April 17, 2013

Andy Mitton
The Berger Partnership
1721 8th Avenue South
Seattle, WA 98109-3015
Via email: andym@bergerpartnership.com

Re: Totem Lake Park Master Plan – Wetland & Stream Reconnaissance
The Watershed Company Reference Number: 121116

Dear Andy:

On April 5, 2013, Ecologist Ryan Kahlo and I visited the Totem Lake Park Master Planning area to review existing site conditions and critical areas. The study area is depicted in the figure below. This letter summarizes the findings of this study and details applicable federal, state, and local regulations. The following attachments are included:

- Wetland Reconnaissance Sketch
- Restoration Opportunities Sketch
- Wetland Rating Forms

Figure 1. Study area (outlined in red).

Methods

Public-domain information on the subject properties was reviewed for this delineation study. These sources include USDA Natural Resources Conservation Service Soil maps, U.S. Fish and Wildlife Service National Wetland Inventory maps, Washington Department of Fish and Wildlife interactive mapping programs (PHS on the Web), King County's GIS mapping website (iMAP), and City of Kirkland Sensitive Area Maps.

The study area was evaluated for wetlands using methodology from the *Regional Supplement to the Corps of Engineers Wetland Delineation Manual: Western Mountains, Valleys, and Coast Region Version 2.0* (Regional Supplement) (US Army Corps of Engineers [Corps] May 2010). The wetland boundary was approximated on the basis of an examination of vegetation, soils, and hydrology. Areas meeting the criteria set forth in the Regional Supplement were determined to be wetland. Soil, vegetation, and hydrologic parameters were sampled at several locations along the wetland boundaries to make the wetland reconnaissance sketch.

Identified wetlands were classified using the *Western Washington Wetland Rating System* (Ecology, Aug 2004, version 2) (Rating System) and the City of Kirkland Field Data Form.

Findings

Totem Lake and the surrounding park property is a wetland, referred to here as Wetland A. Two other wetlands (B and C) and a stream (Stream A) were identified in the study area. There is also a ditch along the south side of the railroad track that appears to convey Stream A.

Wetland A (Totem Lake Wetland)

Wetland A is a depressional wetland approximately 18 acres in size. The open water portion, Totem Lake, comprises approximately 3 acres of the total wetland area. Palustrine scrub-shrub, emergent, and aquatic bed vegetation classes are present. Vegetation is characterized by willows, hardhack spirea, Nootka rose, cattails, American speedwell and yellow pond lily. Invasive purple loosestrife, reed canarygrass, and Himalayan blackberry form locally dominant patches, particularly on the fringe. According to NRCS soil maps, wetland soils are Seattle Muck, a hydric organic soil. Most of the wetland was inundated at the time of our site visit.

Wetland B

Wetland B is a small depressional wetland. It contains Palustrine scrub-shrub and emergent vegetation classes. Sitka willow, Nootka rose and red-twig dogwood with an understory of cattails and reed canarygrass form the Palustrine scrub-shrub area. The

Palustrine emergent area is dominated by reed canarygrass. Soils, which exhibit Redox Dark Surface, were inundated or saturated to the surface on the day of our site visit.

Wetland C

Wetland C is a relatively small feature, yet is contains multiple hydrogeomorphic classes - slope, riverine and depressional. Per Ecology guidance, it is rated as depressional. Palustrine scrub-shrub and aquatic bed vegetation classes are present. Willows, twinberry and red-twig dogwood dominate the shrub layer. An understory of slough sedge, small-fruited bulrush and reed canarygrass is present. The wetland is continuous with a ditch that parallels the railroad tracks. The ditch contains aquatic bed vegetation, primarily American speedwell. Wetland soils exhibited Depleted Matrix and Redox Dark Surface. Soils were saturated at or near the surface on the day of fieldwork.

Stream A

Stream A enters the study area via a culvert at the northeast end of the Big-O Tire lot. The stream is approximately three-feet wide and it was flowing on the day of our spring visit. It meanders to the north and empties into the ditch that parallels the railroad track. The streambed is comprised of silt and gravel. The stream flows southwesterly in the ditch for some length before it is presumably piped again.

Ditch

A few ditch segments contained water on the day of our site visit. At the southwest end, culverts conveying stormwater were identified as the source of observed hydrology. At the southeast end of our project area, the ditch exhibited wetland characteristics and was deeply ponded. As noted above, Stream A flows into the ditch along the railroad corridor; the associated wetland (Wetland C) is continuous with ditch wetland as shown on the reconnaissance sketch. The length of ditch that conveys historic stream flow was not evident. The ditch also receives stormwater runoff from several culverts along its length.

Restoration Opportunities

Nearly the entire park property is wetland with either permanent or seasonal inundation. Pockets of invasive plants persist within the wetlands and buffers, which could be targeted for removal and replacement. The enclosed *Wetland & Buffer Restoration Opportunities Sketch* shows significant patches of invasive plants. Purple loosestrife, reed canarygrass, and Himalayan blackberry are the dominant weeds.

Wetland A has low plant species diversity relative to its size. Hydroperiods in this wetland limit plant establishment. Inundation levels are generally too high to support tree species. However, shrub diversity could be increased and interspersion of shrub and emergent patches could also be improved. Planting stakes in clusters would be a

good way to establish new shrubs, such as twinberry, red-twig dogwood, Sitka willow, Pacific willow, and Hooker's willow. Invasive weeds along the wetland fringe, primarily non-native blackberry, could be removed and replaced with native shrubs, trees and groundcovers. These buffer plants could be used to screen the park from the adjacent thoroughfare and create framed viewpoints.

Wetland B has the potential to maintain the nature park character across Totem Lake Boulevard. Removing invasive non-native blackberry brambles from the roadside edge would make this wetland more visible. To restore the natural character of this area, native trees, shrubs and groundcovers could be established. The reed canarygrass monoculture at the west end could broken up and diminished by planting clusters of trees and shrubs. Additionally, it is evident the asphalt path on the south side of the wetland floods periodically. This path could be removed orreplaced with a boardwalk and the wetland area restored.

Wetland C, Stream A and the surrounding buffers are overrun by non-native blackberry and reed canarygrass. This site would benefit from invasive removal and in-fill planting. Although some conifers are present, the site is dominated by deciduous trees and shrubs. Additional conifers could be planted here.

Removing invasive plants from the railroad corridor and replacing them with native plants will reduce seed sources for new weed infestations, improve views within the corridor, and improve habitat connectivity within this fragmented urbanized landscape.

Interpretive signs could also be placed to inform the public of wetland functions and values and provide tidbits of site history.

Local Regulations

Wetlands and streams in the City of Kirkland are regulated under the Kirkland Zoning Code, Chapter 90 – Drainage Basins. In Chapter 90, wetland buffers are assigned based on the Kirkland wetland rating form and the basin ranking. The subject property is in the Juanita Creek basin, a primary basin.

Per Chapter 90, wetlands are rated as one of three types based on the Kirkland Rating Form. Wetland A is classified as Type 1 due to the presence of organic soils, and wetland conditions, such as size, diversity of wetland classes, and the presence of open water. Wetlands B and C do not meet the Type 1 criteria, and are classified as Type 3 based on wetland conditions and landscape setting. Wetland scores and associated buffer widths are summarized in the table below.

Table 1. Wetland Classifications per the Ecology Rating System and Kirkland Field Form with Buffer Widths.

	Ecology Rating System	City of Kirkland		
Wetland	Classification	Wetland Type	Basin	Buffer
A	Category II	Type 1	Juanita Creek Basin, Primary Basin	100 ft
B	Category III	Type 3		50 ft
C	Category III	Type 3		50 ft

Since other State and Federal agencies regulate wetlands under a different classification system, these wetlands are also rated using the Ecology rating form. Those wetland categories are summarized in the table above.

State and Federal Regulations

Wetlands are also regulated by the U.S. Army Corps of Engineers (Corps) under section 404 of the Clean Water Act. Any filling of Waters of the State, including wetlands (except isolated wetlands), would require notification and permits from the Corps. Wetland A would likely not be considered isolated. A formal isolated status inquiry can be requested from the Corps through the Jurisdictional Determination process. Federally permitted actions that could affect endangered species (i.e. salmon or bull trout) may also require a biological assessment study and consultation with the U.S. Fish and Wildlife Service and/or the National Marine Fisheries Service. Application for Corps permits may also require an individual 401 Water Quality Certification and Coastal Zone Management Consistency determination from Ecology.

Based on recent court cases, it has been determined that some ditches that meet wetland criteria, even if excavated from uplands, may still be regulated by the Corps under Section 404 of the Clean Water Act as a "water of the United States." If ditches will be impacted by the proposed project, it is advised that the Corps be consulted to determine if they are jurisdictional.

In general, neither the Corps nor Ecology regulates wetland buffers, unless direct impacts are proposed. When direct impacts are proposed, mitigated wetlands may be required to employ buffers based on Corps and Ecology joint regulatory guidance.

Disclaimer

The information contained in this letter or report is based on the application of technical guidelines currently accepted as the best available science and in conjunction with the manuals and criteria outlined in the methods section. All discussions, conclusions and recommendations reflect the best professional judgment of the author(s) and are based upon information available to us at the time the study was conducted. All work was

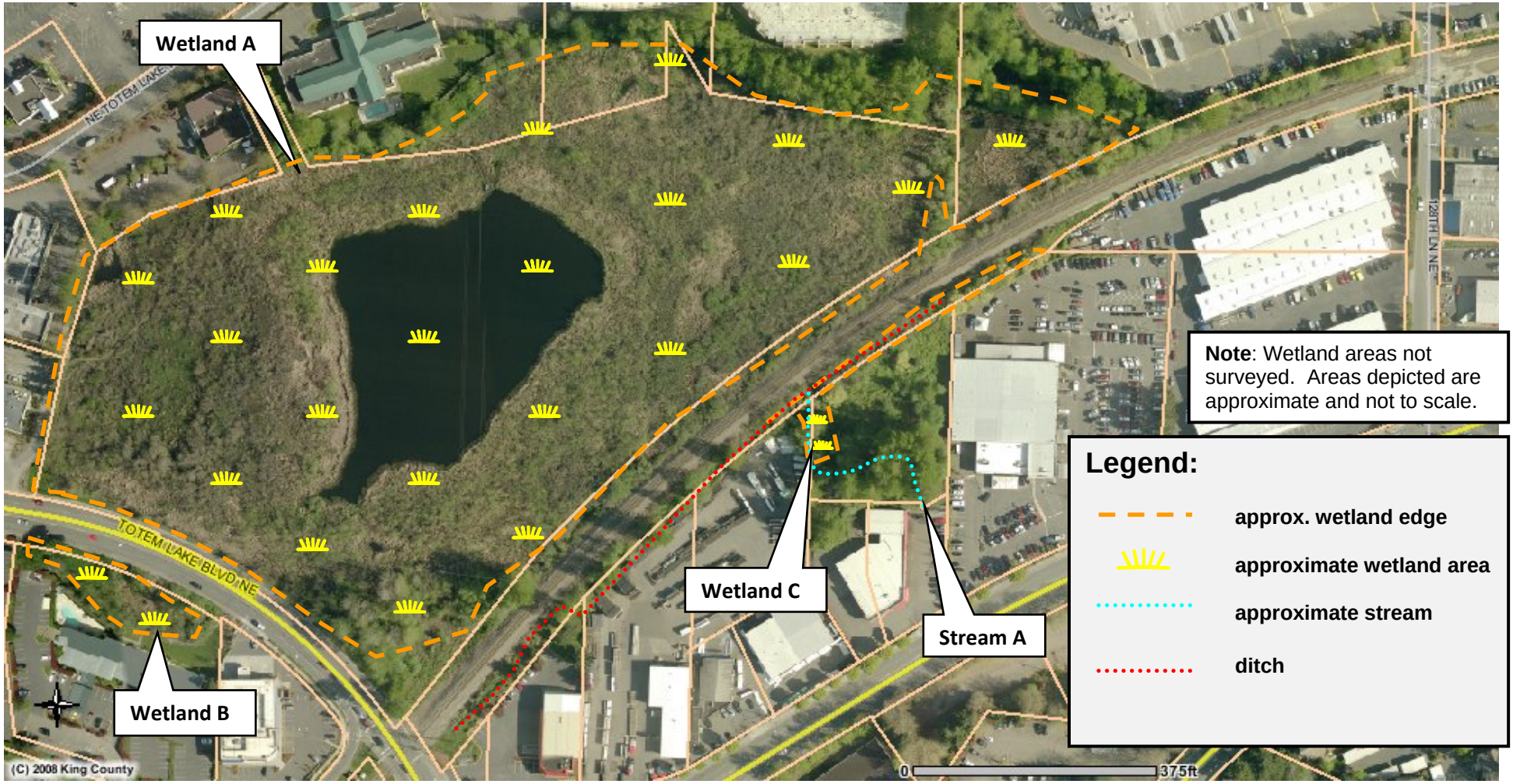
completed within the constraints of budget, scope, and timing. The findings of this report are subject to verification and agreement by the appropriate local, State and Federal regulatory authorities. No other warranty, expressed or implied, is made.

Please call if you have any questions or if we can provide you with any additional information.

Sincerely,

Nell Lund, PWS
Ecologist

Enclosures



Wetland & Stream Reconnaissance Sketch
Totem Lake Park
Kirkland, WA
Site visit date: April 5, 2013
TWC Ref. No. 121116

THE WATERSHED COMPANY
750 Sixth Street South | Kirkland | WA 98033
p 425.822.5242 f 425.827.8136

Wetland & Buffer Restoration Opportunities Sketch
Totem Lake Park
Kirkland, WA
Site visit date: April 5, 2013
TWC Ref. No. 121116

THE WATERSHED COMPANY

750 Sixth Street South | Kirkland | WA 98033
p 425.822.5242 f 425.827.8136

WETLAND FIELD DATA FORM – Totem Lake Park property located at Totem Lake Blvd NE Kirkland, WA 98033.

Rating done on 4/5/2013 by The Watershed Company.

Wetland A
(Totem Lake Wetland)
Type 1

WETLAND FIELD DATA FORM

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

a. The wetland is contiguous to Lake Washington;

Per NRCS soil maps, the soils are Seattle Muck.

b. The wetland contains at least 1/4 acre of organic soils, such as peat bogs or mucky soils;

c. The wetland is equal to or greater than 10 acres in size and having three or more wetland classes, as defined by the U.S. Fish & Wildlife Service (Cowardin et al., 1979), one of which is open water;

d. The wetland has significant habitat value to state or federally listed threatened or endangered wildlife species; or

e. The wetland contains state or federally listed threatened or endangered plant species.

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

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

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

1. Total wetland area

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

(points)

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

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

(points)

3. Plant species diversity.

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

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

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

(points)

4. Structural diversity.

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

Trees >50′ tall = 1

Trees 20′ to 49′ tall = 1

shrubs = 1

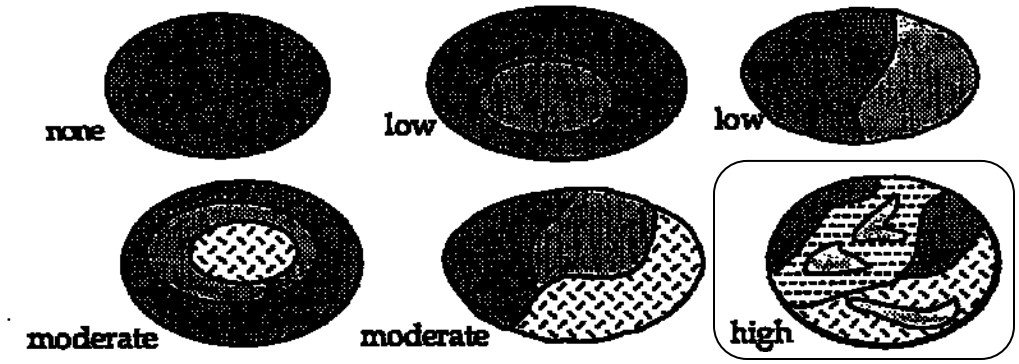
Herbaceous ground cover = 1

(points)

5. Intersperesion between wetland classes.

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

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



(points)

6. Habitat features

Add points associated with each habitat feature listed:

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

(points)

7. Connection to streams

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

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

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

(points)

8. Buffers

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

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

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

By 1 if buffer width is 25-50′

By 2 if buffer width is 50-100′

By 3 if buffer width is >100′

Enter results and add subscores

Step 3: Score points according to the following table:

Buffer Total

900-1200 = 4

600-899 = 3

300-599 = 2

100-299 = 1

(points)

9. Connection to other habitat areas:

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

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

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

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

(points).

10. Scoring

Add the scores to get a total: **N/A**

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

Answer:

Yes = Type 2

No = Type 3

WETLAND FIELD DATA FORM – Totem Lake Park property located at Totem Lake Blvd NE Kirkland, WA 98033.

Rating done on 4/5/2013 by The Watershed Company.

Wetland B
Type 3

WETLAND FIELD DATA FORM

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

a. The wetland is contiguous to Lake Washington;

b. The wetland contains at least 1/4 acre of organic soils, such as peat bogs or mucky soils;

c. The wetland is equal to or greater than 10 acres in size and having three or more wetland classes, as defined by the U.S. Fish & Wildlife Service (Cowardin et al., 1979), one of which is open water;

d. The wetland has significant habitat value to state or federally listed threatened or endangered wildlife species; or

e. The wetland contains state or federally listed threatened or endangered plant species.

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

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

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

1. Total wetland area

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

(2 points)

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

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

(3 points)

3. Plant species diversity.

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

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

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

(6 points)

4. Structural diversity.

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

Trees >50′ tall = 1

Trees 20′ to 49′ tall = 1

shrubs = 1

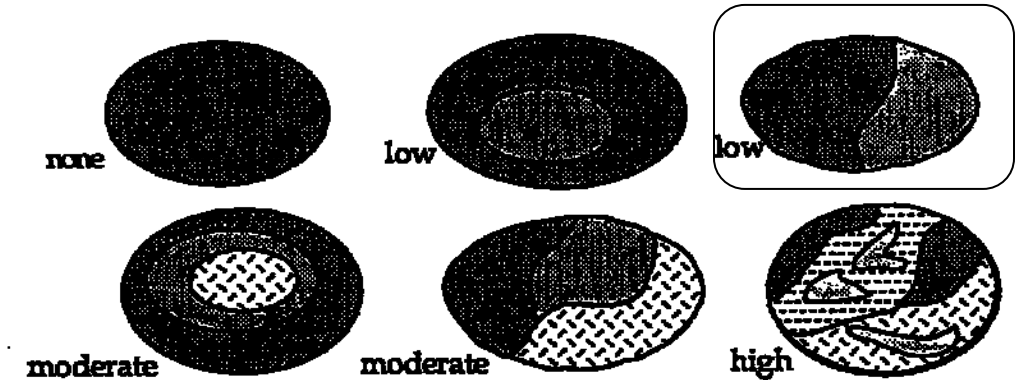
Herbaceous ground cover = 1

(0 points)

5. Intersperesion between wetland classes.

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

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



(1 points)

6. Habitat features

Add points associated with each habitat feature listed:

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

(2 points)

7. Connection to streams

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

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

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

(0 points)

8. Buffers

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

	% of Buffer		Step 1		Width Factor		Step 2
Roads, buildings or parking lots	50 %	X 0 =				=	0
Lawn, grazed pasture, vineyards or annual crops	30 %	X 1 =	30		1	=	30
Ungrazed grassland or orchards	%	X 2 =				=	
Open water or native grasslands	%	X 3 =				=	
Forest or shrub	20 %	X 4 =	80		1	=	80
				Add buffer total			110

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

By 1 if buffer width is 25-50′

By 2 if buffer width is 50-100′

By 3 if buffer width is >100′

Enter results and add subscores

Step 3: Score points according to the following table:

Buffer Total

900-1200 = 4

600-899 = 3

300-599 = 2

100-299 = 1

(1 points)

9. Connection to other habitat areas:

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

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

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

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

(1 points).

10. Scoring

Add the scores to get a total: **16**

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

Answer:

Yes = Type 2

No = Type 3

WETLAND FIELD DATA FORM – Totem Lake Park property located at Totem Lake Blvd NE Kirkland, WA 98033.

Rating done on 4/5/2013 by The Watershed Company.

Wetland C
Type 3

WETLAND FIELD DATA FORM

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

a. The wetland is contiguous to Lake Washington;

b. The wetland contains at least 1/4 acre of organic soils, such as peat bogs or mucky soils;

c. The wetland is equal to or greater than 10 acres in size and having three or more wetland classes, as defined by the U.S. Fish & Wildlife Service (Cowardin et al., 1979), one of which is open water;

d. The wetland has significant habitat value to state or federally listed threatened or endangered wildlife species; or

e. The wetland contains state or federally listed threatened or endangered plant species.

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

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1. Total wetland area

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

(2 points)

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

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

(3 points)

3. Plant species diversity.

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

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

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

(4 points)

4. Structural diversity.

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

Trees >50′ tall = 1

Trees 20′ to 49′ tall = 1

shrubs = 1

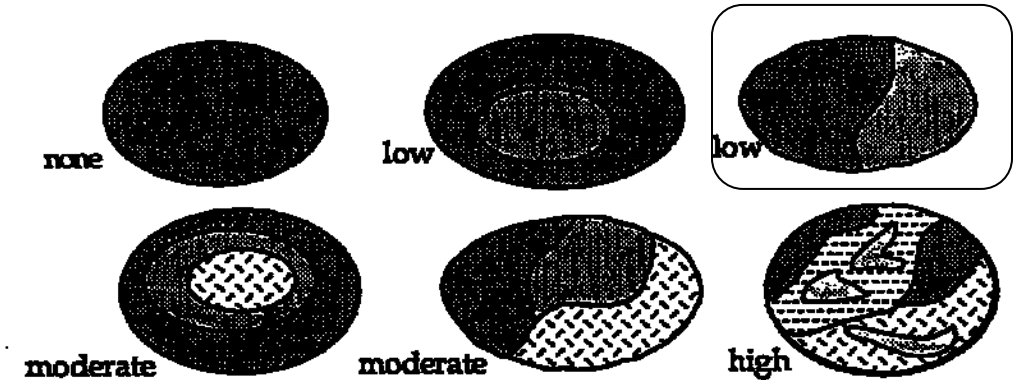
Herbaceous ground cover = 1

(0 points)

5. Intersperesion between wetland classes.

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

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



(1 points)

6. Habitat features

Add points associated with each habitat feature listed:

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

(1 points)

7. Connection to streams

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

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

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

(5 points)

8. Buffers

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

	% of Buffer		Step 1	Width Factor		Step 2
Roads, buildings or parking lots	20	% X 0 =			=	0
Lawn, grazed pasture, vineyards or annual crops		% X 1 =			=	
Ungrazed grassland or orchards		% X 2 =			=	
Open water or native grasslands		% X 3 =			=	
Forest or shrub	80	% X 4 =	320	2	=	640
				Add buffer total		640

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

By 1 if buffer width is 25-50′

By 2 if buffer width is 50-100′

By 3 if buffer width is >100′

Enter results and add subscores

Step 3: Score points according to the following table:

Buffer Total

900-1200 = 4

600-899 = 3

300-599 = 2

100-299 = 1

(3 points)

9. Connection to other habitat areas:

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

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

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

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

(1 points).

10. Scoring

Add the scores to get a total: **20**

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

Answer:

Yes = Type 2

No = Type 3

Wetland name or number ___A___

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

Name of wetland (if known): Totem Lake Park Master Plan **Wetland A** (Totem Lake Wetland) Date of site visit: 04/05/2013
Rated by: N. Lund R. Kahlo Trained by Ecology? Yes ☒ No ☐ Date of Training 10/2008 03/2009

SEC: 28 TWNSHP: 26N RNGE: 5E Is S/T/R in Appendix D? Yes ☐ No ☒

SUMMARY OF RATING

Category based on FUNCTIONS provided by wetland

I ☐ II ☒ III ☐ IV ☐

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

Score for Water Quality Functions	22
Score for Hydrologic Functions	24
Score for Habitat Functions	20
TOTAL score for functions	**66**

Category based on SPECIAL CHARACTERISTICS of wetland

I ☐ II ☐ Does not Apply ☒

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

Check the appropriate type and class of wetland being rated.

Wetland Type		Wetland Class	
Estuarine		**Depressional**	**X**
Natural Heritage Wetland		**Riverine**	
Bog		**Lake-fringe**	
Mature Forest		**Slope**	
Old Growth Forest		**Flats**	
Coastal Lagoon		**Freshwater Tidal**	
Interdunal			
None of the above	**X**	Check if unit has multiple HGM classes present	

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

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

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

***The study area was reviewed for the presence of endangered, threatened, and priority species using WDFW online Priority Habitat and Species Data, PHS on the Web (http://wdfw.wa.gov/mapping/phs/).**

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

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

Classification of Wetland Units in Western Washington

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

1. Are the water levels in the wetland unit usually controlled by tides (i.e. except during floods)?

☒ NO – go to 2 ☐ **YES** – the wetland class is **Tidal Fringe**

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

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

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

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

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

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

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

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

☒ NO – go to 4 ☐ **YES –** The wetland class is **Lake-fringe (Lacustrine Fringe)**

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

☐ The wetland is on a slope (*slope can be very gradual*),

☐ The water flows through the wetland in one direction (unidirectional) and usually comes from seeps. It may flow subsurface, as sheetflow, or in a swale without distinct banks.

☐ The water leaves the wetland **without being impounded**?

NOTE: *Surface water does not pond in these types of wetlands except occasionally in very small and shallow depressions or behind hummocks (depressions are usually <3ft diameter and less than a foot deep).*

☒ NO – go to 5 ☐ **YES –** The wetland class is **Slope**

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

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

☐ The overbank flooding occurs at least once every two years

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

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

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

☐ NO – go to 7 ☒ **YES –** The wetland class is **Depressional**

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

☐ NO – go to 8 ☐ **YES –** The wetland class is **Depressional**

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

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

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

Wetland name or number ___A___

D	Depressional and Flats Wetlands	Points
	WATER QUALITY FUNCTIONS - Indicators that wetland functions to improve water quality	
D	**D 1. Does the wetland have the potential to improve water quality?**	*(see p. 38)*
D	D 1.1 Characteristics of surface water flows out of the wetland: Unit is a depression with no surface water leaving it (no outlet)..... points = 3 Unit has an intermittently flowing, or highly constricted permanently flowing outlet..... points = 2 Unit has an unconstricted, or slightly constricted, surface outlet *(permanently flowing)*. points = 1 Unit is a "flat" depression (Q.7 on key), or in the Flats class, with permanent surface outflow **and no obvious natural outlet**, and/or outlet is a man-made ditch ..... points = 1 (*If ditch is not permanently flowing treat unit as "intermittently flowing")*	2
D	D 1.2 The soil 2 inches below the surface (or duff layer) is clay or organic (*use NRCS definitions*). Per NRCS soil map: Seattle Muck — YES points = 4; NO points = 0	4
D	D 1.3 Characteristics of persistent vegetation (emergent, shrub, and/or forest Cowardin class): Wetland has persistent, ungrazed, vegetation > = 95% of area ..... points = 5 Wetland has persistent, ungrazed, vegetation > = 1/2 of area ..... points = 3 Wetland has persistent, ungrazed vegetation > = 1/10 of area ..... points = 1 Wetland has persistent, ungrazed vegetation <1/10 of area..... points = 0	3
D	D1.4 Characteristics of seasonal ponding or inundation. *This is the area of the wetland unit that is ponded for at least 2 months, but dries out sometime during the year. Do not count the area that is permanently ponded. Estimate area as the average condition 5 out of 10 yrs.* Area seasonally ponded is > ½ total area of wetland..... points = 4 Area seasonally ponded is > ¼ total area of wetland..... points = 2 Area seasonally ponded is < ¼ total area of wetland..... points = 0 NOTE: *See text for indicators of seasonal and permanent inundation.*	2
D	**Total for D 1** *Add the points in the boxes above*	11
D	**D 2. Does the wetland unit have the opportunity to improve water quality?** Answer YES if you know or believe there are pollutants in groundwater or surface water coming into the wetland that would otherwise reduce water quality in streams, lakes or groundwater downgradient from the wetland? *Note which of the following conditions provide the sources of pollutants. A unit may have pollutants coming from several sources, but any single source would qualify as opportunity.* ☐ Grazing in the wetland or within 150 ft ☒ Untreated stormwater discharges to wetland ☐ Tilled fields or orchards within 150 ft of wetland ☐ A stream or culvert discharges into wetland that drains developed areas, residential areas, farmed fields, roads, or clear-cut logging ☒ Residential, urban areas, golf courses are within 150 ft of wetland ☐ Wetland is fed by groundwater high in phosphorus or nitrogen ☐ Other _____ **YES** multiply score in D 1. **by 2** **NO** multiply score in D 1. **by 1**	*(see p. 44)* multiplier 2
D	**TOTAL - Water Quality Functions** Multiply the score from D1 by D2 ***Add score to table on p. 1***	**22**

Wetland name or number ___A___

D	**Depresssional and Flats Wetlands**	
	HYDROLOGIC FUNCTIONS - Indicators that wetland functions to reduce flooding and stream degradation	
	D 3. Does the wetland have the potential to reduce flooding and erosion?	***(see p. 46)***
D	D 3.1 Characteristics of surface water flows out of the wetland unit Unit is a depression with no surface water leaving it (no outlet)..... points = 4 Unit has an intermittently flowing, or highly constricted permanently flowing outlet... points = 2 Unit has an unconstricted, or slightly constricted, surface outlet *(permanently flowing)*. points = 1 Unit is a "flat" depression (Q.7 on key), or in the Flats class, with permanent surface outflow **and no obvious natural outlet**, and/or outlet is a man-made ditch ..... points = 1 (*If ditch is not permanently flowing treat unit as "intermittently flowing")* Unit has an unconstricted, or slightly constricted, surface outlet (*permanently flowing*). points = 0	2
D	D 3.2 Depth of storage during wet periods *Estimate the height of ponding above the bottom of the outlet For units with no outlet measure from the surface of permanent water or deepest part (if dry).* Marks of ponding are at least 3 ft or more above the surface or bottom of outlet..... points = 7 The wetland is a "headwater" wetland" ..... points = 5 Marks of ponding between 2 ft to < 3 ft from surface or bottom of outlet..... points = 5 Marks are at least 0.5 ft to < 2 ft from surface or bottom of outlet ..... points = 3 Unit is flat (yes to Q.2 or Q.7 on key) but has small depressions on the surface that trap water ..... points = 1 Marks of ponding less than 0.5 ft..... points = 0	5
D	D 3.3 Contribution of wetland unit to storage in the watershed *Estimate the ratio of the area of upstream basin contributing surface water to the wetland to the area of the wetland unit itself.* The area of the basin is less than 10 times the area of the unit ..... points = 5 The area of the basin is 10 to 100 times the area of the unit ..... points = 3 The area of the basin is more than 100 times the area of the unit ..... points = 0 Entire unit is in the FLATS class ..... points = 5	5
D	**Total for D 3** *Add the points in the boxes above*	12
D	**D 4. Does the wetland unit have the opportunity to reduce flooding and erosion?** Answer YES if the unit is in a location in the watershed where the flood storage, or reduction in water velocity, it provides helps protect downstream property and aquatic resources from flooding or excessive and/or erosive flows. Answer NO if the water coming into the wetland is controlled by a structure such as flood gate, tide gate, flap valve, reservoir etc. OR you estimate that more than 90% of the water in the wetland is from groundwater in areas where damaging groundwater flooding does not occur. *Note which of the following conditions apply.* ☐ Wetland is in a headwater of a river or stream that has flooding problems ☒ Wetland drains to a river or stream that has flooding problems ☐ Wetland has no outlet and impounds surface runoff water that might otherwise flow into a river or stream that has flooding problems ☐ Other _____ ☒ **YES** multiplier is **2** ☐ **NO** multiplier is **1**	*(see p. 49)* multiplier 2
D	**TOTAL - Hydrologic Functions** Multiply the score from D 3 by D 4 ***Add score to table on p. 1***	**24**

These questions apply to wetlands of all HGM classes.

HABITAT FUNCTIONS - Indicators that wetland functions to provide important habitat

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

H 1.1 Vegetation structure ***(see p. 72)***

Check the types of vegetation classes present (as defined by Cowardin) if the class is ¼ acre or covers more than 10% of the area of the wetland if unit smaller than 2.5 acres.

- ☒ Aquatic bed
- ☒ Emergent plants
- ☒ Scrub/shrub (areas where shrubs have >30% cover)
- ☐ Forested (areas where trees have >30% cover)
- ☐ Forested areas have 3 out of 5 strata (canopy, sub-canopy, shrubs, herbaceous, moss/ground-cover) that each cover 20% within the forested polygon

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

4 structures or more ..... points = 4
3 structures ..... points = 2
2 structures ..... points = 1
1 structure ..... points = 0

2

H 1.2. Hydroperiods ***(see p. 73)***

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

- ☒ Permanently flooded or inundated
- ☒ Seasonally flooded or inundated
- ☐ Occasionally flooded or inundated
- ☐ Saturated only
- ☐ Permanently flowing stream or river in, or adjacent to, the wetland
- ☐ Seasonally flowing stream in, or adjacent to, the wetland
- ☐ ***Lake-fringe wetland* = 2 points**
- ☐ ***Freshwater tidal wetland* = 2 points**

4 or more types present ..... points = 3
3 types present ..... points = 2
2 types present ..... points = 1
1 types present……points = 0

1

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

Count the number of plant species in the wetland that cover at least 10 ft^2. (*different patches of the same species can be combined to meet the size threshold)*

You do not have to name the species.

Do not include Eurasian milfoil, reed canarygrass, purple loosestrife, Canadian thistle

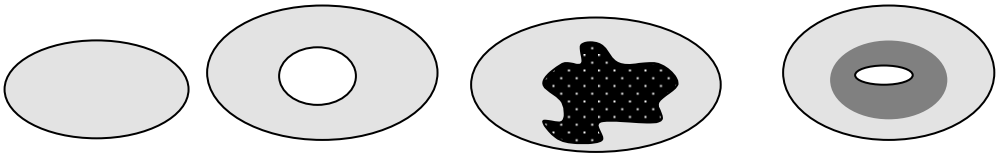
List species below if you want to:

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

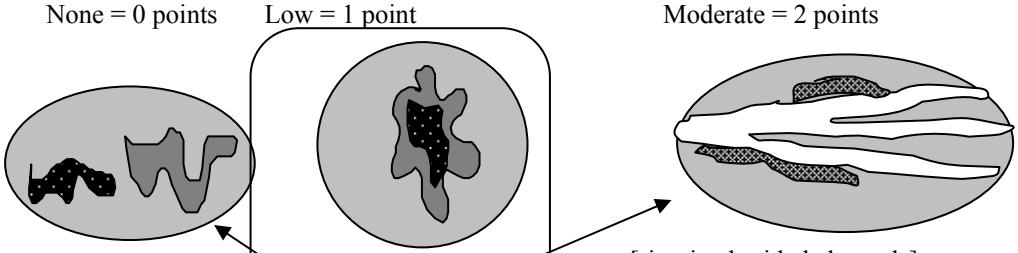
1

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

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



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



High = 3 points [riparian braided channels]

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

3

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

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

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

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

5

H 1. TOTAL Score - potential for providing habitat
Add the scores from H1.1, H1.2, H1.3, H1.4, H1.5

12

H 2. Does the wetland have the opportunity to provide habitat for many species?	
H 2.1 Buffers ***(see p. 80)*** *Choose the description that best represents condition of buffer of wetland. The highest scoring criterion that applies to the wetland is to be used in the rating. See text for definition of "undisturbed."* ☐ 100 m (330ft) of relatively undisturbed vegetated areas, rocky areas, or open water >95% of circumference. No developed areas within undisturbed part of buffer. (relatively undisturbed also means no-grazing) ..... Points = 5 ☐ 100 m (330 ft) of relatively undisturbed vegetated areas, rocky areas, or open water > 50% circumference..... Points = 4 ☐ 50 m (170ft) of relatively undisturbed vegetated areas, rocky areas, or open water >95% circumference..... Points = 4 ☐ 100 m (330ft) of relatively undisturbed vegetated areas, rocky areas, or open water > 25% circumference..... Points = 3 ☐ 50 m (170ft) of relatively undisturbed vegetated areas, rocky areas, or open water for > 50% circumference. ..... Points = 3 **If buffer does not meet any of the criteria above** ☐ No paved areas (except paved trails) or buildings within 25 m (80ft) of wetland > 95% circumference. Light to moderate grazing, or lawns are OK. ..... Points = 2 ☐ No paved areas or buildings within 50m of wetland for >50% circumference. Light to moderate grazing, or lawns are OK. ..... Points = 2 ☐ Heavy grazing in buffer. ..... Points = 1 ☐ Vegetated buffers are <2m wide (6.6ft) for more than 95% of the circumference (e.g. tilled fields, paving, basalt bedrock extend to edge of wetland ..... Points = 0 ☒ Buffer does not meet any of the criteria above……...Points = 1	1
H 2.2 Corridors and Connections ***(see p. 81)*** H 2.2.1 Is the wetland part of a relatively undisturbed and unbroken vegetated corridor (either riparian or upland) that is at least 150 ft wide, has at least 30% cover of shrubs, forest or native undisturbed prairie, that connects to estuaries, other wetlands or undisturbed uplands that are at least 250 acres in size? (*dams in riparian corridors*, *heavily used gravel roads*, *paved roads, are considered breaks in the corridor*). YES = **4 points** (*go to H 2.3*) **NO** = go to H 2.2.2 H 2.2.2 Is the wetland part of a relatively undisturbed and unbroken vegetated corridor (either riparian or upland) that is at least 50ft wide, has at least 30% cover of shrubs or forest, and connects to estuaries, other wetlands or undisturbed uplands that are at least 25 acres in size? **OR** a **Lake-fringe** wetland, if it does not have an undisturbed corridor as in the question above? YES = **2 points** (*go to H 2.3*) **NO** = H 2.2.3 H 2.2.3 Is the wetland: within 5 mi (8km) of a brackish or salt water estuary OR within 3 mi of a large field or pasture (>40 acres) OR within 1 mi of a lake greater than 20 acres? YES = **1 point** NO = **0 points**	1

H 2.3 Near or adjacent to other priority habitats listed by WDFW ***(see new and complete descriptions of WDFW priority habitats, and the counties in which they can be found, in the PHS report http://wdfw.wa.gov/hab/phslist.htm)*** Which of the following priority habitats are within 330ft (100m) of the wetland? *(NOTE: the connections do not have to be relatively undisturbed)* ☐ **Aspen Stands:** Pure or mixed stands of aspen greater than 0.4 ha (1 acres). ☐ **Biodiversity Areas and Corridors:** Areas of habitat that are relatively important to various species of native fish and wildlife (*full description in WDFW PHS report p. 152*) ☐ **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 20 trees/ha (8 trees/acre) > 81 cm (32 in) dbh or > 200 years of age. (Mature forests.) Stands with average diameters exceeding 53 cm (21 in) dbh; crown cover may be less that 100%; crown cover may be less that 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:** Woodlands 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.)* ☒ **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*) ☒ **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: pp. 167-169 and glossary in Appendix A.)* ☐ **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 7.6 m (25 ft) high and occurring below 5000 ft. ☐ **Talus:** Homogenous areas of rock rubble ranging in average size 0.15 - 2.0 m (0.5 - 6.5 ft), composed of basalt, andesite, and/or sedimentary rock, including riprap slides and mine tailings. May be associated with cliffs. ☐ **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 >51 cm (20 in) in western Washington and are > 2 m (6.5 ft) in height. Priority logs are > 30cm (12 in) in diameter at the largest end, and > 6m (20 ft) long. If wetland has **3 or more** priority habitats **= 4 points** If wetland has **2** priority habitats = **3 points** If wetland has **1** priority habitat **= 1 point** No habitats = **0 points** *Note: All vegetated wetland are by definition a priority habitat but are not included in this list. Nearby wetlands are addressed in question H2.4.*	3

H 2.4 Wetland Landscape *(choose the **one** description of the landscape around the wetland that best fits)* ***(see p. 84)*** There are at least 3 other wetlands within ½ mile, and the connections between them are relatively undisturbed (light grazing between wetlands OK, as is lake shore with some boating, but connections should NOT be bisected by paved roads, fill, fields, or other development. ..... points = 5 The wetland is Lake-fringe on a lake with little disturbance and there are 3 other lake-fringe wetlands within ½ mile ..... points = 5 There are at least 3 other wetlands within ½ mile, BUT the connections between them are disturbed ..... points = 3 The wetland is Lake-fringe on a lake **with** disturbance and there are 3 other lake-fringe wetland within ½ mile ..... points = 3 There is at least 1 wetland within ½ mile. ..... points = 2 There are no wetlands within ½ mile. ..... points = 0	3
H 2. TOTAL Score - opportunity for providing habitat *Add the scores from H2.1, H2.2, H2.3, H2.4*	8
TOTAL for H1 from page 14	12
Total Score for Habitat Functions – add the points for H 1, H 2 and record the result on p. 1	**20**

CATEGORIZATION BASED ON SPECIAL CHARACTERISTICS

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

Wetland Type *Check off any criteria that apply to the wetland. Circle the Category when the appropriate criteria are met.*	**Category**
SC 1.0 Estuarine wetlands (*see p. 86)* Does the wetland unit 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 ☒	
SC 1.1 Is the wetland unit within a National Wildlife Refuge, National Park, National Estuary Reserve, Natural Area Preserve, State Park or Educational, Environmental, or Scientific Reserve designated under WAC 332-151? ☐YES = Category I ☐NO = go to SC 1.2	**Cat. I**
SC 1.2 Is the wetland unit at least 1 acre in size and meets at least two of the following three conditions? ☐YES = Category I ☐NO = Category II ☐ The wetland is relatively undisturbed (has no diking, ditching, filling, cultivation, grazing, and has less than 10% cover of non-native plant species. If the non-native Spartina spp. are the only species that cover more than 10% of the wetland, then the wetland should be given a dual rating (I/II) The are aof Spartina would be rated a Category II while the relatively undisturbed upper marsh with native species would be a Category I. Do not, however, exclude the area of Spartina in determining the size threshold of 1 acre. ☐ At least ¾ of the landward edge of the wetland has a 100 ft buffer of shrub, forest, or un-grazed or un-mowed wetland. ☐ The wetland has at least 2 or the following features: tidal channels, depressions with open water, or contiguous freshwater wetlands.	**Cat. I** **Cat. II** **Dual rating I/II**

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

SC 4.0 Forested Wetlands *(see p. 90)*	
Does the wetland have at least 1 acre of forest that meet one of these criteria for the Department of Fish and Wildlife's forests as priority habitats? *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/acre (20 trees/hectare) that are at least 200 years of age OR have a diameter at breast height (dbh) of 32 inches (81 cm) or more. *Note: The criterion for dbh is based on measurements for upland forests. Two hundred year old trees in wetlands will often have a smaller dbh because their growth rates are often slower. The DFW criterion is and "OR" so old-growth forests do not necessarily have to have trees of this diameter.*	
☐ Mature forests: (west of the Cascade crest) Stands where the largest trees are 80-200 years old OR have average diameters (dbh) exceeding 21 in (53 cm); crown cover may be less than 100%; decay, decadence, numbers of snags, and quanitity of large downed material is generally less than that found in old-growth	
YES = Category 1 NO ☒ not a forested wetland with special characteristics	**Cat. I**
SC 5.0 Wetlands in Coastal Lagoons (see p. 91)	
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 surgace 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 ☒ 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 invasive plant species (see list of invasive species on p. 74).	
☐ 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.	
☐The wetalnd is larger than 1/10 acre (4350 square feet)	**Cat. II**
YES = Category I NO = Category II	

SC 6.0 Interdunal Wetlands (see p. 93) Is the wetalnd unit west of the 1889 line (also called the Westarn Boundary of Upland Ownership or WBUO)? YES – go to SC 6.1 NO ☒ not an interdunal wetland for rating *If you answer yes you will still need to rate the wetland based on its 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 SC 6.1 Is the wetland 1 acre or larger, or is it in a mosaic of wetlands that is 1 acre or larger? YES = Category II NO – go to SC 6.2 SC 6.2 Is the unit between 0.1 and 1 acre, or is it in a mosaic of wetlands that is between 0.1 and 1 acre? YES = Category III	**Cat. II** **Cat. III**
Category of wetland based on Special Characteristics *Choose the "highest" rating if wetland falls into several categorie, and record on p. 1 .* If you answered NO for all types enter "Not Applicable" on p.1.	**N/A**

Wetland name or number ___B___

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

Name of wetland (if known): Totem Lake Park Master Plan **Wetland B** Date of site visit: 04/05/2013
Rated by: N. Lund R. Kahlo Trained by Ecology? Yes ☒ No ☐ Date of Training 10/2008 03/2009

SEC: 28 TWNSHP: 26N RNGE: 5E Is S/T/R in Appendix D? Yes ☐ No ☒

SUMMARY OF RATING

Category based on FUNCTIONS provided by wetland

I ☐ II ☐ III ☒ IV ☐

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

Score for Water Quality Functions	22
Score for Hydrologic Functions	16
Score for Habitat Functions	11
TOTAL score for functions	**49**

Category based on SPECIAL CHARACTERISTICS of wetland

I ☐ II ☐ Does not Apply ☒

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

Check the appropriate type and class of wetland being rated.

Wetland Type		Wetland Class	
Estuarine		**Depressional**	**X**
Natural Heritage Wetland		**Riverine**	
Bog		**Lake-fringe**	
Mature Forest		**Slope**	
Old Growth Forest		**Flats**	
Coastal Lagoon		**Freshwater Tidal**	
Interdunal			
None of the above	**X**	Check if unit has multiple HGM classes present	

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

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

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

***The study area was reviewed for the presence of endangered, threatened, and priority species using WDFW online Priority Habitat and Species Data, PHS on the Web (http://wdfw.wa.gov/mapping/phs/).**

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

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

Classification of Wetland Units in Western Washington

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

1. Are the water levels in the wetland unit usually controlled by tides (i.e. except during floods)?

☒ NO – go to 2 ☐ **YES** – the wetland class is **Tidal Fringe**

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

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

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

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

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

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

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

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

☒ NO – go to 4 ☐ **YES –** The wetland class is **Lake-fringe (Lacustrine Fringe)**

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

☐ The wetland is on a slope (*slope can be very gradual*),

☐ The water flows through the wetland in one direction (unidirectional) and usually comes from seeps. It may flow subsurface, as sheetflow, or in a swale without distinct banks.

☐ The water leaves the wetland **without being impounded**?

NOTE: *Surface water does not pond in these types of wetlands except occasionally in very small and shallow depressions or behind hummocks (depressions are usually <3ft diameter and less than a foot deep).*

☒ NO – go to 5 ☐ **YES –** The wetland class is **Slope**

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

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

☐ The overbank flooding occurs at least once every two years

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

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

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

☐ NO – go to 7 ☒ **YES –** The wetland class is **Depressional**

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

☐ NO – go to 8 ☐ **YES –** The wetland class is **Depressional**

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

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

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

Wetland name or number ___B___

D	Depressional and Flats Wetlands	Points
	WATER QUALITY FUNCTIONS - Indicators that wetland functions to improve water quality	
D	**D 1. Does the wetland have the potential to improve water quality?**	*(see p. 38)*
D	D 1.1 Characteristics of surface water flows out of the wetland: Unit is a depression with no surface water leaving it (no outlet)..... points = 3 Unit has an intermittently flowing, or highly constricted permanently flowing outlet..... points = 2 Unit has an unconstricted, or slightly constricted, surface outlet *(permanently flowing)*. points = 1 Unit is a "flat" depression (Q.7 on key), or in the Flats class, with permanent surface outflow **and no obvious natural outlet**, and/or outlet is a man-made ditch ..... points = 1 (*If ditch is not permanently flowing treat unit as "intermittently flowing")*	2
D	D 1.2 The soil 2 inches below the surface (or duff layer) is clay or organic (*use NRCS definitions*). Per NRCS soil map: Seattle Muck — YES points = 4; NO points = 0	0
D	D 1.3 Characteristics of persistent vegetation (emergent, shrub, and/or forest Cowardin class): Wetland has persistent, ungrazed, vegetation > = 95% of area ..... points = 5 Wetland has persistent, ungrazed, vegetation > = 1/2 of area ..... points = 3 Wetland has persistent, ungrazed vegetation > = 1/10 of area ..... points = 1 Wetland has persistent, ungrazed vegetation <1/10 of area..... points = 0	5
D	D1.4 Characteristics of seasonal ponding or inundation. *This is the area of the wetland unit that is ponded for at least 2 months, but dries out sometime during the year. Do not count the area that is permanently ponded. Estimate area as the average condition 5 out of 10 yrs.* Area seasonally ponded is > ½ total area of wetland..... points = 4 Area seasonally ponded is > ¼ total area of wetland..... points = 2 Area seasonally ponded is < ¼ total area of wetland..... points = 0 NOTE: *See text for indicators of seasonal and permanent inundation.*	4
D	**Total for D 1** *Add the points in the boxes above*	11
D	**D 2. Does the wetland unit have the opportunity to improve water quality?** Answer YES if you know or believe there are pollutants in groundwater or surface water coming into the wetland that would otherwise reduce water quality in streams, lakes or groundwater downgradient from the wetland? *Note which of the following conditions provide the sources of pollutants. A unit may have pollutants coming from several sources, but any single source would qualify as opportunity.* ☐ Grazing in the wetland or within 150 ft ☒ Untreated stormwater discharges to wetland ☐ Tilled fields or orchards within 150 ft of wetland ☐ A stream or culvert discharges into wetland that drains developed areas, residential areas, farmed fields, roads, or clear-cut logging ☒ Residential, urban areas, golf courses are within 150 ft of wetland ☐ Wetland is fed by groundwater high in phosphorus or nitrogen ☐ Other _____ **YES** multiply score in D 1. **by 2** **NO** multiply score in D 1. **by 1**	*(see p. 44)* multiplier 2
D	**TOTAL - Water Quality Functions** Multiply the score from D1 by D2 ***Add score to table on p. 1***	**22**

Wetland name or number ___B___

D	Depresssional and Flats Wetlands	
	HYDROLOGIC FUNCTIONS - Indicators that wetland functions to reduce flooding and stream degradation	
	D 3. Does the wetland have the potential to reduce flooding and erosion?	***(see p. 46)***
D	D 3.1 Characteristics of surface water flows out of the wetland unit Unit is a depression with no surface water leaving it (no outlet)..... points = 4 Unit has an intermittently flowing, or highly constricted permanently flowing outlet... points = 2 Unit has an unconstricted, or slightly constricted, surface outlet *(permanently flowing)*. points = 1 Unit is a "flat" depression (Q.7 on key), or in the Flats class, with permanent surface outflow **and no obvious natural outlet**, and/or outlet is a man-made ditch ..... points = 1 (*If ditch is not permanently flowing treat unit as "intermittently flowing")* Unit has an unconstricted, or slightly constricted, surface outlet (*permanently flowing*). points = 0	2
D	D 3.2 Depth of storage during wet periods *Estimate the height of ponding above the bottom of the outlet For units with no outlet measure from the surface of permanent water or deepest part (if dry).* Marks of ponding are at least 3 ft or more above the surface or bottom of outlet..... points = 7 The wetland is a "headwater" wetland" ..... points = 5 Marks of ponding between 2 ft to < 3 ft from surface or bottom of outlet..... points = 5 Marks are at least 0.5 ft to < 2 ft from surface or bottom of outlet ..... points = 3 Unit is flat (yes to Q.2 or Q.7 on key) but has small depressions on the surface that trap water ..... points = 1 Marks of ponding less than 0.5 ft..... points = 0	3
D	D 3.3 Contribution of wetland unit to storage in the watershed *Estimate the ratio of the area of upstream basin contributing surface water to the wetland to the area of the wetland unit itself.* ~~The area of the basin is less than 10 times the area of the unit~~ ..... points = 5 The area of the basin is 10 to 100 times the area of the unit ..... points = 3 The area of the basin is more than 100 times the area of the unit ..... points = 0 Entire unit is in the FLATS class ..... points = 5	3
D	**Total for D 3** *Add the points in the boxes above*	8
D	**D 4. Does the wetland unit have the opportunity to reduce flooding and erosion?** Answer YES if the unit is in a location in the watershed where the flood storage, or reduction in water velocity, it provides helps protect downstream property and aquatic resources from flooding or excessive and/or erosive flows. Answer NO if the water coming into the wetland is controlled by a structure such as flood gate, tide gate, flap valve, reservoir etc. OR you estimate that more than 90% of the water in the wetland is from groundwater in areas where damaging groundwater flooding does not occur. *Note which of the following conditions apply.* ☐ Wetland is in a headwater of a river or stream that has flooding problems ☒ Wetland drains to a river or stream that has flooding problems ☐ Wetland has no outlet and impounds surface runoff water that might otherwise flow into a river or stream that has flooding problems ☐ Other _____ ☒ **YES** multiplier is **2** ☐ **NO** multiplier is **1**	*(see p. 49)* multiplier 2
D	**TOTAL - Hydrologic Functions** Multiply the score from D 3 by D 4 ***Add score to table on p. 1***	**16**

Wetland name or number ___B___

These questions apply to wetlands of all HGM classes.

HABITAT FUNCTIONS - Indicators that wetland functions to provide important habitat

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

H 1.1 Vegetation structure ***(see p. 72)***

Check the types of vegetation classes present (as defined by Cowardin) if the class is ¼ acre or covers more than 10% of the area of the wetland if unit smaller than 2.5 acres.

- ☐ Aquatic bed
- ☒ Emergent plants
- ☒ Scrub/shrub (areas where shrubs have >30% cover)
- ☐ Forested (areas where trees have >30% cover)
- ☐ Forested areas have 3 out of 5 strata (canopy, sub-canopy, shrubs, herbaceous, moss/ground-cover) that each cover 20% within the forested polygon

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

4 structures or more ..... points = 4
3 structures ..... points = 2
(2 structures) ..... points = 1
1 structure ..... points = 0

1

H 1.2. Hydroperiods ***(see p. 73)***

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

- ☐ Permanently flooded or inundated
- ☒ Seasonally flooded or inundated
- ☒ Occasionally flooded or inundated
- ☐ Saturated only
- ☐ Permanently flowing stream or river in, or adjacent to, the wetland
- ☐ Seasonally flowing stream in, or adjacent to, the wetland
- ☐ ***Lake-fringe wetland* = 2 points**
- ☐ ***Freshwater tidal wetland* = 2 points**

4 or more types present ..... points = 3
3 types present ..... points = 2
(2 types present) ..... points = 1
1 types present……points = 0

1

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

Count the number of plant species in the wetland that cover at least 10 ft^2. (*different patches of the same species can be combined to meet the size threshold)*

You do not have to name the species.

Do not include Eurasian milfoil, reed canarygrass, purple loosestrife, Canadian thistle

List species below if you want to:

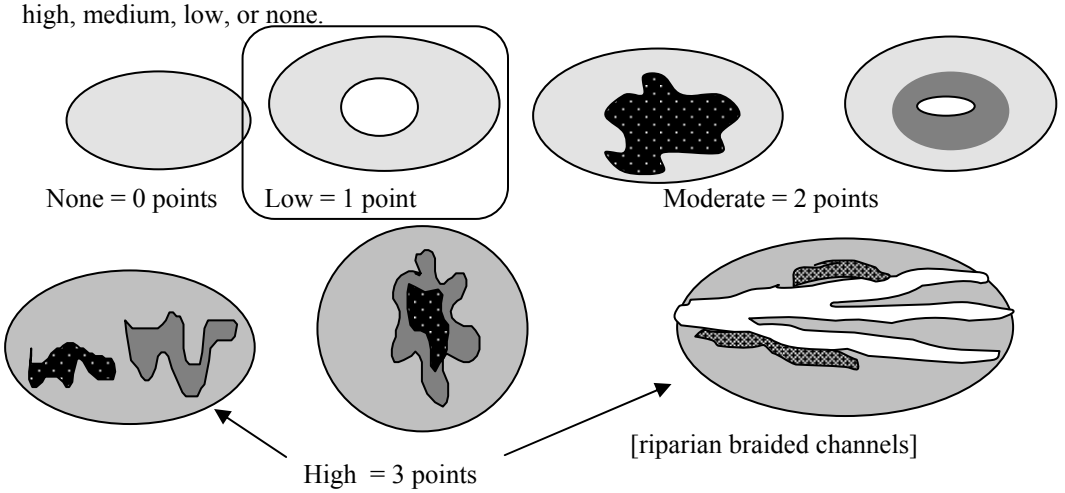
If you counted:
> 19 species ..... points = 2
(5 - 19 species) ..... points = 1
< 5 species ..... points = 0

1

Wetland name or number ___B___

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

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



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

1

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

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

☒ Large, downed, woody debris within the wetland (>4in. diameter and 6 ft long).

☒ Standing snags (diameter at the bottom > 4 inches) in the wetland

☐ Undercut banks are present for at least 6.6 ft (2m) and/or overhanging vegetation extends at least 3.3 ft (1m) over a stream for at least 33 ft (10m)

☐ Stable steep banks of fine material that might be used by beaver or muskrat for denning (>30degree slope) OR signs of recent beaver activity are present

☐ At least ¼ acre of thin-stemmed persistent vegetation or woody branches are present in areas that are permanently or seasonally inundated*.(structures for egg-laying by amphibians)*

☐ Invasive plants cover less than 25% of the wetland area in each stratum of plants

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

2

H 1. TOTAL Score - potential for providing habitat

Add the scores from H1.1, H1.2, H1.3, H1.4, H1.5

6

Wetland name or number ___B___

H 2. Does the wetland have the opportunity to provide habitat for many species?	
H 2.1 Buffers ***(see p. 80)*** *Choose the description that best represents condition of buffer of wetland. The highest scoring criterion that applies to the wetland is to be used in the rating. See text for definition of "undisturbed."* ☐ 100 m (330ft) of relatively undisturbed vegetated areas, rocky areas, or open water >95% of circumference. No developed areas within undisturbed part of buffer. (relatively undisturbed also means no-grazing) ..... Points = 5 ☐ 100 m (330 ft) of relatively undisturbed vegetated areas, rocky areas, or open water > 50% circumference..... Points = 4 ☐ 50 m (170ft) of relatively undisturbed vegetated areas, rocky areas, or open water >95% circumference..... Points = 4 ☐ 100 m (330ft) of relatively undisturbed vegetated areas, rocky areas, or open water > 25% circumference..... Points = 3 ☐ 50 m (170ft) of relatively undisturbed vegetated areas, rocky areas, or open water for > 50% circumference. ..... Points = 3 **If buffer does not meet any of the criteria above** ☐ No paved areas (except paved trails) or buildings within 25 m (80ft) of wetland > 95% circumference. Light to moderate grazing, or lawns are OK..... Points = 2 ☐ No paved areas or buildings within 50m of wetland for >50% circumference. Light to moderate grazing, or lawns are OK..... Points = 2 ☐ Heavy grazing in buffer. ..... Points = 1 ☐ Vegetated buffers are <2m wide (6.6ft) for more than 95% of the circumference (e.g. tilled fields, paving, basalt bedrock extend to edge of wetland ..... Points = 0 ☒ Buffer does not meet any of the criteria above……...Points = 1	1
H 2.2 Corridors and Connections ***(see p. 81)*** H 2.2.1 Is the wetland part of a relatively undisturbed and unbroken vegetated corridor (either riparian or upland) that is at least 150 ft wide, has at least 30% cover of shrubs, forest or native undisturbed prairie, that connects to estuaries, other wetlands or undisturbed uplands that are at least 250 acres in size? (*dams in riparian corridors*, *heavily used gravel roads*, *paved roads, are considered breaks in the corridor*). YES = **4 points** (*go to H 2.3*) **NO** = go to H 2.2.2 H 2.2.2 Is the wetland part of a relatively undisturbed and unbroken vegetated corridor (either riparian or upland) that is at least 50ft wide, has at least 30% cover of shrubs or forest, and connects to estuaries, other wetlands or undisturbed uplands that are at least 25 acres in size? **OR** a **Lake-fringe** wetland, if it does not have an undisturbed corridor as in the question above? YES = **2 points** (*go to H 2.3*) **NO** = H 2.2.3 H 2.2.3 Is the wetland: within 5 mi (8km) of a brackish or salt water estuary OR within 3 mi of a large field or pasture (>40 acres) OR within 1 mi of a lake greater than 20 acres? YES = **1 point** NO = **0 points**	1

H 2.3 Near or adjacent to other priority habitats listed by WDFW ***(see new and complete descriptions of WDFW priority habitats, and the counties in which they can be found, in the PHS report http://wdfw.wa.gov/hab/phslist.htm)*** Which of the following priority habitats are within 330ft (100m) of the wetland? *(NOTE: the connections do not have to be relatively undisturbed)* ☐ **Aspen Stands:** Pure or mixed stands of aspen greater than 0.4 ha (1 acres). ☐ **Biodiversity Areas and Corridors:** Areas of habitat that are relatively important to various species of native fish and wildlife (*full description in WDFW PHS report p. 152*) ☐ **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 20 trees/ha (8 trees/acre) > 81 cm (32 in) dbh or > 200 years of age. (Mature forests.) Stands with average diameters exceeding 53 cm (21 in) dbh; crown cover may be less that 100%; crown cover may be less that 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:** Woodlands 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.)* ☐ **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*) ☐ **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: pp. 167-169 and glossary in Appendix A.)* ☐ **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 7.6 m (25 ft) high and occurring below 5000 ft. ☐ **Talus:** Homogenous areas of rock rubble ranging in average size 0.15 - 2.0 m (0.5 - 6.5 ft), composed of basalt, andesite, and/or sedimentary rock, including riprap slides and mine tailings. May be associated with cliffs. ☐ **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 >51 cm (20 in) in western Washington and are > 2 m (6.5 ft) in height. Priority logs are > 30cm (12 in) in diameter at the largest end, and > 6m (20 ft) long. If wetland has **3 or more** priority habitats **= 4 points** If wetland has **2** priority habitats = **3 points** If wetland has **1** priority habitat **= 1 point** No habitats = **0 points** *Note: All vegetated wetland are by definition a priority habitat but are not included in this list. Nearby wetlands are addressed in question H2.4.*	0

Wetland name or number ___B___

H 2.4 Wetland Landscape *(choose the **one** description of the landscape around the wetland that best fits)* ***(see p. 84)*** There are at least 3 other wetlands within ½ mile, and the connections between them are relatively undisturbed (light grazing between wetlands OK, as is lake shore with some boating, but connections should NOT be bisected by paved roads, fill, fields, or other development. ..... points = 5 The wetland is Lake-fringe on a lake with little disturbance and there are 3 other lake-fringe wetlands within ½ mile ..... points = 5 There are at least 3 other wetlands within ½ mile, BUT the connections between them are disturbed ..... points = 3 The wetland is Lake-fringe on a lake **with** disturbance and there are 3 other lake-fringe wetland within ½ mile ..... points = 3 There is at least 1 wetland within ½ mile. ..... points = 2 There are no wetlands within ½ mile. ..... points = 0	3
H 2. TOTAL Score - opportunity for providing habitat *Add the scores from H2.1, H2.2, H2.3, H2.4*	5
TOTAL for H1 from page 14	6
Total Score for Habitat Functions – add the points for H 1, H 2 and record the result on p. 1	**11**

CATEGORIZATION BASED ON SPECIAL CHARACTERISTICS

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

Wetland Type *Check off any criteria that apply to the wetland. Circle the Category when the appropriate criteria are met.*	**Category**
SC 1.0 Estuarine wetlands (*see p. 86)* Does the wetland unit 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 ☒	
SC 1.1 Is the wetland unit within a National Wildlife Refuge, National Park, National Estuary Reserve, Natural Area Preserve, State Park or Educational, Environmental, or Scientific Reserve designated under WAC 332-151? ☐YES = Category I ☐NO = go to SC 1.2	**Cat. I**
SC 1.2 Is the wetland unit at least 1 acre in size and meets at least two of the following three conditions? ☐YES = Category I ☐NO = Category II ☐ The wetland is relatively undisturbed (has no diking, ditching, filling, cultivation, grazing, and has less than 10% cover of non-native plant species. If the non-native Spartina spp. are the only species that cover more than 10% of the wetland, then the wetland should be given a dual rating (I/II) The are aof Spartina would be rated a Category II while the relatively undisturbed upper marsh with native species would be a Category I. Do not, however, exclude the area of Spartina in determining the size threshold of 1 acre. ☐ At least ¾ of the landward edge of the wetland has a 100 ft buffer of shrub, forest, or un-grazed or un-mowed wetland. ☐ The wetland has at least 2 or the following features: tidal channels, depressions with open water, or contiguous freshwater wetlands.	**Cat. I** **Cat. II** **Dual rating I/II**

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

SC 4.0 Forested Wetlands *(see p. 90)*

Does the wetland have at least 1 acre of forest that meet one of these criteria for the Department of Fish and Wildlife's forests as priority habitats? *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/acre (20 trees/hectare) that are at least 200 years of age OR have a diameter at breast height (dbh) of 32 inches (81 cm) or more.
Note: The criterion for dbh is based on measurements for upland forests. Two hundred year old trees in wetlands will often have a smaller dbh because their growth rates are often slower. The DFW criterion is and "OR" so old-growth forests do not necessarily have to have trees of this diameter.

☐ Mature forests: (west of the Cascade crest) Stands where the largest trees are 80-200 years old OR have average diameters (dbh) exceeding 21 in (53 cm); crown cover may be less than 100%; decay, decadence, numbers of snags, and quanitity of large downed material is generally less than that found in old-growth

YES = Category 1 NO ☒ not a forested wetland with special characteristics

Cat. I

SC 5.0 Wetlands in Coastal Lagoons (see p. 91)

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 surgace 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 ☒ 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 invasive plant species (see list of invasive species on p. 74).

☐ 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.

☐ The wetalnd is larger than 1/10 acre (4350 square feet)

YES = Category I NO = Category II

Cat. II

SC 6.0 Interdunal Wetlands (see p. 93) Is the wetalnd unit west of the 1889 line (also called the Westarn Boundary of Upland Ownership or WBUO)? YES – go to SC 6.1 NO ☒ not an interdunal wetland for rating *If you answer yes you will still need to rate the wetland based on its 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 SC 6.1 Is the wetland 1 acre or larger, or is it in a mosaic of wetlands that is 1 acre or larger? YES = Category II NO – go to SC 6.2 SC 6.2 Is the unit between 0.1 and 1 acre, or is it in a mosaic of wetlands that is between 0.1 and 1 acre? YES = Category III	**Cat. II** **Cat. III**
Category of wetland based on Special Characteristics *Choose the "highest" rating if wetland falls into several categorie, and record on p. 1 .* If you answered NO for all types enter "Not Applicable" on p.1.	**N/A**

Wetland name or number ___C___

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

Name of wetland (if known): Totem Lake Park Master Plan **Wetland C** Date of site visit: 04/05/2013

Rated by: N. Lund R. Kahlo Trained by Ecology? Yes ☒ No ☐ Date of Training 10/2008 03/2009

SEC: 28 TWNSHP: 26N RNGE: 5E Is S/T/R in Appendix D? Yes ☐ No ☒

SUMMARY OF RATING

Category based on FUNCTIONS provided by wetland

I ☐ II ☐ III ☒ IV ☐

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

Score for Water Quality Functions	14
Score for Hydrologic Functions	16
Score for Habitat Functions	15
TOTAL score for functions	**45**

Category based on SPECIAL CHARACTERISTICS of wetland

I ☐ II ☐ Does not Apply ☒

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

Check the appropriate type and class of wetland being rated.

Wetland Type		Wetland Class	
Estuarine		**Depressional**	**X**
Natural Heritage Wetland		**Riverine**	
Bog		**Lake-fringe**	
Mature Forest		**Slope**	
Old Growth Forest		**Flats**	
Coastal Lagoon		**Freshwater Tidal**	
Interdunal			
None of the above	**X**	Check if unit has multiple HGM classes present	**X**

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

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

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

***The study area was reviewed for the presence of endangered, threatened, and priority species using WDFW online Priority Habitat and Species Data, PHS on the Web (http://wdfw.wa.gov/mapping/phs/).**

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

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

Classification of Wetland Units in Western Washington

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

1. Are the water levels in the wetland unit usually controlled by tides (i.e. except during floods)?

☒ NO – go to 2 ☐ **YES** – the wetland class is **Tidal Fringe**

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

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

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

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

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

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

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

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

☒ NO – go to 4 ☐ **YES –** The wetland class is **Lake-fringe (Lacustrine Fringe)**

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

☒ The wetland is on a slope (*slope can be very gradual*),

☐ The water flows through the wetland in one direction (unidirectional) and usually comes from seeps. It may flow subsurface, as sheetflow, or in a swale without distinct banks.

☐ The water leaves the wetland **without being impounded**?

NOTE: *Surface water does not pond in these types of wetlands except occasionally in very small and shallow depressions or behind hummocks (depressions are usually <3ft diameter and less than a foot deep).*

☒ NO – go to 5 ☐ **YES –** The wetland class is **Slope**

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

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

☐ The overbank flooding occurs at least once every two years

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

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

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

☒ NO – go to 7 ☐ **YES –** The wetland class is **Depressional**

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

☒ NO – go to 8 ☐ **YES –** The wetland class is **Depressional**

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

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

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

Slope, Riverine and Depressional HGM classes present.
Rated as depressional.

Wetland name or number ___C___

D	Depressional and Flats Wetlands	Points
	WATER QUALITY FUNCTIONS - Indicators that wetland functions to improve water quality	
D	**D 1. Does the wetland have the potential to improve water quality?**	*(see p. 38)*
D	D 1.1 Characteristics of surface water flows out of the wetland: Unit is a depression with no surface water leaving it (no outlet)..... points = 3 Unit has an intermittently flowing, or highly constricted permanently flowing outlet..... points = 2 Unit has an unconstricted, or slightly constricted, surface outlet *(permanently flowing)*. points = 1 Unit is a "flat" depression (Q.7 on key), or in the Flats class, with permanent surface outflow **and no obvious natural outlet**, and/or outlet is a man-made ditch ..... points = 1 (*If ditch is not permanently flowing treat unit as "intermittently flowing")*	2
D	D 1.2 The soil 2 inches below the surface (or duff layer) is clay or organic (*use NRCS definitions*). Per NRCS soil map: Seattle Muck — YES points = 4; NO points = 0	0
D	D 1.3 Characteristics of persistent vegetation (emergent, shrub, and/or forest Cowardin class): Wetland has persistent, ungrazed, vegetation > = 95% of area ..... points = 5 Wetland has persistent, ungrazed, vegetation > = 1/2 of area ..... points = 3 Wetland has persistent, ungrazed vegetation > = 1/10 of area ..... points = 1 Wetland has persistent, ungrazed vegetation <1/10 of area..... points = 0	5
D	D1.4 Characteristics of seasonal ponding or inundation. *This is the area of the wetland unit that is ponded for at least 2 months, but dries out sometime during the year. Do not count the area that is permanently ponded. Estimate area as the average condition 5 out of 10 yrs.* Area seasonally ponded is > ½ total area of wetland..... points = 4 Area seasonally ponded is > ¼ total area of wetland..... points = 2 Area seasonally ponded is < ¼ total area of wetland..... points = 0 NOTE: *See text for indicators of seasonal and permanent inundation.*	0
D	**Total for D 1** *Add the points in the boxes above*	7
D	**D 2. Does the wetland unit have the opportunity to improve water quality?** Answer YES if you know or believe there are pollutants in groundwater or surface water coming into the wetland that would otherwise reduce water quality in streams, lakes or groundwater downgradient from the wetland? *Note which of the following conditions provide the sources of pollutants. A unit may have pollutants coming from several sources, but any single source would qualify as opportunity.* ☐ Grazing in the wetland or within 150 ft ☒ Untreated stormwater discharges to wetland ☐ Tilled fields or orchards within 150 ft of wetland ☐ A stream or culvert discharges into wetland that drains developed areas, residential areas, farmed fields, roads, or clear-cut logging ☒ Residential, urban areas, golf courses are within 150 ft of wetland ☐ Wetland is fed by groundwater high in phosphorus or nitrogen ☐ Other _____ **YES** multiply score in D 1. **by 2** **NO** multiply score in D 1. **by 1**	*(see p. 44)* multiplier 2
D	**TOTAL - Water Quality Functions** Multiply the score from D1 by D2 ***Add score to table on p. 1***	**14**

Wetland name or number ___C___

D	Depresssional and Flats Wetlands	
	HYDROLOGIC FUNCTIONS - Indicators that wetland functions to reduce flooding and stream degradation	
	D 3. Does the wetland have the potential to reduce flooding and erosion?	*(see p. 46)*
D	D 3.1 Characteristics of surface water flows out of the wetland unit Unit is a depression with no surface water leaving it (no outlet)..... points = 4 Unit has an intermittently flowing, or highly constricted permanently flowing outlet... points = 2 Unit has an unconstricted, or slightly constricted, surface outlet *(permanently flowing)*. points = 1 Unit is a "flat" depression (Q.7 on key), or in the Flats class, with permanent surface outflow **and no obvious natural outlet**, and/or outlet is a man-made ditch ..... points = 1 (*If ditch is not permanently flowing treat unit as "intermittently flowing")* Unit has an unconstricted, or slightly constricted, surface outlet (*permanently flowing*). points = 0	2
D	D 3.2 Depth of storage during wet periods *Estimate the height of ponding above the bottom of the outlet For units with no outlet measure from the surface of permanent water or deepest part (if dry).* Marks of ponding are at least 3 ft or more above the surface or bottom of outlet..... points = 7 The wetland is a "headwater" wetland" ..... points = 5 Marks of ponding between 2 ft to < 3 ft from surface or bottom of outlet..... points = 5 Marks are at least 0.5 ft to < 2 ft from surface or bottom of outlet ..... points = 3 Unit is flat (yes to Q.2 or Q.7 on key) but has small depressions on the surface that trap water ..... points = 1 Marks of ponding less than 0.5 ft..... points = 0	3
D	D 3.3 Contribution of wetland unit to storage in the watershed *Estimate the ratio of the area of upstream basin contributing surface water to the wetland to the area of the wetland unit itself.* ~~The area of the basin is less than 10 times the area of the unit~~ ..... points = 5 The area of the basin is 10 to 100 times the area of the unit ..... points = 3 The area of the basin is more than 100 times the area of the unit ..... points = 0 Entire unit is in the FLATS class ..... points = 5	3
D	**Total for D 3** *Add the points in the boxes above*	8
D	**D 4. Does the wetland unit have the opportunity to reduce flooding and erosion?** Answer YES if the unit is in a location in the watershed where the flood storage, or reduction in water velocity, it provides helps protect downstream property and aquatic resources from flooding or excessive and/or erosive flows. Answer NO if the water coming into the wetland is controlled by a structure such as flood gate, tide gate, flap valve, reservoir etc. OR you estimate that more than 90% of the water in the wetland is from groundwater in areas where damaging groundwater flooding does not occur. *Note which of the following conditions apply.* ☐ Wetland is in a headwater of a river or stream that has flooding problems ☒ Wetland drains to a river or stream that has flooding problems ☐ Wetland has no outlet and impounds surface runoff water that might otherwise flow into a river or stream that has flooding problems ☐ Other _____ ☒ **YES** multiplier is **2** ☐ **NO** multiplier is **1**	*(see p. 49)* multiplier 2
D	**TOTAL - Hydrologic Functions** Multiply the score from D 3 by D 4 ***Add score to table on p. 1***	**16**

Wetland name or number ___C___

These questions apply to wetlands of all HGM classes.

HABITAT FUNCTIONS - Indicators that wetland functions to provide important habitat

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

H 1.1 Vegetation structure ***(see p. 72)***

Check the types of vegetation classes present (as defined by Cowardin) if the class is ¼ acre or covers more than 10% of the area of the wetland if unit smaller than 2.5 acres.

- ☐ Aquatic bed
- ☒ Emergent plants
- ☒ Scrub/shrub (areas where shrubs have >30% cover)
- ☐ Forested (areas where trees have >30% cover)
- ☐ Forested areas have 3 out of 5 strata (canopy, sub-canopy, shrubs, herbaceous, moss/ground-cover) that each cover 20% within the forested polygon

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

4 structures or more ..... points = 4
3 structures ..... points = 2
(2 structures) ..... points = 1
1 structure ..... points = 0

1

H 1.2. Hydroperiods ***(see p. 73)***

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

- ☐ Permanently flooded or inundated
- ☐ Seasonally flooded or inundated
- ☐ Occasionally flooded or inundated
- ☒ Saturated only
- ☒ Permanently flowing stream or river in, or adjacent to, the wetland
- ☐ Seasonally flowing stream in, or adjacent to, the wetland
- ☐ ***Lake-fringe wetland* = 2 points**
- ☐ ***Freshwater tidal wetland* = 2 points**

4 or more types present ..... points = 3
3 types present ..... points = 2
(2 types present) ..... points = 1
1 types present……points = 0

1

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

Count the number of plant species in the wetland that cover at least 10 ft^2. (*different patches of the same species can be combined to meet the size threshold)*

You do not have to name the species.

Do not include Eurasian milfoil, reed canarygrass, purple loosestrife, Canadian thistle

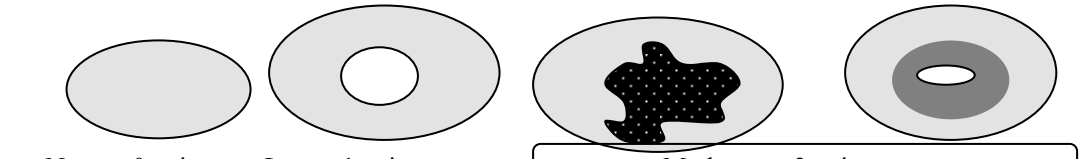
List species below if you want to:

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

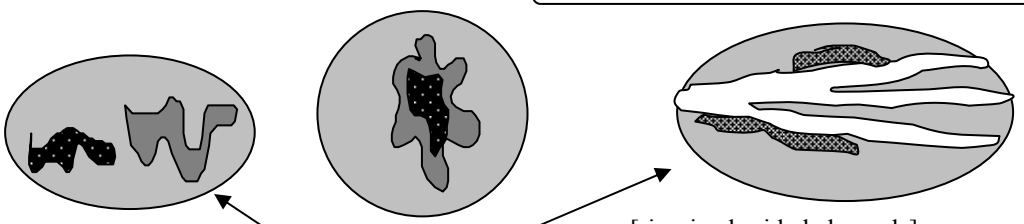
1

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

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



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



High = 3 points [riparian braided channels]

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

2

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

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

☒ Large, downed, woody debris within the wetland (>4in. diameter and 6 ft long).

☐ Standing snags (diameter at the bottom > 4 inches) in the wetland

☒ Undercut banks are present for at least 6.6 ft (2m) and/or overhanging vegetation extends at least 3.3 ft (1m) over a stream for at least 33 ft (10m)

☐ Stable steep banks of fine material that might be used by beaver or muskrat for denning (>30degree slope) OR signs of recent beaver activity are present

☐ At least ¼ acre of thin-stemmed persistent vegetation or woody branches are present in areas that are permanently or seasonally inundated*.(structures for egg-laying by amphibians)*

☐ Invasive plants cover less than 25% of the wetland area in each stratum of plants

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

2

H 1. TOTAL Score - potential for providing habitat

Add the scores from H1.1, H1.2, H1.3, H1.4, H1.5

7

Wetland name or number ___C___

H 2. Does the wetland have the opportunity to provide habitat for many species?	
H 2.1 Buffers ***(see p. 80)*** *Choose the description that best represents condition of buffer of wetland. The highest scoring criterion that applies to the wetland is to be used in the rating. See text for definition of "undisturbed."* ☐ 100 m (330ft) of relatively undisturbed vegetated areas, rocky areas, or open water >95% of circumference. No developed areas within undisturbed part of buffer. (relatively undisturbed also means no-grazing) ..... Points = 5 ☐ 100 m (330 ft) of relatively undisturbed vegetated areas, rocky areas, or open water > 50% circumference..... Points = 4 ☐ 50 m (170ft) of relatively undisturbed vegetated areas, rocky areas, or open water >95% circumference..... Points = 4 ☐ 100 m (330ft) of relatively undisturbed vegetated areas, rocky areas, or open water > 25% circumference..... Points = 3 ☐ 50 m (170ft) of relatively undisturbed vegetated areas, rocky areas, or open water for > 50% circumference. ..... Points = 3 **If buffer does not meet any of the criteria above** ☐ No paved areas (except paved trails) or buildings within 25 m (80ft) of wetland > 95% circumference. Light to moderate grazing, or lawns are OK..... Points = 2 ☐ No paved areas or buildings within 50m of wetland for >50% circumference. Light to moderate grazing, or lawns are OK..... Points = 2 ☐ Heavy grazing in buffer. ..... Points = 1 ☐ Vegetated buffers are <2m wide (6.6ft) for more than 95% of the circumference (e.g. tilled fields, paving, basalt bedrock extend to edge of wetland ..... Points = 0 ☒ Buffer does not meet any of the criteria above……...Points = 1	1
H 2.2 Corridors and Connections ***(see p. 81)*** H 2.2.1 Is the wetland part of a relatively undisturbed and unbroken vegetated corridor (either riparian or upland) that is at least 150 ft wide, has at least 30% cover of shrubs, forest or native undisturbed prairie, that connects to estuaries, other wetlands or undisturbed uplands that are at least 250 acres in size? (*dams in riparian corridors*, *heavily used gravel roads*, *paved roads, are considered breaks in the corridor*). YES = **4 points** (*go to H 2.3*) **NO** = go to H 2.2.2 H 2.2.2 Is the wetland part of a relatively undisturbed and unbroken vegetated corridor (either riparian or upland) that is at least 50ft wide, has at least 30% cover of shrubs or forest, and connects to estuaries, other wetlands or undisturbed uplands that are at least 25 acres in size? **OR** a **Lake-fringe** wetland, if it does not have an undisturbed corridor as in the question above? YES = **2 points** (*go to H 2.3*) **NO** = H 2.2.3 H 2.2.3 Is the wetland: within 5 mi (8km) of a brackish or salt water estuary OR within 3 mi of a large field or pasture (>40 acres) OR within 1 mi of a lake greater than 20 acres? YES = **1 point** NO = **0 points**	1

H 2.3 Near or adjacent to other priority habitats listed by WDFW ***(see new and complete descriptions of WDFW priority habitats, and the counties in which they can be found, in the PHS report http://wdfw.wa.gov/hab/phslist.htm)***

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

☐ **Aspen Stands:** Pure or mixed stands of aspen greater than 0.4 ha (1 acres).
☐ **Biodiversity Areas and Corridors:** Areas of habitat that are relatively important to various species of native fish and wildlife (*full description in WDFW PHS report p. 152*)
☐ **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 20 trees/ha (8 trees/acre) > 81 cm (32 in) dbh or > 200 years of age. (Mature forests.) Stands with average diameters exceeding 53 cm (21 in) dbh; crown cover may be less that 100%; crown cover may be less that 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:** Woodlands 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.)*
☒ **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*)
☒ **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: pp. 167-169 and glossary in Appendix A.)*
☐ **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 7.6 m (25 ft) high and occurring below 5000 ft.
☐ **Talus:** Homogenous areas of rock rubble ranging in average size 0.15 - 2.0 m (0.5 - 6.5 ft), composed of basalt, andesite, and/or sedimentary rock, including riprap slides and mine tailings. May be associated with cliffs.
☐ **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 >51 cm (20 in) in western Washington and are > 2 m (6.5 ft) in height. Priority logs are > 30cm (12 in) in diameter at the largest end, and > 6m (20 ft) long.

If wetland has **3 or more** priority habitats **= 4 points**
If wetland has **2** priority habitats = **3 points**
If wetland has **1** priority habitat **= 1 point**
No habitats = **0 points**

Note: All vegetated wetland are by definition a priority habitat but are not included in this list. Nearby wetlands are addressed in question H2.4.

3

H 2.4 Wetland Landscape *(choose the **one** description of the landscape around the wetland that best fits)* ***(see p. 84)*** There are at least 3 other wetlands within ½ mile, and the connections between them are relatively undisturbed (light grazing between wetlands OK, as is lake shore with some boating, but connections should NOT be bisected by paved roads, fill, fields, or other development. ..... points = 5 The wetland is Lake-fringe on a lake with little disturbance and there are 3 other lake-fringe wetlands within ½ mile ..... points = 5 There are at least 3 other wetlands within ½ mile, BUT the connections between them are disturbed ..... points = 3 The wetland is Lake-fringe on a lake **with** disturbance and there are 3 other lake-fringe wetland within ½ mile ..... points = 3 There is at least 1 wetland within ½ mile. ..... points = 2 There are no wetlands within ½ mile. ..... points = 0	3
H 2. TOTAL Score - opportunity for providing habitat *Add the scores from H2.1, H2.2, H2.3, H2.4*	8
TOTAL for H1 from page 14	7
Total Score for Habitat Functions – add the points for H 1, H 2 and record the result on p. 1	**15**

CATEGORIZATION BASED ON SPECIAL CHARACTERISTICS

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

Wetland Type *Check off any criteria that apply to the wetland. Circle the Category when the appropriate criteria are met.*	**Category**
SC 1.0 Estuarine wetlands (*see p. 86)* Does the wetland unit 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 ☒	
SC 1.1 Is the wetland unit within a National Wildlife Refuge, National Park, National Estuary Reserve, Natural Area Preserve, State Park or Educational, Environmental, or Scientific Reserve designated under WAC 332-151? ☐YES = Category I ☐NO = go to SC 1.2	**Cat. I**
SC 1.2 Is the wetland unit at least 1 acre in size and meets at least two of the following three conditions? ☐YES = Category I ☐NO = Category II ☐ The wetland is relatively undisturbed (has no diking, ditching, filling, cultivation, grazing, and has less than 10% cover of non-native plant species. If the non-native Spartina spp. are the only species that cover more than 10% of the wetland, then the wetland should be given a dual rating (I/II) The are aof Spartina would be rated a Category II while the relatively undisturbed upper marsh with native species would be a Category I. Do not, however, exclude the area of Spartina in determining the size threshold of 1 acre. ☐ At least ¾ of the landward edge of the wetland has a 100 ft buffer of shrub, forest, or un-grazed or un-mowed wetland. ☐ The wetland has at least 2 or the following features: tidal channels, depressions with open water, or contiguous freshwater wetlands.	**Cat. I** **Cat. II** **Dual rating I/II**

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

SC 4.0 Forested Wetlands ***(see p. 90)***

Does the wetland have at least 1 acre of forest that meet one of these criteria for the Department of Fish and Wildlife's forests as priority habitats? *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/acre (20 trees/hectare) that are at least 200 years of age OR have a diameter at breast height (dbh) of 32 inches (81 cm) or more.
Note: The criterion for dbh is based on measurements for upland forests. Two hundred year old trees in wetlands will often have a smaller dbh because their growth rates are often slower. The DFW criterion is and "OR" so old-growth forests do not necessarily have to have trees of this diameter.

☐ Mature forests: (west of the Cascade crest) Stands where the largest trees are 80-200 years old OR have average diameters (dbh) exceeding 21 in (53 cm); crown cover may be less than 100%; decay, decadence, numbers of snags, and quanitity of large downed material is generally less than that found in old-growth

YES = Category 1 NO ☒ not a forested wetland with special characteristics

Cat. I

SC 5.0 Wetlands in Coastal Lagoons (see p. 91)

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 surgace 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 ☒ 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 invasive plant species (see list of invasive species on p. 74).

☐ 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.

☐ The wetalnd is larger than 1/10 acre (4350 square feet)

YES = Category I NO = Category II

Cat. II

SC 6.0 Interdunal Wetlands (see p. 93) Is the wetalnd unit west of the 1889 line (also called the Westarn Boundary of Upland Ownership or WBUO)? YES – go to SC 6.1 NO ☒ not an interdunal wetland for rating *If you answer yes you will still need to rate the wetland based on its 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 SC 6.1 Is the wetland 1 acre or larger, or is it in a mosaic of wetlands that is 1 acre or larger? YES = Category II NO – go to SC 6.2 SC 6.2 Is the unit between 0.1 and 1 acre, or is it in a mosaic of wetlands that is between 0.1 and 1 acre? YES = Category III	**Cat. II** **Cat. III**
Category of wetland based on Special Characteristics *Choose the "highest" rating if wetland falls into several categorie, and record on p. 1 .* If you answered NO for all types enter "Not Applicable" on p.1.	**N/A**