate the wetland based on its functions. SC 3.1. Does an area within the wetland unit have organic soil, either peats or mucks, that are less than 16 in deep over bedrock, or an impermeable hardpan such as clay or volcanic ash, or that are floating on top of a lake or yes — Go to SC 3.3 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 in deep. If the pH is less than 5.0 and the plant species in Table 4 are present, the wetland is a bog. SC 3.4. Is an area with pe	_	Cat. I
The wetland is relatively undisturbed (has no diking, ditching, filling, cultivation, grazing, and has less than 10% cover of non-native plant species. (If non-native species are <i>Spartina</i> , see page 25) —At least ¼ of the landward edge of the wetland has a 100 ft buffer of shrub, forest, or un-grazed or un-mowed grassland. —The wetland has at least two of the following features: tidal channels, depressions with open water, or contiguous freshwater wetlands. Yes = Category I No = Category II SC 2.0. Wetlands of High Conservation Value (WHCV) SC 2.1. Has the WA Department of Natural Resources updated their website to include the list of Wetlands of High Conservation Value? Yes = Go to SC 2.2 No = Go to SC 2.2 No = Not a WHCV SC 2.3. Is the wetland listed on the WDNR database as a Wetland of High Conservation Value? Yes = Category I No = Not a WHCV SC 2.3. Is the wetland in a Section/Township/Range that contains a Natural Heritage wetland? http://www1.dnr.wa.gov/nhp/refdesk/datasearch/wnhpwetlands.pdf Yes = Contact WNHP/WDNR and go to SC 2.4 No = Not a WHCV SC 2.4. Has WDNR identified the wetland within the S/T/R as a Wetland of High Conservation Value and listed it on their website? Yes = Category I No = Not a WHCV SC 3.0. Bogs Does the wetland (or any part of the unit) meet both the criteria for soils and vegetation in bogs? Use the key below. If you answer YES you will still need to rate the wetland based on its functions. SC 3.1. Does an area within the wetland unit have organic soil horizons, either peats or mucks, that compose 16 in or more of the first 32 in of the soil profile? Yes = Go to SC 3.3 No = SO SC 3.4 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 in deep. If the pH is less than 5.0 and the plant species in Table 4 are present, the wetland is a bog. SC 3.4. Is an area with peats or mucks forested		<u> </u>
than 10% cover of non-native plant species. (If non-native species are Spartina, see page 25) — At least % of the landward edge of the wetland has a 100 ft buffer of shrub, forest, or un-grazed or un-mowed grassland. — The wetland has at least two of the following features: tidal channels, depressions with open water, or contiguous freshwater wetlands. Yes = Category I No = Category II SC 2.0. Wetlands of High Conservation Value (WHCV) SC 2.1. Has the WA Department of Natural Resources updated their website to include the list of Wetlands of High Conservation Value? Yes = Go to SC 2.2 Yes = Go to SC 2.2 Yes = Category I No = Not a WHCV SC 2.3. Is the wetland listed on the WDNR database as a Wetland of High Conservation Value? Yes = Category I No = Not a WHCV SC 2.4. Has WDNR identified the wetland within the S/T/R as a Wetland of High Conservation Value and listed it on their website? Yes = Category I No = Not a WHCV SC 3.0. Bogs Does the wetland (or any part of the unit) meet both the criteria for soils and vegetation in bogs? Use the key below. If you answer YES you will still need to rate the wetland based on its functions. SC 3.1. Does an area within the wetland unit have organic soil, either peats or mucks, that compose 16 in or more of the first 32 in of the soil profile? Yes = Go to SC 3.3 Yes = Cotegory I No = Not a WHCV SC 3.2. Does an area within the wetland unit have organic soils, either peats or mucks, that compose 16 in or pond? Yes = Go to SC 3.3 Yes = Go to SC 3		
		Cat. I
mowed grassland. The wetland has at least two of the following features: tidal channels, depressions with open water, or contiguous freshwater wetlands. SC 2.0. Wetlands of High Conservation Value (WHCV) SC 2.1. Has the WA Department of Natural Resources updated their website to include the list of Wetlands of High Conservation Value? Yes – Go to SC 2.2 Is the wetland listed on the WDNR database as a Wetland of High Conservation Value? Yes – Cotatum Heritage wetland? http://www1.dnr.wa.gov/nhp/refdesk/datasearch/wnhpwetlands.pdf Yes – Contact WNHP/WDNR and go to SC 2.4 SC 2.4. Has WDNR identified the wetland within the S/T/R as a Wetland of High Conservation Value and listed it on their website? Yes – Contact WNHP/WDNR and go to SC 2.4 SC 3.0. Bogs Does the wetland (or any part of the unit) meet both the criteria for soils and vegetation in bogs? Use the key below. If you answer YES you will still need to rate the wetland based on its functions. SC 3.1. Does an area within the wetland unit have organic soils, either peats or mucks, that compose 16 in or more of the first 32 in of the soil profile? Yes – Go to SC 3.3 SC 3.2. Does an area within the wetland unit have organic soils, either peats or mucks, that compose 16 in deep over bedrock, or an impermeable hardpan such as clay or volcanic ash, or that are floating on top of a lake or pond? Yes – Go to SC 3.3 No = Is a Category I bog No – Go to SC 3.4 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 in deep. If the pH is less than 5.0 and the plant species in Table 4 are present, the wetland is a bog. SC 3.4 Is an area with peats or mucks forested (> 30% cover) with Sitka spruce, subalpine fir, western red cedar, western hemlock, lodgepole pine, quaking aspen, Engelmann spruce, or western white pine, AND any of the species (or combination of species) listed in Table 4 provide more than 30% of the cover under the ca		
The wetland has at least two of the following features: tidal channels, depressions with open water, or contiguous freshwater wetlands. Yes = Category I No = Category II SC 2.0. Wetlands of High Conservation Value (WHCV) SC 2.1. Has the WA Department of Natural Resources updated their website to include the list of Wetlands of High Conservation Value? Yes = Go to SC 2.2 Yes = Category I No = Not a WHCV SC 2.3. Is the wetland listed on the WDNR database as a Wetland of High Conservation Value? Yes = Category I No = Not a WHCV SC 2.3. Is the wetland in a Section/Township/Range that contains a Natural Heritage wetland? http://www1.dnr.wa.gov/nhp/refdesk/datasearch/wnhpwetlands.pdf Yes = Category I Yes = Category I No = Not a WHCV SC 2.4. Has WDNR identified the wetland within the S/T/R as a Wetland of High Conservation Value and listed it on their website? Yes = Category I No = Not a WHCV SC 3.0. Bogs Does the wetland (or any part of the unit) meet both the criteria for soils and vegetation in bogs? Use the key below. If you answer YES you will still need to rate the wetland based on its functions. SC 3.1. Does an area within the wetland unit have organic soil horizons, either peats or mucks, that compose 16 in or more of the first 32 in of the soil profile? Yes = Go to SC 3.3 SC 3.2. Does an area within the wetland unit have organic soils, either peats or mucks, that compose 16 in or more of the first 32 in of the soil profile? Yes = Go to SC 3.3 SC 3.3. Does an area with peats or mucks have more than 70% cover of mosses at ground level, AND at least a 30% cover of polnat species listed in Table 4? Yes = Is a Category I bog No = Go to SC 3.4 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 in deep. If the pH is less than 5.0 and the plant species in Table 4 are present, the wetland is a bog. SC 3.4. Is an area with peats or mucks forested (> 30% cover) with	<u> </u>	
SC 2.0. Wetlands of High Conservation Value (WHCV) SC 2.1. Has the WA Department of Natural Resources updated their website to include the list of Wetlands of High Conservation Value? Yes – Go to SC 2.2 No – Go to SC 2.3 SC 2.2. Is the wetland listed on the WDNR database as a Wetland of High Conservation Value? Yes – Category I Yes – Category I No = Not a WHCV SC 2.3. Is the wetland in a Section/Township/Range that contains a Natural Heritage wetland? http://www1.dnr.wa.gov/nhp/refdesk/datasearch/wnhpwetlands.pdf Yes – Contact WNHP/WDNR and go to SC 2.4 Yes – Category I No = Not a WHCV SC 2.4. Has WDNR identified the wetland within the S/T/R as a Wetland of High Conservation Value and listed it on their website? SC 3.0. Bogs Does the wetland (or any part of the unit) meet both the criteria for soils and vegetation in bogs? Use the key below. If you answer YES you will still need to rate the wetland based on its functions. SC 3.1. Does an area within the wetland unit have organic soil horizons, either peats or mucks, that compose 16 in or more of the first 32 in of the soil profile? Yes – Go to SC 3.3 SC 3.2. Does an area within the wetland unit have organic soils, either peats or mucks, that are less than 16 in deep over bedrock, or an impermeable hardpan such as clay or volcanic ash, or that are floating on top of a lake or pond? Yes – Go to SC 3.3 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 in deep. If the pH is less than 5.0 and the plant species in Table 4 are present, the wetland is a bog. SC 3.4. Is an area with peats or mucks forested (> 30% cover) with Sitka spruce, subalpine fir, western red cedar, western hemlock, lodgepole pine, quaking aspen, Engelmann spruce, or western white pine, AND any of the species (or combination of species) listed in Table 4 provide more than 30% of the cover under the canopy?		Cat. II
SC 2.1. Has the WA Department of Natural Resources updated their website to include the list of Wetlands of High Conservation Value? Yes – Go to SC 2.2 NO – Go to SC 2.3 SC 2.2. Is the wetland listed on the WDNR database as a Wetland of High Conservation Value? Yes – Category I No = Not a WHCV SC 2.3. Is the wetland in a Section/Township/Range that contains a Natural Heritage wetland? http://www1.dnr.wa.gov/nhp/refdesk/datasearch/wnhpwetlands.pdf Yes – Contact WNHP/WDNR and go to SC 2.4 Has WDNR identified the wetland within the S/T/R as a Wetland of High Conservation Value and listed it on their website? Yes = Category I No = Not a WHCV SC 3.0. Bogs Does the wetland (or any part of the unit) meet both the criteria for soils and vegetation in bogs? Use the key below. If you answer YES you will still need to rate the wetland based on its functions. SC 3.1. Does an area within the wetland unit have organic soil horizons, either peats or mucks, that compose 16 in or more of the first 32 in of the soil profile? Yes – Go to SC 3.3 SC 3.2. Does an area within the wetland unit have organic soils, either peats or mucks, that are less than 16 in deep over bedrock, or an impermeable hardpan such as clay or volcanic ash, or that are floating on top of a lake or pond? Yes – Go to SC 3.3 SC 3.3. Does an area with peats or mucks have more than 70% cover of mosses at ground level, AND at least a 30% cover of plant species listed in Table 4? Yes – Is a Category I bog NO – Go to SC 3.4 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 in deep. If the pH is less than 5.0 and the plant species in Table 4 are present, the wetland is a bog. SC 3.4. Is an area with peats or mucks forested (> 30% cover) with Sitka spruce, subalpine fir, western red cedar, western hemlock, lodgepole pine, quaking aspen, Engelmann spruce, or western white pine, AND any of the species (or combination of s		
SC 2.1. Has the WA Department of Natural Resources updated their website to include the list of Wetlands of High Conservation Value? Yes – Go to SC 2.2 NO – Go to SC 2.3 SC 2.2. Is the wetland listed on the WDNR database as a Wetland of High Conservation Value? Yes – Category I No = Not a WHCV SC 2.3. Is the wetland in a Section/Township/Range that contains a Natural Heritage wetland? http://www1.dnr.wa.gov/nhp/refdesk/datasearch/wnhpwetlands.pdf Yes – Contact WNHP/WDNR and go to SC 2.4 Has WDNR identified the wetland within the S/T/R as a Wetland of High Conservation Value and listed it on their website? Yes = Category I No = Not a WHCV SC 3.0. Bogs Does the wetland (or any part of the unit) meet both the criteria for soils and vegetation in bogs? Use the key below. If you answer YES you will still need to rate the wetland based on its functions. SC 3.1. Does an area within the wetland unit have organic soil horizons, either peats or mucks, that compose 16 in or more of the first 32 in of the soil profile? Yes – Go to SC 3.3 SC 3.2. Does an area within the wetland unit have organic soils, either peats or mucks, that are less than 16 in deep over bedrock, or an impermeable hardpan such as clay or volcanic ash, or that are floating on top of a lake or pond? Yes – Go to SC 3.3 SC 3.3. Does an area with peats or mucks have more than 70% cover of mosses at ground level, AND at least a 30% cover of plant species listed in Table 4? Yes – Is a Category I bog NO – Go to SC 3.4 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 in deep. If the pH is less than 5.0 and the plant species in Table 4 are present, the wetland is a bog. SC 3.4. Is an area with peats or mucks forested (> 30% cover) with Sitka spruce, subalpine fir, western red cedar, western hemlock, lodgepole pine, quaking aspen, Engelmann spruce, or western white pine, AND any of the species (or combination of s	CC 2.0. Wetlende of High Compountion Value (WHCV)	+
Conservation Value? SC 2.2. Is the wetland listed on the WDNR database as a Wetland of High Conservation Value? Yes = Category! No = Not a WHCV SC 2.3. Is the wetland in a Section/Township/Range that contains a Natural Heritage wetland? http://www1.dnr.wa.gov/nhp/refdesk/datasearch/wnhpwetlands.pdf Yes = Contact WNHP/WDNR and go to SC 2.4 Has WDNR identified the wetland within the S/T/R as a Wetland of High Conservation Value and listed it on their website? Yes = Category! No = Not a WHCV SC 2.4. Has WDNR identified the wetland within the S/T/R as a Wetland of High Conservation Value and listed it on their website? Yes = Category! No = Not a WHCV SC 3.0. Bogs Does the wetland (or any part of the unit) meet both the criteria for soils and vegetation in bogs? Use the key below. If you answer YES you will still need to rate the wetland based on its functions. SC 3.1. Does an area within the wetland unit have organic soil horizons, either peats or mucks, that compose 16 in or more of the first 32 in of the soil profile? Yes = Go to SC 3.3 (lo - Go to SC 3.2) SC 3.2. Does an area within the wetland unit have organic soils, either peats or mucks, that are less than 16 in deep over bedrock, or an impermeable hardpan such as clay or volcanic ash, or that are floating on top of a lake or pond? Yes = Go to SC 3.3 (lo - Is not a bog SC 3.3. Does an area with peats or mucks have more than 70% cover of mosses at ground level, AND at least a 30% cover of plant species listed in Table 4? Yes = Is a Category I bog No - Go to SC 3.4 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 in deep. If the pH is less than 5.0 and the plant species in Table 4 are present, the wetland is a bog. SC 3.4. Is an area with peats or mucks forested (> 30% cover) with Sitka spruce, subalpine fir, western red cedar, western hemlock, lodgepole pine, quaking aspen, Engelmann spruce, or western white pine,		
SC 2.2. Is the wetland listed on the WDNR database as a Wetland of High Conservation Value? Yes = Category I No = Not a WHCV SC 2.3. Is the wetland in a Section/Township/Range that contains a Natural Heritage wetland? http://www1.dnr.wa.gov/nhp/refdesk/datasearch/wnhpwetlands.pdf Yes - Contact WNHP/WDNR and go to SC 2.4 Wo = Not a WHCV SC 2.4. Has WDNR identified the wetland within the S/T/R as a Wetland of High Conservation Value and listed it on their website? Yes - Category I No = Not a WHCV SC 3.0. Bogs Does the wetland (or any part of the unit) meet both the criteria for soils and vegetation in bogs? Use the key below. If you answer YES you will still need to rate the wetland based on its functions. SC 3.1. Does an area within the wetland unit have organic soil horizons, either peats or mucks, that compose 16 in or more of the first 32 in of the soil profile? Yes - Go to SC 3.3 SC 3.2. Does an area within the wetland unit have organic soils, either peats or mucks, that are less than 16 in deep over bedrock, or an impermeable hardpan such as clay or volcanic ash, or that are floating on top of a lake or pond? Yes - Go to SC 3.3 Does an area with peats or mucks have more than 70% cover of mosses at ground level, AND at least a 30% cover of plant species listed in Table 4? Yes = Is a Category I bog No - Go to SC 3.4 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 in deep. If the pH is less than 5.0 and the plant species in Table 4 are present, the wetland is a bog. SC 3.4. Is an area with peats or mucks forested (> 30% cover) with Sitka spruce, or western white pine, AND any of the species (or combination of species) listed in Table 4 provide more than 30% of the cover under the canopy?		Cat. I
Yes = Category I No = Not a WHCV SC 2.3. Is the wetland in a Section/Township/Range that contains a Natural Heritage wetland? http://www1.dnr.wa.gov/nhp/refdesk/datasearch/wnhpwetlands.pdf Yes = Contact WNHP/WDNR and go to SC 2.4 Has WDNR identified the wetland within the S/T/R as a Wetland of High Conservation Value and listed it on their website? Yes = Category I No = Not a WHCV SC 3.0. Bogs Does the wetland (or any part of the unit) meet both the criteria for soils and vegetation in bogs? Use the key below. If you answer YES you will still need to rate the wetland based on its functions. SC 3.1. Does an area within the wetland unit have organic soil horizons, either peats or mucks, that compose 16 in or more of the first 32 in of the soil profile? Yes = Go to SC 3.3 CO = So to SC 3.2 SC 3.2. Does an area within the wetland unit have organic soils, either peats or mucks, that are less than 16 in deep over bedrock, or an impermeable hardpan such as clay or volcanic ash, or that are floating on top of a lake or pond? Yes = Go to SC 3.3 Does an area with peats or mucks have more than 70% cover of mosses at ground level, AND at least a 30% cover of plant species listed in Table 4? Yes = Is a Category I bog No = Go to SC 3.4 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 in deep. If the pH is less than 5.0 and the plant species in Table 4 are present, the wetland is a bog. SC 3.4. Is an area with peats or mucks forested (> 30% cover) with Sitka spruce, subalpine fir, western red cedar, western hemlock, lodgepole pine, quaking aspen, Engelmann spruce, or western white pine, AND any of the species (or combination of species) listed in Table 4 provide more than 30% of the cover under the canopy?		
SC 2.3. Is the wetland in a Section/Township/Range that contains a Natural Heritage wetland? http://www1.dnr.wa.gov/nhp/refdesk/datasearch/wnhpwetlands.pdf Yes - Contact WNHP/WDNR and go to SC 2.4 No = Not a WHCV SC 2.4. Has WDNR identified the wetland within the S/T/R as a Wetland of High Conservation Value and listed it on their website? Yes = Category I No = Not a WHCV SC 3.0. Bogs Does the wetland (or any part of the unit) meet both the criteria for soils and vegetation in bogs? Use the key below. If you answer YES you will still need to rate the wetland based on its functions. SC 3.1. Does an area within the wetland unit have organic soil horizons, either peats or mucks, that compose 16 in or more of the first 32 in of the soil profile? Yes - Go to SC 3.3 SC 3.2. Does an area within the wetland unit have organic soils, either peats or mucks, that are less than 16 in deep over bedrock, or an impermeable hardpan such as clay or volcanic ash, or that are floating on top of a lake or pond? Yes - Go to SC 3.3 No = Is not a bog SC 3.3. Does an area with peats or mucks have more than 70% cover of mosses at ground level, AND at least a 30% cover of plant species listed in Table 4? Yes = Is a Category I bog No - Go to SC 3.4 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 in deep. If the pH is less than 5.0 and the plant species in Table 4 are present, the wetland is a bog. SC 3.4. Is an area with peats or mucks forested (> 30% cover) with Sitka spruce, subalpine fir, western red cedar, western hemlock, lodgepole pine, quaking aspen, Engelmann spruce, or western white pine, AND any of the species (or combination of species) listed in Table 4 provide more than 30% of the cover under the canopy?		
http://www1.dnr.wa.gov/nhp/refdesk/datasearch/wnhpwetlands.pdf Yes - Contact WNHP/WDNR and go to SC 2.4 No = Not a WHCV SC 2.4. Has WDNR identified the wetland within the S/T/R as a Wetland of High Conservation Value and listed it on their website? Yes = Category I No = Not a WHCV SC 3.0. Bogs Does the wetland (or any part of the unit) meet both the criteria for soils and vegetation in bogs? Use the key below. If you answer YES you will still need to rate the wetland based on its functions. SC 3.1. Does an area within the wetland unit have organic soil horizons, either peats or mucks, that compose 16 in or more of the first 32 in of the soil profile? Yes - Go to SC 3.3 SC 3.2. Does an area within the wetland unit have organic soils, either peats or mucks, that are less than 16 in deep over bedrock, or an impermeable hardpan such as clay or volcanic ash, or that are floating on top of a lake or pond? Yes - Go to SC 3.3 SC 3.3. Does an area with peats or mucks have more than 70% cover of mosses at ground level, AND at least a 30% cover of plant species listed in Table 4? Yes = Is a Category I bog No - Go to SC 3.4 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 in deep. If the pH is less than 5.0 and the plant species in Table 4 are present, the wetland is a bog. SC 3.4. Is an area with peats or mucks forested (> 30% cover) with Sitka spruce, or western white pine, AND any of the species (or combination of species) listed in Table 4 provide more than 30% of the cover under the canopy?	<u> </u>	
Yes — Contact WNHP/WDNR and go to SC 2.4 (No) = Not a WHCV SC 2.4. Has WDNR identified the wetland within the S/T/R as a Wetland of High Conservation Value and listed it on their website? Yes = Category I No = Not a WHCV SC 3.0. Bogs Does the wetland (or any part of the unit) meet both the criteria for soils and vegetation in bogs? Use the key below. If you answer YES you will still need to rate the wetland based on its functions. SC 3.1. Does an area within the wetland unit have organic soil horizons, either peats or mucks, that compose 16 in or more of the first 32 in of the soil profile? Yes — Go to SC 3.3 (No)—Go to SC 3.2 SC 3.2. Does an area within the wetland unit have organic soils, either peats or mucks, that are less than 16 in deep over bedrock, or an impermeable hardpan such as clay or volcanic ash, or that are floating on top of a lake or pond? Yes — Go to SC 3.3 (No)— Is not a bog SC 3.3. Does an area with peats or mucks have more than 70% cover of mosses at ground level, AND at least a 30% cover of plant species listed in Table 4? Yes = Is a Category I bog No — Go to SC 3.4 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 in deep. If the pH is less than 5.0 and the plant species in Table 4 are present, the wetland is a bog. SC 3.4. Is an area with peats or mucks forested (> 30% cover) with Sitka spruce, subalpine fir, western red cedar, western hemlock, lodgepole pine, quaking aspen, Engelmann spruce, or western white pine, AND any of the species (or combination of species) listed in Table 4 provide more than 30% of the cover under the canopy?	i -	
SC 3.0. Bogs Does the wetland (or any part of the unit) meet both the criteria for soils and vegetation in bogs? Use the key below. If you answer YES you will still need to rate the wetland based on its functions. SC 3.1. Does an area within the wetland unit have organic soil horizons, either peats or mucks, that compose 16 in or more of the first 32 in of the soil profile? SC 3.2. Does an area within the wetland unit have organic soils, either peats or mucks, that are less than 16 in deep over bedrock, or an impermeable hardpan such as clay or volcanic ash, or that are floating on top of a lake or pond? Yes – Go to SC 3.3 No – Is not a bog SC 3.3. Does an area with peats or mucks have more than 70% cover of mosses at ground level, AND at least a 30% cover of plant species listed in Table 4? Yes = Is a Category I bog No – Go to SC 3.4 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 in deep. If the pH is less than 5.0 and the plant species in Table 4 are present, the wetland is a bog. SC 3.4. Is an area with peats or mucks forested (> 30% cover) with Sitka spruce, subalpine fir, western red cedar, western hemlock, lodgepole pine, quaking aspen, Engelmann spruce, or western white pine, AND any of the species (or combination of species) listed in Table 4 provide more than 30% of the cover under the canopy?	Yes – Contact WNHP/WDNR and go to SC 2.4 (No)= Not a WHCV	
SC 3.0. Bogs Does the wetland (or any part of the unit) meet both the criteria for soils and vegetation in bogs? Use the key below. If you answer YES you will still need to rate the wetland based on its functions. SC 3.1. Does an area within the wetland unit have organic soil horizons, either peats or mucks, that compose 16 in or more of the first 32 in of the soil profile? Yes – Go to SC 3.3 No – Go to SC 3.2 SC 3.2. Does an area within the wetland unit have organic soils, either peats or mucks, that are less than 16 in deep over bedrock, or an impermeable hardpan such as clay or volcanic ash, or that are floating on top of a lake or pond? Yes – Go to SC 3.3 No = Is not a bog SC 3.3. Does an area with peats or mucks have more than 70% cover of mosses at ground level, AND at least a 30% cover of plant species listed in Table 4? Yes = Is a Category I bog No – Go to SC 3.4 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 in deep. If the pH is less than 5.0 and the plant species in Table 4 are present, the wetland is a bog. SC 3.4. Is an area with peats or mucks forested (> 30% cover) with Sitka spruce, subalpine fir, western red cedar, western hemlock, lodgepole pine, quaking aspen, Engelmann spruce, or western white pine, AND any of the species (or combination of species) listed in Table 4 provide more than 30% of the cover under the canopy?	SC 2.4. Has WDNR identified the wetland within the S/T/R as a Wetland of High Conservation Value and listed it on	
Does the wetland (or any part of the unit) meet both the criteria for soils and vegetation in bogs? Use the key below. If you answer YES you will still need to rate the wetland based on its functions. SC 3.1. Does an area within the wetland unit have organic soil horizons, either peats or mucks, that compose 16 in or more of the first 32 in of the soil profile? Yes – Go to SC 3.3 No – Go to SC 3.2 SC 3.2. Does an area within the wetland unit have organic soils, either peats or mucks, that are less than 16 in deep over bedrock, or an impermeable hardpan such as clay or volcanic ash, or that are floating on top of a lake or pond? Yes – Go to SC 3.3 No – Is not a bog SC 3.3. Does an area with peats or mucks have more than 70% cover of mosses at ground level, AND at least a 30% cover of plant species listed in Table 4? Yes = Is a Category I bog No – Go to SC 3.4 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 in deep. If the pH is less than 5.0 and the plant species in Table 4 are present, the wetland is a bog. SC 3.4. Is an area with peats or mucks forested (> 30% cover) with Sitka spruce, subalpine fir, western red cedar, western hemlock, lodgepole pine, quaking aspen, Engelmann spruce, or western white pine, AND any of the species (or combination of species) listed in Table 4 provide more than 30% of the cover under the canopy?	their website? Yes = Category I No = Not a WHCV	
below. If you answer YES you will still need to rate the wetland based on its functions. SC 3.1. Does an area within the wetland unit have organic soil horizons, either peats or mucks, that compose 16 in or more of the first 32 in of the soil profile? Yes – Go to SC 3.3 No – Go to SC 3.2 SC 3.2. Does an area within the wetland unit have organic soils, either peats or mucks, that are less than 16 in deep over bedrock, or an impermeable hardpan such as clay or volcanic ash, or that are floating on top of a lake or pond? Yes – Go to SC 3.3 No – Is not a bog SC 3.3. Does an area with peats or mucks have more than 70% cover of mosses at ground level, AND at least a 30% cover of plant species listed in Table 4? Yes = Is a Category I bog No – Go to SC 3.4 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 in deep. If the pH is less than 5.0 and the plant species in Table 4 are present, the wetland is a bog. SC 3.4. Is an area with peats or mucks forested (> 30% cover) with Sitka spruce, subalpine fir, western red cedar, western hemlock, lodgepole pine, quaking aspen, Engelmann spruce, or western white pine, AND any of the species (or combination of species) listed in Table 4 provide more than 30% of the cover under the canopy?		
SC 3.1. Does an area within the wetland unit have organic soil horizons, either peats or mucks, that compose 16 in or more of the first 32 in of the soil profile? Yes – Go to SC 3.3 No – Go to SC 3.2 SC 3.2. Does an area within the wetland unit have organic soils, either peats or mucks, that are less than 16 in deep over bedrock, or an impermeable hardpan such as clay or volcanic ash, or that are floating on top of a lake or pond? Yes – Go to SC 3.3 No – Is not a bog SC 3.3. Does an area with peats or mucks have more than 70% cover of mosses at ground level, AND at least a 30% cover of plant species listed in Table 4? Yes – Is a Category I bog No – Go to SC 3.4 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 in deep. If the pH is less than 5.0 and the plant species in Table 4 are present, the wetland is a bog. SC 3.4. Is an area with peats or mucks forested (> 30% cover) with Sitka spruce, subalpine fir, western red cedar, western hemlock, lodgepole pine, quaking aspen, Engelmann spruce, or western white pine, AND any of the species (or combination of species) listed in Table 4 provide more than 30% of the cover under the canopy?		
more of the first 32 in of the soil profile? Yes – Go to SC 3.3 No – Go to SC 3.2 SC 3.2. Does an area within the wetland unit have organic soils, either peats or mucks, that are less than 16 in deep over bedrock, or an impermeable hardpan such as clay or volcanic ash, or that are floating on top of a lake or pond? Yes – Go to SC 3.3 No = Is not a bog SC 3.3. Does an area with peats or mucks have more than 70% cover of mosses at ground level, AND at least a 30% cover of plant species listed in Table 4? Yes = Is a Category I bog No – Go to SC 3.4 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 in deep. If the pH is less than 5.0 and the plant species in Table 4 are present, the wetland is a bog. SC 3.4. Is an area with peats or mucks forested (> 30% cover) with Sitka spruce, subalpine fir, western red cedar, western hemlock, lodgepole pine, quaking aspen, Engelmann spruce, or western white pine, AND any of the species (or combination of species) listed in Table 4 provide more than 30% of the cover under the canopy?		
SC 3.2. Does an area within the wetland unit have organic soils, either peats or mucks, that are less than 16 in deep over bedrock, or an impermeable hardpan such as clay or volcanic ash, or that are floating on top of a lake or pond? Yes – Go to SC 3.3 No = Is not a bog SC 3.3. Does an area with peats or mucks have more than 70% cover of mosses at ground level, AND at least a 30% cover of plant species listed in Table 4? Yes = Is a Category I bog No – Go to SC 3.4 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 in deep. If the pH is less than 5.0 and the plant species in Table 4 are present, the wetland is a bog. SC 3.4. Is an area with peats or mucks forested (> 30% cover) with Sitka spruce, subalpine fir, western red cedar, western hemlock, lodgepole pine, quaking aspen, Engelmann spruce, or western white pine, AND any of the species (or combination of species) listed in Table 4 provide more than 30% of the cover under the canopy?	/ \	
over bedrock, or an impermeable hardpan such as clay or volcanic ash, or that are floating on top of a lake or pond? Yes – Go to SC 3.3 No = Is not a bog SC 3.3. Does an area with peats or mucks have more than 70% cover of mosses at ground level, AND at least a 30% cover of plant species listed in Table 4? Yes = Is a Category I bog No – Go to SC 3.4 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 in deep. If the pH is less than 5.0 and the plant species in Table 4 are present, the wetland is a bog. SC 3.4. Is an area with peats or mucks forested (> 30% cover) with Sitka spruce, subalpine fir, western red cedar, western hemlock, lodgepole pine, quaking aspen, Engelmann spruce, or western white pine, AND any of the species (or combination of species) listed in Table 4 provide more than 30% of the cover under the canopy?		
pond? Yes – Go to SC 3.3 No = Is not a bog SC 3.3. Does an area with peats or mucks have more than 70% cover of mosses at ground level, AND at least a 30% cover of plant species listed in Table 4? Yes = Is a Category I bog No – Go to SC 3.4 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 in deep. If the pH is less than 5.0 and the plant species in Table 4 are present, the wetland is a bog. SC 3.4. Is an area with peats or mucks forested (> 30% cover) with Sitka spruce, subalpine fir, western red cedar, western hemlock, lodgepole pine, quaking aspen, Engelmann spruce, or western white pine, AND any of the species (or combination of species) listed in Table 4 provide more than 30% of the cover under the canopy?	- · · · · · · · · · · · · · · · · · · ·	
SC 3.3. Does an area with peats or mucks have more than 70% cover of mosses at ground level, AND at least a 30% cover of plant species listed in Table 4? Yes = Is a Category I bog No - Go to SC 3.4 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 in deep. If the pH is less than 5.0 and the plant species in Table 4 are present, the wetland is a bog. SC 3.4. Is an area with peats or mucks forested (> 30% cover) with Sitka spruce, subalpine fir, western red cedar, western hemlock, lodgepole pine, quaking aspen, Engelmann spruce, or western white pine, AND any of the species (or combination of species) listed in Table 4 provide more than 30% of the cover under the canopy?		
cover of plant species listed in Table 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 in deep. If the pH is less than 5.0 and the plant species in Table 4 are present, the wetland is a bog. SC 3.4. Is an area with peats or mucks forested (> 30% cover) with Sitka spruce, subalpine fir, western red cedar, western hemlock, lodgepole pine, quaking aspen, Engelmann spruce, or western white pine, AND any of the species (or combination of species) listed in Table 4 provide more than 30% of the cover under the canopy?	\	
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 in deep. If the pH is less than 5.0 and the plant species in Table 4 are present, the wetland is a bog. SC 3.4. Is an area with peats or mucks forested (> 30% cover) with Sitka spruce, subalpine fir, western red cedar, western hemlock, lodgepole pine, quaking aspen, Engelmann spruce, or western white pine, AND any of the species (or combination of species) listed in Table 4 provide more than 30% of the cover under the canopy?	·	
measuring the pH of the water that seeps into a hole dug at least 16 in deep. If the pH is less than 5.0 and the plant species in Table 4 are present, the wetland is a bog. SC 3.4. Is an area with peats or mucks forested (> 30% cover) with Sitka spruce, subalpine fir, western red cedar, western hemlock, lodgepole pine, quaking aspen, Engelmann spruce, or western white pine, AND any of the species (or combination of species) listed in Table 4 provide more than 30% of the cover under the canopy?		
plant species in Table 4 are present, the wetland is a bog. SC 3.4. Is an area with peats or mucks forested (> 30% cover) with Sitka spruce, subalpine fir, western red cedar, western hemlock, lodgepole pine, quaking aspen, Engelmann spruce, or western white pine, AND any of the species (or combination of species) listed in Table 4 provide more than 30% of the cover under the canopy?		
SC 3.4. Is an area with peats or mucks forested (> 30% cover) with Sitka spruce, subalpine fir, western red cedar, western hemlock, lodgepole pine, quaking aspen, Engelmann spruce, or western white pine, AND any of the species (or combination of species) listed in Table 4 provide more than 30% of the cover under the canopy?		Cat. I
western hemlock, lodgepole pine, quaking aspen, Engelmann spruce, or western white pine, AND any of the species (or combination of species) listed in Table 4 provide more than 30% of the cover under the canopy?		
species (or combination of species) listed in Table 4 provide more than 30% of the cover under the canopy?		

SC 4.0. Forested Wetlands	
Does the wetland have at least 1 contiguous acre of forest that meets one of these criteria for the WA Department of Fish and Wildlife's forests as priority habitats? <i>If you answer YES you will still need to rate the wetland based on its functions.</i>	
 Old-growth forests (west of Cascade crest): Stands of at least two tree species, forming a multi-layered canopy with occasional small openings; with at least 8 trees/ac (20 trees/ha) that are at least 200 years of age OR have a diameter at breast height (dbh) of 32 in (81 cm) or more. Mature forests (west of the Cascade Crest): Stands where the largest trees are 80- 200 years old OR the species that make up the canopy have an average diameter (dbh) exceeding 21 in (53 cm). 	
Yes = Category I No = Not a forested wetland for this section	Cat. I
SC 5.0. Wetlands in Coastal Lagoons	
Does the wetland meet all of the following criteria of a wetland in a coastal lagoon? — 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	
— The lagoon in which the wetland is located contains ponded water that is saline or brackish (> 0.5 ppt) during most of the year in at least a portion of the lagoon (needs to be measured near the bottom) Yes – Go to SC 5.1 No Poor Not a wetland in a coastal lagoon	Cat. I
 5C 5.1. Does the wetland meet all of the following three conditions? — The wetland is relatively undisturbed (has no diking, ditching, filling, cultivation, grazing), and has less than 20% cover of aggressive, opportunistic plant species (see list of species on p. 100). — At least ¾ of the landward edge of the wetland has a 100 ft buffer of shrub, forest, or un-grazed or un- 	Cat. II
mowed grassland. — The wetland is larger than $^{1}/_{10}$ ac (4350 ft 2) Yes = Category I No = Category II	
Is the wetland west of the 1889 line (also called the Western Boundary of Upland Ownership or WBUO)? If you answer yes you will still need to rate the wetland based on its habitat functions. In practical terms that means the following geographic areas:	
 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 Yes – Go to SC 6.1 No= not an interdunal wetland for rating 	Cat I
6C 6.1. Is the wetland 1 ac or larger and scores an 8 or 9 for the habitat functions on the form (rates H,H,H or H,H,M for the three aspects of function)? Yes = Category I No – Go to SC 6.2	Cat. II
SC 6.2. Is the wetland 1 ac or larger, or is it in a mosaic of wetlands that is 1 ac or larger? Yes = Category II No – Go to SC 6.3 SC 6.3. Is the unit between 0.1 and 1 ac, or is it in a mosaic of wetlands that is between 0.1 and 1 ac? Yes = Category III No = Category IV	Cat. III
in the category is	Cat. IV
Category of wetland based on Special Characteristics	N/A

RATING SUMMARY – Western Washington

Name of wetland (or ID #):	Date of site visit: 3/2020
Rated by T.Opolka	_Trained by Ecology?(Yes)No Date of training_5/2005
HGM Class used for rating Depression	\sim 32015
NOTE: Form is not complete without Source of base aerial photo/map	ut the figures requested (figures can be combined).
OVERALL WETLAND CATEGORY	III (based on functions or special characteristics)

1. Category of wetland based on FUNCTIONS

Category I – Total score = 23 - 27
Category II – Total score = 20 - 22
Category III Total score = 16 - 19
Category IV - Total score = 9 - 15

FUNCTION	Improving Water Quality		Hydrologic			Habitat				
				(Circle t	the ap	propi	riate ro	atings	
Site Potential	Н	М		Н	М (Н	М	(L)	
Landscape Potential	Н	M	L	Н	M	L	Н	M	L	
Value	H	M	L	(H)	М	L	Н	M	L	TOTAL
Score Based on Ratings		6			6			5		17

Score for each function based on three ratings (order of ratings is not *important)* 9 = H,H,H8 = H,H,M7 = H,H,L7 = H,M,M6 = H,M,L6 = M,M,M5 = H,L,L 5 = M,M,L4 = M, L, L3 = L, L, L

2. Category based on SPECIAL CHARACTERISTICS of wetland

CHARACTERISTIC	CATEGORY	
Estuarine	I	II
Wetland of High Conservation Value	I	
Bog		I
Mature Forest		I
Old Growth Forest	I	
Coastal Lagoon	I	II
Interdunal	I II	III IV
None of the above	€ C	

Maps and figures required to answer questions correctly for Western Washington

<u>Depressional Wetlands</u>

Map of:	To answer questions:	Figure #
Cowardin plant classes	D 1.3, H 1.1, H 1.4	1
Hydroperiods	D 1.4, H 1.2	1
Location of outlet (can be added to map of hydroperiods)	D 1.1, D 4.1	1
Boundary of area within 150 ft of the wetland (can be added to another figure)	D 2.2, D 5.2	2
Map of the contributing basin	D 4.3, D 5.3	*
1 km Polygon: Area that extends 1 km from entire wetland edge - including polygons for accessible habitat and undisturbed habitat	H 2.1, H 2.2, H 2.3	4
Screen capture of map of 303(d) listed waters in basin (from Ecology website)	D 3.1, D 3.2	5
Screen capture of list of TMDLs for WRIA in which unit is found (from web)	D 3.3	6

*flood plain wetland has a very large contributing basin/not mapped.

appea.		
Map of:	To answer questions:	Figure #
Cowardin plant classes	H 1.1, H 1.4	
Hydroperiods	H 1.2	
Ponded depressions	R 1.1	
Boundary of area within 150 ft of the wetland (can be added to another figure)	R 2.4	
Plant cover of trees, shrubs, and herbaceous plants	R 1.2, R 4.2	
Width of unit vs. width of stream (can be added to another figure)	R 4.1	
Map of the contributing basin	R 2.2, R 2.3, R 5.2	
1 km Polygon: Area that extends 1 km from entire wetland edge - including	H 2.1, H 2.2, H 2.3	
polygons for accessible habitat and undisturbed habitat		
Screen capture of map of 303(d) listed waters in basin (from Ecology website)	R 3.1	
Screen capture of list of TMDLs for WRIA in which unit is found (from web)	R 3.2, R 3.3	

Lake Fringe Wetlands

Map of:	To answer questions:	Figure #
Cowardin plant classes	L 1.1, L 4.1, H 1.1, H 1.4	
Plant cover of trees, shrubs, and herbaceous plants	L 1.2	
Boundary of area within 150 ft of the wetland (can be added to another figure)	L 2.2	
1 km Polygon: Area that extends 1 km from entire wetland edge - including polygons for accessible habitat and undisturbed habitat	H 2.1, H 2.2, H 2.3	
Screen capture of map of 303(d) listed waters in basin (from Ecology website)	L 3.1, L 3.2	
Screen capture of list of TMDLs for WRIA in which unit is found (from web)	L 3.3	

Slope Wetlands

Map of:	To answer questions:	Figure #
Cowardin plant classes	H 1.1, H 1.4	
Hydroperiods	H 1.2	
Plant cover of dense trees, shrubs, and herbaceous plants	S 1.3	
Plant cover of dense, rigid trees, shrubs, and herbaceous plants	S 4.1	
(can be added to figure above)		
Boundary of 150 ft buffer (can be added to another figure)	S 2.1, S 5.1	
1 km Polygon: Area that extends 1 km from entire wetland edge - including	H 2.1, H 2.2, H 2.3	
polygons for accessible habitat and undisturbed habitat		
Screen capture of map of 303(d) listed waters in basin (from Ecology website)	S 3.1, S 3.2	
Screen capture of list of TMDLs for WRIA in which unit is found (from web)	S 3.3	

HGM Classification of Wetlands in Western Washington

For questions 1-7, the criteria described must apply to the entire unit being rated.

If the hydrologic criteria listed in each question do not apply to the entire unit being rated, you

questions 1-7 apply, and go to Question	on 8.
1. Are the water levels in the entire un	it usually controlled by tides except during floods?
NO ₁ - go to 2	YES – the wetland class is Tidal Fringe – go to 1.1
1.1 Is the salinity of the water during	periods of annual low flow below 0.5 ppt (parts per thousand)?
	a Freshwater Tidal Fringe use the forms for Riverine wetlands. If it tuarine wetland and is not scored. This method cannot be used to
2. The entire wetland unit is flat and p and surface water runoff are NOT so	recipitation is the only source (>90%) of water to it. Groundwater ources of water to the unit.
NO – go to 3 If your wetland can be classified as a	YES – The wetland class is Flats Flats wetland, use the form for Depressional wetlands.
2	d is on the shores of a body of permanent open water (without any of the year) at least 20 ac (8 ha) in size;
NO – go to 4 YES	- The wetland class is Lake Fringe (Lacustrine Fringe)
_	can be very gradual), tland in one direction (unidirectional) and usually comes from s sheetflow, or in a swale without distinct banks,
NO - go to 5	YES – The wetland class is Slope
	in these type of wetlands except occasionally in very small and mocks (depressions are usually <3 ft diameter and less than 1 ft
 Does the entire wetland unit meet a The unit is in a valley, or stream stream or river, The overbank flooding occurs at 	channel, where it gets inundated by overbank flooding from that
ITIC UVCIDATIK HUUUHIIG UCCUIS AL	least office every 4 years.

NO -\go to 6

YES – The wetland class is **Riverine**

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

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

NO - go to 7

YES – The wetland class is **Depressional**

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

NO - go to 8

YES - The wetland class is **Depressional**

8. Your wetland unit seems to be difficult to classify and probably contains several different HGM classes. For example, seeps at the base of a slope may grade into a riverine floodplain, or a small stream within a Depressional wetland has a zone of flooding along its sides. GO BACK AND IDENTIFY WHICH OF THE HYDROLOGIC REGIMES DESCRIBED IN QUESTIONS 1-7 APPLY TO DIFFERENT AREAS IN THE UNIT (make a rough sketch to help you decide). Use the following table to identify the appropriate class to use for the rating system if you have several HGM classes present within the wetland unit being scored.

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 HGM 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	HGM class to
being rated	use in rating
Slope + Riverine	Riverine
Slope + Depressional	Depressional
Slope + Lake Fringe	Lake Fringe
Depressional + Riverine along stream	Depressional
within boundary of depression	
Depressional + Lake Fringe	Depressional
Riverine + Lake Fringe	Riverine
Salt Water Tidal Fringe and any other	Treat as
class of freshwater wetland	ESTUARINE

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

DEPRESSIONAL AND FLATS WETLANDS	
Water Quality Functions - Indicators that the site functions to improve water quality	
D 1.0. Does the site have the potential to improve water quality?	
D 1.1. Characteristics of surface water outflows from the wetland:	
Wetland is a depression or flat depression (QUESTION 7 on key) with no surface water leaving it (no outlet) points = 3 Wetland has an intermittently flowing stream or ditch, OR highly constricted permanently flowing outlet. points = 2 Wetland has an unconstricted, or slightly constricted, surface outlet that is permanently flowing points = 1 Wetland is a flat depression (QUESTION 7 on key), whose outlet is a permanently flowing ditch.	3
D 1.2. The soil 2 in below the surface (or duff layer) is true clay or true organic (use NRCS definitions). Yes = 4 No f 0	0
D 1.3. Characteristics and distribution of persistent plants (Emergent, Scrub-shrub, and/or Forested Cowardin classes): Wetland has persistent, ungrazed, plants > 95% of area Wetland has persistent, ungrazed, plants > ½ of area Wetland has persistent, ungrazed plants > ½ of area Wetland has persistent, ungrazed plants > ½ of area points = 1 Wetland has persistent, ungrazed plants < ½ of area points = 1 points = 0	0
D 1.4. Characteristics of seasonal ponding or inundation: This is the area that is ponded for at least 2 months. See description in manual. Area seasonally ponded is > ½ total area of wetland Area seasonally ponded is > ½ total area of wetland Area seasonally ponded is < ½ total area of wetland points = 2 Area seasonally ponded is < ½ total area of wetland points = 0	0
Total for D 1 Add the points in the boxes above	3
Rating of Site Potential If score is:12-16 = H6-11 = M0-5 = L Record the rating on the first p	age
D 2.0. Does the landscape have the potential to support the water quality function of the site?	
D 2.1. Does the wetland unit receive stormwater discharges? Yes = $1 \times 10^{\circ} = 0$	0
D 2.2. Is > 10% of the area within 150 ft of the wetland in land uses that generate pollutants? Yes $\underbrace{1}$ No = 0	1
D 2.3. Are there septic systems within 250 ft of the wetland? Yes = 1×0	0
D 2.4. Are there other sources of pollutants coming into the wetland that are not listed in questions D 2.1-D 2.3? Source Yes = 1 (No) = 0	0
Total for D 2 Add the points in the boxes above	1
Rating of Landscape Potential If score is:3 or 4 = H1 or 2 = N0 = L Record the rating on the f	irst page
D 3.0. Is the water quality improvement provided by the site valuable to society?	
D 3.1. Does the wetland discharge directly (i.e., within 1 mi) to a stream, river, lake, or marine water that is on the $303(d)$ list? Yes = 1 (NO) = 0	0
D 3.2. Is the wetland in a basin or sub-basin where an aquatic resource is on the 303(d) list? $(Yes)=1$ No = 0	1
D 3.3. Has the site been identified in a watershed or local plan as important for maintaining water quality (answer YES if there is a TMDL for the basin in which the unit is found)? (es) = 2 No = 0	2
Total for D 3 Add the points in the boxes above	3
Rating of Value If score is:2-4 = H1 = M0 = L Record the rating on the first page	-

<u>DEPRESSIONAL AND FLATS WETLANDS</u> Hydrologic Functions - Indicators that the site functions to reduce flooding and stream degradat	ion
D 4.0. Does the site have the potential to reduce flooding and erosion?	
D 4.1. Characteristics of surface water outflows from the wetland: Wetland is a depression or flat depression with no surface water leaving it (no outlet) Wetland has an intermittently flowing stream or ditch, OR highly constricted permanently flowing outletpoints = 2 Wetland is a flat depression (QUESTION 7 on key), whose outlet is a permanently flowing ditch Wetland has an unconstricted, or slightly constricted, surface outlet that is permanently flowing points = 0	4
D 4.2. Depth of storage during wet periods: Estimate the height of ponding above the bottom of the outlet. For wetlands with no outlet, measure from the surface of permanent water or if dry, the deepest part. Marks of ponding are 3 ft or more above the surface or bottom of outlet points = 7 Marks of ponding between 2 ft to < 3 ft from surface or bottom of outlet points = 5 Marks are at least 0.5 ft to < 2 ft from surface or bottom of outlet points = 3 The wetland is a "headwater" wetland 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 (6 in)	0
D 4.3. Contribution of the wetland to storage in the watershed: Estimate the ratio of the area of upstream basin contributing surface water to the wetland to the area of the wetland unit itself. The area of the basin is less than 10 times the area of the unit The area of the basin is 10 to 100 times the area of the unit The area of the basin is more than 100 times the area of the unit Entire wetland is in the Flats class D 4.3. Contribution of the area of upstream basin to the area of the wetland unit itself. The area of the basin is 10 to 100 times the area of the unit points = 3 points = 5 The area of the basin is more than 100 times the area of the unit points = 5 The area of the basin is more than 100 times the area of the unit points = 5	0
Total for D 4 Add the points in the boxes above	4
Rating of Site Potential If score is:12-16 = H6-11 = M0-5 = (first page
D 5.0. Does the landscape have the potential to support hydrologic functions of the site?	-
D 5.1. Does the wetland receive stormwater discharges? Yes = 1 (No) = 0	0
D 5.2. Is >10% of the area within 150 ft of the wetland in land uses that generate excess runoff? Yes = 1 No = 0	1
D 5.3. Is more than 25% of the contributing basin of the wetland covered with intensive human land uses (residential at >1 residence/ac, urban, commercial, agriculture, etc.)? Yes = 1 (No) = 0	0
Total for D 5 Add the points in the boxes above	1
Rating of Landscape Potential If score is: 3 = H 1 or 2 = 0 0 = L Record the rating on the	first page
D 6.0. Are the hydrologic functions provided by the site valuable to society?	-
D 6.1. The unit is in a landscape that has flooding problems. Choose the description that best matches conditions around the wetland unit being rated. Do not add points. Choose the highest score if more than one condition is met. The wetland captures surface water that would otherwise flow down-gradient into areas where flooding has damaged human or natural resources (e.g., houses or salmon redds): • Flooding occurs in a sub-basin that is immediately down-gradient of unit. • Surface flooding problems are in a sub-basin farther down-gradient. Flooding from groundwater is an issue in the sub-basin. points = 1 The existing or potential outflow from the wetland is so constrained by human or natural conditions that the water stored by the wetland cannot reach areas that flood. Explain why points = 0 There are no problems with flooding downstream of the wetland.	2
D 6.2. Has the site been identified as important for flood storage or flood conveyance in a regional flood control plan? Yes = 2 $(No) = 0$	0

Rating of Value If score is: ___2-4 EH ___1 = M ___0 = L

Total for D 6

Record the rating on the first page

Add the points in the boxes above

These questions apply to wetlands of all HGM classes. **HABITAT FUNCTIONS** - Indicators that site functions to provide important habitat H 1.0. Does the site have the potential to provide habitat? H 1.1. Structure of plant community: Indicators are Cowardin classes and strata within the Forested class. Check the Cowardin plant classes in the wetland. Up to 10 patches may be combined for each class to meet the threshold of ¼ ac or more than 10% of the unit if it is smaller than 2.5 ac. Add the number of structures checked. Aquatic bed 4 structures or more: points = 4 X_Emergent 0 3 structures: points = 2 Scrub-shrub (areas where shrubs have > 30% cover) 2 structures: points = 1 Forested (areas where trees have > 30% cover) 1 structure: points = 0 If the unit has a Forested class, check if: 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 H 1.2. Hydroperiods 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 ac 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 X Occasionally flooded or inundated 2 types present: points = 1 1 Saturated only 1 type present: points = 0 ___Permanently flowing stream or river in, or adjacent to, the wetland X 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 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 and you do not have to name the species. Do not include Eurasian milfoil, reed canarygrass, purple loosestrife, Canadian thistle 0 If you counted: > 19 species points = 2 5 - 19 species points = 1 points =0 < 5 species H 1.4. Interspersion of habitats Decide from the diagrams below whether interspersion among Cowardin plants classes (described in H 1.1), or the classes and unvegetated areas (can include open water or mudflats) is high, moderate, low, or none. If you have four or more plant classes or three classes and open water, the rating is always high. 0 None = 0 points Moderate = 2 points Low = 1 point All three diagrams in this row are **HIGH** = 3points

H 1.5. Special habitat features:					
Check the habitat features that are present in the wetland. The number of checks is the number of points.					
Large, downed, woody debris within the wetland (> 4 in diameter and 6 ft long).					
Standing snags (dbh > 4 in) within the wetland					
Undercut banks are present for at least 6.6 ft (2 m) and/or overhanging plants extends at least 3.3 ft (1 m)					
over a stream (or ditch) in, or contiguous with the wetland, for at least 33 ft (10 m)					
Stable steep banks of fine material that might be used by beaver or muskrat for denning (> 30 degree	0				
slope) OR signs of recent beaver activity are present (cut shrubs or trees that have not yet weathered					
where wood is exposed)					
At least ¼ ac of thin-stemmed persistent plants 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 every stratum of plants (see H 1.1 for list of					
strata)	4				
Total for H 1 Add the points in the boxes above	1				
Rating of Site Potential If score is:15-18 = H7-14 = M0-6(= L) Record the rating on a	the first page				
H 2.0. Does the landscape have the potential to support the habitat functions of the site?					
H 2.1. Accessible habitat (include only habitat that directly abuts wetland unit).					
Calculate: % undisturbed habitat $0 + [(\% \text{ moderate and low intensity land uses})/2] 20 = 20 %$					
If total accessible habitat is:					
$> \frac{1}{3}$ (33.3%) of 1 km Polygon points = 3_					
20-33% of 1 km Polygon points =(2)	2				
10-19% of 1 km Polygon points = 1					
< 10% of 1 km Polygon points = 0					
H 2.2. Undisturbed habitat in 1 km Polygon around the wetland.					
Calculate: % undisturbed habitat 19 + [(% moderate and low intensity land uses)/2] 20 39 %					
Undisturbed habitat > 50% of Polygon points = 3					
Undisturbed habitat 10-50% and in 1-3 patches points = 2					
Undisturbed habitat 10-50% and > 3 patches points \neq 1					
Undisturbed habitat < 10% of 1 km Polygon points = 0					
H 2.3. Land use intensity in 1 km Polygon: If					
> 50% of 1 km Polygon is high intensity land use points = (-2)	0				
≤ 50% of 1 km Polygon is high intensity points = 0					
Total for H 2 Add the points in the boxes above	3				
Rating of Landscape Potential If score is: 4-6 = H 1-3 (M) < 1 = L Record the rating on the	ne first page				
H 3.0. Is the habitat provided by the site valuable to society?					
H 3.1. Does the site provide habitat for species valued in laws, regulations, or policies? <i>Choose only the highest score</i>					
that applies to the wetland being rated.					
Site meets ANY of the following criteria: points = 2					
— It has 3 or more priority habitats within 100 m (see next page)	_				
— It provides habitat for Threatened or Endangered species (any plant or animal on the state or federal lists)	1				
— It is mapped as a location for an individual WDFW priority species — It is mapped as a location for an individual WDFW priority species					
— It is a Wetland of High Conservation Value as determined by the Department of Natural Resources					
 It has been categorized as an important habitat site in a local or regional comprehensive plan, in a 					
Shoreline Master Plan, or in a watershed plan					
Site has 1 or 2 priority habitats (listed on next page) within 100 m points = 1					
Site does not meet any of the criteria above points = 0					
Rating of Value If score is: $2 = H$ $\begin{pmatrix} 1 = M & 0 = I \end{pmatrix}$	the first nage				

WDFW Priority Habitats

<u>Priority habitats listed by WDFW</u> (see complete descriptions of WDFW priority habitats, and the counties in which they can be found, in: Washington Department of Fish and Wildlife. 2008. Priority Habitat and Species List. Olympia, Washington. 177 pp. http://wdfw.wa.gov/publications/00165/wdfw00165.pdf or access the list from here: http://wdfw.wa.gov/conservation/phs/list/)

Count how many of the following priority habitats are within 330 ft (100 m) of the wetland unit: *NOTE:* This question is independent of the land use between the wetland unit and the priority habitat.

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

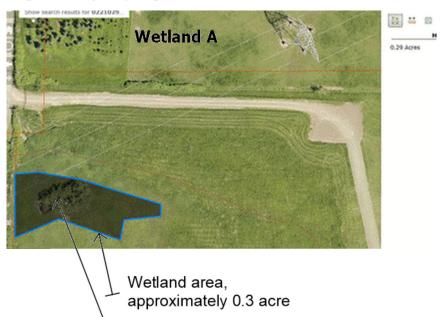
Note: All vegetated wetlands are by definition a priority habitat but are not included in this list because they are addressed elsewhere.

CATEGORIZATION BASED ON SPECIAL CHARACTERISTICS

Wetland Type	Catagory
Wetland Type	Category
Check off any criteria that apply to the wetland. Circle the category when the appropriate criteria are met.	
SC 1.0. Estuarine wetlands	
Does the wetland meet the following criteria for Estuarine wetlands?	
— The dominant water regime is tidal,	
— Vegetated, and	
— With a salinity greater than 0.5 ppt Yes –Go to SC 1.1 (No=)lot an estuarine wetland	
SC 1.1. Is the wetland 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?	6-4-1
Yes = Category I No - Go to SC 1.2	Cat. I
SC 1.2. Is the wetland unit at least 1 ac in size and meets at least two of the following three conditions?	
— The wetland is relatively undisturbed (has no diking, ditching, filling, cultivation, grazing, and has less	
than 10% cover of non-native plant species. (If non-native species are Spartina, see page 25)	Cat. I
— At least ¾ of the landward edge of the wetland has a 100 ft buffer of shrub, forest, or un-grazed or un-	
mowed grassland.	Cat. II
— The wetland has at least two of the following features: tidal channels, depressions with open water, or	Cat. II
contiguous freshwater wetlands. Yes = Category I No = Category II	
SC 2.0. Wetlands of High Conservation Value (WHCV)	
SC 2.1. Has the WA Department of Natural Resources updated their website to include the list of Wetlands of High	
Conservation Value? Yes – Go to SC 2.2 No) – Go to SC 2.3	Cat. I
SC 2.2. Is the wetland listed on the WDNR database as a Wetland of High Conservation Value?	
Yes = Category I No = Not a WHCV	
SC 2.3. Is the wetland in a Section/Township/Range that contains a Natural Heritage wetland?	
http://www1.dnr.wa.gov/nhp/refdesk/datasearch/wnhpwetlands.pdf	
Yes – Contact WNHP/WDNR and go to SC 2.4 No = Not a WHCV	
SC 2.4. Has WDNR identified the wetland within the S/T/R as a Wetland of High Conservation Value and listed it on	
their website? Yes = Category I No = Not a WHCV	
SC 3.0. Bogs	
Does the wetland (or any part of the unit) meet both the criteria for soils and vegetation in bogs? <i>Use the key</i>	
below. If you answer YES you will still need to rate the wetland based on its functions.	
SC 3.1. Does an area within the wetland unit have organic soil horizons, either peats or mucks, that compose 16 in or more of the first 32 in of the soil profile? Yes – Go to SC 3.3 No – Go to SC 3.2	
SC 3.2. Does an area within the wetland unit have organic soils, either peats or mucks, that are less than 16 in deep	
over bedrock, or an impermeable hardpan such as clay or volcanic ash, or that are floating on top of a lake or	
pond? Yes – Go to SC 3.3 (No)= Is not a bog	
SC 3.3. Does an area with peats or mucks have more than 70% cover of mosses at ground level, AND at least a 30%	
cover of plant species listed in Table 4? Yes = Is a Category I bog No – Go to SC 3.4	
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 in deep. If the pH is less than 5.0 and the	
plant species in Table 4 are present, the wetland is a bog.	Cat. I
SC 3.4. Is an area with peats or mucks forested (> 30% cover) with Sitka spruce, subalpine fir, western red cedar,	
western hemlock, lodgepole pine, quaking aspen, Engelmann spruce, or western white pine, AND any of the	
species (or combination of species) listed in Table 4 provide more than 30% of the cover under the canopy?	
Yes = Is a Category I bog No = Is not a bog	

SC 4.0. Forested Wetlands Does the wetland have at least <u>1 contiguous acre</u> of forest that meets one of these criteria for the WA	
Does the wetland have at least 1 contiguous acre of forest that meets one of these criteria for the WA Department of Fish and Wildlife's forests as priority habitats? If you answer YES you will still need to rate the wetland based on its functions.	
 Old-growth forests (west of Cascade crest): Stands of at least two tree species, forming a multi-layered canopy with occasional small openings; with at least 8 trees/ac (20 trees/ha) that are at least 200 years of age OR have a diameter at breast height (dbh) of 32 in (81 cm) or more. Mature forests (west of the Cascade Crest): Stands where the largest trees are 80- 200 years old OR the species that make up the canopy have an average diameter (dbh) exceeding 21 in (53 cm). 	
Yes = Category I (No)= Not a forested wetland for this section	Cat. I
SC 5.0. Wetlands in Coastal Lagoons	
 Does the wetland meet all of the following criteria of a wetland in a coastal lagoon? 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 The lagoon in which the wetland is located contains ponded water that is saline or brackish (> 0.5 ppt) 	
during most of the year in at least a portion of the lagoon (needs to be measured near the bottom) Yes – Go to SC 5.1 No No Not a wetland in a coastal lagoon	Cat. I
 SC 5.1. Does the wetland meet all of the following three conditions? — The wetland is relatively undisturbed (has no diking, ditching, filling, cultivation, grazing), and has less than 20% cover of aggressive, opportunistic plant species (see list of species on p. 100). — At least ¾ of the landward edge of the wetland has a 100 ft buffer of shrub, forest, or un-grazed or un- 	Cat. II
mowed grassland.	
— The wetland is larger than $^{1}/_{10}$ ac (4350 ft ²) Yes = Category I No = Category II	
SC 6.0. Interdunal Wetlands	
Is the wetland west of the 1889 line (also called the Western Boundary of Upland Ownership or WBUO)? If you answer yes you will still need to rate the wetland based on its habitat functions.	
In practical terms that means the following geographic areas:	
 Long Beach Peninsula: Lands west of SR 103 	
— Grayland-Westport: Lands west of SR 105	Cat I
 Ocean Shores-Copalis: Lands west of SR 115 and SR 109 Yes – Go to SC 6.1 No= not an interdunal wetland for rating 	
SC 6.1. Is the wetland 1 ac or larger and scores an 8 or 9 for the habitat functions on the form (rates H,H,H or H,H,M for the three aspects of function)? Yes = Category I No – Go to SC 6.2	Cat. II
SC 6.2. Is the wetland 1 ac or larger, or is it in a mosaic of wetlands that is 1 ac or larger? Yes = Category II No – Go to SC 6.3	Cat. III
SC 6.3. Is the unit between 0.1 and 1 ac, or is it in a mosaic of wetlands that is between 0.1 and 1 ac? Yes = Category III No = Category IV	
Category of wetland based on Special Characteristics	Cat. IV
	N/A

Figure 1. Hydro., vegetation and outlet sketch.



Area vegetated with willows is forested,>.10 of wetland area. this area is also seasonally flooded with a couple feet of ponding. Majority of remaining wetland appears to be saturated and is vegetated with emergent vegetation, mostly reed canarygrass.

No Outlet

Wetland B



Figure 2. 150 foot boundary



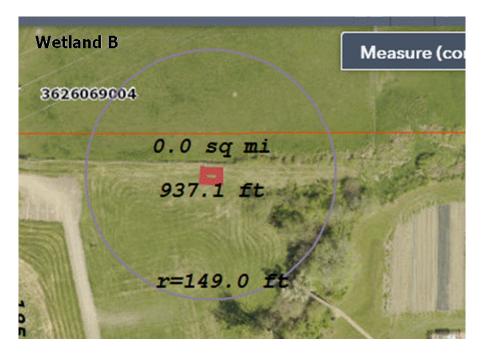


Figure 3. I KM Circle, 0.6 sq km undisturbed, the rest is moderate with the high intensity areas in red (plus the main roads) moderate intensity accessible habitat in blue

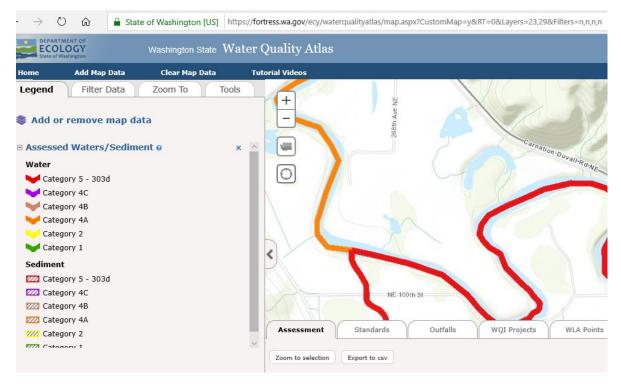


Figure 4 Site drains into a 303d listed water

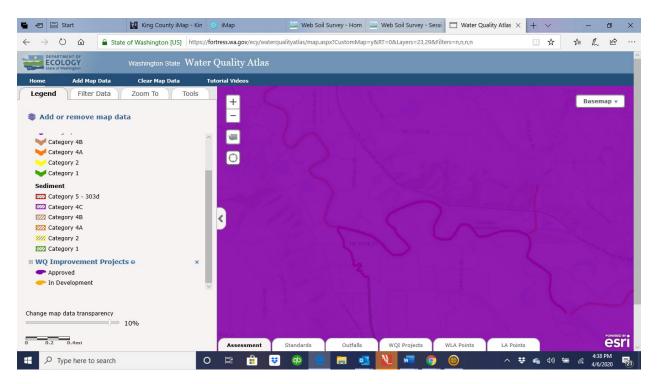


Figure 5. Site in an area with an approved TMDL

WETLAND DETERMINATION DATA FORM - Western Mountains, Valleys, and Coast Region

Project/Site: Parcel 3626069037	(City/County: King		Sampling Date:	12/14/2018
Applicant/Owner: Oxbow Farms			State: WA	Sampling Point:	DP1
Investigator(s): T.OPOLKA		Section, Township, I	Range: <u>27/26/7</u>		
Landform (hillslope, terrace, etc.): Depression	I	Local relief (concave	e, convex, none): conc	cave S	lope (%): <2
Subregion (LRR): A	Lat:	Lc	ong:	Datum:	
Soil Map Unit Name: Nooksack silt loam				fication: upland fie	
Are climatic / hydrologic conditions on the site ty	ypical for this time of ye	ear? • Yes	No (If no, exp	plain in Remarks.)	
Are Vegetation, Soil, or Hydrology	significantly distu	urbed?	Are "Normal Circumstar	nces" present?	Yes No
Are Vegetation , Soil , or Hydrology	naturally problem		(If needed, explain any		
SUMMARY OF FINDINGS – Attach s	 ite map showing :	sampling point	locations, transe	cts, important	features, etc.
Hydrophytic Vegetation Present? Hydric Soil Present? Wetland Hydrology Present? Yes	s 🖲 No	Is the Samp within a We		Yes	● No
Remarks: VEGETATION – Use scientific name:	s of plants.				
	Absolute Dom.	. Relative Indica	ator Dominance Tes	st worksheet:	
<u>Tree Stratum</u> (Plot size: 15ft x 15ft) 1.	% Cover Sp.?	% Cover Stat		•	(A)
2. 3.		<u> </u>	Total Number of Species Across		3 (B)
4.		al Cover	Percent of Domi	•	66.7% (A/B)
Sapling/Shrub Stratum (Plot size: 5ft x 5ft					
1		####### #N/			
2.			Total % Co		ultiply by:
3.			OBL species FACW species	0 x1=	
4			FAC species	70 x3=	
J		al Cover	FACU species	30 x 4 =	
Herb Stratum (Plot size: 5ft x 5ft)			UPL species	0 x 5 =	= 0
Schedonorus arundinaceus	30 Y	30.0 FA		100 (A)	330 (B)
2. Agrostis stolonifera	40 Y	40.0 FA	— Prevalenc	e Index = B/A =	3.300
3. <u>Dactylis glomerata</u>	30 <u>Y</u>	30.0 FAC	30	egetation Indicato	
4 5.			 <u>_</u>	est for Hydrophytic	
				nce Test is >50%	Vegetation
6			 _	nce Index is ≤3.0¹	
8.					(Provide supporting
9.			data in R	Remarks or on a se	parate sheet)
10			 =	Non-Vascular Plan	
11			 _	Hydrophytic Vege	
Woody Vine Stratum (Plot size:	_)	al Cover		dric soil and wetlar disturbed or proble	nd hydrology must be ematic.
1. 2.			Hydrophytic		
% Bare Ground in Herb Stratum 0	= Tota	al Cover	Vegetation Present?	Yes	○ No
Remarks:			L	_	

SOIL Sampling Point: DP1

Profile Desc	ription: (Des	cribe to the	depth nee	ded to docum			or confir	m the a	bsence of in	dicators.)		
Depth		latrix			x Feature			_				
(inches)	Color (mo			olor (moist)	%	Type ¹	Loc ²		exture		Remarks	
0-13	10YR	4/2 10	00					SILT L	.OAM			
												-
				ed Matrix, CS=			ed Sand G	Frains.			Pore Lining, M	
		pplicble to	_	ınless otherwi		1.)					lematic Hydr	ic Soils3:
Histosol				andy Redox (St					=	Muck (A10)		
Black His	ipedon (A2)			tripped Matrix (Damy Mucky Mi) (ovcont	MIDA 1			arent Mate	riai (1F2) k Surface (TF	:12)
=	n Sulfide (A4)			parny Mucky Mi pamy Gleyed M		-	. IVILIXA 1)		= -	(Explain in		12)
	Below Dark S	urface (A11)		epleted Matrix						(Explain in	rtomarto)	
	rk Surface (A1			edox Dark Surf	ace (F6)				3Indicator	s of hydrop	hytic vegetati	on and
Sandy M	ucky Mineral (S1)		epleted Dark S		7)			wetland h	ydrology m	ust be preser	
Sandy GI	eyed Matrix (S	64)	R	edox Depressio	ns (F8)				unless dis	turbed or p	roblematic.	
Restrictive I	Layer (if pres	ent):										
Type:											_	
Depth (in	ches):			_				Ну	dric Soil Pre	sent?	O Yes	No No
Remarks:												
HYDROLO	GY											
Wetland Hyd	drology Indic	ators:										
		ım of one re	quired; che	ck all that appl							(2 or more r	
	Vater (A1)			Water-Stain		. , .	xcept				eaves (B9) (M	LRA 1, 2,
= "	er Table (A2)		Г		2, 4A, ar	nd 4B)				, and 4B)	(D40)	
Saturatio Water Ma	` '		F	Salt Crust (E Aquatic Inve		(D12)				ge Pattern	s (B10) er Table (C2)	
	t Deposits (B2)	١	<u>L</u>	Hydrogen Si					= 1		e on Aerial Im	agery (CO)
_	osits (B3)	,	<u> </u>	Oxidized Rh		. ,	ivina Roo	ts (C3)		orphic Posit		agery (C7)
	or Crust (B4)		Ī	Presence of	-	_	_	10 (00)	_	w Aquitard		
= -	osits (B5)		Ī	Recent Iron				6)		eutral Test		
Surface S	Soil Cracks (B6)		Stunted or S	tressed F	lants (D	1) (LRR A))	Raised	Ant Moun	ds (D6) (LRR	A)
	on Visible on A		- · · · -	Other (Expla	in in Ren	narks)			Frost-	Heave Hum	mocks (D7)	
Sparsely	Vegetated Cor	ncave Surfac	e (B8)									
Field Obser	vations:	_	_									
Surface Wat	er Present?	O Yes	No No	Depth (inche								
Water Table	Present?	O Yes	No No	Depth (inche	s):						-	_
Saturation P		O Yes	No No	Depth (inche	s):		w	etland H	Hydrology Pi	esent?	O Yes	No
(includes cap		stream dallo	e monitorir	ng well, aerial p	hotos nr	evious in	enections	t) if avai	lahla.			
Describe No.	oorded Data (otroain gaag	o, monitorii	ig won, acriai p	notos, pr	CVIOUS III	оросного	o,, ii avai	idbio.			
Remarks:												

WETLAND DETERMINATION DATA FORM - Western Mountains, Valleys, and Coast Region

Project/Site: Parcel 3626069037	Ci	City/County: King Sampling Date: 12/14/2018					
Applicant/Owner: Oxbow Farms				Sta	ite: WA Sa	VA Sampling Point: DP2	
Investigator(s): T.OPOLKA	Se	ection, Towr	nship, Rang	je: 27/26/7			
Landform (hillslope, terrace, etc.): Depression		Lo	ocal relief (c	oncave, cor	nvex, none): concave		Slope (%): <2
Subregion (LRR): A	Lat:	,		Long:		Datum:	
Soil Map Unit Name: Nooksack silt loam					NWI Classificati		
Are climatic / hydrologic conditions on the site typica	I for this time	e of vea	r? 🖲 Ye	es On			
Are Vegetation , Soil , or Hydrology	significantl	•	_	_	Normal Circumstances	,	
Are Vegetation , Soil , or Hydrology	naturally p	•			eded, explain any ansv	•	
SUMMARY OF FINDINGS – Attach site r							
					ations, transcots	, importan	t icatares, etc.
Hydrophytic Vegetation Present? Hydric Soil Present? Yes Yes	O No		Is the	Sampled A	Area		
Hydric Soil Present? Yes Wetland Hydrology Present? Yes	● No			n a Wetland	\sim	Yes	● No
Remarks:							
Nomano.							
VEGETATION – Use scientific names of	plants.						
	Absolute	Dom.	Relative	Indicator	Dominance Test w	orksheet:	
<u>Tree Stratum</u> (Plot size: 15ft x 15ft)	% Cover	Sp.?	% Cover	Status	Number of Dominan	•	
1.			######	#N/A	That Are OBL, FAC	W, or FAC:	1 (A)
2			#######	#N/A #N/A	Total Number of Do		1 (D)
3			#######	#IN/FA	Species Across All S		1 (B)
4		= Total	Cover		Percent of Dominan That Are OBL, FAC	•	100.0% (A/B)
Sapling/Shrub Stratum (Plot size: 5ft x 5ft)					, ,	,	(, ,
1.			#######	#N/A	Prevalence Index v	vorksheet:	
2					Total % Cover	of: N	/lultiply by:
3.					OBL species	0 x 1	
4.					FACW species	60 x 2	
5		= Total	Cover		FAC species FACU species	25 x 3 15 x 4	
Herb Stratum (Plot size: 5ft x 5ft)		- rotar	00101		UPL species	0 x5	
Schedonorus arundinaceus	15	N	15.0	FAC	Column Totals:	100 (A)	
2. Agrostis stolonifera	10	N	10.0	FAC	Prevalence Inc	dov – P/A –	2.550
3. Dactylis glomerata	15	N	15.0	FACU			
4. Phalaris arundinacea	60	<u>Y</u>	60.0	FACW	Hydrophytic Veget		
5.					1 - Rapid Test fo	, , ,	c Vegetation
6					✓ 2 - Dominance I		
7. 8.							s ¹ (Provide supporting
9.							eparate sheet)
10.					5 - Wetland Nor	า-Vascular Pla	ants ¹
11					Problematic Hyd	drophytic Veg	etation¹ (Explain)
	100	= Total	Cover				and hydrology must be
Woody Vine Stratum (Plot size:)					present, unless distu	urbed or prob	lematic.
1. 2.					Usdrophydia		
2.		= Total	Cover		Hydrophytic Vegetation		
% Bare Ground in Herb Stratum 0		. 5101			Present?	Yes	○ No
Remarks:					<u> </u>		

SOIL Sampling Point: DP2

Profile Desc	cription: (De	escribe t	o the depth	needed t				or confi	rm the absence of i	ndicators.)									
Depth		Matrix				ox Featur													
(inches)	Color (n		<u></u> %	Color (r	noist)	<u>%</u>	Type ¹	Loc ²	Texture		Remarks	<u> </u>							
0-14	10YR	4/2	100						SILT LOAM										
14-18	10Y	4/2	85	10YR	4/6	5	С	M	SILT LOAM										
				10YR	5/2	10	D	M											
					11 1														
¹Type: C=Co	oncentration,	D=Deple	etion, RM=R	educed M	latrix, CS	=Covered	or Coate	ed Sand 0	Grains. ² Lo	cation: PL=F	ore Lining, N	∕l=Matrix.							
Hydric Soil	Indicators:	(Applicb	le to all LR	Rs, unles	s otherw	ise noted	l.)		Indicato	rs for Prob	lematic Hydr	ic Soils³:							
Histosol	(A1)		[Sandy	Redox (S	5)			2 cm	Muck (A10))								
	pipedon (A2)				d Matrix					Red Parent Material (TF2)									
Black His	` '			_	-	lineral (F1		MLRA 1)			k Surface (TI	-12)							
	en Sulfide (A4		(0.44)	_	-	Matrix (F2)			Othe	r (Explain in	Remarks)								
	d Below Dark ark Surface (.		(ATT)	_	ed Matrix Dark Sur				21 12 4										
_	lucky Minera	•	l I			iace (F6) Surface (F	7)				hytic vegetat lust be prese								
	ileyed Matrix		L [_	Depression 1		,,				oroblematic.	π,							
Restrictive					2 op. 000.														
	Layer (ii pic	.30111).																	
Type:	achoo):								Hydric Soil Pi	rocont?	Yes	No							
Depth (in	icries).								Hydric 30ii Fi	esent									
Remarks:	r the wetlend	bounder	v but budria	soil abore	otoriotico	oro o little	o too doo	n .											
located near	i ine welland	Douridai	y but riyuric	SOII CHAIA	ctensucs	ale a IIIII	e loo dee	; μ.											
HYDROLO)GV																		
Wetland Hy																			
	icators (minir	mum of o	ne required				(0.0) ((2 or more r								
=	Water (A1)	- \		W		ed Leaves		xcept		Water-Stained Leaves (B9) (MLRA 1, 2,									
	iter Table (A2	2)		□ c-		, 2, 4A, ar	nd 4B)			4A, and 4B)									
Saturation (A3) Salt Crust (B11) Appetite Inventor Inventor (B42)							☐ Drainage Patterns (B10) ☐ Dry-Season Water Table (C2)												
	Water Marks (B1) Aquatic Invertebrates (B13) Dry-Season Water Table (C2) Sediment Deposits (B2) Hydrogen Sulfide Odor (C1) Saturation Visible on Aerial Imagery (C9)								agery (C0)										
_	n Deposits (L posits (B3)	02)				nizosphere		ivina Roc		norphic Posi		lagery (C9)							
	it or Crust (B	4)				Reduced			` ' =	ow Aquitard									
	oosits (B5)	.,				Reductio			=	Neutral Test									
	Soil Cracks (I	B6)				Stressed F		•	· =		ds (D6) (LRR	A)							
	on Visible on	-	nagery (B7)			ain in Ren	-	, ,	•		nmocks (D7)	•							
Sparsely	Vegetated C	Concave S	Surface (B8)																
Field Obser	rvations:																		
Surface Wat	ter Present?	O Ye	s 💿 N	o De	pth (inche	es):													
Water Table	Present?	O Ye	=		pth (inche	· 													
							etland Hydrology F	resent?	O Yes	No									
	(includes capillary fringe)																		
Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:																			
Describe Re	ecorded Data	(stream	gauge, mor	moning we															
Describe Re	ecorded Data	ı (stream	gauge, mor	moning me															
	ecorded Data	ı (stream	gauge, mor																
Describe Re	ecorded Data	stream	gauge, mor																
	ecorded Data	ı (stream	gauge, mor	morning we															
	ecorded Data	ı (stream	gauge, mor	morning wo															
	ecorded Data	ı (stream	gauge, mor	morning we															

WETLAND DETERMINATION DATA FORM - Western Mountains, Valleys, and Coast Region

Project/Site: Parcel 3626069037	Cit	City/County: King Sampling Date: 12/14/2018					
Applicant/Owner: Oxbow Farms			Sta	te: WA Sampling Poir	Sampling Point: DP3		
Investigator(s): T.OPOLKA	Se	Section, Township, Range: 27/26/7					
Landform (hillslope, terrace, etc.): Depression	Lo	cal relief (c	oncave, cor	nvex, none): concave	Slope (%): <2		
Subregion (LRR): A							
Soil Map Unit Name: Nooksack silt loam				_	NWI Classification: PEM		
Are climatic / hydrologic conditions on the site typica	al for this time	of vear	? () Ye	es ON	No (If no, explain in Remarks	s.)	
Are Vegetation , Soil , or Hydrology	significantly	•	_	_	Normal Circumstances" present?	<u></u>	
Are Vegetation , Soil , or Hydrology	naturally pr	•			eded, explain any answers in Rem		
SUMMARY OF FINDINGS – Attach site							
			<u> </u>		ations, transcots, importa	Tit reatures, etc.	
Hydrophytic Vegetation Present? Hydric Soil Present? Yes Yes Yes	○ No		Is the	Sampled A			
Wetland Hydrology Present? • Yes	O No		withi	n a Wetland	d?	○ No	
Remarks:	<u>_</u>						
VEGETATION – Use scientific names of	inlanta						
VEGETATION - Use scientific flames of	piants.				Dominance Test worksheet:		
Troo Stratum (Diat aiza: 15ff v 15ff	Absolute % Cover	Dom.	Relative % Cover	Indicator			
<u>Tree Stratum</u> (Plot size: <u>15ft x 15ft</u>) 1.				Status	Number of Dominant Species That Are OBL, FACW, or FAC:	2 (A)	
1. 2.					Total Number of Dominant	(//	
3.					Species Across All Strata:	3 (B)	
4.					Percent of Dominant Species		
		= Total	Cover		That Are OBL, FACW, or FAC:	66.7% (A/B)	
Sapling/Shrub Stratum (Plot size: 5ft x 5ft)							
1. Rubus armeniacus	15	<u>Y</u>	100.0		Prevalence Index worksheet:	Mandelin Inc.	
2. 3.					Total % Cover of: OBL species 0 x	Multiply by: 1 = 0	
1						2 = 100	
5.					·	3 = 105	
		= Total	Cover		FACU species 0 x	4 = 0	
Herb Stratum (Plot size: 5ft x 5ft)					UPL species 0 x	5 = 0	
Phalaris arundinacea	50	Υ	58.8	FACW	Column Totals: 85 (A	(B) <u>205</u>	
2. Agrostis stolonifera	35	Υ	41.2	FAC	Prevalence Index = B/A =	2.412	
3. 4.					Hydrophytic Vegetation Indica	ntors:	
					1 - Rapid Test for Hydrophy		
6.					2 - Dominance Test is >50%	J	
7.					3 - Prevalence Index is ≤3.0	1	
8.					4 - Morphological Adaptation		
9.					data in Remarks or on a		
10					5 - Wetland Non-Vascular P		
11			<u></u>		Problematic Hydrophytic Ve	• • • • •	
Woody Vine Stratum (Plot size:)	85	= Total (Cover		¹ Indicators of hydric soil and we present, unless disturbed or pro		
					present, unless disturbed or pro	Diematic.	
1. 2.					Hydrophytic		
		= Total	Cover		Vegetation Yes	○ No	
% Bare Ground in Herb Stratum0					Present?	○ No	
Remarks:							

Profile Desc	ription: (De	scribe to	the depth	needed to docum	ent the ir	ndicator	or confir	m the absence of ir	ndicators.)
Depth		Matrix			ox Feature				
(inches)	Color (m	oist)	%	Color (moist)	<u>%</u>	Type ¹	Loc ²	Texture	Remarks
0-18	10YR	4/2	100	10YR 4/6	30	С	m	SILT LOAM	
			 -	 				 	
				educed Matrix, CS			ed Sand G		cation: PL=Pore Lining, M=Matrix.
		Applicate	to all LRF	Rs, unless otherw		1.)			rs for Problematic Hydric Soils ³ :
Histosol (Ļ	Sandy Redox (S!					Muck (A10)
	pedon (A2)		L	Stripped Matrix			MI DA 4)		Parent Material (TF2)
Black His	. ,		F	Loamy Mucky M			MLRA I)		Shallow Dark Surface (TF12)
	n Sulfide (A4) Below Dark		\11\ 	Loamy Gleyed M Depleted Matrix				Other	r (Explain in Remarks)
	'k Surface (A		~'')	Redox Dark Surf	. ,			3ln dianta	ro of budrophytic vegetation and
	ucky Mineral		<u> </u>	Depleted Dark S		7)			rs of hydrophytic vegetation and hydrology must be present,
=	eyed Matrix (į.	Redox Depression		, ,			isturbed or problematic.
Restrictive L	_				(, -)				
	ayer (ii pre.	sciity.							
Type:	-1							Usalaia Cail Da	resent? • Yes • No
Depth (in	unes).							Hydric Soil Pr	esent?
Remarks:					Pert				
located near	the wetland	boundary	but hydric	soil characteristics	are a little	e too dee	p.		
HYDROLO									
Wetland Hyd	drology Indi	cators:							
Primary India	ators (minim	um of on	e required;	check all that appl	y)			Secondar	ry Indicators (2 or more required)
Surface V	Vater (A1)			Water-Stain	ed Leaves	s (B9) (ex	xcept	Water	r-Stained Leaves (B9) (MLRA 1, 2,
High Wat	er Table (A2))		MLRA 1,	2, 4A, ar	nd 4B)			A, and 4B)
Saturation	` '			Salt Crust (age Patterns (B10)
Water Ma				Aquatic Inve				= -	Season Water Table (C2)
	Deposits (B2	2)		Hydrogen S					ration Visible on Aerial Imagery (C9)
Drift Dep				Oxidized Rh					norphic Position (D2)
	or Crust (B4)		✓ Presence of				=	ow Aquitard (D3)
Iron Depo	oil Cracks (B	6)		Recent Iron Stunted or S			•	· —	Neutral Test (D5) d Ant Mounds (D6) (LRR A)
=	n Visible on	,	agery (R7)	Other (Expla		•	I) (LKK A	_	-Heave Hummocks (D7)
	Vegetated Co		., , ,	Other (Expir	ani ni Ken	iai K3)		11030	-neave numinous (D1)
Field Observ		7110010 00	11400 (50)				1		
		O v	(A) N	5 4 6 1	,				
Surface Wate		Yes	● No						
Water Table		Yes	● No				— I		
Saturation Pr		O Yes	● No	Depth (inche	es):		w	etland Hydrology P	Present? • Yes • No
(includes cap Describe Red		(stream o	auge, mon	toring well, aerial p	hotos pr	evious in	spections	s), if available	
Docombo rec	Jordou Bala	(otroam g	augo, mon	itomig won, donar p	,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,	011000 111	оросполе	o,, ii availabio.	
Remarks:									

Project/Site: Parcel 3626069037		City/County: King Sampling Date: 12/14/2018						8
Applicant/Owner: Oxbow Farms				State	e: WA	Sampling P	oint: DP4	
Investigator(s): T.OPOLKA		Sect	tion, Town	nship, Range	27/26/7			
Landform (hillslope, terrace, etc.): Depress	sion	Loca	al relief (co	oncave, con	vex, none): con	cave	Slope (%):	<2
Subregion (LRR): A	Lat:			Long:		Datu	m:	
Soil Map Unit Name: Nooksack silt loam					NWI Classi	ification: UPLA	AND FIELD	
Are climatic / hydrologic conditions on the	site typical for this tim	ne of year?	Yes	s ON	o (If no, ex	plain in Rema	rks.)	
Are Vegetation, Soil, or Hydrol	logy significan	ntly disturbed	d?	Are "N	lormal Circumsta	ances" present	? • Yes	○ No
Are Vegetation, Soil, or Hydrol	logy naturally	problematic	?	(If nee	ded, explain any	answers in Re	emarks.)	
SUMMARY OF FINDINGS – Attac	ch site map sho	wing san	npling p	oint loca	tions, transe	cts, impor	tant feature	s, etc.
Hydric Soil Present? Wetland Hydrology Present?	Yes N Yes N	No		Sampled An a Wetland		○ Yes	No	
Remarks: VEGETATION – Use scientific na	ames of plants.							
	Absolute	Dom. F	Relative	Indicator	Dominance Te	st worksheet	:	
Tree Stratum (Plot size: 15ft x 15ft) 1.	% Cover	Sp.? 9	% Cover	Status	Number of Don That Are OBL,			(A)
2. 3.					Total Number of Species Across		1	(B)
4.		= Total Co			Percent of Dom That Are OBL,	•		
Sapling/Shrub Stratum (Plot size: 5ft x 5ft	<u>t</u>)	_				 		
1.					Prevalence Inc			
2. 3.					Total % Co	over of: 0	Multiply by: $ x 1 = 0$	_
4.					FACW species		x = 0 x = 200	_
5.		. —			FAC species	0	x 3 = 0	_
		= Total Co	over		FACU species		x 4 = 0	<u> </u>
Herb Stratum (Plot size: 5ft x 5ft)	100	v		-: OW	UPL species	0	x 5 = 0	– "
Phalaris arundinacea 2.		<u> </u>	100.0	FACW	Column Totals:	: <u>100</u> ce Index = B/A	(A) 200 $A = 2.000$	(B)
3					Hydrophytic V		-	
4 5.					_	_	hytic Vegetation	n
5. 6.						nce Test is >50		
7.					3 - Prevale	nce Index is ≤3	3.0 ¹	
8.							tions¹ (Provide	
9.		- — –		[a separate she	∍et)
10. 11.				[d Non-Vascula c Hydrophytic '	r Plants¹ Vegetation¹ (Ex	rnlain)
11. Woody Vine Stratum (Plot size:	100	= Total Co	over		¹Indicators of h	ydric soil and v	wetland hydrolo	
1.				h	-			
2		= Total Co	over		Hydrophytic Vegetation	● Y	es ON	n
% Bare Ground in Herb Stratum 0	<u> </u>				Present?			
Remarks:								

Profile Desc	ription: (Des	cribe to	the depth i	needed to docum	ent the i	ndicator	or confir	rm the absenc	ce of indicators.)		
Depth		1atrix			ox Feature						
(inches)	Color (mo	oist)	%	Color (moist)	%	Type ¹	Loc ²	Texture	<u> </u>	Remarks	
0-18	10YR	4/2	100					SILT LOAM			
								-			
¹Type: C=Co	ncentration, [D=Depleti	on, RM=Re	duced Matrix, CS:	=Covered	or Coate	d Sand C	Grains.	² Location: PL=F	Pore Lining, Ma	=Matrix.
				s, unless otherw					dicators for Prob		
Histosol ((A1)			Sandy Redox (S	5)				2 cm Muck (A10))	
Histic Epi	pedon (A2)			Stripped Matrix	(S6)				Red Parent Mate	rial (TF2)	
Black His	` '			Loamy Mucky M			MLRA 1)		Very Shallow Da	rk Surface (TF	12)
	n Sulfide (A4)			Loamy Gleyed M					Other (Explain in	Remarks)	
	Below Dark S		\11)	Depleted Matrix	` '						
	rk Surface (A	,	F	Redox Dark Surf	` ,	7\			ndicators of hydrop		
=	ucky Mineral (eyed Matrix (Depleted Dark S Redox Depression		/)			etland hydrology m nless disturbed or p		Ι,
					113 (10)			T UII	iless distarbed or p	orobicinatic.	
	_ayer (if pres	ent):									
Type:										Ovec	(A) No
Depth (in	ches):							Hydric S	Soil Present?	○ Yes	● No
Remarks:											
located near	the wetland b	oundary	but hydric s	oil characteristics	are a little	e too dee	p.				
HYDROLO	GY										
Wetland Hyd	drology Indic	ators:									
		um of one	e required;	check all that appl	-			Se	condary Indicators		
	Vater (A1)			Water-Stain		. , .	cept		Water-Stained Le	eaves (B9) (ML	RA 1, 2,
= "	er Table (A2)				2, 4A, ar	nd 4B)			4A, and 4B)	(5.4.0)	
Saturation	` '			Salt Crust (I		(D10)		<u> </u>	Drainage Pattern		
Water Ma	Deposits (B2	`		Aquatic Inve					Dry-Season Wate Saturation Visible		gony (CO)
Drift Dep)		Oxidized Rh			ivina Poo	nts (C3)	Geomorphic Posi		gery (C9)
=	or Crust (B4)			Presence of	-	_	_		Shallow Aquitard		
Iron Depo				Recent Iron				6) 🔽	FAC-Neutral Test		
	ioil Cracks (Bé	5)		Stunted or S			•	· _	Raised Ant Moun		A)
Inundation	n Visible on A	Aerial Ima	gery (B7)	Other (Expl		-	, ,		Frost-Heave Hun		
Sparsely	Vegetated Co	ncave Su	rface (B8)								
Field Observ	vations:										
Surface Wat	er Present?	O Yes	No	Depth (inche	es):						
Water Table		O Yes	⊚ No		· —		_				
Saturation P		O Yes	No				— I w	etland Hydro	logy Present?	O Yes	No
(includes cap										<u> </u>	<u> </u>
Describe Red	corded Data (stream g	auge, moni	toring well, aerial p	hotos, pr	evious in:	spections	s), if available:			
Domorko:											
Remarks:											

Project/Site: Parcel 3626069037		City/County: King Sampling Date: 12/14/2018						
Applicant/Owner: Oxbow Farms		State: WA Sampling Point: DP5						
Investigator(s): T.OPOLKA		Section, Tow	nship, Rang	e: <u>27/26/7</u>				
Landform (hillslope, terrace, etc.): Depression		Local relief (concave, cor	nvex, none): concave	Slope (%): <2			
Subregion (LRR): A	Lat:	•	Long:	Datu	m:			
Soil Map Unit Name: Nooksack silt loam				NWI Classification: PEM				
Are climatic / hydrologic conditions on the site typical	al for this time of v	/ear? • Y	es O N					
Are Vegetation , Soil , or Hydrology	significantly dis	_	_	Normal Circumstances" present				
Are Vegetation , Soil , or Hydrology	naturally proble			eded, explain any answers in Re				
SUMMARY OF FINDINGS – Attach site								
Hydrophytic Vegetation Present? Hydric Soil Present? Wetland Hydrology Present? Remarks: Yes Yes Yes	○ No ○ No ○ No	Is th	e Sampled A	Area	○ No			
VEGETATION – Use scientific names of	f plants.							
	•	Delegies	La d'a a Cara	Dominance Test worksheet	<u> </u>			
Tree Stratum (Plot size: 15ft x 15ft) 1.	Absolute Dor % Cover Sp.	.? % Cover	Indicator Status	Number of Dominant Species That Are OBL, FACW, or FAC	1			
2. 3.				Total Number of Dominant Species Across All Strata:	1 (B)			
4.		otal Cover		Percent of Dominant Species That Are OBL, FACW, or FAC				
Sapling/Shrub Stratum (Plot size: 5ft x 5ft)								
1			. ——	Prevalence Index workshee				
2.				Total % Cover of:	Multiply by:			
3		_		OBL species 0 100	$ \begin{array}{ccc} x & 1 & = & 0 \\ x & 2 & = & 200 \end{array} $			
5.				FAC species 0	x = 3 = 0			
5.		otal Cover		FACU species 0	x 4 = 0			
Herb Stratum (Plot size: 5ft x 5ft)				UPL species 0	x 5 = 0			
Phalaris arundinacea	100 Y	100.0	FACW	Column Totals: 100	(A) 200 (B)			
2	<u> </u>			Prevalence Index = B/A	= 2.000			
3.				Hydrophytic Vegetation Ind				
4 5.				1 - Rapid Test for Hydrop				
6				2 - Dominance Test is >5	•			
7.				3 - Prevalence Index is ≤3				
8.				4 - Morphological Adapta	tions ¹ (Provide supporting			
9.				data in Remarks or on	a separate sheet)			
10				5 - Wetland Non-Vascula	r Plants ¹			
11				Problematic Hydrophytic				
Woody Vine Stratum (Plot size:)		otal Cover		¹Indicators of hydric soil and v present, unless disturbed or p				
1. 2.		_		Hydrophytic				
% Bare Ground in Herb Stratum 0	= To	otal Cover		Vegetation Present?	es O No			
Remarks:				<u>l</u>				

Profile Desc	ription: (Des	scribe to	the depth	needed	to docum	ent the i	ndicator	or confir	rm the abser	nce of indi	cators.)		
Depth		Matrix				ox Feature							
(inches)	Color (mo	oist)	%	Color (moist)	<u>%</u>	Type ¹	Loc ²	Textur	re		Remarks	·
0-18	10YR	4/2	100	10YR	5/1	30	D	M	SILT LOAM	<u> </u>			_
				10YR	4/6	10	С	М					
													_
													_
¹ Type: C=Co								ed Sand G				ore Lining, M	
Hydric Soil I	ndicators: (Applicble	to all LR	Rs, unles	ss otherw	ise noted	l.)		lr	ndicators	for Proble	ematic Hydr	ic Soils³:
Histosol (Redox (S				L	_	uck (A10)		
	pedon (A2)				ed Matrix				-		ent Materi		-40)
Black His	` '			_	/ Mucky M / Gleyed N			MLRA 1)	<u> </u>	= 1	allow Dark Explain in	Surface (TF	-12)
	n Sulfide (A4) Below Dark :		(11)	_	ted Matrix				<u> </u>	Other (i	Ехріант ін	Kemarks)	
	rk Surface (A		(11)	= '	Dark Surf	` '			3	Indicators	of hydroph	nytic vegetati	ion and
	ucky Mineral				ed Dark S		7)					ıst be presei	
Sandy Gl	eyed Matrix (S4)		✓ Redox	Depression	ons (F8)			u	nless distu	ırbed or pı	roblematic.	
Restrictive I	ayer (if pres	sent):											
Type:													
Depth (in	ches):								Hydric	Soil Pres	ent?	Yes	◯ No
Remarks:													
located near	the wetland b	ooundary	but hydric	soil char	acteristics	are a little	e too dee	p.					
HYDROLO	GY												
Wetland Hyd	drology Indic	cators:											
Primary India			e reauired	: check al	l that appl	v)			S	econdary	Indicators	(2 or more r	eguired)
	Vater (A1)		!		ater-Stain	-	s (B9) (ex	xcept				aves (B9) (M	
High Wat	er Table (A2)				MLRA 1,	, 2, 4A, ar	nd 4B)	·	_	4A, a	and 4B)		
Saturation	• •				alt Crust (I						e Patterns		
Water Ma					quatic Inve					= -		Table (C2)	
=	Deposits (B2	2)			ydrogen S		. ,		. (22)	=		on Aerial Im	agery (C9)
Drift Dep		`			xidized Rh esence of				ots (C3)	_	phic Positi		
Iron Depo	or Crust (B4))			esence of ecent Iron				6) [.	=	Aquitard (utral Test		
	ioil Cracks (B	5)			unted or S			•	· =	_		(D3) ls (D6) (LRR	A)
=	on Visible on A	•	gery (B7)	=	ther (Expl		-	., (2,		=		mocks (D7)	7.9
	Vegetated Co				` '		,			_		, ,	
Field Observ	vations:												
Surface Wat	er Present?	O Yes	● N	lo De	epth (inche	es):							
Water Table		O Yes	⊙ N		epth (inche	· 							
Saturation P		O Yes	۱ <u>ق</u>		epth (inche			— I w	etland Hydr	oloav Pre	sent?	Yes	○ No
(includes cap								-					
Describe Red	corded Data	stream ga	auge, mo	nitoring w	ell, aerial p	ohotos, pr	evious in	spections	s), if available	:			
Remarks:													
Acmand.													

Project/Site: Parcel 3626069037		Ci	City/County: King Sampling Date: 12/14/2018					
Applicant/Owner: Oxbow Farms				Stat	te: WA	Sampling P	oint: DP6	
Investigator(s): T.OPOLKA		Se	ection, Tow	nship, Range	e: 27/26/7			
Landform (hillslope, terrace, etc.): Depress	sion	Lc	ocal relief (c	oncave, con	vex, none): con	cave	Slope (%):	<2
Subregion (LRR): A	Lat	:		Long:		Datu	m:	
Soil Map Unit Name: Nooksack silt loam						fication: UPL/	-	
Are climatic / hydrologic conditions on the	site typical for this	time of yea	ır? 🔘 Ye	es O N	lo (If no, ex	plain in Rema	rks.)	
Are Vegetation , Soil , or Hydro		antly disturb	_	-	Normal Circumsta		_	○ No
Are Vegetation, Soil, or Hydro	= =	ly problema			eded, explain any			•
SUMMARY OF FINDINGS – Atta					-			s, etc.
) No			,			
· · · · ·	<u> </u>) No		e Sampled A		O Voc	No	
Wetland Hydrology Present?) No	withi	n a Wetland	1?	O Yes	● No	
Remarks:								
VEGETATION - Use scientific na	ames of plants							
	•		Polotivo	Indicator	Dominance Te	st worksheet	<u> </u>	
Tree Stratum (Plot size: 15ft x 15ft)	Absolu) % Cov		Relative % Cover	Status	Number of Dom			
1.					That Are OBL, I	•		(A)
2.					Total Number o	of Dominant		_
3.					Species Across	All Strata:	3	_ (B)
4					Percent of Dom	•		
		= Total	Cover		That Are OBL, I	FACW, or FAC	C: <u>100.0%</u>	<u>,</u> (A/B)
Sapling/Shrub Stratum (Plot size: 5ft x 5					Prevalence Ind	lav workshee	<u></u>	
1. 2.					Total % Co		Multiply by:	
					OBL species	0	x 1 = 0	_
4.					FACW species		x 2 = 120	_
5.					FAC species	40	x 3 = 120	_
		= Total	Cover		FACU species	0	x 4 = 0	_
Herb Stratum (Plot size: 5ft x 5ft))				UPL species	0	x 5 =0	
1. Schedonorus arundinaceus		<u>Y</u>	20.0	FAC	Column Totals:	100	(A) <u>240</u>	(B)
2. Dactylis glomerata	60	_ <u>Y</u>	60.0	FACW	Prevalenc	ce Index = B/A	A = 2.400	
 Agrostis stolonifera 4. 		<u>Y</u>	20.0	<u>FAC</u>	Hydrophytic Ve	egetation Ind	icators:	
					l <u> </u>	_	hytic Vegetatio	ın
5. 6.						nce Test is >5	, ,	"
7.						nce Index is ≤3	3.0 ¹	
8.							tions1 (Provide	
9.					<u> </u>		n a separate she	eet)
10						l Non-Vascula		
11							Vegetation ¹ (Ex	• •
Woody Vine Stratum (Plot size:)	= Total	Cover		¹ Indicators of hy present, unless			ogy must be
1								
2					Hydrophytic			
		= Total	Cover		Vegetation Present?	Y	'es 🔘 N	lo
% Bare Ground in Herb Stratum 0	_				rieseit!			
Remarks:								

Profile Desc	ription: (Des	cribe to the	e depth nee	eded to docum	ent the i	ndicator	or confir	rm the absen	ce of indicat	ors.)		
Depth		atrix			ox Featur							
(inches)	Color (mo	ist) '	% C	olor (moist)	<u>%</u>	Type ¹	Loc ²	Textur	<u>e</u>		Remarks	
0-18	10YR	4/2 1	00					SILT LOAM	<u> </u>			
			,									
1Tymay C. Ca	noontrotion [Doplotion	DM Dadu	and Matrix, CC	Cayarad	or Coats			2l continu	DI Doro	Linina M	Motrix
				ced Matrix, CS= unless otherw			d Sand C		² Location:			
Histosol	-	ppiiobic to				,			2 cm Muck		atio riyari	o cons .
=	pedon (A2)			andy Redox (Standy Redox (Standy Redox (Standy)					Red Parent	• ,	TEO)	
Black His	•			oamy Mucky Mi) (except	MIRA 1)	_	Very Shallo			12)
	Sulfide (A4)			oamy Gleyed M			. IVILIO (1)		Other (Expl			12)
	Below Dark S	urface (A1		Depleted Matrix							,	
	k Surface (A1			Redox Dark Surf	ace (F6)			3	ndicators of h	vdrophytic	c vegetatio	n and
Sandy Mu	ucky Mineral (S1)		epleted Dark S	urface (F	7)			etland hydrolo			
Sandy Gl	eyed Matrix (S	54)	R	Redox Depression	ns (F8)			ur	nless disturbe	d or probl	ematic.	
Restrictive I	ayer (if pres	ent):										
Type:												
Depth (in	ches):			_				Hydric	Soil Present	? (Yes	No
Remarks:				_								
	the wetland b	oundarv bu	t hvdric soil	characteristics	are a little	e too dee	eD.					
		,	,				•					
HYDROLO	GY											
	drology Indic	atore:										
_				امسم فمطف الميام				C		t (2		
	ators (minimi Vater (A1)	ım ot one r	<u>equirea; cne</u> I	eck all that appl Water-Stain	-	(PO) (o)	vcont	<u>Se</u>	econdary Indi Water-Stain			
	er Table (A2)		L		eu Leave: 2, 4A, ar	. , .	ксері	L	water-stain 4A, and		S (D9) (IVIL	KA 1, 2,
Saturation	٠,		[Salt Crust (E		iu 4 <i>b)</i>			Drainage Pa	,	10)	
Water Ma	` '			Aquatic Inve		(B13)		_	Dry-Season			
=	Deposits (B2))	-	Hydrogen S					Saturation \			aerv (C9)
Drift Dep				Oxidized Rh			iving Roo	ots (C3)	Geomorphic			3-3 (-)
=	or Crust (B4)			Presence of	Reduced	Iron (C4)		Shallow Aqu			
Iron Depo				Recent Iron					FAC-Neutra			
=	oil Cracks (B6	•		Stunted or S		•	1) (LRR A	.)	Raised Ant			1)
	n Visible on A			Other (Expla	ain in Ren	narks)			Frost-Heave	Hummod	cks (D7)	
Sparsely	Vegetated Cor	ncave Surfa	ce (B8)									
Field Observ	vations:											
Surface Wat	er Present?	O Yes	No	Depth (inche	es):							
Water Table	Present?	O Yes	No	Depth (inche	es):							
Saturation Pr	esent?	O Yes	No	Depth (inche	es):		W	etland Hydro	ology Presen	t? (Yes	No
(includes cap												
Describe Red	corded Data (stream gau	ge, monitori	ng well, aerial p	notos, pr	evious in	spections	s), if available:	•			
Remarks:												

Project/Site: Parcel 3626069037		City/County: King Sampling Date: 12/14/2018						
Applicant/Owner: Oxbow Farms				Sta	ate: WA Sampling Point: DP7			
Investigator(s): T.OPOLKA		Se	ction, Towr	nship, Rang	je: <u>27/26/7</u>			
Landform (hillslope, terrace, etc.): Depression		Lo	cal relief (c	oncave, cor	nvex, none): concave Slope (%): <2			
Subregion (LRR): A	Lat:			Long:	Datum:			
Soil Map Unit Name: Nooksack silt loam					NWI Classification: PEM			
Are climatic / hydrologic conditions on the site type	pical for this time	of year	? ① Ye	es ON	No (If no, explain in Remarks.)			
Are Vegetation, Soil, or Hydrology _	significantly	disturb disturb	ed?	Are "N	Normal Circumstances" present? Yes No			
Are Vegetation, Soil, or Hydrology _	naturally pro	oblemat	tic?	(If nea	eded, explain any answers in Remarks.)			
SUMMARY OF FINDINGS – Attach sit	te map show	ing sa	ımpling լ	point loca	ations, transects, important features, etc.			
Hydrophytic Vegetation Present? Hydric Soil Present? Wetland Hydrology Present? Yes Yes Yes	Ō No			e Sampled / n a Wetland				
Remarks:								
VEGETATION - Use scientific names	of plants.							
	Absolute	Dom.	Relative	Indicator	Dominance Test worksheet:			
Tree Stratum (Plot size: 15ft x 15ft) 1.			% Cover	Status	Number of Dominant Species That Are OBL, FACW, or FAC: 2 (A)			
23.					Total Number of Dominant Species Across All Strata: 2 (B)			
4.		= Total (Percent of Dominant Species That Are OBL, FACW, or FAC: 100.0% (A/B)			
Sapling/Shrub Stratum (Plot size: 5ft x 5ft								
1.				#N/A	Prevalence Index worksheet:			
2. 3.					Total % Cover of: Multiply by: OBL species 0 x 1 = 0			
4.					FACW species $60 \times 2 = 120$			
5.					FAC species 25 x 3 = 75			
		= Total (Cover		FACU species 15 x 4 = 60			
Herb Stratum (Plot size: 5ft x 5ft)	22		22.2	- 4 0	UPL species $0 \times 5 = 0$			
 Agrostis stolonifera . 		Υ	20.0	<u>FAC</u>	Column Totals: (A) (B)			
3.					Prevalence Index = B/A = 2.550			
4. Lolium perenne	5	N	5.0	FAC	Hydrophytic Vegetation Indicators:			
5. Phalaris arundinacea	60	Υ	60.0	FACW	1 - Rapid Test for Hydrophytic Vegetation			
6. Dactylis glomerata	15	N	15.0	FACU	2 - Dominance Test is >50%			
7. 8.					3 - Prevalence Index is ≤3.0¹ 4 - Morphological Adaptations¹ (Provide supporting			
0					data in Remarks or on a separate sheet)			
10.					5 - Wetland Non-Vascular Plants ¹			
11.					Problematic Hydrophytic Vegetation¹ (Explain)			
Woody Vine Stratum (Plot size:)	= Total (Cover		¹ Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.			
1.	<u> </u>							
% Bare Ground in Herb Stratum 0		= Total (Cover		Hydrophytic Vegetation Present? Yes No			
Remarks:					1			
Nemarks.								

Profile Desc	cription: (De	escribe t	o the deptl	n needed t				or confi	rm the absence of i	ndicators.)		
Depth		Matrix		0.1./		ox Feature			- .			
(inches)	Color (n		<u>%</u>	Color (r	noist)	<u>%</u>	Type ¹	Loc ²	Texture		Remarks	
0-6	10YR	4/2	100						SILT LOAM			
6-12	10YR	4/1	60	10YR	3/6	40	<u>C</u>	M	SILT LOAM			
					·							
												_
					. ——					-		
47 0 0												
¹ Type: C=Co								ed Sand C			Pore Lining, M lematic Hydr	
		(Applica	ile to all Er				1.)				-	ic solis.
Histosol	oipedon (A2)			= -	Redox (S ed Matrix				=	Muck (A10) Parent Mate		
Black His						lineral (F1)) (except	MLRA 1)			k Surface (TF	12)
	n Sulfide (A4	1)		=	-	Natrix (F2)		,		r (Explain in		/
	d Below Dark		(A11)	_	ed Matrix				<u>—</u>	•		
_	ark Surface (•		_	Dark Sur						hytic vegetati	
	lucky Minera					Surface (F	7)				ust be preser	nt,
	leyed Matrix			✓ Redox	Depression	ons (F8)			unless d	sturbed or p	problematic.	
Restrictive	Layer (if pre	esent):										
Type:											Yes	○ No
Depth (in	ncnes):								Hydric Soil Pr	esent?	⊕ 163	<u> </u>
Remarks:		h	وأسلم وما عروما والم	: !		!!##	. 4					
located near	r the wetland	boundar	y but nyana	son chara	icteristics	are a little	e too dee	ep.				
HYDROLO	GY											
Wetland Hy		icators:										
Primary Indi			no roquiros	l: chock all	that ann	lv)			Soconda	v Indicators	(2 or more r	oquirod)
	Water (A1)	iluili oi o	ine required			ned Leaves	s (B9) (e	xcent			eaves (B9) (M	
=	ter Table (A2))				, 2, 4A, ar		ксорт		A, and 4B)	.uvc3 (D7) (W	LIV. 1, 2,
Saturation	-	-,		Sa	It Crust (,		Drain	age Pattern	s (B10)	
	arks (B1)					ertebrates	(B13)				er Table (C2)	
_	t Deposits (E	32)				Sulfide Odd					on Aerial Im	agery (C9)
	oosits (B3)					nizosphere	U	0	` ' =	norphic Posi		
	t or Crust (B	4)		=		Reduced	-	-		ow Aquitard		
	oosits (B5) Soil Cracks (I	26)		=		n Reductio Stressed F		-	· =	Veutral Test	(D5) ds (D6) (LRR	۸١
	on Visible on	-	nagery (B7)			ain in Ren	-	I) (LKK A	_		mocks (D7)	A)
	Vegetated C				ner (Expi	ani in iton	nui K5)		11031	ricave riair	iinocks (B7)	
Field Obser	rvations:							Ĭ				
Surface Wat	ter Present?	○ Ye	s 💿 N	No De	pth (inche	es):						
Water Table	Present?	O Ye	=		pth (inche	· -						
Saturation P	Present?	O Ye			pth (inche			w	etland Hydrology P	resent?	Yes	○ No
(includes ca											_	
Describe Re	ecorded Data	(stream	gauge, mo	nitoring we	ıll, aerial _l	photos, pr	evious in	spections	s), if available:			
Remarks:												
Remarks:												
Remarks:												
Remarks:												

Project/Site: Parcel 3626069037		Ci	ty/County: I	King	Sampling Dat	te: 12/14/2018	3
Applicant/Owner: Oxbow Farms			_	Stat	e: WA Sampling Poi	nt: DP8	
Investigator(s): T.OPOLKA		Se	ection, Town	nship, Range	e: 27/26/7		
Landform (hillslope, terrace, etc.): Depression					vex, none): concave	Slope (%): <	<2
Subregion (LRR): A	Lat:		•		Datum	_	
Soil Map Unit Name: Nooksack silt loam					NWI Classification: UPLAN	ND FIELD	
Are climatic / hydrologic conditions on the site typical	for this time	of vear	r?	s ON			
Are Vegetation , Soil , or Hydrology	significantly	-	-	_	Normal Circumstances" present?	· · ·	○ No
Are Vegetation, Soil, or Hydrology	-				eded, explain any answers in Rem		
SUMMARY OF FINDINGS – Attach site n							s, etc.
Hydrophytic Vegetation Present? Hydric Soil Present? Wetland Hydrology Present? Yes Yes Yes Remarks:	O No)		Sampled A		No	
VEGETATION – Use scientific names of	-				Dominance Test worksheet:		
Tree Stratum (Plot size: 15ft x 15ft) 1.	Absolute % Cover			Indicator Status	Number of Dominant Species That Are OBL, FACW, or FAC:	3	(A)
2. 3.					Total Number of Dominant Species Across All Strata:	3	(B)
4. Sapling/Shrub Stratum (Plot size: 5ft x 5ft)		= Total	Cover		Percent of Dominant Species That Are OBL, FACW, or FAC:	100.0%	(A/B)
1				#N/A	Prevalence Index worksheet:		
2.					Total % Cover of:	Multiply by:	
3.					OBL species 0 x	1 = 0	
4.					FACW species 35 x	2 = 70	_
5						3 = 180	_
Hark Objections (Distractors 50 to 50		= Total	Cover			4 = 20	_
Herb Stratum (Plot size: 5ft x 5ft) 1. Agrostis stolonifera	20	Υ	20.0	FAC		5 = 0 A) 270	– (B)
2. Holcus lanatus	5	N	5.0	FACW	Coldinii Totals. 100 (7	1)	_ (D)
3. Cirsium arvense	10	N	10.0	FAC	Prevalence Index = B/A =	2.700	_
4. Ranunculus repens	30	Υ	30.0	FAC	Hydrophytic Vegetation Indica	ators:	
5. Phalaris arundinacea	30	Υ	30.0	FACW	1 - Rapid Test for Hydrophy	•	
6. Dactylis glomerata	5	<u>N</u>	5.0	FACU	2 - Dominance Test is >50%		
7					3 - Prevalence Index is ≤3.0		
8. 9.					4 - Morphological Adaptatio data in Remarks or on a		
10.					5 - Wetland Non-Vascular F		,
11.					Problematic Hydrophytic Ve		olain)
Woody Vine Stratum (Plot size:)		= Total	Cover		¹ Indicators of hydric soil and we present, unless disturbed or pro		y must be
1		= Total	Cover		Hydrophytic Vegetation Present? Yes	s O No	
% Bare Ground in Herb Stratum0 Remarks:							
Tomano.							

Profile Desc	ription: (Des	cribe to the	e depth nee	eded to docum	ent the i	ndicator	or confir	rm the absen	ce of indicat	ors.)		
Depth		atrix			x Featur							
(inches)	Color (mo	ist) '	% C	olor (moist)	<u>%</u>	Type ¹	Loc ²	Textur	<u>e</u>		Remarks	
0-18	10YR	4/2 1	00					SILT LOAM	<u> </u>			
			,									
1Tymay C. Ca	noontrotion [Doplotion	DM Dadu	and Matrix, CC	Cayarad	or Coats			2l continu	DI Doro	Linina M	Motrix
				ced Matrix, CS= unless otherw			d Sand C		² Location:			
Histosol	-	ppiiobic to				,			2 cm Muck		atio riyari	o cons .
=	pedon (A2)			andy Redox (Standy Redox (Standy Redox (Standy)					Red Parent	• ,	TEO)	
Black His	•			oamy Mucky Mi) (except	MIRA 1)	_	Very Shallo			12)
	Sulfide (A4)			oamy Gleyed M			. IVILIO (1)		Other (Expl			12)
	Below Dark S	urface (A1		Depleted Matrix							,	
	k Surface (A1			Redox Dark Surf	ace (F6)			3	ndicators of h	vdrophytic	c vegetatio	n and
Sandy Mu	ucky Mineral (S1)		epleted Dark S	urface (F	7)			etland hydrolo			
Sandy Gl	eyed Matrix (S	54)	R	Redox Depression	ns (F8)			ur	nless disturbe	d or probl	ematic.	
Restrictive I	ayer (if pres	ent):										
Type:												
Depth (in	ches):			_				Hydric	Soil Present	? (Yes	No
Remarks:				_								
	the wetland b	oundarv bu	t hvdric soil	characteristics	are a little	e too dee	eD.					
		,	,				•					
HYDROLO	GY											
	drology Indic	atore:										
_				امسم فمطف الميام				C		t (2		
	ators (minimi Vater (A1)	ım ot one r	<u>equirea; cne</u> I	eck all that appl Water-Stain	-	(PO) (o)	vcont	<u>Se</u>	econdary Indi Water-Stain			
	er Table (A2)		L		eu Leave: 2, 4A, ar	. , .	ксері	L	water-stain 4A, and		S (D9) (IVIL	KA 1, 2,
Saturation	٠,		[Salt Crust (E		iu 4 <i>b)</i>			Drainage Pa	,	10)	
Water Ma	` '			Aquatic Inve		(B13)		_	Dry-Season			
=	Deposits (B2))	-	Hydrogen S					Saturation \			aerv (C9)
Drift Dep				Oxidized Rh			iving Roo	ots (C3)	Geomorphic			3-3 (-)
=	or Crust (B4)			Presence of	Reduced	Iron (C4)		Shallow Aqu			
Iron Depo				Recent Iron					FAC-Neutra			
=	oil Cracks (B6	•		Stunted or S		•	1) (LRR A	.)	Raised Ant			1)
	n Visible on A			Other (Expla	ain in Ren	narks)			Frost-Heave	Hummod	cks (D7)	
Sparsely	Vegetated Cor	ncave Surfa	ce (B8)									
Field Observ	vations:											
Surface Wat	er Present?	O Yes	No	Depth (inche	es):							
Water Table	Present?	O Yes	No	Depth (inche	es):							
Saturation Pr	esent?	O Yes	No	Depth (inche	es):		W	etland Hydro	ology Presen	t? (Yes	No
(includes cap												
Describe Red	corded Data (stream gau	ge, monitori	ng well, aerial p	notos, pr	evious in	spections	s), if available:	•			
Remarks:												

Project/Site: Parcel 3626069037	City/County: King Sampling Date: 12/14/2018								
Applicant/Owner: Oxbow Farms					State	e: WA	Sampling F	Point: DP9	
Investigator(s): T.OPOLKA			Se	ction, Town	nship, Range	e: 27/26/7			
Landform (hillslope, terrace, etc.): Depress	sion		Lo	cal relief (co	oncave, con	vex, none): co	ncave	Slope (%)	: <2
Subregion (LRR): A		Lat:			Long:		Datu	ım:	
Soil Map Unit Name: Nooksack silt loam							sification: PEM		
Are climatic / hydrologic conditions on the	site typical for	this time	of year	? (Ye	es O No		explain in Rema		
Are Vegetation , Soil , or Hydro		gnificantly	-	_	_	ormal Circumst	•	· · ·	○ No
Are Vegetation, Soil, or Hydro	= =	aturally pro				ded, explain an	•	-	Ŭ
SUMMARY OF FINDINGS – Atta									es, etc.
Hydrophytic Vegetation Present?	Yes	O No		1	<u>'</u>		· ·		
,	Yes	O No			e Sampled A n a Wetland		Yes	○ No	
, 0,	Yes	○ No				•		-	
Remarks:									
VEGETATION – Use scientific n	ames of pla	ants.				<u> </u>			
			Dom.	Relative	Indicator	Dominance T	est worksheet	t:	
Tree Stratum (Plot size: 15ft x 15ft) 1.				% Cover	Status		minant Species , FACW, or FA		(A)
2						Total Number Species Acros		3	(B)
4.							minant Species		` '
-			= Total (Cover			, FACW, or FA		% (A/B)
Sapling/Shrub Stratum (Plot size: 5ft x 5	ft)	<u> </u>			[
1					#N/A		ndex workshee		
2.						Total % (Multiply by	<u>':</u>
3.					[OBL species	s 80	x 1 = 0 x 2 = 160	<u></u>
4						FACW species FAC species	20	$x = \frac{160}{100}$	
J			= Total (Cover		FACU species		x 4 = 0	
Herb Stratum (Plot size: 5ft x 5ft))					UPL species	0	x 5 = 0	
1. Phalaris arundinacea		30	Υ	30.0	FACW	Column Totals	s: 100	(A) 220) (B)
2. Ranunculus repens		50	Υ	50.0	FACW	Prevaler	nce Index = B/A	A = 2.200	<u> </u>
3. Agrostis stolonifera		20	Υ	20.0	FAC			-	<u></u>
4					[Vegetation Ind		
5.							Test for Hydrop ance Test is >5	, ,	ion
6					——[ance Test is >5 ence Index is ≤		
7. 8.							ological Adapta		e sunnorting
9							Remarks or or		
10.						5 - Wetlan	nd Non-Vascula	ar Plants ¹	
11.		:				Problema	tic Hydrophytic	Vegetation1 (E	Explain)
Woody Vine Stratum (Plot size:		100 =	= Total (Cover			hydric soil and s disturbed or p		logy must be
1.					h	•			
2						Hydrophytic			
	_	=	= Total (Cover		Vegetation	● Y	res 🔘	No
% Bare Ground in Herb Stratum 0						Present?			
Remarks:									

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)													
Depth		/latrix			ox Feature								
(inches)	Color (mo	oist)	% C	olor (moist)	%	Type ¹	Loc ²	Texture	Remarks				
0-18	10YR	5/1	70 10	YR 3/6	30	С	M	SILT LOAM					
									_				
					 .								
				ced Matrix, CS=			d Sand G		ration: PL=Pore Lining, M=Matrix.				
		Applicate to		unless otherw		.)			s for Problematic Hydric Soils³:				
Histosol				Sandy Redox (St				=	Muck (A10)				
	pedon (A2)			Stripped Matrix (M DA 4)		Parent Material (TF2)				
Black His	• •			oamy Mucky Mi			MLRA I)	\ 1) \qquad \text{Very Shallow Dark Surface (TF12)} \qquad \text{Other (Explain in Remarks)}					
	n Sulfide (A4) Below Dark	Surface (A1		oamy Gleyed M Depleted Matrix					(Explain in Remarks)				
	k Surface (A			Redox Dark Surf	. ,			3Indicator	es of hydrophytic vogetation and				
	ucky Mineral			Depleted Dark S		7)		³ Indicators of hydrophytic vegetation and wetland hydrology must be present,					
	eyed Matrix (Redox Depressio		,			unless disturbed or problematic.				
Restrictive I		•											
	ayer (ii pres	city.											
Type:	-1			_				Ukadaia Cail Da	esent? • Yes O No				
Depth (in	unes).			_				Hydric Soil Pro	esent? O 103 O 100				
Remarks:													
located near	the wetland i	oundary bu	t hydric soil	characteristics	are a little	too dee	p.						
HYDROLO													
Wetland Hyd	drology Indic	ators:											
Primary Indic	ators (minim	um of one r	equired; che	eck all that appl	y)			Secondar	y Indicators (2 or more required)				
Surface V	Vater (A1)			Water-Stain	ed Leaves	(B9) (ex	cept	Water	-Stained Leaves (B9) (MLRA 1, 2,				
High Wat	er Table (A2)			MLRA 1,	2, 4A, an	d 4B)			a, and 4B)				
Saturation (A3) Salt Crust (B11)							Drainage Patterns (B10)						
Water Marks (B1) Aquatic Invertebrates (B13) Dry-Season Water T													
=	Deposits (B2	2)		Hydrogen S					ation Visible on Aerial Imagery (C9)				
Drift Dep				Oxidized Rh					orphic Position (D2)				
Algal Mat or Crust (B4) Presence of Reduced Iron (C4) Shallow Aquitard (D3) Presence of Reduced Iron (C4) Shallow Aquitard (D5)								•					
☐ Iron Deposits (B5) ☐ Recent Iron Reduction in Tilled Soils (C6) ☐ FAC-Neutral Test (D5) ☐ Surface Soil Cracks (B6) ☐ Stunted or Stressed Plants (D1) (LRR A) ☐ Raised Ant Mounds (D6) (LRR A)													
Surface Soil Cracks (B6) Stunted or Stressed Plants (D1) (LRR A) Raised Ant Mounds (D6) (LRR A) Inundation Visible on Aerial Imagery (B7) Other (Explain in Remarks) Frost-Heave Hummocks (D7)													
	Vegetated Co			Other (Expir	ani in iten	iai K3)		1103t-	rieave riumnocks (D7)				
Field Observ		noave oune	00 (50)										
		O v	N =	5 4 6 1	,								
Surface Water		O Yes	No	Depth (inche			<u> </u>						
Water Table		Yes	● No	Depth (inche			— I						
Saturation Pr		O Yes	No	Depth (inche	es):		w	etland Hydrology P	resent?				
(includes capillary fringe) Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:													
2.2.2.4. (2.2.2 g.2.2.4.,													
Remarks:													

Project/Site: Parcel 3626069037		City/County:	: King	Sampling Date: 12/14/2018					
Applicant/Owner: Oxbow Farms			Stat	ate: WA Sampling Point: DP10					
Investigator(s): T.OPOLKA		Section, To							
Landform (hillslope, terrace, etc.): Depression	n	Local relief	Local relief (concave, convex, none): concave Slope (%):						
Subregion (LRR): A	Lat:		Long: Datum:						
Soil Map Unit Name: Nooksack silt loam				NWI Classification:	UPLAND FIELD				
Are climatic / hydrologic conditions on the sit	e typical for this time of	of year?	Yes O N	lo (If no, explain in I	Remarks.)				
Are Vegetation, Soil, or Hydrolog	gy significantly	disturbed?	Are "N	Normal Circumstances" pr	resent? Yes No				
Are Vegetation, Soil, or Hydrolog	gy naturally pro	blematic?	(If nee	eded, explain any answers	s in Remarks.)				
SUMMARY OF FINDINGS – Attach	site map showi	ng sampling	j point loca	ations, transects, in	nportant features, etc.				
Hydric Soil Present? Wetland Hydrology Present?	Yes No Yes No Yes No		he Sampled A hin a Wetland		es (No				
Remarks: VEGETATION – Use scientific nam	nes of plants.								
	Absolute [Dom. Relative	e Indicator	Dominance Test work	sheet:				
<u>Tree Stratum</u> (Plot size: 15ft x 15ft) 1.	% Cover S	Sp.? % Cover		Number of Dominant Sp That Are OBL, FACW, of	•				
2. 3.				Total Number of Domin Species Across All Stra					
4.		Total Cover		Percent of Dominant Sp That Are OBL, FACW, o	pecies				
Sapling/Shrub Stratum (Plot size: 5ft x 5ft)								
1.				Prevalence Index work					
2. 3.				Total % Cover of:	$\frac{\text{Multiply by:}}{\text{x 1} = 0}$				
				OBL species 0 FACW species 50					
4				FAC species 50					
		Total Cover		FACU species 0	x 4 = 0				
Herb Stratum (Plot size: 5ft x 5ft)				UPL species 0					
Agrostis stolonifera Schedonorus arundinaceus	50 50	Y 50.0 Y 50.0	FACW FACW	Column Totals: 100 Prevalence Index	()				
3.									
4 5.				Hydrophytic Vegetatio	on Indicators: Hydrophytic Vegetation				
5				2 - Dominance Test					
7.				✓ 3 - Prevalence Inde					
8.					adaptations ¹ (Provide supporting				
9					s or on a separate sheet)				
10. 11.				5 - Wetland Non-Va Problematic Hydrop	ascular Plants¹ phytic Vegetation¹ (Explain)				
Woody Vine Stratum (Plot size:)	Total Cover		¹ Indicators of hydric soil present, unless disturbe	il and wetland hydrology must be ed or problematic.				
1. 2.				Hydrophytic					
% Bare Ground in Herb Stratum 0	=	Total Cover		Vegetation Present?	Yes				
Remarks:									

Profile Desc	ription: (Des	cribe to t	he depth n	needed to docum			or confir	rm the ab	sence of in	dicators.)			
Depth		atrix			ox Featur			_					
(inches)	Color (mo		%	Color (moist)	<u>%</u>	Type ¹	Loc ²		xture		Remarks	<u> </u>	
0-18	10YR	4/2	100					SILT LC	DAM				
										1			
					-								
¹Type: C=Co	ncentration, D	=Depletio	on, RM=Re	duced Matrix, CS	=Covered	or Coate	d Sand G	Grains.	² Loc	ation: PL=F	Pore Lining, I	M=Matrix.	
Hydric Soil I	ndicators: (A	pplicble	to all LRR	s, unless otherw	ise note	d.)			Indicator	s for Prob	lematic Hyd	ric Soils³:	
Histosol ((A1)			Sandy Redox (S	5)				2 cm	Muck (A10))		
Histic Epi	pedon (A2)			Stripped Matrix					Red P	arent Mate	rial (TF2)		
Black His	tic (A3)			Loamy Mucky M	-		MLRA 1)						
	n Sulfide (A4)			Loamy Gleyed N)			Other	(Explain in	Remarks)		
	Below Dark S		11)	Depleted Matrix	. ,								
_	rk Surface (A1	•	<u> </u>	Redox Dark Surf		7)		³ Indicators of hydrophytic vegetation and					
=	ucky Mineral (eyed Matrix (S		<u> </u>	Depleted Dark S Redox Depression		/)		wetland hydrology must be present, unless disturbed or problematic.					
					7113 (1 0)				4111000 410	, tai boa oi p			
_	_ayer (if pres	ent):											
Type:								l			O Yes	No	
Depth (in	cnes):							Нус	Iric Soil Pre	esent?	<u> </u>	<u> </u>	
Remarks:				9.1									
located near	the wetland b	oundary t	out nyanc s	oil characteristics	are a litti	e too deel	р.						
HYDROLO	GV												
		_											
_	drology Indic												
		ım of one	required; o	check all that app	-	(DO) ((2 or more		
	Vater (A1)			Water-Stain			cept				eaves (B9) (N	ILRA 1, 2,	
_	er Table (A2)				, 2, 4A, a	nu 46)				, and 4B)	c (P10)		
_	Saturation (A3) Salt Crust (B11) Water Marks (B1) Aquatic Invertebrates (B13)						Drainage Patterns (B10) Dry-Season Water Table (C2)						
Sediment Deposits (B2) ☐ Hydrogen Sulfide Odor (C1) ☐ Saturation Visible on Aerial Imagery ☐ Drift Deposits (B3) ☐ Oxidized Rhizospheres along Living Roots (C3) ☐ Geomorphic Position (D2)								g, (,					
	or Crust (B4)			Presence of		_	-	, ,		w Aquitard			
Iron Depo	Iron Deposits (B5) Recent Iron Reduction in Tilled Soils (C6)							6)	✓ FAC-N	leutral Test	(D5)		
=	Surface Soil Cracks (B6) Stunted or Stressed Plants (D1) (LRR A))			ds (D6) (LRR	? A)	
Inundation Visible on Aerial Imagery (B7) Other (Explain in Remarks)								Frost-	Heave Hum	nmocks (D7)			
Sparsely	Vegetated Cor	ncave Sur	face (B8)										
Field Observ	vations:												
Surface Water	er Present?	O Yes	No	Depth (inche	es):								
Water Table	Present?	O Yes	No	Depth (inche	es):								
Saturation Pr	resent?	O Yes	No	Depth (inche	es):		w	etland H	ydrology P	resent?	O Yes	No	
(includes capillary fringe) Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:													
Describe Red	corded Data (s	stream ga	luge, monit	oring well, aerial p	onotos, p	revious ins	spections	s), it availa	able:				
Remarks:													

