

DATE: November 24, 2021

TO: Hillary Pope

FROM: Jaimee Cornwell and Jeff Gray, PWS

SUBJECT: SR 9/SR 204 Intersection Improvements Project Stage III, XL4989

Wetland Mitigation Bank Use Memorandum

This Wetland Mitigation Bank Use Memorandum has been created to support environmental documentation, permit applications, and to meet local, state, and federal requirements for mitigation for Stage III of the State Route (SR) 9/SR 204 Intersection Improvements project. This memo provides a brief project overview, an assessment of impacts to wetlands and their associated buffers, a summary of the proposed restoration of temporary impacts, and a description of compensatory mitigation for unavoidable permanent impacts to aquatic resources.

Project Location

The SR 9 and SR 204 Intersection Improvements project (Stage III) is located between MP 15.48 and MP 16.05 in the City of Lake Stevens, Washington. The project is located in Water Resource Inventory Area (WRIA) 7 in Snohomish County, within the Little Pilchuck River (Hydrologic Unit Code [HUC] 171100110102) and the Snohomish River-Frontal Possession Sound (HUC 171100110203) basins of the Snohomish Watershed. The project is within Section 13 of Township 29 North and Range 5 East (Willamette Meridian) of the Public Land Survey System (Figure 1: Vicinity Map).

Project Description

The Washington State Department of Transportation (WSDOT) proposes to complete Stage III of the SR 9/SR 204 Intersection Improvements project to improve traffic flow along a 0.57-mile segment of SR 9 from south of NE 4th Street to north of North Davies Road. The project will include improvements to the intersections at SR 9 and SR 204, SR 9 and Vernon Road, 91st Avenue NE and Vernon Road, and N. Davies Road and Vernon Road.

Project work will include the following:

- A two-lane roundabout at the intersection of SR 9 and SR 204.
- A two-lane roundabout at the intersection of SR 9 and Vernon Road.
- A miniature (mini) roundabout at the intersection of 91st Avenue NE and Vernon Road.
- A mini roundabout at the intersection of N. Davies Road and Vernon Road.
- Roadway widening, curb and gutter and sidewalk work that will extend beyond the existing pavement,
- Stormwater treatment and conveyance facilities, including a new graded pond and new walled detention pond.
- Clearing and grading, and restoration of all temporary impact areas.

The project is currently scheduled to be constructed during the summer and fall months and is expected to be completed in December 2022.



FIGURE 1
VICINITY AND LOCATION MAP
SR9/204 INTERSECTION IMPROVEMENTS
STAGE III

Legend
Project Area

Data Sources:
Date: 9/23/2021
Disclaimer: This data is not to survey accuracy and is meant for planning purposes only.
vred-oe.otak.com/gm/Project/3310033178/CADDO/GIS/MNDxSR5-SR204-SR204/Wetlands/SR204_Wetlands.aprx



Figure 1: Vicinity Map

Existing Conditions of Sensitive Resources

Two wetlands, identified as W4 and W5, were identified and delineated by WSDOT in 2018 within the Stage III project area. In 2021, WSDOT identified three additional jurisdictional wetlands within Stage III of the project area, which have been identified as Wetlands W3, W3A, and W8, and included a roadside ditch as part of Wetland W4 (Figure 2: Regulated Wetlands Map). Five additional wetland areas, identified as W2, W3, W3A, W4A, and W8 were identified in the Stage III project area by WSDOT in 2021. Wetlands W4 and W4A were later combined due to shared hydrology (Figure 2: Regulated Wetlands Map). No streams were identified within the project area; however, Weiser Creek (WA Department of Natural Resources [DNR] ID# 78406), a tributary to Ebey Slough is located west of the project area (Snohomish County 2021, DNR 2021). The DNR maps Weiser Creek as an unnamed, non-fish-bearing stream, however, it is known by the Tulalip Tribe as Weiser Creek, and it is a fish-bearing stream. Baseline conditions are documented in the Wetland Assessment Report (WSDOT 2018) and Addendum (WSDOT 2021) prepared for the project.

Table 1 below outlines the jurisdictional wetlands within the project area and includes their area, Cowardin classification, hydrogeomorphic (HGM) position, wetland rating according to both the WA Department of Ecology (WDOE) and the City of Lake Stevens Municipal Code (LSMC), as well as their rating score and associated buffer width.

Table 1: Jurisdictional Wetlands in the Project Area

Wetland Classification							
Wetland	Area (acres)	Cowardin ¹	HGM	WDOE Rating ²	Rating Score	Habitat Score	Buffer Width ³ (feet)
W3	0.05	PEM	Depressional	IV	15	3	50
W3A	0.02	PEM	Depressional	IV	15	3	50
W4	2.43	PEM/PFO	Depressional	III	18	4	80
W5	2.31	PEM/PFO	Depressional	III	18	4	80
W8	0.07	PSS	Depressional	III	17	3	80

¹ Classes based on the following vegetation types according to Cowardin et al. (1979): PEM = Palustrine Emergent; PFO = Palustrine Forested; PSS = Palustrine Scrub-Shrub.

² Wetlands rated according to Hruby (2014), per LSMC 14.88.805.

³ Wetland buffer widths according to LSMC 14.88.830(b).

Wetland 5 will not be impacted by Stage III of the project, therefore, no further discussion of it is included within the remainder of this document.

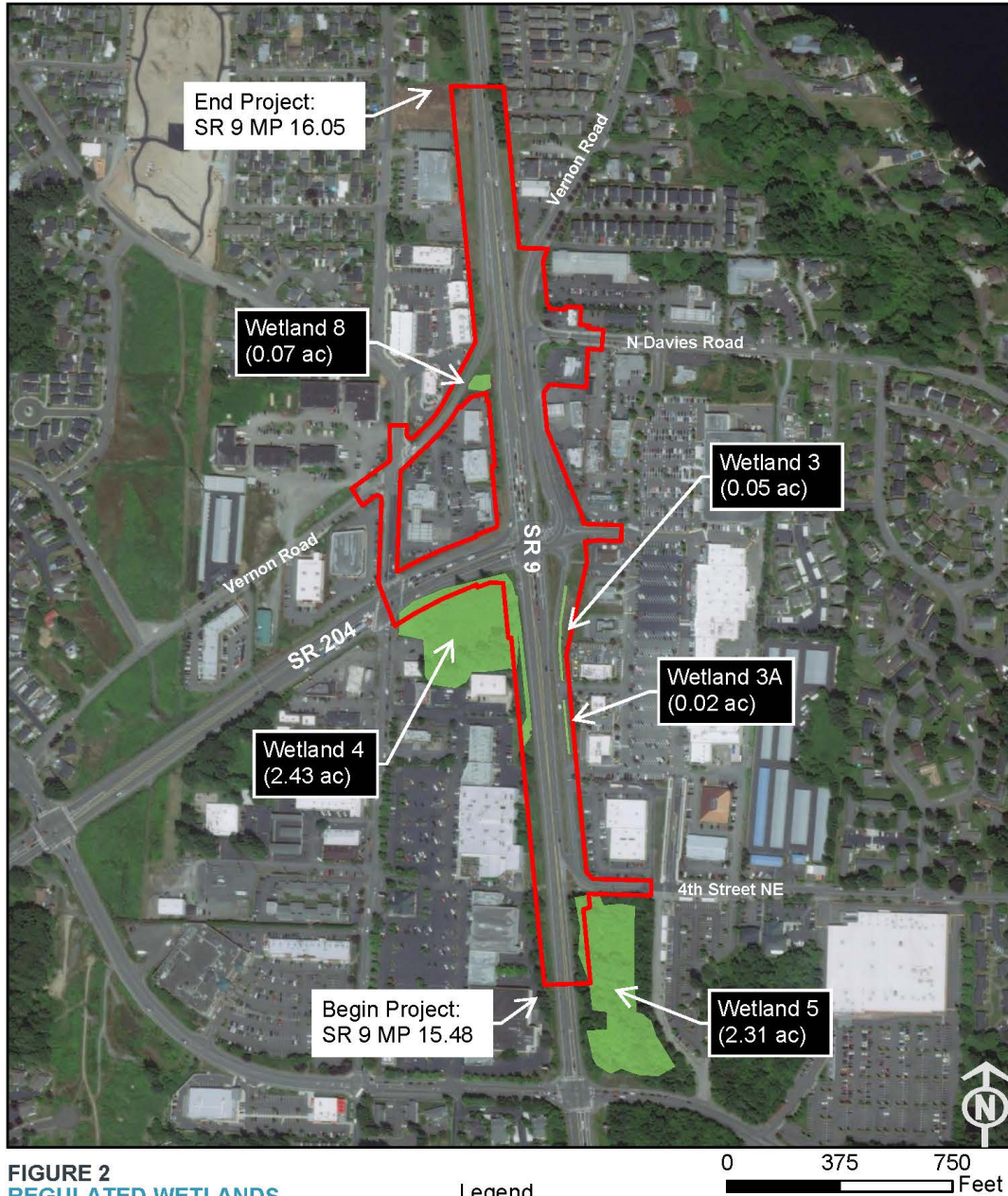




FIGURE 2
REGULATED WETLANDS
SR9/204 INTERSECTION IMPROVEMENTS
STAGE III

Legend

 Project Area

 Regulated Wetlands

Data Sources:
Date: 9/23/2021
Disclaimer: This data is not to survey accuracy and is meant for planning purposes only.
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Figure 2: Regulated Wetlands Map

Wetlands W3 and W3A

Wetlands W3 and W3A are two segments of the same roadside ditch located on the east side of 92nd Avenue NE and south of the SR 204 intersection. Wetlands W3 and W3A function as depressional wetlands that are hydrologically connected but physically bisected by a private driveway. Wetland W3 is 0.05-acre and is the northern ditch section, and Wetland W3A is 0.02-acre and the southern ditch section (Tables 2 and 3, Figure 2). Wetlands W3 and W3A convey surface water from Wetland 5 to Wetland 4 through a culvert located under SR 9. Several inlet pipes from the commercial parking areas to the east discharge to Wetlands W3 and W3A.

Wetland W4

Wetland W4 is a 2.43-acre depressional wetland located on the southwest corner of the SR 9/SR 204 intersection. This wetland is hydrologically supported by precipitation and a shallow groundwater table. Approximately 0.4-mile west of the project area, Wetland W4 discharges to Weiser Creek (DNR ID# 78406) through a series of ditches and pipes; Weiser Creek eventually flows to Ebey Slough. Wetland W4 includes a 0.15-acre linear drainage ditch that was previously delineated as Wetland 4A and later combined with Wetland W4 (Table 4, Figure 2).

Wetland W8

Wetland W8 is a 0.07-acre depressional wetland located at the southwest corner of SR 9 and Vernon Road (Table 5, Figure 2). Wetland W8 is a small, circular topographic feature that outlets through a culvert under Vernon Road. Approximately 0.6-mile southwest of the project area, Wetland W8 hydrologically connects to Weiser Creek (DNR ID# 78406), via a network of roadside ditches and pipes on Vernon Road.

Due to its shape and rip rapped side slopes, Wetland W8 may be an excavated stormwater pond; however, it is unclear if this wetland was constructed in uplands or it is a remnant of a previously existing wetland. The as-built plans for the SR 9 – SR 204 to Lundeen Parkway project from 1992 show two linear ditch lines in the location of Wetland W8, and the Snohomish County Wetland Inventory previously mapped a larger wetland in the vicinity. As a result, Wetland W8 is considered a jurisdictional wetland for compliance with federal, state, and local regulations regarding impacts and compensatory mitigation needs.

Table 2: Wetland W3 Summary


WETLAND W3 – INFORMATION SUMMARY	
Location: East side of 92 nd Avenue NE, south of SR 204 intersection	
 <p>June 2021</p>	Local Jurisdiction City of Lake Stevens WRIA 7 WDOE Rating (Hruby 2014) IV Lake Stevens Buffer Width 50 feet Wetland Size 0.05-acre Cowardin Classification PEM 2014 Wetland Rating Scores Water Quality: 6 Hydrologic: 6 Habitat: 3 HGM Classification Depressional Wetland Data Sheet(s) W3-SP1, W3-SP4, & W3-SP5 Upland Data Sheet(s) None (road) Flag color Pink
Dominant Vegetation	Reed canarygrass (<i>Phalaris arundinacea</i>)
Soils	Loam soils with roadside fill at approximately 7-8" below ground surface. Areas of depleted soils below approximately 8", some with redoximorphic concentrations. Standing water within the wetland restricted suitable shovel probing.
Hydrology	Surface water runoff / seasonal high groundwater table
Rationale for Delineation	All three wetland criteria are met.
Rationale for Local Rating	The City of Lake Stevens uses the 2014 WDOE rating system. Wetland W3 rated as a Category IV because it provides low water quality functions (6), moderate hydrologic functions (6), and low habitat functions (3), resulting in a total score of 15 points on the wetland rating form (Appendix A).
Wetland Functions Summary	
Water Quality	Wetland W3 has low opportunity to improve water quality because it does not have dense, persistent, ungrazed vegetation and it has an outlet (ditch); however, it does receive stormwater runoff from the adjacent roadways and parking lots.
Hydrologic	Wetland W3 has moderate opportunity to reduce flooding because it occurs in the upper portion of the sub-basin and is not capable of retaining high volumes of water, it additionally has an outlet (ditch).
Habitat	Wetland W3 has low habitat opportunity because the area has low habitat complexity and is surrounded by high-intensity land use.
Buffer Condition	Vegetated portions of the buffer are generally only 6-20 feet wide and dominated by mowed species of grasses.

Table 3: Wetland W3A Summary


WETLAND W3A – INFORMATION SUMMARY	
Location: East side of 92 nd Avenue NE, south of SR 204 intersection	
	Local Jurisdiction
	City of Lake Stevens
	WRIA
	7
	WDOE Rating (Hruby 2014)
	IV
	Lake Stevens Buffer Width
	50 feet
	Wetland Size
	0.02-acre
	Cowardin Classification
	PEM
	2014 Wetland Rating Scores
	Water Quality: 6 Hydrologic: 6 Habitat: 3
	HGM Classification
	Depressional
	Wetland Data Sheet(s)
	W3A-SP1
	Upland Data Sheet(s)
	None
	Flag color
	Pink
Dominant Vegetation	Reed canarygrass (<i>Phalaris arundinacea</i>) and common velvet grass (<i>Holcus lanatus</i>)
Soils	Dark black loam soils met “Loamy Mucky Mineral” (F1) hydric soil indicator.
Hydrology	Surface water runoff / seasonal high groundwater table
Rationale for Delineation	All three wetland criteria are met.
Rationale for Local Rating	The City of Lake Stevens uses the 2014 WDOE rating system. Wetland W3A rated as a Category IV because it provides low water quality functions (6), moderate hydrologic functions (6), and low habitat functions (3), resulting in a total score of 15 points on the wetland rating form (Appendix A).
Wetland Functions Summary	
Water Quality	Wetland W3A has low opportunity to improve water quality because it does not have dense, persistent, ungrazed vegetation and it has an outlet (ditch); however, it does receive stormwater runoff from the adjacent roadways and parking lots.
Hydrologic	Wetland W3A has moderate opportunity to reduce flooding because it occurs in the upper portion of the sub-basin and is not capable of retaining high volumes of water, it additionally has an outlet (ditch).
Habitat	Wetland W3A has low habitat opportunity because the area has low habitat complexity and is surrounded by high-intensity land use.
Buffer Condition	Vegetated portions of the buffer are generally only 6-20 feet wide and dominated by mowed species of grasses.

Table 4: Wetland W4 Summary



WETLAND W4 – INFORMATION SUMMARY			
Location: Southwest corner of SR 9 and SR 204			
	Local Jurisdiction	City of Lake Stevens	
	WRIA	7	
	WDOE Rating (Hruby 2014)	III	
	Lake Stevens Buffer Width	80 feet	
	Wetland Size	2.43 acres	
	Cowardin Classification	PEM/PFO	
	2014 Wetland Rating Scores	Water Quality: 7 Hydrologic: 7 Habitat: 4	
	HGM Classification	Depressional	
	Wetland Data Sheet(s)	W4A-SP1, TP-11, TP-12, and TP-13	
	Upland Data Sheet(s)	W4A-SP2 & W4A-SP3	
(June 2021)		Flag color	Pink
Dominant Vegetation	Red alder (<i>Alnus rubra</i>), black cottonwood (<i>Populus balsamifera</i>), salmonberry (<i>Rubus spectabilis</i>), and reed canarygrass (<i>Phalaris arundinacea</i>), Himalayan blackberry, and (<i>Rubus armeniacus</i>).		
Soils	Loam soils met “Depleted Matrix” (F3) and “Redox Dark Surface” (F6) hydric soil indicators.		
Hydrology	Surface water runoff, seasonal high groundwater table, and saturated soils.		
Rationale for Delineation	All three wetland criteria are met.		
Rationale for Local Rating	The City of Lake Stevens uses the 2014 WDOE rating system. Wetland W4 is rated a Category III because it provides moderate water quality functions (7), moderate hydrologic functions (7), and low habitat functions (4), resulting in a total score of 18 points on the wetland rating form (Appendix A).		
Wetland Functions Summary			
Water Quality	Wetland W4 has moderate opportunity to improve water quality because it has dense, persistent, ungrazed vegetation over much of its area and it receives stormwater runoff from adjacent roadways and parking lots, but it has an outlet, although highly constricted.		
Hydrologic	Wetland W4 has moderate opportunity to reduce flooding because it occurs in the upper portion of the sub-basin and can retain a moderate volume of water; however, it does have an outlet (highly constricted).		
Habitat	Wetland W4 has low habitat opportunity because although the area has a moderate habitat complexity and dense vegetation, it is surrounded by high-intensity land use.		
Buffer Condition	The vegetated portions of the buffer are generally only 6-20 feet wide and dominated by Himalayan blackberry (<i>Rubus armeniacus</i>).		

Table 5: Wetland W8 Summary

WETLAND W8 – INFORMATION SUMMARY		
Location: Southwest corner of SR 9 and Vernon Road		
	Local Jurisdiction	City of Lake Stevens
	WRIA	7
	WDOE Rating (Hruby 2014)	III
	Lake Stevens Buffer Width	80 feet
	Wetland Size	0.07 acres
	Cowardin Classification	PSS
	2014 Wetland Rating Scores	Water Quality: 7 Hydrologic: 7 Habitat: 3
	HGM Classification	Depressional
	Wetland Data Sheet(s)	W8-SP1
	Upland Data Sheet(s)	None
(June 2021)	Flag color	Pink
Dominant Vegetation	Douglas spiraea (<i>Spiraea douglasii</i>), Sitka willow (<i>Salix sitchensis</i>), and red flowering currant (<i>Ribes sanguineum</i>).	
Soils	Loam soils met “Loamy Mucky Mineral” (F1) hydric soil indicators; clay liner below 8” depth.	
Hydrology	Saturated soils.	
Rationale for Delineation	All three wetland criteria are met.	
Rationale for Local Rating	The City of Lake Stevens uses the 2014 WDOE rating system. Wetland W8 is rated a Category III because it provides moderate water quality functions (7), moderate hydrologic functions (7), and low habitat functions (3), resulting in a total score of 17 points on the wetland rating form (Appendix A).	
Wetland Functions Summary		
Water Quality	Wetland W8 has moderate opportunity to improve water quality because it has dense, persistent, ungrazed vegetation over more than half of its area and it receives stormwater runoff from adjacent roadways and parking lots, however, it has an outlet, although highly constricted.	
Hydrologic	Wetland W8 has moderate opportunity to reduce flooding because although it occurs in the upper portion of the sub-basin, it has an outlet (highly constricted), and is not capable of retaining high volumes of water.	
Habitat	Wetland W8 has low habitat opportunity because the area has a moderate habitat complexity and dense vegetation but is surrounded by high-intensity land use.	
Buffer Condition	The vegetated portions of the buffer are generally only 6-20 feet wide and dominated by Himalayan blackberry (<i>Rubus armeniacus</i>).	

Mitigation Sequencing

Mitigation was considered following the sequential order of, avoidance, minimization, reduction, and compensation, to ensure no net loss of the acreage or ecological functions and values to the onsite critical areas (wetlands and buffers). LSMC 14.88.010 specifies the project proponents shall make all reasonable efforts according to the following sequence in order of descending preference:

1. Avoiding impacts altogether by not taking a certain action or parts of an action; or,
2. When avoidance is not possible, minimize impacts by limiting the degree or magnitude of the action and its implementation, using appropriate technology, or by taking affirmative steps, such as project redesign, relocation, or timing, to avoid or reduce impacts and mitigating for the affected functions and values of the critical area; and
3. Reducing or eliminating impacts over time by preservation and maintenance operations during the life of the action.
4. Compensating for unavoidable impacts by replacing, enhancing, or providing substitute resources or environments.

Avoidance and Minimization

WSDOT has avoided and minimized impacts to wetlands and buffers to the greatest extent practicable. Total avoidance was not possible due to site constraints associated with topography, safety, design guidelines, and project constructability.

The following are some examples of measures that are included in the project for avoiding and minimizing impacts to the onsite wetlands and associated buffers:

- Traffic will be detoured using existing roads, instead of constructing a temporary bypass road, to avoid and reduce impacts to wetlands and buffers.
- Clearing and grubbing has been limited to the minimum amount needed for construction the project.
- Temporary high-visibility Environmental Sensitive Area (ESA) fencing will be installed around the limits of project clearing to protect wetlands and buffers from unnecessary clearing.
- Best Management Practices (BMPs) will be implemented to reduce sedimentation and control erosion control during construction, as indicated in the Temporary Erosion and Sediment Control (TESC) Plan. Some of the BMPs may include but are not limited to, the installation of check dams, silt fencing, inlet protection, straw wattles, and erosion control blankets.
- The footprint of the new stormwater facilities was minimized to avoid additional impact to the onsite wetlands and trees.
- All areas temporarily impacted by the project will be restored through the installation of native trees and shrubs suitable for the project location.

- The project will include the adaptive management of BMPs, and the regular monitoring and reporting of discharges, according to the requirements of the NPDES Section 402 Construction Stormwater General Permit that will be issued for the project.
- The Contractor will be required to maintain an approved onsite Spill Prevention Control and Countermeasures (SPCC) Plan throughout the duration of construction, for implementation in the case of an accidental spill.

Unavoidable Wetland Impacts

Potential impacts to wetlands were assessed using the construction footprint, cut and fill lines, and cross-sections that depict the existing and proposed grades. The project as proposed will result in approximately 0.26-acre of permanent and 0.18-acre of temporary impacts to Category III wetlands (Wetlands W4 and W8), approximately 0.07-acre of permanent impacts to Category IV wetlands (Wetlands W3 and W3A) and mature tree removal. Table 6 below outlines the areas of permanent and temporary impacts to wetlands.

Table 6: Summary of Wetland Impacts

Resource	Area (acres)	Cowardin ¹ HGM	WDOE Rating ²	Impact Area (acres)	
				Permanent	Temporary
Wetland W3	0.05	PEM Depressional	IV	0.05	-
Wetland W3A	0.02	PEM Depressional	IV	0.02	-
Wetland W4	2.43	PEM/PFO Depressional	III	0.19	0.18
Wetland W8	0.07	PSS Depressional	III	0.07	-
Total	2.57			0.33	0.18

¹ Classes based on the following vegetation types according to Cowardin et al. (1979): PEM = Palustrine Emergent; PFO = Palustrine Forested; PSS = Palustrine Scrub-Shrub.

² Wetlands rated according to Hruby (2014), per LSMC 14.88.805.

Impacted Wetland Functions

Wetlands in the project area were classified based on the Cowardin and HGM classifications, and the functions were evaluated using the Washington State Wetland Rating System for Western Washington (Hruby 2014) and the WSDOT Wetland Functions Characterization Tool for Linear Projects manual (Null et al. 2000). The impact areas were then examined to estimate functions that may be impacted or lost by construction of the project. A reduction in wetland functions can occur when the total area of the wetland is reduced to the extent that it no longer provides some or all of the functions it provided prior to the disturbance.

The affected acreage of the Category IV wetlands (Wetlands W3 and W3A) provides low water quality, moderate hydrologic, and low habitat functions. Wetlands W3 and W3A will be filled and the surface water they currently convey will be piped to accommodate new sidewalks and constructed drainage features, such as a walled stormwater detention pond and maintenance

access road (Table 7 and Appendix B). The affected acreage of the Category III wetlands (Wetlands W4 and W8) provides moderate water quality, moderate hydrologic, and low habitat functions. Wetland W8 will be filled in to accommodate the new roundabout at SR 204 and Vernon Road. The permanent impacts to Wetland W4 are expected to be minimal and will not affect the functions of the wetland.

Table 7: Wetland Functions Evaluated Using the Wetland Functions Characterization Tool for Linear Projects

BPJ Function/Value	Wetland		
	W3/W3A	W4	W8
Water Quality Functions			
Sediment removal	X	X	X
Nutrient and Toxicant Removal	X	X	X
Hydrologic Functions			
Flood Flow Alteration	-	X	X
Erosion Control & Shoreline Stabilization	-	-	-
Habitat Functions			
Production & Export of Organic Matter	X	X	-
General Habitat Suitability	-	X	-
Habitat for Aquatic Invertebrates	-	X	-
Habitat for Amphibians	-	X	-
Habitat for Wetland-Associated birds	-	-	-
General Fish Habitat	-	-	-
Native Plant Richness	-	X	-
Special Characteristics			
Educational or Scientific Value	-	-	-
Uniqueness and Heritage	-	-	-

"X" denotes the wetland performs this function.

" - " denotes the wetland does not perform this function.

Wetlands W3 and W3A

Wetland W3 is the northern segment of a depressional palustrine emergent drainage ditch that conveys stormwater. The project will entirely fill Wetland W3 through the placement of 0.05-acre of permanent fill to construct sidewalks and drainage features, including the walled stormwater detention pond and maintenance access.

Wetland W3A is the southern segment of a depressional palustrine emergent drainage ditch that conveys stormwater. The project will entirely fill Wetland W3A through the placement of 0.02-acre of permanent fill to construct a sidewalk and drainage features, including the walled stormwater detention pond and maintenance access road. Surface hydrology that was previously conveyed through Wetlands W3 and W3A, will be conveyed via a pipe once Stage III is complete.

Water Quality:

Wetlands W3 and W3A have low opportunity to improve water quality because less than 1/10th of the wetland's surface areas have dense, persistent, ungrazed vegetation. These wetlands do, however, capture stormwater runoff from the adjacent roadways and parking lots. The project's cut/fill activities will remove these wetland's vegetation, and their native soils will be removed, compacted, and paved over throughout their extent. Therefore, the 0.07-acre portion of the site that is currently occupied by Wetlands W3 and W3A, will have a 0.07-acre loss of vegetation, including vegetative filtration, velocity reduction, and soil infiltration. The impact to a 0.07-acre portion of the project's water quality function resulting from the removal of these wetlands is expected to be relatively minor when compared with the water quality function provided by wetlands within the surrounding sub-basin; however, the water quality function at this location will be altered due the removal of these two existing features.

Hydrologic:

Wetlands W3 and W3A have a moderate opportunity to reduce flooding because they occur in the upper portion of the sub-basin and are not capable of retaining high volumes of water due to the presence of an outlet. Due to the cut/fill activities that will entirely impact Wetlands W3 and W3A, water storage in this location will be diminished. However, relative to the hydrologic functions provided by the wetlands located within the surrounding sub-basin, coupled with the stormwater treatment facilities that will be included in the project, any loss of hydrologic function would be minimal.

Habitat:

Wetlands W3 and W3A have low habitat opportunity because the area has low habitat complexity and is surrounded by high-intensity land use. The cut/fill activities will remove a 0.07-acre portion of vegetation within this area, which is not currently expected to provide habitat for many species of wildlife, such as birds, urban mammals, aquatic invertebrates, amphibians, or fish. Therefore, the permanent loss of 0.07-acre of vegetation will not result in a significant loss of habitat function in this area. Additionally, no listed species will be impacted by the wetland impacts.

WSDOT Wetland Functions Characterization Tool for Linear Projects:

Wetland functions were also evaluated using the Wetland Functions Characterization Tool for Linear Projects (Null et al. 2000). Wetland W3 and W3A are both depressional emergent wetlands that provide low levels of water quality and moderate levels of hydrologic function, based on their inability to store large volumes of water, due to their position in the landscape and the presence of an outlet. Similarly, both wetlands exhibit a low level of habitat function because of their location within the surrounding high-intensity land-use area, lack of vegetative and species diversity, and minimal vegetated buffer (Table 8 and Appendix B).

Wetland W4

Wetland W4 is a large depressional palustrine forested-emergent wetland with an adjoining linear drainage ditch that borders the west shoulder of SR 9. The project will permanently fill a 0.19-acre portion and temporarily fill a 0.18-acre portion of Wetland W4 to construct a sidewalk along the southern side of SR 204 and to revise the geometry of SR 9 near the roundabout with SR 204.

Water Quality:

Wetland W4 has moderate opportunity to improve water quality because it has dense, persistent, ungrazed vegetation throughout the majority of its area and it receives stormwater runoff from the adjacent roadways. As a result of the cut/fill and clearing/grubbing activities, a portion of Wetland W4 will permanently filled, resulting in a 0.19-acre loss of its vegetation and native soils. The portions of Wetland W4 that are permanently impacted will result in reduced vegetative filtration, velocity reduction, and soil infiltration. However, impacts to water quality functions resulting from the project will affect less than 1% of the total wetland area and are therefore expected to be minimal. Furthermore, the project's impacts to water quality functions will not affect the rating of Wetland W4.

Hydrologic:

Wetland W4 has a moderate opportunity to reduce flooding because it occurs in the upper portion of the sub-basin, is a depressional feature with a constricted outlet, and is capable of retaining moderate volumes of water. As a result of the project's permanent impacts, Wetland W4 will have a diminished water storage. However, the impacted portion of Wetland W4 is less than 1% of its total area, therefore the impact to hydrologic function is expected to be minimal.

Habitat:

Wetland W4 has low habitat opportunity. Although the area has moderate habitat complexity and dense vegetation, it is surrounded by high-intensity land use. Permanent impacts from the project will remove 0.19-acre of the vegetation within the wetland, thus reducing the available habitat for wildlife, such as amphibians and invertebrates. However, Wetland W4 is not expected to provide habitat for many other species of wildlife, such as birds, urban mammals, or fish.

Because Wetland W4 currently provides low habitat opportunity and the project will permanently impact 0.19-acre of that habitat, which is less than 1 percent of the total area, permanent impacts from the project are not expected to result in a significant loss of habitat function within Wetland W4. Additionally, no listed species will be impacted by the wetland impacts.

WSDOT Wetland Functions Characterization Tool for Linear Projects:

Wetland functions were evaluated using the Wetland Functions Characterization Tool for Linear Projects (Null et al. 2000). Wetland W4 is a depressional wetland that provides moderate levels of water quality and hydrologic function, because of its ability to store moderate volumes of water due to its position in the landscape and its highly constricted outlet. However, Wetland W4 exhibits a low level of habitat function due to its position within the surrounding high-intensity land-use area, its reduced species diversity, and its minimal vegetated buffer (Table 8 and Appendix B).

Wetland W8

Wetland W8 a palustrine scrub-shrub depressional wetland located at the southwest corner of SR 9 and Vernon Road. The project will entirely fill Wetland 8 through the placement of 0.07-acre of permanent fill to raise the grade of Vernon Road to construct its intersection with SR 9 and to include the addition of sidewalks along the south side of Vernon Road.

Water Quality:

Wetland W8 has moderate opportunity to improve water quality because it has dense, persistent, ungrazed vegetation over half of its area and it receives stormwater runoff from adjacent roadways and parking lots. As a result of cut/fill and clearing/grubbing activities, Wetland W8 will be entirely filled, resulting in a 0.07-acre loss of scrub-shrub vegetation and native soils. The loss Wetland W8 will result in a reduced vegetative filtration, velocity reduction, and soil infiltration in the area. The impact to a 0.07-acre portion of the project's water quality function resulting from the removal of Wetland W8 is expected to be relatively minor when compared with the water quality function provided by wetlands in the surrounding sub-basin; however, the water quality function at this location will be altered due to the removal of this feature.

Hydrologic:

Wetland W8 has a moderate opportunity to reduce flooding because it occurs in the upper portion of the sub-basin and is not capable of retaining high volumes of water due to the presence of an outlet. Due to the cut/fill and clearing/grubbing activities that will entirely impact Wetland W8, water storage in this location will be diminished in degree. However, relative to the hydrologic functions provided by the wetlands located within the surrounding sub-basin, coupled with the stormwater treatment facilities that will be included in the project, any loss of hydrologic function would be minimal.

Habitat:

Wetland W8 has low habitat opportunity because the area has moderate habitat complexity and dense vegetation but is surrounded by high-intensity land use. The clearing/grubbing activities will remove a 0.07-acre portion of vegetation within this area, which is not currently expected to provide habitat for many species of wildlife, such as birds, urban mammals, aquatic invertebrates, amphibians, or fish. Therefore, the permanent loss of 0.07-acre of vegetation will not result in a significant loss of habitat function in this area. Additionally, no listed species will be impacted by the wetland impacts.

WSDOT Wetland Functions Characterization Tool for Linear Projects:

Wetland functions were evaluated using the Wetland Functions Characterization Tool for Linear Projects (Null et al. 2000). Wetland W9 is a depressional wetland that provides moderate levels of water quality and hydrologic functions, because of its ability to store a moderate volume of water and it has a highly constricted outlet. However, Wetland W8 exhibits a low level of habitat function due to its low vegetative diversity and minimal vegetated buffer (Table 8 and Appendix B).

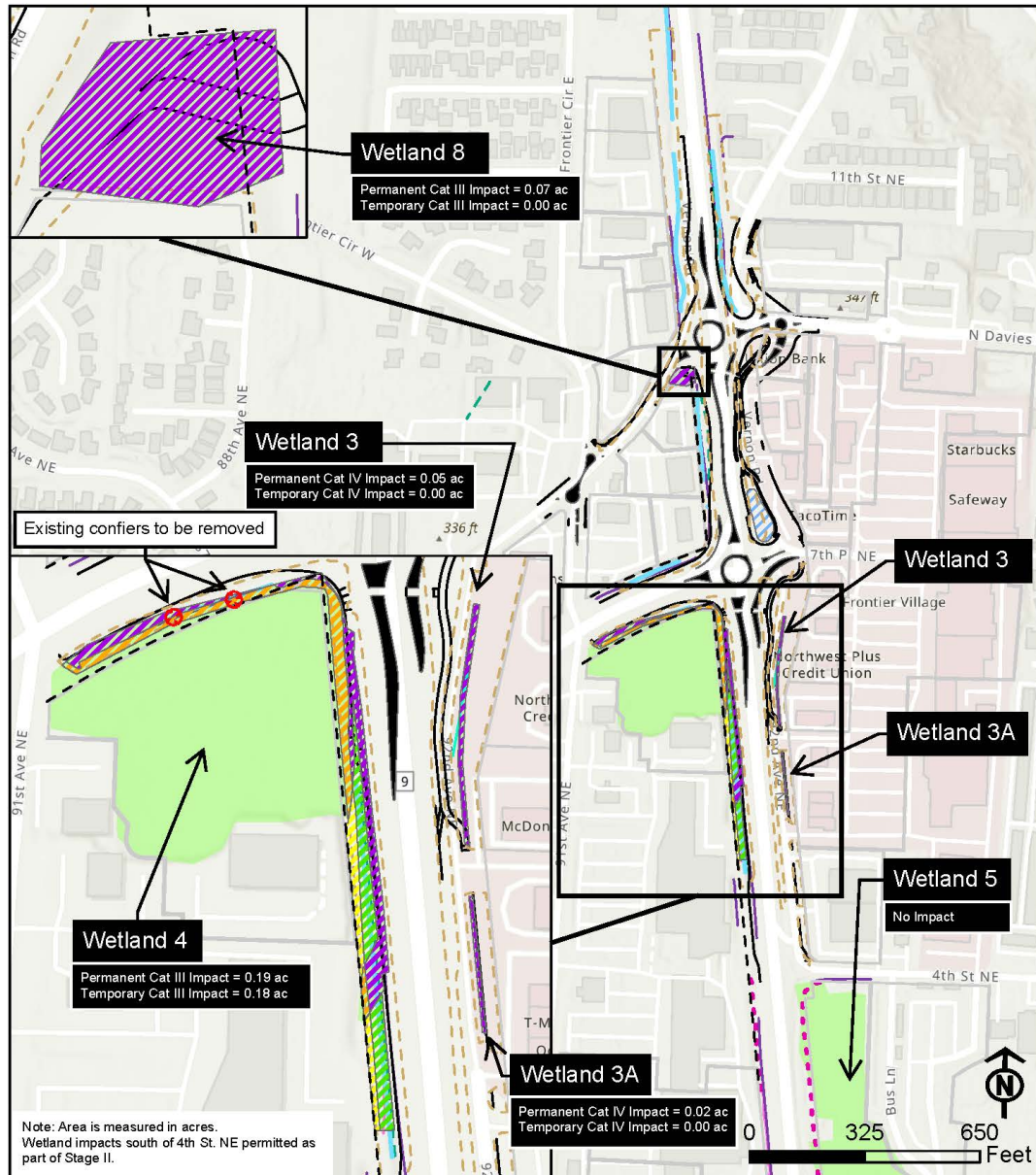
Impacted Wetland Buffer Functions

The buffers in the project area were defined according to LSMC 14.88.805 and only include vegetated areas outside of the developed road prism. Existing structures such as managed road embankments, buildings, and paved or impervious surfaces do not provide functions for the adjacent aquatic resources, so were excluded from buffers. Most of the wetland buffers in the project area are limited in width and function due to the presence of adjacent structures and paved surfaces. The vegetation within the buffer impact areas is mostly dominated by roadside grasses and Himalayan blackberry.

The project will result in 0.14-acre of permanent and 0.08-acre of temporary impacts to Category III wetland buffer (Wetland W4) as shown below in Table 8 and on Figure 3. The permanent and temporary buffer impacts will result from revisions to the geometry of SR 9 near the location of the proposed roundabout with SR 204.

Table 8: Summary of Wetland Buffer Impacts

Resource	WDOE Rating ²	<u>Area of Buffer Impacts (acres)</u>	
		Permanent	Temporary
Wetland W3	IV	-	-
Wetland W3A	IV	-	-
Wetland W4	III	0.14	0.08
Wetland W8	III	-	-
Total		0.14	0.08



**FIGURE 3
WETLAND IMPACT AREAS
SR9/204 INTERSECTION IMPROVEMENTS
STAGE III**

Data Sources:
Date: 9/27/2021, Updated 11/24/2021
Disclaimer: This data is not to survey accuracy and is meant for planning purposes only.
http://red-se.otak.com/Project/031003178CICADDIGIS/MXD/SR9-SR204/SR204_Wetlands/SR204_ImportedLineWorkFromOGNFiles.aprx

Legend

- Permanent Wetland Buffer Impact Area = 0.14 ac
- Temporary Wetland Buffer Impact Area = 0.08 ac
- Permanent Wetland Impact Area = 0.33 ac
- Temporary Wetland Impact Area = 0.18 ac
- New Fill Line
- New Cut Line
- New Detention Pond
- New Face of Curb / Edge of Pavement / Feature

- Regulated Wetlands
- New Clear Grub Line
- New Face of Curb / Edge of Pavement
- Parcel Boundaries
- New Ditch
- New Media Filter Drain
- New Bio-Swale
- Existing Ditch
- Existing Conifer



Figure 3: Wetland Impact Areas

Wetland Mitigation Site Selection Rationale

To address the unavoidable impacts, WSDOT will replace the onsite wetland and wetland buffer areas and associated functions lost, through compensatory mitigation. The project will specifically mitigate for all permanent wetland and buffer impacts through the purchase of mitigation bank credits from the Snohomish Basin Mitigation Banking Service (SBMB), and the on-site restoration will be used to mitigate for all areas of temporary wetland and buffer impacts.

Mitigation banks must have an agency-approved mitigation plan and other assurances in place before credits can be released for purchase, therefore, the risks and uncertainties associated with compensatory mitigation have largely been addressed and effectively reduced or eliminated by the time credits are authorized for sale. Furthermore, the purchase of a wetland credit includes protection of the mitigation site through the inclusion of the appropriate buffers, which in turn compensate for any buffer impacts resulting from a project with direct wetland impacts.

The project is within the service area for the SBMB bank because it is in WRIA 7 and below the 2,500-foot elevation contour. In April 2021, WSDOT reserved a total of 3.94 credits from the SBMB to compensate for impacts from Stages II and III of the project. A total of 0.22 credits will be used to compensate for impacts to Stage II of the project and approximately 3.72 credits remain for use to compensate for Stage III impacts. At this time approximately 3.31 credits have been reserved to satisfy the mitigation that will compensate for the permanent wetland and buffer impacts resulting from construction of Stage III.

The objective of the SBMB is to reconnect and reestablish stream channels, associated riparian wetlands, depressional wetlands and forested uplands, all supporting a wide variety of plant and animal life. In addition to the habitat functions provided by the SBMB site wetland, higher value water quality and hydrologic functions are also present. The project will reduce the onsite water quality, hydrologic, and habitat functions that are currently provided by the 0.33-acre of depressional wetlands that will be permanently impacted during construction; the SBMB bank credits will provide a no net loss for those functions.

On-Site Restoration

The on-site restoration measures will compensate for all temporary impacts to the onsite wetlands and buffers. These measures have been included in the project to meet the regulatory requirements for wetland and buffer impacts as described below.

A mix of mostly native shrubs and trees will be used to restore the temporarily impacted wetland and buffer areas, which will be planted with site-appropriate, hydrophytic vegetation, including the following species, western red cedar (*Thuja plicata* var. *excelsa*), Sitka spruce (*Picea sitchensis*), vine maple (*Acer circinatum*), Nootka rose (*Rosa nutkana*), red-osier dogwood (*Cornus stolonifera*), Sitka willow (*Salix sitchensis*), and Thimbleberry (*Rubus parviflorus*). Specifications from the 2015 WSDOT Roadside Policy Manual were used to guide the on-site restoration plans. Specific areas of the on-site restoration planting effort are shown on Figure 4: Wetland 4 Restoration Areas.



**FIGURE 4
RESTORATION AREAS
SR9/204 INTERSECTION IMPROVEMENTS
STAGE III**

Legend

- █ Project Area
- █ Regulated Wetlands
- █ Wetland Buffer Restoration = 0.08 Acres
- █ Wetland Restoration Area = 0.18 Acres
- █ Parcel Boundaries
- █ New Face of Curb / Edge of Pavement

Data Sources:
Date: 9/27/2021, Updated 11/24/2021
Disclaimer: This data is not to survey accuracy and is meant for planning purposes only.
http://red-se.otak.com/projects/3310/33178C/CADD/GIS/MXD/sr9-sr204/sr204%20Wetlands/sr204_importedLineWorkFromDGNFiles.aprx



Figure 4: Wetland 4 Restoration Areas

Regulatory Requirements

As identified in Governor Executive Order 89-10 Protection of Wetlands: “No Net Loss” (Order) and WSDOT Directive 31-12 (Protection of Wetlands Action Plan), WSDOT is required to create or restore wetland area and function at a minimum 1:1 mitigation ratio. All temporary impacts to wetlands will be short-term, as indicated by Table 3-1 in *Wetland Mitigation in Washington State-Part 1, Version 2* and will be compensated for on-site through the measures listed in Chapter 6B4.5 (WDOE 2021). Therefore, short-term temporary impacts will be mitigated for on-site by restoring pre-project elevations and hydroperiods. According to LSMC 14.88.8409a)(5), credits from a wetland mitigation bank may be approved for use as compensation for unavoidable impacts to wetlands. Furthermore, mitigation for impacts to wetland buffers is regulated by the City of Lake Stevens at a 1:1 minimum replacement ratio (CLS14.88.840(g)).

Wetland Functions Provided at Wetland Mitigation Bank

The SBMB is located within the Snohomish watershed (WRIA 7) and has restored a wide range of wetland habitat types as well as adjacent uplands. The bank was created to provide compensation for unavoidable impacts to wetlands and other aquatic resources. The implementation of the SBMB is intended to increase wetland area and encourage improved hydrologic, water quality and habitat functions.

SBMB’s restored features include emergent, shrub and forested wetlands as well as upland buffers. Functions critical to the watershed have been restored including flood storage, flood desynchronization and water quality improvements. Project impacts will occur within PEM/PFO, PSS, and PEM wetland habitat classes as well as portions of upland buffer associated with the PEM/PFO depressional wetland.

Water Quality

SBMB has protected and restored forested, scrub shrub and emergent, depressional wetlands which provide excellent water quality functions through velocity control, sediment filtration, soil infiltration and water detention. The moderate and low water quality functions impacted by the project activities will be replaced by moderate to high water quality functions provided by the SBMB wetland complex.

Hydrologic

SBMB has reconnected and reestablished riparian and depressional wetlands within the Snohomish watershed which provide live storage and slow water velocities during flood events. The moderate functions impacted by the project activities will be replaced by moderate to high flood storage for the surrounding area in the SBMB wetlands.

Habitat

The variety of habitat that SBMB provides, which includes aquatic bed, emergent, scrub-shrub, forested, upland, and riparian, supports a wide range of vegetation and hydroperiod niches for

wildlife. The diversity of habitats provided by SBMB provides high to very high functional benefit to the surrounding habitat while the impacted wetlands all provide low habitat functions.

Mitigation Credits

Credits are the “currency” of the mitigation bank, and the value of each credit is equal to its net ecological benefit. The SBMB’s Credit Ratios are outlined in Table 9 below.

Table 9: Snohomish Basin Mitigation Bank Credit Ratios¹

Resource Impact	Bank Credits Per Resource Impact
Wetland, Category I	Case by case
Wetland, Category II	1.2:1
Wetland, Category III	1.0:1
Wetland, Category IV	0.85:1
Critical Area Buffer	Case by case
Wetland Buffer, Category III (Permanent Impact)	0.2:1

¹ According to the Snohomish County Mitigation Banking Instrument (Talasaca 2016).

The project as proposed will impact two Category III wetlands, two Category IV wetlands, and one Category III wetland buffer. Table 10 below outlines the permanent impact areas to wetlands and buffers, by Category, and includes the credit ratios used to obtain the total credits used for the Bank Credit Proposal.

Table 10: Bank Credit Proposal

Resource Name	Size	WDOE Rating	Permanent Impacts	SBMB Mitigation Credit Ratio (acres)	Credit Needed (acres) ¹
			Area (acres)		
Wetland	Area (acres)				
W3	0.05	IV	0.05	0.85:1	0.04
W3A	0.02	IV	0.02		0.02
Total	0.07		0.07		0.06
W4	2.43	III	0.19	1:1	0.19
W8	0.07	III	0.07		0.07
Total	2.55		0.26		0.26
Buffer	Width (feet)				
W4	80	III	0.14	0.20:1	0.03
Total	80		0.14		0.03
Grand Total					0.35

WSDOT will use a total of 0.35 credits from the SBMB to compensate for the 0.26-acre of permanent Category III wetland impact, 0.07-acre of permanent Category IV wetland impact, and 0.14-acre of permanent Category III wetland buffer impact.

Credit Purchase or Transfer Timing

Credits were released from the SBMB as indicated in Table 5a of the SBMB Mitigation Banking Instrument (MBI) (Talasaea 2016). The credit release process, including performance standard milestones, are outlined in Section 7.1 of the MBI. This project, as proposed, will utilize approximately 0.35 of the available credits (Appendix C: Snohomish Basin Mitigation Banking Services Credit Ledger). If impacts change as design is advanced, updated information may be provided to the regulatory agencies to serve as the basis for a request to update SBMB credit use. If regulatory agencies approve a request to update the number of SBMB credits used to compensate for project impacts, an adjustment to the ledger total will be made to reflect that approval. Credits will be purchased after all necessary permits have been issued; once the purchase is completed, proof of credit purchase will be provided to the regulatory agencies.

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Appendix A: Wetland Rating Forms (2014 Rating System):

Wetland name or number W3

RATING SUMMARY – Western Washington

Name of wetland (or ID #): Wetland W3 Date of site visit: 7/2/21
Rated by S. Modjeski Trained by Ecology? X Yes ___ No ___ Date of training 6/27/17
HGM Class used for rating Depressional Wetland has multiple HGM classes? ___Y X N

NOTE: Form is not complete without the figures requested (*figures can be combined*).
Source of base aerial photo/map ESRI Aerial

OVERALL WETLAND CATEGORY IV (based on functions X or special characteristics ___)

1. Category of wetland based on FUNCTIONS

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

FUNCTION	Improving Water Quality			Hydrologic			Habitat			
Circle the appropriate ratings										
Site Potential	H	M	L	H	M	L	H	M	L	
Landscape Potential	H	M	L	H	M	L	H	M	L	
Value	H	M	L	H	M	L	H	M	L	
Score Based on Ratings	6			6			3			15

Score for each
function based
on three
ratings
(order of ratings
is not
important)

9 = H,H,H
8 = H,H,M
7 = H,H,L
7 = H,M,M
6 = H,M,L
6 = M,M,M
5 = H,L,L
5 = M,M,L
4 = M,L,L
3 = L,L,L

2. Category based on SPECIAL CHARACTERISTICS of wetland

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

Maps and figures required to answer questions correctly for Western Washington

Note: Rating figures were not prepared due to the highly developed landscape and abutting roads, singular PEM class, and obvious ditch outlet.

Depressional Wetlands

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

Riverine Wetlands

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

Lake Fringe Wetlands

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

Slope Wetlands

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

HGM Classification of Wetlands in Western Washington

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

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

1. Are the water levels in the entire unit usually controlled by tides except during floods?

☒ **NO** go to 2

YES – the wetland class is **Tidal Fringe** – go to 1.1

- 1.1 Is the salinity of the water during periods of annual low flow below 0.5 ppt (parts per thousand)?

NO – Saltwater Tidal Fringe (Estuarine)

YES – Freshwater Tidal Fringe

*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 an **Estuarine** wetland and is not scored. This method **cannot** be used to score functions for estuarine wetlands.*

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

☒ **NO** go to 3

YES – The wetland class is **Flats**

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

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

- ☐ The vegetated part of the wetland is on the shores of a body of permanent open water (without any plants on the surface at any time of the year) at least 20 ac (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**.

☒ **NO** go to 5

YES – The wetland class is **Slope**

NOTE: Surface water does not pond in these type of wetlands except occasionally in very small and shallow depressions or behind hummocks (depressions are usually <3 ft diameter and less than 1 ft deep).

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 2 years.

Wetland name or number W3

NO – go to 6

YES – The wetland class is **Riverine**

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

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

NO – go to 7

YES – The wetland class is **Depressional**

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

NO – go to 8

YES – The wetland class is **Depressional**

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

NOTE: Use this table only if the class that is recommended in the second column represents 10% or more of the total area of the wetland unit being rated. If the area of the HGM class listed in column 2 is less than 10% of the unit; classify the wetland using the class that represents more than 90% of the total area.

HGM classes within the wetland unit 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 of depression	Depressional
Depressional + Lake Fringe	Depressional
Riverine + Lake Fringe	Riverine
Salt Water Tidal Fringe and any other class of freshwater wetland	Treat as ESTUARINE

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

Wetland name or number W3

DEPRESSIONAL AND FLATS WETLANDS	
Water Quality Functions - Indicators that the site functions to improve water quality	
D 1.0. Does the site have the potential to improve water quality?	
D 1.1. Characteristics of surface water outflows from the wetland: Wetland is a depression or flat depression (QUESTION 7 on key) with no surface water leaving it (no outlet). points = 3 Wetland has an intermittently flowing stream or ditch, OR highly constricted permanently flowing outlet. points = 2 Wetland has an unconstricted, or slightly constricted, surface outlet that is permanently flowing points = 1 Wetland is a flat depression (QUESTION 7 on key), whose outlet is a permanently flowing ditch. points = 1	2
D 1.2. The soil 2 in below the surface (or duff layer) is true clay or true organic (use NRCS definitions). Yes = 4 No = 0	0
D 1.3. Characteristics and distribution of persistent plants (Emergent, Scrub-shrub, and/or Forested Cowardin classes): Wetland has persistent, ungrazed, plants > 95% of area points = 5 Wetland has persistent, ungrazed, plants > ½ of area points = 3 Wetland has persistent, ungrazed plants > 1/10 of area points = 1 Wetland has persistent, ungrazed plants < 1/10 of area points = 0	0
D 1.4. Characteristics of seasonal ponding or inundation: <i>This is the area that is ponded for at least 2 months. See description in manual.</i> 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	0
Total for D 1	2

Rating of Site Potential If score is: 12-16 = H 6-11 = M X 0-5 = L Record the rating on the first page

D 2.0. Does the landscape have the potential to support the water quality function of the site?	
D 2.1. Does the wetland unit receive stormwater discharges?	Yes = 1 No = 0
D 2.2. Is > 10% of the area within 150 ft of the wetland in land uses that generate pollutants?	Yes = 1 No = 0
D 2.3. Are there septic systems within 250 ft of the wetland?	Yes = 1 No = 0
D 2.4. Are there other sources of pollutants coming into the wetland that are not listed in questions D 2.1-D 2.3?	Yes = 1 No = 0
Source _____	
Total for D 2	2

Rating of Landscape Potential If score is: 3 or 4 = H X 1 or 2 = M 0 = L Record the rating on the first page

D 3.0. Is the water quality improvement provided by the site valuable to society?	
D 3.1. Does the wetland discharge directly (i.e., within 1 mi) to a stream, river, lake, or marine water that is on the 303(d) list?	Yes = 1 No = 0
D 3.2. Is the wetland in a basin or sub-basin where an aquatic resource is on the 303(d) list?	Yes = 1 No = 0
D 3.3. Has the site been identified in a watershed or local plan as important for maintaining water quality (answer YES if there is a TMDL for the basin in which the unit is found)?	Yes = 2 No = 0
Total for D 3	3

Rating of Value If score is: X 2-4 = H 1 = M 0 = L Record the rating on the first page

Wetland name or number W3

DEPRESSIONAL AND FLATS WETLANDS

Hydrologic Functions - Indicators that the site functions to reduce flooding and stream degradation

D 4.0. Does the site have the potential to reduce flooding and erosion?

D 4.1. Characteristics of surface water outflows from the wetland:

- | | | |
|---|------------|----------|
| Wetland is a depression or flat depression with no surface water leaving it (no outlet) | points = 4 | 2 |
| Wetland has an intermittently flowing stream or ditch, OR highly constricted permanently flowing outlet | points = 2 | |
| Wetland is a flat depression (QUESTION 7 on key), whose outlet is a permanently flowing ditch | points = 1 | |
| Wetland has an unconstricted, or slightly constricted, surface outlet that is permanently flowing | points = 0 | |

D 4.2. Depth of storage during wet periods: *Estimate the height of ponding above the bottom of the outlet. For wetlands with no outlet, measure from the surface of permanent water or if dry, the deepest part.*

- | | | |
|--|------------|----------|
| Marks of ponding are 3 ft or more above the surface or bottom of outlet | points = 7 | 3 |
| Marks of ponding between 2 ft to < 3 ft from surface or bottom of outlet | points = 5 | |
| Marks are at least 0.5 ft to < 2 ft from surface or bottom of outlet | points = 3 | |
| The wetland is a "headwater" wetland | points = 3 | |
| Wetland is flat but has small depressions on the surface that trap water | points = 1 | |
| Marks of ponding less than 0.5 ft (6 in) | points = 0 | |

D 4.3. Contribution of the wetland to storage in the watershed: *Estimate the ratio of the area of upstream basin contributing surface water to the wetland to the area of the wetland unit itself.*

- | | | |
|---|------------|----------|
| The area of the basin is less than 10 times the area of the unit | points = 5 | 0 |
| The area of the basin is 10 to 100 times the area of the unit | points = 3 | |
| The area of the basin is more than 100 times the area of the unit | points = 0 | |
| Entire wetland is in the Flats class | points = 5 | |

Total for D 4

Add the points in the boxes above

5

Rating of Site Potential If score is: 12-16 = H 6-11 = M X 0-5 = L

Record the rating on the first page

D 5.0. Does the landscape have the potential to support hydrologic functions of the site?

D 5.1. Does the wetland receive stormwater discharges? Yes = 1 No = 0

1

D 5.2. Is >10% of the area within 150 ft of the wetland in land uses that generate excess runoff? Yes = 1 No = 0

1

D 5.3. Is more than 25% of the contributing basin of the wetland covered with intensive human land uses (residential at >1 residence/ac, urban, commercial, agriculture, etc.)? Yes = 1 No = 0

1

Total for D 5

Add the points in the boxes above

3

Rating of Landscape Potential If score is: X 3 = H 1 or 2 = M 0 = L

Record the rating on the first page

D 6.0. Are the hydrologic functions provided by the site valuable to society?

D 6.1. The unit is in a landscape that has flooding problems. Choose the description that best matches conditions around the wetland unit being rated. Do not add points. Choose the highest score if more than one condition is met.

- | | | |
|--|------------|----------|
| The wetland captures surface water that would otherwise flow down-gradient into areas where flooding has damaged human or natural resources (e.g., houses or salmon redds): | | 1 |
| • Flooding occurs in a sub-basin that is immediately down-gradient of unit. | points = 2 | |
| • Surface flooding problems are in a sub-basin farther down-gradient. | points = 1 | |
| Flooding from groundwater is an issue in the sub-basin. | points = 1 | |
| The existing or potential outflow from the wetland is so constrained by human or natural conditions that the water stored by the wetland cannot reach areas that flood. <i>Explain why</i> _____ | points = 0 | |
| There are no problems with flooding downstream of the wetland. | points = 0 | |

D 6.2. Has the site been identified as important for flood storage or flood conveyance in a regional flood control plan?

Yes = 2 No = 0

0

Total for D 6

Add the points in the boxes above

1

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

Record the rating on the first page

These questions apply to wetlands of all HGM classes.**HABITAT FUNCTIONS** - Indicators that site functions to provide important habitat**H 1.0. Does the site have the potential to provide habitat?**

H 1.1. Structure of plant community: *Indicators are Cowardin classes and strata within the Forested class. Check the Cowardin plant classes in the wetland. Up to 10 patches may be combined for each class to meet the threshold of ¼ ac or more than 10% of the unit if it is smaller than 2.5 ac. Add the number of structures checked.*

- | | | |
|---|----------------------------------|----------|
| <input type="checkbox"/> Aquatic bed | 4 structures or more: points = 4 | 0 |
| <input checked="" type="checkbox"/> Emergent | 3 structures: points = 2 | |
| <input type="checkbox"/> Scrub-shrub (areas where shrubs have > 30% cover) | 2 structures: points = 1 | |
| <input type="checkbox"/> Forested (areas where trees have > 30% cover) | 1 structure: points = 0 | |
| <i>If the unit has a Forested class, check if:</i> | | |
| <input type="checkbox"/> The Forested class has 3 out of 5 strata (canopy, sub-canopy, shrubs, herbaceous, moss/ground-cover) that each cover 20% within the Forested polygon | | |

H 1.2. Hydroperiods

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

- | | | |
|--|-------------------------------------|----------|
| <input type="checkbox"/> Permanently flooded or inundated | 4 or more types present: points = 3 | 1 |
| <input type="checkbox"/> Seasonally flooded or inundated | 3 types present: points = 2 | |
| <input checked="" type="checkbox"/> Occasionally flooded or inundated | 2 types present: points = 1 | |
| <input checked="" type="checkbox"/> Saturated only | 1 type present: points = 0 | |
| <input type="checkbox"/> Permanently flowing stream or river in, or adjacent to, the wetland | | |
| <input type="checkbox"/> Seasonally flowing stream in, or adjacent to, the wetland | | |
| <input type="checkbox"/> Lake Fringe wetland | 2 points | |
| <input type="checkbox"/> Freshwater tidal wetland | 2 points | |

H 1.3. Richness of plant species

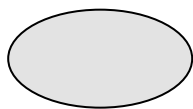
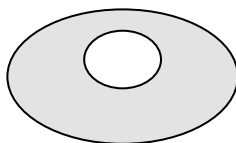
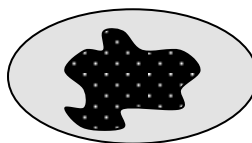
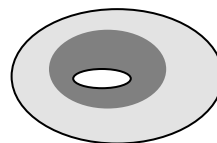
Count the number of plant species in the wetland that cover at least 10 ft².

*Different patches of the same species can be combined to meet the size threshold and you do not have to name the species. **Do not include Eurasian milfoil, reed canarygrass, purple loosestrife, Canadian thistle***

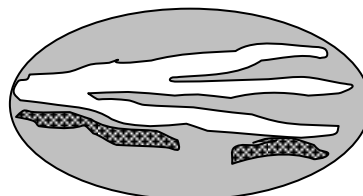
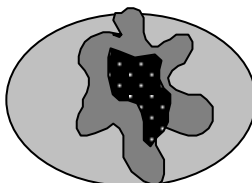
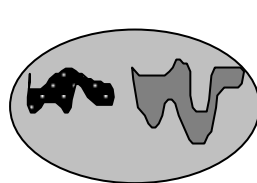
- | | | |
|------------------------------|------------|----------|
| If you counted: > 19 species | points = 2 | 1 |
| 5 - 19 species | points = 1 | |
| < 5 species | points = 0 | |

H 1.4. Interspersion of habitats

Decide from the diagrams below whether interspersions among Cowardin plants classes (described in H 1.1), or the classes and unvegetated areas (can include open water or mudflats) is high, moderate, low, or none. *If you have four or more plant classes or three classes and open water, the rating is always high.*

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

All three diagrams in this row are **HIGH** = 3points



Wetland name or number W3

H 1.5. Special habitat features: Check the habitat features that are present in the wetland. <i>The number of checks is the number of points.</i> <input type="checkbox"/> Large, downed, woody debris within the wetland (> 4 in diameter and 6 ft long). <input type="checkbox"/> Standing snags (dbh > 4 in) within the wetland <input type="checkbox"/> Undercut banks are present for at least 6.6 ft (2 m) and/or overhanging plants extends at least 3.3 ft (1 m) over a stream (or ditch) in, or contiguous with the wetland, for at least 33 ft (10 m) <input type="checkbox"/> Stable steep banks of fine material that might be used by beaver or muskrat for denning (> 30 degree slope) OR signs of recent beaver activity are present (<i>cut shrubs or trees that have not yet weathered where wood is exposed</i>) <input type="checkbox"/> At least ¼ ac of thin-stemmed persistent plants or woody branches are present in areas that are permanently or seasonally inundated (<i>structures for egg-laying by amphibians</i>) <input type="checkbox"/> Invasive plants cover less than 25% of the wetland area in every stratum of plants (<i>see H 1.1 for list of strata</i>)		0
Total for H 1	Add the points in the boxes above	2

Rating of Site Potential If score is: 15-18 = H 7-14 = M X 0-6 = L *Record the rating on the first page*

H 2.0. Does the landscape have the potential to support the habitat functions of the site?		
H 2.1. Accessible habitat (include <i>only habitat that directly abuts wetland unit</i>). <i>Calculate:</i> % undisturbed habitat <u> </u> + [(% moderate and low intensity land uses)/2] <u> </u> = <u>0</u> % If total accessible habitat is: > 1/3 (33.3%) of 1 km Polygon points = 3 20-33% of 1 km Polygon points = 2 10-19% of 1 km Polygon points = 1 < 10% of 1 km Polygon points = 0		0
H 2.2. Undisturbed habitat in 1 km Polygon around the wetland. <i>Calculate:</i> % undisturbed habitat <u>14</u> + [(% moderate and low intensity land uses)/2] <u>5</u> = <u>19</u> % Undisturbed habitat > 50% of Polygon points = 3 Undisturbed habitat 10-50% and in 1-3 patches points = 2 Undisturbed habitat 10-50% and > 3 patches points = 1 Undisturbed habitat < 10% of 1 km Polygon points = 0		1
H 2.3. Land use intensity in 1 km Polygon: If > 50% of 1 km Polygon is high intensity land use points = (- 2) ≤ 50% of 1 km Polygon is high intensity points = 0		-2
Total for H 2	Add the points in the boxes above	-1

Rating of Landscape Potential If score is: 4-6 = H 1-3 = M X < 1 = L *Record the rating on the first page*

H 3.0. Is the habitat provided by the site valuable to society?		
H 3.1. Does the site provide habitat for species valued in laws, regulations, or policies? <i>Choose only the highest score that applies to the wetland being rated.</i> Site meets ANY of the following criteria: points = 2 <input type="checkbox"/> It has 3 or more priority habitats within 100 m (see next page) <input type="checkbox"/> It provides habitat for Threatened or Endangered species (any plant or animal on the state or federal lists) <input type="checkbox"/> It is mapped as a location for an individual WDFW priority species <input type="checkbox"/> It is a Wetland of High Conservation Value as determined by the Department of Natural Resources <input type="checkbox"/> It has been categorized as an important habitat site in a local or regional comprehensive plan, in a Shoreline Master Plan, or in a watershed plan Site has 1 or 2 priority habitats (listed on next page) within 100 m points = 1 Site does not meet any of the criteria above points = 0		0

Rating of Value If score is: 2 = H 1 = M X 0 = L *Record the rating on the first page*

WDFW Priority Habitats

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

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

- **Aspen Stands:** Pure or mixed stands of aspen greater than 1 ac (0.4 ha).
- **Biodiversity Areas and Corridors:** Areas of habitat that are relatively important to various species of native fish and wildlife (*full descriptions in WDFW PHS report*).
- **Herbaceous Balds:** Variable size patches of grass and forbs on shallow soils over bedrock.
- **Old-growth/Mature forests:** Old-growth west of Cascade crest – Stands of at least 2 tree species, forming a multi-layered canopy with occasional small openings; with at least 8 trees/ac (20 trees/ha) > 32 in (81 cm) dbh or > 200 years of age. Mature forests – Stands with average diameters exceeding 21 in (53 cm) dbh; crown cover may be less than 100%; decay, decadence, numbers of snags, and quantity of large downed material is generally less than that found in old-growth; 80-200 years old west of the Cascade crest.
- **Oregon White Oak:** Woodland stands of pure oak or oak/conifer associations where canopy coverage of the oak component is important (*full descriptions in WDFW PHS report p. 158 – see web link above*).
- **Riparian:** The area adjacent to aquatic systems with flowing water that contains elements of both aquatic and terrestrial ecosystems which mutually influence each other.
- **Westside Prairies:** Herbaceous, non-forested plant communities that can either take the form of a dry prairie or a wet prairie (*full descriptions in WDFW PHS report p. 161 – see web link above*).
- **Instream:** The combination of physical, biological, and chemical processes and conditions that interact to provide functional life history requirements for instream fish and wildlife resources.
- **Nearshore:** Relatively undisturbed nearshore habitats. These include Coastal Nearshore, Open Coast Nearshore, and Puget Sound Nearshore. (*full descriptions of habitats and the definition of relatively undisturbed are in WDFW report – see web link on previous page*).
- **Caves:** A naturally occurring cavity, recess, void, or system of interconnected passages under the earth in soils, rock, ice, or other geological formations and is large enough to contain a human.
- **Cliffs:** Greater than 25 ft (7.6 m) high and occurring below 5000 ft elevation.
- **Talus:** Homogenous areas of rock rubble ranging in average size 0.5 - 6.5 ft (0.15 - 2.0 m), composed of basalt, andesite, and/or sedimentary rock, including riprap slides and mine tailings. May be associated with cliffs.
- **Snags and Logs:** Trees are considered snags if they are dead or dying and exhibit sufficient decay characteristics to enable cavity excavation/use by wildlife. Priority snags have a diameter at breast height of > 20 in (51 cm) in western Washington and are > 6.5 ft (2 m) in height. Priority logs are > 12 in (30 cm) in diameter at the largest end, and > 20 ft (6 m) long.

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

CATEGORIZATION BASED ON SPECIAL CHARACTERISTICS

Wetland Type	Category
<p><i>Check off any criteria that apply to the wetland. Circle the category when the appropriate criteria are met.</i></p> <p>SC 1.0. Estuarine wetlands Does the wetland meet the following criteria for Estuarine wetlands? — The dominant water regime is tidal, — Vegetated, and — With a salinity greater than 0.5 ppt Yes – Go to SC 1.1 No = Not an estuarine wetland</p>	
<p>SC 1.1. Is the wetland within a National Wildlife Refuge, National Park, National Estuary Reserve, Natural Area Preserve, State Park or Educational, Environmental, or Scientific Reserve designated under WAC 332-30-151? Yes = Category I No - Go to SC 1.2</p>	Cat. I
<p>SC 1.2. Is the wetland unit at least 1 ac in size and meets at least two of the following three conditions? — The wetland is relatively undisturbed (has no diking, ditching, filling, cultivation, grazing, and has less than 10% cover of non-native plant species. (If non-native species are <i>Spartina</i>, see page 25) — At least ¾ of the landward edge of the wetland has a 100 ft buffer of shrub, forest, or un-grazed or unmowed grassland. — The wetland has at least two of the following features: tidal channels, depressions with open water, or contiguous freshwater wetlands. Yes = Category I No = Category II</p>	Cat. I Cat. II
<p>SC 2.0. Wetlands of High Conservation Value (WHCV) SC 2.1. Has the WA Department of Natural Resources updated their website to include the list of Wetlands of High Conservation Value? SC 2.2. Is the wetland listed on the WDNR database as a Wetland of High Conservation Value? SC 2.3. Is the wetland in a Section/Township/Range that contains a Natural Heritage wetland? http://www1.dnr.wa.gov/nhp/refdesk/datasearch/wnhpwetlands.pdf SC 2.4. Has WDNR identified the wetland within the S/T/R as a Wetland of High Conservation Value and listed it on their website? Yes = Category I No = Not a WHCV</p>	Cat. I
<p>SC 3.0. Bogs Does the wetland (or any part of the unit) meet both the criteria for soils and vegetation in bogs? <i>Use the key below. If you answer YES you will still need to rate the wetland based on its functions.</i> SC 3.1. Does an area within the wetland unit have organic soil horizons, either peats or mucks, that compose 16 in or more of the first 32 in of the soil profile? SC 3.2. Does an area within the wetland unit have organic soils, either peats or mucks, that are less than 16 in deep over bedrock, or an impermeable hardpan such as clay or volcanic ash, or that are floating on top of a lake or pond? SC 3.3. Does an area with peats or mucks have more than 70% cover of mosses at ground level, AND at least a 30% cover of plant species listed in Table 4? NOTE: If you are uncertain about the extent of mosses in the understory, you may substitute that criterion by measuring the pH of the water that seeps into a hole dug at least 16 in deep. If the pH is less than 5.0 and the plant species in Table 4 are present, the wetland is a bog. SC 3.4. Is an area with peats or mucks forested (> 30% cover) with Sitka spruce, subalpine fir, western red cedar, western hemlock, lodgepole pine, quaking aspen, Engelmann spruce, or western white pine, AND any of the species (or combination of species) listed in Table 4 provide more than 30% of the cover under the canopy? Yes = Is a Category I bog No = Is not a bog</p>	Cat. I

<p>SC 4.0. Forested Wetlands</p> <p>Does the wetland have at least <u>1 contiguous acre</u> of forest that meets one of these criteria for the WA Department of Fish and Wildlife's forests as priority habitats? <i>If you answer YES you will still need to rate the wetland based on its functions.</i></p> <ul style="list-style-type: none"> — Old-growth forests (west of Cascade crest): Stands of at least two tree species, forming a multi-layered canopy with occasional small openings; with at least 8 trees/ac (20 trees/ha) that are at least 200 years of age OR have a diameter at breast height (dbh) of 32 in (81 cm) or more. — Mature forests (west of the Cascade Crest): Stands where the largest trees are 80- 200 years old OR the species that make up the canopy have an average diameter (dbh) exceeding 21 in (53 cm). <p>Yes = Category I No = Not a forested wetland for this section</p>	<p>Cat. I</p>
<p>SC 5.0. Wetlands in Coastal Lagoons</p> <p>Does the wetland meet all of the following criteria of a wetland in a coastal lagoon?</p> <ul style="list-style-type: none"> — The wetland lies in a depression adjacent to marine waters that is wholly or partially separated from marine waters by sandbanks, gravel banks, shingle, or, less frequently, rocks — The lagoon in which the wetland is located contains ponded water that is saline or brackish (> 0.5 ppt) during most of the year in at least a portion of the lagoon (<i>needs to be measured near the bottom</i>) <p>Yes – Go to SC 5.1 No = Not a wetland in a coastal lagoon</p> <p>SC 5.1. Does the wetland meet all of the following three conditions?</p> <ul style="list-style-type: none"> — The wetland is relatively undisturbed (has no diking, ditching, filling, cultivation, grazing), and has less than 20% cover of aggressive, opportunistic plant species (see list of species on p. 100). — At least ¾ of the landward edge of the wetland has a 100 ft buffer of shrub, forest, or un-grazed or unmowed grassland. — The wetland is larger than $\frac{1}{10}$ ac (4350 ft²) <p>Yes = Category I No = Category II</p>	<p>Cat. I</p> <p>Cat. II</p>
<p>SC 6.0. Interdunal Wetlands</p> <p>Is the wetland west of the 1889 line (also called the Western Boundary of Upland Ownership or WBUO)? <i>If you answer yes you will still need to rate the wetland based on its habitat functions.</i></p> <p>In practical terms that means the following geographic areas:</p> <ul style="list-style-type: none"> — Long Beach Peninsula: Lands west of SR 103 — Grayland-Westport: Lands west of SR 105 — Ocean Shores-Copalis: Lands west of SR 115 and SR 109 <p>Yes – Go to SC 6.1 No = not an interdunal wetland for rating</p> <p>SC 6.1. Is the wetland 1 ac or larger and scores an 8 or 9 for the habitat functions on the form (rates H,H,H or H,H,M for the three aspects of function)? Yes = Category I No – Go to SC 6.2</p> <p>SC 6.2. Is the wetland 1 ac or larger, or is it in a mosaic of wetlands that is 1 ac or larger? Yes = Category II No – Go to SC 6.3</p> <p>SC 6.3. Is the unit between 0.1 and 1 ac, or is it in a mosaic of wetlands that is between 0.1 and 1 ac? Yes = Category III No = Category IV</p>	<p>Cat I</p> <p>Cat. II</p> <p>Cat. III</p> <p>Cat. IV</p>
<p>Category of wetland based on Special Characteristics</p> <p>If you answered No for all types, enter "Not Applicable" on Summary Form</p>	<p>not applicable</p>

Wetland name or number W3

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Wetland name or number W3A

RATING SUMMARY – Western Washington

Name of wetland (or ID #): Wetland W3A Date of site visit: 7/2/21
Rated by S. Modjeski Trained by Ecology? X Yes ___ No ___ Date of training 6/27/17
HGM Class used for rating Depressional Wetland has multiple HGM classes? ___Y X N

NOTE: Form is not complete without the figures requested (figures can be combined).
Source of base aerial photo/map ESRI Aerial

OVERALL WETLAND CATEGORY IV (based on functions X or special characteristics ___)

1. Category of wetland based on FUNCTIONS

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

FUNCTION	Improving Water Quality			Hydrologic			Habitat			
Circle the appropriate ratings										
Site Potential	H	M	L	H	M	L	H	M	L	
Landscape Potential	H	M	L	H	M	L	H	M	L	
Value	H	M	L	H	M	L	H	M	L	
Score Based on Ratings	6			6			3			15

Score for each
function based
on three
ratings
(order of ratings
is not
important)

9 = H,H,H
8 = H,H,M
7 = H,H,L
7 = H,M,M
6 = H,M,L
6 = M,M,M
5 = H,L,L
5 = M,M,L
4 = M,L,L
3 = L,L,L

2. Category based on SPECIAL CHARACTERISTICS of wetland

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

Maps and figures required to answer questions correctly for Western Washington

Note: Rating figures were not prepared due to the highly developed landscape and abutting roads, singular PEM class, and obvious ditch outlet.

Depressional Wetlands

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

Riverine Wetlands

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

Lake Fringe Wetlands

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

Slope Wetlands

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

HGM Classification of Wetlands in Western Washington

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

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

1. Are the water levels in the entire unit usually controlled by tides except during floods?

☒ **NO** go to 2

YES – the wetland class is **Tidal Fringe** – go to 1.1

- 1.1 Is the salinity of the water during periods of annual low flow below 0.5 ppt (parts per thousand)?

NO – Saltwater Tidal Fringe (Estuarine)

YES – Freshwater Tidal Fringe

*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 an **Estuarine** wetland and is not scored. This method **cannot** be used to score functions for estuarine wetlands.*

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

☒ **NO** go to 3

YES – The wetland class is **Flats**

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

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

- ☐ The vegetated part of the wetland is on the shores of a body of permanent open water (without any plants on the surface at any time of the year) at least 20 ac (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**.

☒ **NO** go to 5

YES – The wetland class is **Slope**

NOTE: Surface water does not pond in these type of wetlands except occasionally in very small and shallow depressions or behind hummocks (depressions are usually <3 ft diameter and less than 1 ft deep).

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 2 years.

Wetland name or number W3A

NO – go to 6

YES – The wetland class is **Riverine**

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

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

NO – go to 7

YES – The wetland class is **Depressional**

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

NO – go to 8

YES – The wetland class is **Depressional**

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

NOTE: Use this table only if the class that is recommended in the second column represents 10% or more of the total area of the wetland unit being rated. If the area of the HGM class listed in column 2 is less than 10% of the unit; classify the wetland using the class that represents more than 90% of the total area.

HGM classes within the wetland unit 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 of depression	Depressional
Depressional + Lake Fringe	Depressional
Riverine + Lake Fringe	Riverine
Salt Water Tidal Fringe and any other class of freshwater wetland	Treat as ESTUARINE

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

Wetland name or number W3A

DEPRESSIONAL AND FLATS WETLANDS	
Water Quality Functions - Indicators that the site functions to improve water quality	
D 1.0. Does the site have the potential to improve water quality?	
D 1.1. Characteristics of surface water outflows from the wetland: Wetland is a depression or flat depression (QUESTION 7 on key) with no surface water leaving it (no outlet). points = 3 Wetland has an intermittently flowing stream or ditch, OR highly constricted permanently flowing outlet. points = 2 Wetland has an unconstricted, or slightly constricted, surface outlet that is permanently flowing points = 1 Wetland is a flat depression (QUESTION 7 on key), whose outlet is a permanently flowing ditch. points = 1	2
D 1.2. The soil 2 in below the surface (or duff layer) is true clay or true organic (use NRCS definitions). Yes = 4 No = 0	0
D 1.3. Characteristics and distribution of persistent plants (Emergent, Scrub-shrub, and/or Forested Cowardin classes): Wetland has persistent, ungrazed, plants > 95% of area points = 5 Wetland has persistent, ungrazed, plants > ½ of area points = 3 Wetland has persistent, ungrazed plants > 1/10 of area points = 1 Wetland has persistent, ungrazed plants < 1/10 of area points = 0	0
D 1.4. Characteristics of seasonal ponding or inundation: <i>This is the area that is ponded for at least 2 months. See description in manual.</i> 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	0
Total for D 1	2

Rating of Site Potential If score is: 12-16 = H 6-11 = M X 0-5 = L Record the rating on the first page

D 2.0. Does the landscape have the potential to support the water quality function of the site?	
D 2.1. Does the wetland unit receive stormwater discharges?	Yes = 1 No = 0
D 2.2. Is > 10% of the area within 150 ft of the wetland in land uses that generate pollutants?	Yes = 1 No = 0
D 2.3. Are there septic systems within 250 ft of the wetland?	Yes = 1 No = 0
D 2.4. Are there other sources of pollutants coming into the wetland that are not listed in questions D 2.1-D 2.3?	Yes = 1 No = 0
Source _____	
Total for D 2	2

Rating of Landscape Potential If score is: 3 or 4 = H X 1 or 2 = M 0 = L Record the rating on the first page

D 3.0. Is the water quality improvement provided by the site valuable to society?	
D 3.1. Does the wetland discharge directly (i.e., within 1 mi) to a stream, river, lake, or marine water that is on the 303(d) list?	Yes = 1 No = 0
D 3.2. Is the wetland in a basin or sub-basin where an aquatic resource is on the 303(d) list?	Yes = 1 No = 0
D 3.3. Has the site been identified in a watershed or local plan as important for maintaining water quality (answer YES if there is a TMDL for the basin in which the unit is found)?	Yes = 2 No = 0
Total for D 3	3

Rating of Value If score is: X 2-4 = H 1 = M 0 = L Record the rating on the first page

Wetland name or number W3A

DEPRESSIONAL AND FLATS WETLANDS

Hydrologic Functions - Indicators that the site functions to reduce flooding and stream degradation

D 4.0. Does the site have the potential to reduce flooding and erosion?

D 4.1. Characteristics of surface water outflows from the wetland:

- | | | |
|---|------------|----------|
| Wetland is a depression or flat depression with no surface water leaving it (no outlet) | points = 4 | 2 |
| Wetland has an intermittently flowing stream or ditch, OR highly constricted permanently flowing outlet | points = 2 | |
| Wetland is a flat depression (QUESTION 7 on key), whose outlet is a permanently flowing ditch | points = 1 | |
| Wetland has an unconstricted, or slightly constricted, surface outlet that is permanently flowing | points = 0 | |

D 4.2. Depth of storage during wet periods: Estimate the height of ponding above the bottom of the outlet. For wetlands with no outlet, measure from the surface of permanent water or if dry, the deepest part.

- | | | |
|--|------------|----------|
| Marks of ponding are 3 ft or more above the surface or bottom of outlet | points = 7 | 3 |
| Marks of ponding between 2 ft to < 3 ft from surface or bottom of outlet | points = 5 | |
| Marks are at least 0.5 ft to < 2 ft from surface or bottom of outlet | points = 3 | |
| The wetland is a "headwater" wetland | points = 3 | |
| Wetland is flat but has small depressions on the surface that trap water | points = 1 | |
| Marks of ponding less than 0.5 ft (6 in) | points = 0 | |

D 4.3. Contribution of the wetland to storage in the watershed: Estimate the ratio of the area of upstream basin contributing surface water to the wetland to the area of the wetland unit itself.

- | | | |
|---|------------|----------|
| The area of the basin is less than 10 times the area of the unit | points = 5 | 0 |
| The area of the basin is 10 to 100 times the area of the unit | points = 3 | |
| The area of the basin is more than 100 times the area of the unit | points = 0 | |
| Entire wetland is in the Flats class | points = 5 | |

Total for D 4

Add the points in the boxes above

5

Rating of Site Potential If score is: 12-16 = H 6-11 = M X 0-5 = L

Record the rating on the first page

D 5.0. Does the landscape have the potential to support hydrologic functions of the site?

D 5.1. Does the wetland receive stormwater discharges? Yes = 1 No = 0

1

D 5.2. Is >10% of the area within 150 ft of the wetland in land uses that generate excess runoff? Yes = 1 No = 0

1

D 5.3. Is more than 25% of the contributing basin of the wetland covered with intensive human land uses (residential at >1 residence/ac, urban, commercial, agriculture, etc.)? Yes = 1 No = 0

1

Total for D 5

Add the points in the boxes above

3

Rating of Landscape Potential If score is: X 3 = H 1 or 2 = M 0 = L

Record the rating on the first page

D 6.0. Are the hydrologic functions provided by the site valuable to society?

D 6.1. The unit is in a landscape that has flooding problems. Choose the description that best matches conditions around the wetland unit being rated. Do not add points. Choose the highest score if more than one condition is met.

- | | | |
|---|------------|----------|
| The wetland captures surface water that would otherwise flow down-gradient into areas where flooding has damaged human or natural resources (e.g., houses or salmon redds): | | 1 |
| • Flooding occurs in a sub-basin that is immediately down-gradient of unit. | points = 2 | |
| • Surface flooding problems are in a sub-basin farther down-gradient. | points = 1 | |
| Flooding from groundwater is an issue in the sub-basin. | points = 1 | |
| The existing or potential outflow from the wetland is so constrained by human or natural conditions that the water stored by the wetland cannot reach areas that flood. Explain why _____ | points = 0 | |
| There are no problems with flooding downstream of the wetland. | points = 0 | |

D 6.2. Has the site been identified as important for flood storage or flood conveyance in a regional flood control plan?

Yes = 2 No = 0

0

Total for D 6

Add the points in the boxes above

1

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

Record the rating on the first page

These questions apply to wetlands of all HGM classes.**HABITAT FUNCTIONS** - Indicators that site functions to provide important habitat**H 1.0. Does the site have the potential to provide habitat?**

H 1.1. Structure of plant community: *Indicators are Cowardin classes and strata within the Forested class. Check the Cowardin plant classes in the wetland. Up to 10 patches may be combined for each class to meet the threshold of ¼ ac or more than 10% of the unit if it is smaller than 2.5 ac. Add the number of structures checked.*

- | | | |
|---|----------------------------------|----------|
| <input type="checkbox"/> Aquatic bed | 4 structures or more: points = 4 | 0 |
| <input checked="" type="checkbox"/> Emergent | 3 structures: points = 2 | |
| <input type="checkbox"/> Scrub-shrub (areas where shrubs have > 30% cover) | 2 structures: points = 1 | |
| <input type="checkbox"/> Forested (areas where trees have > 30% cover) | 1 structure: points = 0 | |
| <i>If the unit has a Forested class, check if:</i> | | |
| <input type="checkbox"/> The Forested class has 3 out of 5 strata (canopy, sub-canopy, shrubs, herbaceous, moss/ground-cover) that each cover 20% within the Forested polygon | | |

H 1.2. Hydroperiods

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

- | | | |
|--|-------------------------------------|----------|
| <input type="checkbox"/> Permanently flooded or inundated | 4 or more types present: points = 3 | 1 |
| <input type="checkbox"/> Seasonally flooded or inundated | 3 types present: points = 2 | |
| <input checked="" type="checkbox"/> Occasionally flooded or inundated | 2 types present: points = 1 | |
| <input checked="" type="checkbox"/> Saturated only | 1 type present: points = 0 | |
| <input type="checkbox"/> Permanently flowing stream or river in, or adjacent to, the wetland | | |
| <input type="checkbox"/> Seasonally flowing stream in, or adjacent to, the wetland | | |
| <input type="checkbox"/> Lake Fringe wetland | 2 points | |
| <input type="checkbox"/> Freshwater tidal wetland | 2 points | |

H 1.3. Richness of plant species

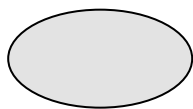
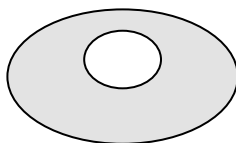
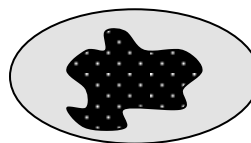
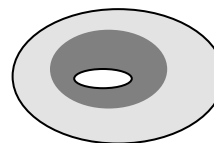
Count the number of plant species in the wetland that cover at least 10 ft².

*Different patches of the same species can be combined to meet the size threshold and you do not have to name the species. **Do not include Eurasian milfoil, reed canarygrass, purple loosestrife, Canadian thistle***

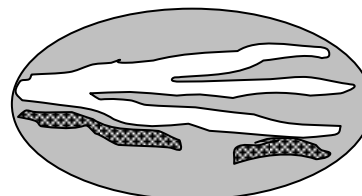
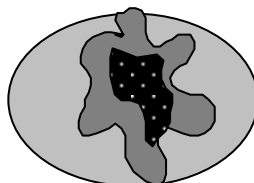
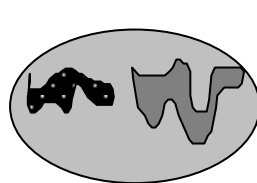
- | | | |
|------------------------------|------------|----------|
| If you counted: > 19 species | points = 2 | 1 |
| 5 - 19 species | points = 1 | |
| < 5 species | points = 0 | |

H 1.4. Interspersion of habitats

Decide from the diagrams below whether interspersions among Cowardin plants classes (described in H 1.1), or the classes and unvegetated areas (can include open water or mudflats) is high, moderate, low, or none. *If you have four or more plant classes or three classes and open water, the rating is always high.*

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

All three diagrams
in this row
are **HIGH** = 3points



Wetland name or number W3A

<p>H 1.5. Special habitat features:</p> <p>Check the habitat features that are present in the wetland. <i>The number of checks is the number of points.</i></p> <p>___ Large, downed, woody debris within the wetland (> 4 in diameter and 6 ft long).</p> <p>___ Standing snags (dbh > 4 in) within the wetland</p> <p>___ Undercut banks are present for at least 6.6 ft (2 m) and/or overhanging plants extends at least 3.3 ft (1 m) over a stream (or ditch) in, or contiguous with the wetland, for at least 33 ft (10 m)</p> <p>___ Stable steep banks of fine material that might be used by beaver or muskrat for denning (> 30 degree slope) OR signs of recent beaver activity are present (<i>cut shrubs or trees that have not yet weathered where wood is exposed</i>)</p> <p>___ At least ¼ ac of thin-stemmed persistent plants or woody branches are present in areas that are permanently or seasonally inundated (<i>structures for egg-laying by amphibians</i>)</p> <p>___ Invasive plants cover less than 25% of the wetland area in every stratum of plants (<i>see H 1.1 for list of strata</i>)</p>		0
Total for H 1	Add the points in the boxes above	2

Rating of Site Potential If score is: 15-18 = H 7-14 = M X 0-6 = L

Record the rating on the first page

H 2.0. Does the landscape have the potential to support the habitat functions of the site?		
<p>H 2.1. Accessible habitat (include <i>only habitat that directly abuts wetland unit</i>).</p> <p>Calculate: % undisturbed habitat ___ + [(% moderate and low intensity land uses)/2] ___ = <u>0</u> %</p> <p>If total accessible habitat is:</p> <p>> 1/3 (33.3%) of 1 km Polygon points = 3</p> <p>20-33% of 1 km Polygon points = 2</p> <p>10-19% of 1 km Polygon points = 1</p> <p>< 10% of 1 km Polygon points = 0</p>		0
<p>H 2.2. Undisturbed habitat in 1 km Polygon around the wetland.</p> <p>Calculate: % undisturbed habitat <u>14</u> + [(% moderate and low intensity land uses)/2] <u>5</u> = <u>19</u> %</p> <p>Undisturbed habitat > 50% of Polygon points = 3</p> <p>Undisturbed habitat 10-50% and in 1-3 patches points = 2</p> <p>Undisturbed habitat 10-50% and > 3 patches points = 1</p> <p>Undisturbed habitat < 10% of 1 km Polygon points = 0</p>		1
<p>H 2.3. Land use intensity in 1 km Polygon: If</p> <p>> 50% of 1 km Polygon is high intensity land use points = (- 2)</p> <p>≤ 50% of 1 km Polygon is high intensity points = 0</p>		-2
Total for H 2	Add the points in the boxes above	-1

Rating of Landscape Potential If score is: 4-6 = H 1-3 = M X < 1 = L

Record the rating on the first page

H 3.0. Is the habitat provided by the site valuable to society?		
<p>H 3.1. Does the site provide habitat for species valued in laws, regulations, or policies? <i>Choose only the highest score that applies to the wetland being rated.</i></p> <p>Site meets ANY of the following criteria: points = 2</p> <p>— It has 3 or more priority habitats within 100 m (see next page)</p> <p>— It provides habitat for Threatened or Endangered species (any plant or animal on the state or federal lists)</p> <p>— It is mapped as a location for an individual WDFW priority species</p> <p>— It is a Wetland of High Conservation Value as determined by the Department of Natural Resources</p> <p>— It has been categorized as an important habitat site in a local or regional comprehensive plan, in a Shoreline Master Plan, or in a watershed plan</p> <p>Site has 1 or 2 priority habitats (listed on next page) within 100 m points = 1</p> <p>Site does not meet any of the criteria above points = 0</p>		0

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

Record the rating on the first page

WDFW Priority Habitats

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

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

- **Aspen Stands:** Pure or mixed stands of aspen greater than 1 ac (0.4 ha).
- **Biodiversity Areas and Corridors:** Areas of habitat that are relatively important to various species of native fish and wildlife (*full descriptions in WDFW PHS report*).
- **Herbaceous Balds:** Variable size patches of grass and forbs on shallow soils over bedrock.
- **Old-growth/Mature forests:** Old-growth west of Cascade crest – Stands of at least 2 tree species, forming a multi-layered canopy with occasional small openings; with at least 8 trees/ac (20 trees/ha) > 32 in (81 cm) dbh or > 200 years of age. Mature forests – Stands with average diameters exceeding 21 in (53 cm) dbh; crown cover may be less than 100%; decay, decadence, numbers of snags, and quantity of large downed material is generally less than that found in old-growth; 80-200 years old west of the Cascade crest.
- **Oregon White Oak:** Woodland stands of pure oak or oak/conifer associations where canopy coverage of the oak component is important (*full descriptions in WDFW PHS report p. 158 – see web link above*).
- **Riparian:** The area adjacent to aquatic systems with flowing water that contains elements of both aquatic and terrestrial ecosystems which mutually influence each other.
- **Westside Prairies:** Herbaceous, non-forested plant communities that can either take the form of a dry prairie or a wet prairie (*full descriptions in WDFW PHS report p. 161 – see web link above*).
- **Instream:** The combination of physical, biological, and chemical processes and conditions that interact to provide functional life history requirements for instream fish and wildlife resources.
- **Nearshore:** Relatively undisturbed nearshore habitats. These include Coastal Nearshore, Open Coast Nearshore, and Puget Sound Nearshore. (*full descriptions of habitats and the definition of relatively undisturbed are in WDFW report – see web link on previous page*).
- **Caves:** A naturally occurring cavity, recess, void, or system of interconnected passages under the earth in soils, rock, ice, or other geological formations and is large enough to contain a human.
- **Cliffs:** Greater than 25 ft (7.6 m) high and occurring below 5000 ft elevation.
- **Talus:** Homogenous areas of rock rubble ranging in average size 0.5 - 6.5 ft (0.15 - 2.0 m), composed of basalt, andesite, and/or sedimentary rock, including riprap slides and mine tailings. May be associated with cliffs.
- **Snags and Logs:** Trees are considered snags if they are dead or dying and exhibit sufficient decay characteristics to enable cavity excavation/use by wildlife. Priority snags have a diameter at breast height of > 20 in (51 cm) in western Washington and are > 6.5 ft (2 m) in height. Priority logs are > 12 in (30 cm) in diameter at the largest end, and > 20 ft (6 m) long.

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

CATEGORIZATION BASED ON SPECIAL CHARACTERISTICS

Wetland Type	Category
<i>Check off any criteria that apply to the wetland. Circle the category when the appropriate criteria are met.</i>	
SC 1.0. Estuarine wetlands Does the wetland meet the following criteria for Estuarine wetlands? <ul style="list-style-type: none"> — The dominant water regime is tidal, — Vegetated, and — With a salinity greater than 0.5 ppt <div style="text-align: right;">Yes –Go to SC 1.1 No = Not an estuarine wetland</div>	
SC 1.1. Is the wetland within a National Wildlife Refuge, National Park, National Estuary Reserve, Natural Area Preserve, State Park or Educational, Environmental, or Scientific Reserve designated under WAC 332-30-151? <div style="text-align: right;">Yes = Category I No - Go to SC 1.2</div>	Cat. I
SC 1.2. Is the wetland unit at least 1 ac in size and meets at least two of the following three conditions? <ul style="list-style-type: none"> — The wetland is relatively undisturbed (has no diking, ditching, filling, cultivation, grazing, and has less than 10% cover of non-native plant species. (If non-native species are <i>Spartina</i>, see page 25) — At least ¾ of the landward edge of the wetland has a 100 ft buffer of shrub, forest, or un-grazed or unmowed grassland. — The wetland has at least two of the following features: tidal channels, depressions with open water, or contiguous freshwater wetlands. <div style="text-align: right;">Yes = Category I No = Category II</div>	 Cat. I Cat. II
SC 2.0. Wetlands of High Conservation Value (WHCV) SC 2.1. Has the WA Department of Natural Resources updated their website to include the list of Wetlands of High Conservation Value? <div style="text-align: right;">Yes – Go to SC 2.2 No – Go to SC 2.3</div> SC 2.2. Is the wetland listed on the WDNR database as a Wetland of High Conservation Value? <div style="text-align: right;">Yes = Category I No = Not a WHCV</div> SC 2.3. Is the wetland in a Section/Township/Range that contains a Natural Heritage wetland? http://www1.dnr.wa.gov/nhp/refdesk/datasearch/wnhpwetlands.pdf <div style="text-align: right;">Yes – Contact WNHP/WDNR and go to SC 2.4 No = Not a WHCV</div> SC 2.4. Has WDNR identified the wetland within the S/T/R as a Wetland of High Conservation Value and listed it on their website? <div style="text-align: right;">Yes = Category I No = Not a WHCV</div>	Cat. I
SC 3.0. Bogs Does the wetland (or any part of the unit) meet both the criteria for soils and vegetation in bogs? <i>Use the key below. If you answer YES you will still need to rate the wetland based on its functions.</i> SC 3.1. Does an area within the wetland unit have organic soil horizons, either peats or mucks, that compose 16 in or more of the first 32 in of the soil profile? <div style="text-align: right;">Yes – Go to SC 3.3 No – Go to SC 3.2</div> SC 3.2. Does an area within the wetland unit have organic soils, either peats or mucks, that are less than 16 in deep over bedrock, or an impermeable hardpan such as clay or volcanic ash, or that are floating on top of a lake or pond? <div style="text-align: right;">Yes – Go to SC 3.3 No = Is not a bog</div> SC 3.3. Does an area with peats or mucks have more than 70% cover of mosses at ground level, AND at least a 30% cover of plant species listed in Table 4? <div style="text-align: right;">Yes = Is a Category I bog No – Go to SC 3.4</div> <p>NOTE: If you are uncertain about the extent of mosses in the understory, you may substitute that criterion by measuring the pH of the water that seeps into a hole dug at least 16 in deep. If the pH is less than 5.0 and the plant species in Table 4 are present, the wetland is a bog.</p> SC 3.4. Is an area with peats or mucks forested (> 30% cover) with Sitka spruce, subalpine fir, western red cedar, western hemlock, lodgepole pine, quaking aspen, Engelmann spruce, or western white pine, AND any of the species (or combination of species) listed in Table 4 provide more than 30% of the cover under the canopy? <div style="text-align: right;">Yes = Is a Category I bog No = Is not a bog</div>	Cat. I

<p>SC 4.0. Forested Wetlands</p> <p>Does the wetland have at least <u>1 contiguous acre</u> of forest that meets one of these criteria for the WA Department of Fish and Wildlife's forests as priority habitats? <i>If you answer YES you will still need to rate the wetland based on its functions.</i></p> <ul style="list-style-type: none"> — Old-growth forests (west of Cascade crest): Stands of at least two tree species, forming a multi-layered canopy with occasional small openings; with at least 8 trees/ac (20 trees/ha) that are at least 200 years of age OR have a diameter at breast height (dbh) of 32 in (81 cm) or more. — Mature forests (west of the Cascade Crest): Stands where the largest trees are 80- 200 years old OR the species that make up the canopy have an average diameter (dbh) exceeding 21 in (53 cm). <p>Yes = Category I No = Not a forested wetland for this section</p>	<p>Cat. I</p>
<p>SC 5.0. Wetlands in Coastal Lagoons</p> <p>Does the wetland meet all of the following criteria of a wetland in a coastal lagoon?</p> <ul style="list-style-type: none"> — The wetland lies in a depression adjacent to marine waters that is wholly or partially separated from marine waters by sandbanks, gravel banks, shingle, or, less frequently, rocks — The lagoon in which the wetland is located contains ponded water that is saline or brackish (> 0.5 ppt) during most of the year in at least a portion of the lagoon (<i>needs to be measured near the bottom</i>) <p>Yes – Go to SC 5.1 No = Not a wetland in a coastal lagoon</p> <p>SC 5.1. Does the wetland meet all of the following three conditions?</p> <ul style="list-style-type: none"> — The wetland is relatively undisturbed (has no diking, ditching, filling, cultivation, grazing), and has less than 20% cover of aggressive, opportunistic plant species (see list of species on p. 100). — At least ¾ of the landward edge of the wetland has a 100 ft buffer of shrub, forest, or un-grazed or unmowed grassland. — The wetland is larger than $\frac{1}{10}$ ac (4350 ft²) <p>Yes = Category I No = Category II</p>	<p>Cat. I</p> <p>Cat. II</p>
<p>SC 6.0. Interdunal Wetlands</p> <p>Is the wetland west of the 1889 line (also called the Western Boundary of Upland Ownership or WBUO)? <i>If you answer yes you will still need to rate the wetland based on its habitat functions.</i></p> <p>In practical terms that means the following geographic areas:</p> <ul style="list-style-type: none"> — Long Beach Peninsula: Lands west of SR 103 — Grayland-Westport: Lands west of SR 105 — Ocean Shores-Copalis: Lands west of SR 115 and SR 109 <p>Yes – Go to SC 6.1 No = not an interdunal wetland for rating</p> <p>SC 6.1. Is the wetland 1 ac or larger and scores an 8 or 9 for the habitat functions on the form (rates H,H,H or H,H,M for the three aspects of function)? Yes = Category I No – Go to SC 6.2</p> <p>SC 6.2. Is the wetland 1 ac or larger, or is it in a mosaic of wetlands that is 1 ac or larger? Yes = Category II No – Go to SC 6.3</p> <p>SC 6.3. Is the unit between 0.1 and 1 ac, or is it in a mosaic of wetlands that is between 0.1 and 1 ac? Yes = Category III No = Category IV</p>	<p>Cat I</p> <p>Cat. II</p> <p>Cat. III</p> <p>Cat. IV</p>
<p>Category of wetland based on Special Characteristics</p> <p>If you answered No for all types, enter "Not Applicable" on Summary Form</p>	<p>not applicable</p>

Wetland name or number W3A

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Wetland name or number W8

RATING SUMMARY – Western Washington

Name of wetland (or ID #): Wetland W8 Date of site visit: 7/2/21
Rated by S. Modjeski Trained by Ecology? X Yes ___ No ___ Date of training 6/27/17
HGM Class used for rating Depressional Wetland has multiple HGM classes? ___Y X N

NOTE: Form is not complete without the figures requested (figures can be combined).
Source of base aerial photo/map ESRI Aerial

OVERALL WETLAND CATEGORY III (based on functions X or special characteristics ___)

1. Category of wetland based on FUNCTIONS

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

FUNCTION	Improving Water Quality	Hydrologic	Habitat	
Circle the appropriate ratings				
Site Potential	H <u>M</u> L	H <u>M</u> L	H M <u>L</u>	
Landscape Potential	H <u>M</u> L	<u>H</u> M L	H M <u>L</u>	
Value	<u>H</u> M L	H <u>M</u> L	H M <u>L</u>	TOTAL
Score Based on Ratings	7	7	3	17

Score for each
function based
on three
ratings
(order of ratings
is not
important)

9 = H,H,H
8 = H,H,M
7 = H,H,L
7 = H,M,M
6 = H,M,L
6 = M,M,M
5 = H,L,L
5 = M,M,L
4 = M,L,L
3 = L,L,L

2. Category based on SPECIAL CHARACTERISTICS of wetland

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

Maps and figures required to answer questions correctly for Western Washington

Note: Rating figures were not prepared due to the highly developed landscape and abutting roads, singular PEM class, and obvious ditch outlet.

Depressional Wetlands

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

Riverine Wetlands

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

Lake Fringe Wetlands

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

Slope Wetlands

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

HGM Classification of Wetlands in Western Washington

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

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

1. Are the water levels in the entire unit usually controlled by tides except during floods?

☒ **NO** go to 2

YES – the wetland class is **Tidal Fringe** – go to 1.1

- 1.1 Is the salinity of the water during periods of annual low flow below 0.5 ppt (parts per thousand)?

NO – Saltwater Tidal Fringe (Estuarine)

YES – Freshwater Tidal Fringe

*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 an **Estuarine** wetland and is not scored. This method **cannot** be used to score functions for estuarine wetlands.*

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

☒ **NO** go to 3

YES – The wetland class is **Flats**

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

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

- ☐ The vegetated part of the wetland is on the shores of a body of permanent open water (without any plants on the surface at any time of the year) at least 20 ac (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**.

☒ **NO** go to 5

YES – The wetland class is **Slope**

NOTE: Surface water does not pond in these type of wetlands except occasionally in very small and shallow depressions or behind hummocks (depressions are usually <3 ft diameter and less than 1 ft deep).

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 2 years.

Wetland name or number W8

NO – go to 6

YES – The wetland class is **Riverine**

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

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

NO – go to 7

YES – The wetland class is **Depressional**

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

NO – go to 8

YES – The wetland class is **Depressional**

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

NOTE: Use this table only if the class that is recommended in the second column represents 10% or more of the total area of the wetland unit being rated. If the area of the HGM class listed in column 2 is less than 10% of the unit; classify the wetland using the class that represents more than 90% of the total area.

HGM classes within the wetland unit 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 of depression	Depressional
Depressional + Lake Fringe	Depressional
Riverine + Lake Fringe	Riverine
Salt Water Tidal Fringe and any other class of freshwater wetland	Treat as ESTUARINE

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

Wetland name or number W8

DEPRESSIONAL AND FLATS WETLANDS	
Water Quality Functions - Indicators that the site functions to improve water quality	
D 1.0. Does the site have the potential to improve water quality?	
D 1.1. Characteristics of surface water outflows from the wetland: Wetland is a depression or flat depression (QUESTION 7 on key) with no surface water leaving it (no outlet). points = 3 Wetland has an intermittently flowing stream or ditch, OR highly constricted permanently flowing outlet. points = 2 Wetland has an unconstricted, or slightly constricted, surface outlet that is permanently flowing points = 1 Wetland is a flat depression (QUESTION 7 on key), whose outlet is a permanently flowing ditch. points = 1	2
D 1.2. The soil 2 in below the surface (or duff layer) is true clay or true organic (use NRCS definitions). Yes = 4 No = 0	0
D 1.3. Characteristics and distribution of persistent plants (Emergent, Scrub-shrub, and/or Forested Cowardin classes): Wetland has persistent, ungrazed, plants > 95% of area points = 5 Wetland has persistent, ungrazed, plants > ½ of area points = 3 Wetland has persistent, ungrazed plants > 1/10 of area points = 1 Wetland has persistent, ungrazed plants < 1/10 of area points = 0	3
D 1.4. Characteristics of seasonal ponding or inundation: <i>This is the area that is ponded for at least 2 months. See description in manual.</i> 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	2
Total for D 1	7

Rating of Site Potential If score is: 12-16 = H X 6-11 = M 0-5 = L Record the rating on the first page

D 2.0. Does the landscape have the potential to support the water quality function of the site?	
D 2.1. Does the wetland unit receive stormwater discharges?	Yes = 1 No = 0
D 2.2. Is > 10% of the area within 150 ft of the wetland in land uses that generate pollutants?	Yes = 1 No = 0
D 2.3. Are there septic systems within 250 ft of the wetland?	Yes = 1 No = 0
D 2.4. Are there other sources of pollutants coming into the wetland that are not listed in questions D 2.1-D 2.3?	Yes = 1 No = 0
Source _____	
Total for D 2	2

Rating of Landscape Potential If score is: 3 or 4 = H X 1 or 2 = M 0 = L Record the rating on the first page

D 3.0. Is the water quality improvement provided by the site valuable to society?	
D 3.1. Does the wetland discharge directly (i.e., within 1 mi) to a stream, river, lake, or marine water that is on the 303(d) list?	Yes = 1 No = 0
D 3.2. Is the wetland in a basin or sub-basin where an aquatic resource is on the 303(d) list?	Yes = 1 No = 0
D 3.3. Has the site been identified in a watershed or local plan as important for maintaining water quality (answer YES if there is a TMDL for the basin in which the unit is found)?	Yes = 2 No = 0
Total for D 3	3

Rating of Value If score is: X 2-4 = H 1 = M 0 = L Record the rating on the first page

Wetland name or number W8

DEPRESSIONAL AND FLATS WETLANDS

Hydrologic Functions - Indicators that the site functions to reduce flooding and stream degradation

D 4.0. Does the site have the potential to reduce flooding and erosion?

D 4.1. Characteristics of surface water outflows from the wetland:

- | | | |
|---|------------|----------|
| Wetland is a depression or flat depression with no surface water leaving it (no outlet) | points = 4 | 2 |
| Wetland has an intermittently flowing stream or ditch, OR highly constricted permanently flowing outlet | points = 2 | |
| Wetland is a flat depression (QUESTION 7 on key), whose outlet is a permanently flowing ditch | points = 1 | |
| Wetland has an unconstricted, or slightly constricted, surface outlet that is permanently flowing | points = 0 | |

D 4.2. Depth of storage during wet periods: *Estimate the height of ponding above the bottom of the outlet. For wetlands with no outlet, measure from the surface of permanent water or if dry, the deepest part.*

- | | | |
|--|------------|----------|
| Marks of ponding are 3 ft or more above the surface or bottom of outlet | points = 7 | 3 |
| Marks of ponding between 2 ft to < 3 ft from surface or bottom of outlet | points = 5 | |
| Marks are at least 0.5 ft to < 2 ft from surface or bottom of outlet | points = 3 | |
| The wetland is a "headwater" wetland | points = 3 | |
| Wetland is flat but has small depressions on the surface that trap water | points = 1 | |
| Marks of ponding less than 0.5 ft (6 in) | points = 0 | |

D 4.3. Contribution of the wetland to storage in the watershed: *Estimate the ratio of the area of upstream basin contributing surface water to the wetland to the area of the wetland unit itself.*

- | | | |
|---|------------|----------|
| The area of the basin is less than 10 times the area of the unit | points = 5 | 3 |
| 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 wetland is in the Flats class | points = 5 | |

Total for D 4

Add the points in the boxes above

8

Rating of Site Potential If score is: 12-16 = H X 6-11 = M 0-5 = L

Record the rating on the first page

D 5.0. Does the landscape have the potential to support hydrologic functions of the site?

D 5.1. Does the wetland receive stormwater discharges? Yes = 1 No = 0

1

D 5.2. Is >10% of the area within 150 ft of the wetland in land uses that generate excess runoff? Yes = 1 No = 0

1

D 5.3. Is more than 25% of the contributing basin of the wetland covered with intensive human land uses (residential at >1 residence/ac, urban, commercial, agriculture, etc.)? Yes = 1 No = 0

1

Total for D 5

Add the points in the boxes above

3

Rating of Landscape Potential If score is: X 3 = H 1 or 2 = M 0 = L

Record the rating on the first page

D 6.0. Are the hydrologic functions provided by the site valuable to society?

D 6.1. The unit is in a landscape that has flooding problems. Choose the description that best matches conditions around the wetland unit being rated. Do not add points. Choose the highest score if more than one condition is met.

- | | | |
|--|------------|----------|
| The wetland captures surface water that would otherwise flow down-gradient into areas where flooding has damaged human or natural resources (e.g., houses or salmon redds): | | 1 |
| • Flooding occurs in a sub-basin that is immediately down-gradient of unit. | points = 2 | |
| • Surface flooding problems are in a sub-basin farther down-gradient. | points = 1 | |
| Flooding from groundwater is an issue in the sub-basin. | points = 1 | |
| The existing or potential outflow from the wetland is so constrained by human or natural conditions that the water stored by the wetland cannot reach areas that flood. <i>Explain why</i> _____ | points = 0 | |
| There are no problems with flooding downstream of the wetland. | points = 0 | |

D 6.2. Has the site been identified as important for flood storage or flood conveyance in a regional flood control plan?

Yes = 2 No = 0

0

Total for D 6

Add the points in the boxes above

1

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

Record the rating on the first page

These questions apply to wetlands of all HGM classes.**HABITAT FUNCTIONS** - Indicators that site functions to provide important habitat**H 1.0. Does the site have the potential to provide habitat?**

H 1.1. Structure of plant community: *Indicators are Cowardin classes and strata within the Forested class. Check the Cowardin plant classes in the wetland. Up to 10 patches may be combined for each class to meet the threshold of ¼ ac or more than 10% of the unit if it is smaller than 2.5 ac. Add the number of structures checked.*

- | | | |
|---|----------------------------------|----------|
| <input type="checkbox"/> Aquatic bed | 4 structures or more: points = 4 | 0 |
| <input type="checkbox"/> Emergent | 3 structures: points = 2 | |
| <input checked="" type="checkbox"/> Scrub-shrub (areas where shrubs have > 30% cover) | 2 structures: points = 1 | |
| <input type="checkbox"/> Forested (areas where trees have > 30% cover) | 1 structure: points = 0 | |
| <i>If the unit has a Forested class, check if:</i> | | |
| <input type="checkbox"/> The Forested class has 3 out of 5 strata (canopy, sub-canopy, shrubs, herbaceous, moss/ground-cover) that each cover 20% within the Forested polygon | | |

H 1.2. Hydroperiods

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

- | | | |
|--|-------------------------------------|----------|
| <input type="checkbox"/> Permanently flooded or inundated | 4 or more types present: points = 3 | 1 |
| <input checked="" type="checkbox"/> Seasonally flooded or inundated | 3 types present: points = 2 | |
| <input checked="" type="checkbox"/> Occasionally flooded or inundated | 2 types present: points = 1 | |
| <input type="checkbox"/> Saturated only | 1 type present: points = 0 | |
| <input type="checkbox"/> Permanently flowing stream or river in, or adjacent to, the wetland | | |
| <input type="checkbox"/> Seasonally flowing stream in, or adjacent to, the wetland | | |
| <input type="checkbox"/> Lake Fringe wetland | 2 points | |
| <input type="checkbox"/> Freshwater tidal wetland | 2 points | |

H 1.3. Richness of plant species

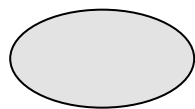
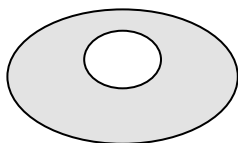
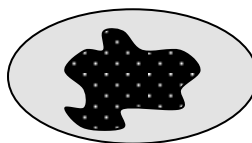
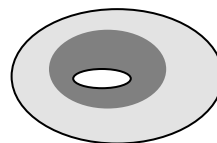
Count the number of plant species in the wetland that cover at least 10 ft².

Different patches of the same species can be combined to meet the size threshold and you do not have to name the species. Do not include Eurasian milfoil, reed canarygrass, purple loosestrife, Canadian thistle

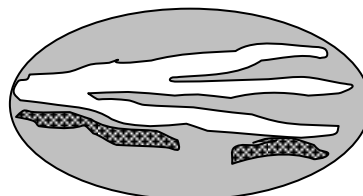
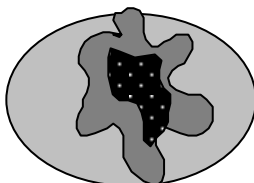
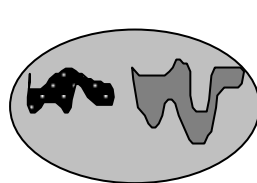
- | | | |
|------------------------------|------------|----------|
| If you counted: > 19 species | points = 2 | 1 |
| 5 - 19 species | points = 1 | |
| < 5 species | points = 0 | |

H 1.4. Interspersion of habitats

Decide from the diagrams below whether interspersions among Cowardin plants classes (described in H 1.1), or the classes and unvegetated areas (can include open water or mudflats) is high, moderate, low, or none. *If you have four or more plant classes or three classes and open water, the rating is always high.*

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

All three diagrams in this row are **HIGH** = 3points



Wetland name or number W8

<p>H 1.5. Special habitat features:</p> <p>Check the habitat features that are present in the wetland. <i>The number of checks is the number of points.</i></p> <p><input checked="" type="checkbox"/> Large, downed, woody debris within the wetland (> 4 in diameter and 6 ft long).</p> <p><input type="checkbox"/> Standing snags (dbh > 4 in) within the wetland</p> <p><input type="checkbox"/> Undercut banks are present for at least 6.6 ft (2 m) and/or overhanging plants extends at least 3.3 ft (1 m) over a stream (or ditch) in, or contiguous with the wetland, for at least 33 ft (10 m)</p> <p><input type="checkbox"/> Stable steep banks of fine material that might be used by beaver or muskrat for denning (> 30 degree slope) OR signs of recent beaver activity are present (<i>cut shrubs or trees that have not yet weathered where wood is exposed</i>)</p> <p><input type="checkbox"/> At least ¼ ac of thin-stemmed persistent plants or woody branches are present in areas that are permanently or seasonally inundated (<i>structures for egg-laying by amphibians</i>)</p> <p><input type="checkbox"/> Invasive plants cover less than 25% of the wetland area in every stratum of plants (<i>see H 1.1 for list of strata</i>)</p>		1
Total for H 1	Add the points in the boxes above	3

Rating of Site Potential If score is: 15-18 = H 7-14 = M X 0-6 = L

Record the rating on the first page

H 2.0. Does the landscape have the potential to support the habitat functions of the site?		
<p>H 2.1. Accessible habitat (include <i>only habitat that directly abuts wetland unit</i>).</p> <p>Calculate: % undisturbed habitat <u> </u> + [(% moderate and low intensity land uses)/2] <u> </u> = <u>0</u> %</p> <p>If total accessible habitat is:</p> <p>> 1/3 (33.3%) of 1 km Polygon points = 3</p> <p>20-33% of 1 km Polygon points = 2</p> <p>10-19% of 1 km Polygon points = 1</p> <p>< 10% of 1 km Polygon points = 0</p>		0
<p>H 2.2. Undisturbed habitat in 1 km Polygon around the wetland.</p> <p>Calculate: % undisturbed habitat <u>14</u> + [(% moderate and low intensity land uses)/2] <u>5</u> = <u>19</u> %</p> <p>Undisturbed habitat > 50% of Polygon points = 3</p> <p>Undisturbed habitat 10-50% and in 1-3 patches points = 2</p> <p>Undisturbed habitat 10-50% and > 3 patches points = 1</p> <p>Undisturbed habitat < 10% of 1 km Polygon points = 0</p>		1
<p>H 2.3. Land use intensity in 1 km Polygon: If</p> <p>> 50% of 1 km Polygon is high intensity land use points = (- 2)</p> <p>≤ 50% of 1 km Polygon is high intensity points = 0</p>		-2
Total for H 2	Add the points in the boxes above	-1

Rating of Landscape Potential If score is: 4-6 = H 1-3 = M X < 1 = L

Record the rating on the first page

H 3.0. Is the habitat provided by the site valuable to society?		
<p>H 3.1. Does the site provide habitat for species valued in laws, regulations, or policies? <i>Choose only the highest score that applies to the wetland being rated.</i></p> <p>Site meets ANY of the following criteria: points = 2</p> <p>— It has 3 or more priority habitats within 100 m (see next page)</p> <p>— It provides habitat for Threatened or Endangered species (any plant or animal on the state or federal lists)</p> <p>— It is mapped as a location for an individual WDFW priority species</p> <p>— It is a Wetland of High Conservation Value as determined by the Department of Natural Resources</p> <p>— It has been categorized as an important habitat site in a local or regional comprehensive plan, in a Shoreline Master Plan, or in a watershed plan</p> <p>Site has 1 or 2 priority habitats (listed on next page) within 100 m points = 1</p> <p>Site does not meet any of the criteria above points = 0</p>		0

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

Record the rating on the first page

WDFW Priority Habitats

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

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

- **Aspen Stands:** Pure or mixed stands of aspen greater than 1 ac (0.4 ha).
- **Biodiversity Areas and Corridors:** Areas of habitat that are relatively important to various species of native fish and wildlife (*full descriptions in WDFW PHS report*).
- **Herbaceous Balds:** Variable size patches of grass and forbs on shallow soils over bedrock.
- **Old-growth/Mature forests:** Old-growth west of Cascade crest – Stands of at least 2 tree species, forming a multi-layered canopy with occasional small openings; with at least 8 trees/ac (20 trees/ha) > 32 in (81 cm) dbh or > 200 years of age. Mature forests – Stands with average diameters exceeding 21 in (53 cm) dbh; crown cover may be less than 100%; decay, decadence, numbers of snags, and quantity of large downed material is generally less than that found in old-growth; 80-200 years old west of the Cascade crest.
- **Oregon White Oak:** Woodland stands of pure oak or oak/conifer associations where canopy coverage of the oak component is important (*full descriptions in WDFW PHS report p. 158 – see web link above*).
- **Riparian:** The area adjacent to aquatic systems with flowing water that contains elements of both aquatic and terrestrial ecosystems which mutually influence each other.
- **Westside Prairies:** Herbaceous, non-forested plant communities that can either take the form of a dry prairie or a wet prairie (*full descriptions in WDFW PHS report p. 161 – see web link above*).
- **Instream:** The combination of physical, biological, and chemical processes and conditions that interact to provide functional life history requirements for instream fish and wildlife resources.
- **Nearshore:** Relatively undisturbed nearshore habitats. These include Coastal Nearshore, Open Coast Nearshore, and Puget Sound Nearshore. (*full descriptions of habitats and the definition of relatively undisturbed are in WDFW report – see web link on previous page*).
- **Caves:** A naturally occurring cavity, recess, void, or system of interconnected passages under the earth in soils, rock, ice, or other geological formations and is large enough to contain a human.
- **Cliffs:** Greater than 25 ft (7.6 m) high and occurring below 5000 ft elevation.
- **Talus:** Homogenous areas of rock rubble ranging in average size 0.5 - 6.5 ft (0.15 - 2.0 m), composed of basalt, andesite, and/or sedimentary rock, including riprap slides and mine tailings. May be associated with cliffs.
- **Snags and Logs:** Trees are considered snags if they are dead or dying and exhibit sufficient decay characteristics to enable cavity excavation/use by wildlife. Priority snags have a diameter at breast height of > 20 in (51 cm) in western Washington and are > 6.5 ft (2 m) in height. Priority logs are > 12 in (30 cm) in diameter at the largest end, and > 20 ft (6 m) long.

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

CATEGORIZATION BASED ON SPECIAL CHARACTERISTICS

Wetland Type	Category
<i>Check off any criteria that apply to the wetland. Circle the category when the appropriate criteria are met.</i>	
SC 1.0. Estuarine wetlands Does the wetland meet the following criteria for Estuarine wetlands? — The dominant water regime is tidal, — Vegetated, and — With a salinity greater than 0.5 ppt Yes – Go to SC 1.1 No = Not an estuarine wetland	
SC 1.1. Is the wetland within a National Wildlife Refuge, National Park, National Estuary Reserve, Natural Area Preserve, State Park or Educational, Environmental, or Scientific Reserve designated under WAC 332-30-151? Yes = Category I No - Go to SC 1.2	Cat. I
SC 1.2. Is the wetland unit at least 1 ac in size and meets at least two of the following three conditions? — The wetland is relatively undisturbed (has no diking, ditching, filling, cultivation, grazing, and has less than 10% cover of non-native plant species. (If non-native species are <i>Spartina</i> , see page 25) — At least ¾ of the landward edge of the wetland has a 100 ft buffer of shrub, forest, or un-grazed or unmowed grassland. — The wetland has at least two of the following features: tidal channels, depressions with open water, or contiguous freshwater wetlands. Yes = Category I No = Category II	Cat. I Cat. II
SC 2.0. Wetlands of High Conservation Value (WHCV) SC 2.1. Has the WA Department of Natural Resources updated their website to include the list of Wetlands of High Conservation Value? Yes – Go to SC 2.2 No – Go to SC 2.3 SC 2.2. Is the wetland listed on the WDNR database as a Wetland of High Conservation Value? Yes = Category I No = Not a WHCV SC 2.3. Is the wetland in a Section/Township/Range that contains a Natural Heritage wetland? http://www1.dnr.wa.gov/nhp/refdesk/datasearch/wnhpwetlands.pdf Yes – Contact WNHP/WDNR and go to SC 2.4 No = Not a WHCV SC 2.4. Has WDNR identified the wetland within the S/T/R as a Wetland of High Conservation Value and listed it on their website? Yes = Category I No = Not a WHCV	Cat. I
SC 3.0. Bogs Does the wetland (or any part of the unit) meet both the criteria for soils and vegetation in bogs? <i>Use the key below. If you answer YES you will still need to rate the wetland based on its functions.</i> SC 3.1. Does an area within the wetland unit have organic soil horizons, either peats or mucks, that compose 16 in or more of the first 32 in of the soil profile? Yes – Go to SC 3.3 No – Go to SC 3.2 SC 3.2. Does an area within the wetland unit have organic soils, either peats or mucks, that are less than 16 in deep over bedrock, or an impermeable hardpan such as clay or volcanic ash, or that are floating on top of a lake or pond? Yes – Go to SC 3.3 No = Is not a bog SC 3.3. Does an area with peats or mucks have more than 70% cover of mosses at ground level, AND at least a 30% cover of plant species listed in Table 4? Yes = Is a Category I bog No – Go to SC 3.4 NOTE: If you are uncertain about the extent of mosses in the understory, you may substitute that criterion by measuring the pH of the water that seeps into a hole dug at least 16 in deep. If the pH is less than 5.0 and the plant species in Table 4 are present, the wetland is a bog. SC 3.4. Is an area with peats or mucks forested (> 30% cover) with Sitka spruce, subalpine fir, western red cedar, western hemlock, lodgepole pine, quaking aspen, Engelmann spruce, or western white pine, AND any of the species (or combination of species) listed in Table 4 provide more than 30% of the cover under the canopy? Yes = Is a Category I bog No = Is not a bog	Cat. I

<p>SC 4.0. Forested Wetlands</p> <p>Does the wetland have at least <u>1 contiguous acre</u> of forest that meets one of these criteria for the WA Department of Fish and Wildlife's forests as priority habitats? <i>If you answer YES you will still need to rate the wetland based on its functions.</i></p> <ul style="list-style-type: none"> — Old-growth forests (west of Cascade crest): Stands of at least two tree species, forming a multi-layered canopy with occasional small openings; with at least 8 trees/ac (20 trees/ha) that are at least 200 years of age OR have a diameter at breast height (dbh) of 32 in (81 cm) or more. — Mature forests (west of the Cascade Crest): Stands where the largest trees are 80- 200 years old OR the species that make up the canopy have an average diameter (dbh) exceeding 21 in (53 cm). <p style="text-align: right;">Yes = Category I No = Not a forested wetland for this section</p>	Cat. I
<p>SC 5.0. Wetlands in Coastal Lagoons</p> <p>Does the wetland meet all of the following criteria of a wetland in a coastal lagoon?</p> <ul style="list-style-type: none"> — The wetland lies in a depression adjacent to marine waters that is wholly or partially separated from marine waters by sandbanks, gravel banks, shingle, or, less frequently, rocks — The lagoon in which the wetland is located contains ponded water that is saline or brackish (> 0.5 ppt) during most of the year in at least a portion of the lagoon (<i>needs to be measured near the bottom</i>) <p style="text-align: right;">Yes – Go to SC 5.1 No = Not a wetland in a coastal lagoon</p> <p>SC 5.1. Does the wetland meet all of the following three conditions?</p> <ul style="list-style-type: none"> — The wetland is relatively undisturbed (has no diking, ditching, filling, cultivation, grazing), and has less than 20% cover of aggressive, opportunistic plant species (see list of species on p. 100). — At least ¾ of the landward edge of the wetland has a 100 ft buffer of shrub, forest, or un-grazed or unmowed grassland. — The wetland is larger than 1/10 ac (4350 ft²) <p style="text-align: right;">Yes = Category I No = Category II</p>	<p style="text-align: center; vertical-align: middle;">Cat. I</p> <p style="text-align: center; vertical-align: middle;">Cat. II</p>
<p>SC 6.0. Interdunal Wetlands</p> <p>Is the wetland west of the 1889 line (also called the Western Boundary of Upland Ownership or WBUO)? <i>If you answer yes you will still need to rate the wetland based on its habitat functions.</i></p> <p>In practical terms that means the following geographic areas:</p> <ul style="list-style-type: none"> — Long Beach Peninsula: Lands west of SR 103 — Grayland-Westport: Lands west of SR 105 — Ocean Shores-Copalis: Lands west of SR 115 and SR 109 <p style="text-align: right;">Yes – Go to SC 6.1 No = not an interdunal wetland for rating</p> <p>SC 6.1. Is the wetland 1 ac or larger and scores an 8 or 9 for the habitat functions on the form (rates H,H,H or H,H,M for the three aspects of function)?</p> <p style="text-align: right;">Yes = Category I No – Go to SC 6.2</p> <p>SC 6.2. Is the wetland 1 ac or larger, or is it in a mosaic of wetlands that is 1 ac or larger?</p> <p style="text-align: right;">Yes = Category II No – Go to SC 6.3</p> <p>SC 6.3. Is the unit between 0.1 and 1 ac, or is it in a mosaic of wetlands that is between 0.1 and 1 ac?</p> <p style="text-align: right;">Yes = Category III No = Category IV</p>	<p style="text-align: center; vertical-align: middle;">Cat I</p> <p style="text-align: center; vertical-align: middle;">Cat. II</p> <p style="text-align: center; vertical-align: middle;">Cat. III</p> <p style="text-align: center; vertical-align: middle;">Cat. IV</p>
<p>Category of wetland based on Special Characteristics</p> <p>If you answered No for all types, enter "Not Applicable" on Summary Form</p>	not applicable

Wetland name or number W8

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Wetland name or number W4

RATING SUMMARY – Western Washington

Name of wetland (or ID #): W4 Date of site visit: 12/18/17
Rated by Kerrie McArthur Trained by Ecology? ☒ Yes ☐ No Date of training 4/2014
HGM Class used for rating Depressional Wetland has multiple HGM classes? ☐ Y ☒ N

NOTE: Form is not complete without the figures requested (figures can be combined).
Source of base aerial photo/map PSM

OVERALL WETLAND CATEGORY III (based on functions ☒ or special characteristics ☐)

1. Category of wetland based on FUNCTIONS

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

FUNCTION	Improving Water Quality	Hydrologic	Habitat	
Circle the appropriate ratings				
Site Potential	H <u>M</u> L	H <u>M</u> L	H <u>M</u> L	
Landscape Potential	H <u>M</u> L	<u>H</u> M L	H M <u>L</u>	
Value	<u>H</u> M L	H <u>M</u> L	H M <u>L</u>	TOTAL
Score Based on Ratings	7	7	4	18

Score for each
function based
on three
ratings
(order of ratings
is not
important)

9 = H,H,H
8 = H,H,M
7 = H,H,L
7 = H,M,M
6 = H,M,L
6 = M,M,M
5 = H,L,L
5 = M,M,L
4 = M,L,L
3 = L,L,L

2. Category based on SPECIAL CHARACTERISTICS of wetland

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

Wetland name or number W4

Maps and figures required to answer questions correctly for Western Washington

Depressional Wetlands

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

Riverine Wetlands

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

Lake Fringe Wetlands

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

Slope Wetlands

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

HGM Classification of Wetlands in Western Washington

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

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

1. Are the water levels in the entire unit usually controlled by tides except during floods?

☒ NO – go to 2

☐ YES – the wetland class is **Tidal Fringe** – go to 1.1

- 1.1 Is the salinity of the water during periods of annual low flow below 0.5 ppt (parts per thousand)?

☐ NO – **Saltwater Tidal Fringe (Estuarine)**

☐ YES – **Freshwater Tidal Fringe**

*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 an **Estuarine** wetland and is not scored. This method **cannot** be used to score functions for estuarine wetlands.*

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

☒ NO – go to 3

☐ YES – The wetland class is **Flats**

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

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

___ The vegetated part of the wetland is on the shores of a body of permanent open water (without any plants on the surface at any time of the year) at least 20 ac (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**.

☒ NO – go to 5

☐ YES – The wetland class is **Slope**

NOTE: Surface water does not pond in these type of wetlands except occasionally in very small and shallow depressions or behind hummocks (depressions are usually <3 ft diameter and less than 1 ft deep).

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 2 years.

Wetland name or number W4

NO - go to 6

YES - The wetland class is **Riverine**

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

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

NO - go to 7

YES - The wetland class is **Depressional**

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

NO - go to 8

YES - The wetland class is **Depressional**

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

NOTE: Use this table only if the class that is recommended in the second column represents 10% or more of the total area of the wetland unit being rated. If the area of the HGM class listed in column 2 is less than 10% of the unit; classify the wetland using the class that represents more than 90% of the total area.

HGM classes within the wetland unit 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 of depression	Depressional
Depressional + Lake Fringe	Depressional
Riverine + Lake Fringe	Riverine
Salt Water Tidal Fringe and any other class of freshwater wetland	Treat as ESTUARINE

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

Wetland name or number W4

DEPRESSIONAL AND FLATS WETLANDS

Water Quality Functions - Indicators that the site functions to improve water quality

D 1.0. Does the site have the potential to improve water quality?

D 1.1. Characteristics of surface water outflows from the wetland:

- Wetland is a depression or flat depression (QUESTION 7 on key) with no surface water leaving it (no outlet). points = 3
- Wetland has an intermittently flowing stream or ditch, OR highly constricted permanently flowing outlet. points = 2
- Wetland has an unconstricted, or slightly constricted, surface outlet that is permanently flowing points = 1
- Wetland is a flat depression (QUESTION 7 on key), whose outlet is a permanently flowing ditch. points = 1

2

D 1.2. The soil 2 in below the surface (or duff layer) is true clay or true organic (use NRCS definitions). Yes = 4 No = 0

0

D 1.3. Characteristics and distribution of persistent plants (Emergent, Scrub-shrub, and/or Forested Cowardin classes):

- Wetland has persistent, ungrazed, plants > 95% of area points = 5
- Wetland has persistent, ungrazed, plants > 1/2 of area points = 3
- Wetland has persistent, ungrazed plants > 1/10 of area points = 1
- Wetland has persistent, ungrazed plants < 1/10 of area points = 0

5

D 1.4. Characteristics of seasonal ponding or inundation:

- This is the area that is ponded for at least 2 months. See description in manual.*
- Area seasonally ponded is > 1/2 total area of wetland points = 4
- Area seasonally ponded is > 1/4 total area of wetland points = 2
- Area seasonally ponded is < 1/4 total area of wetland points = 0

2

Total for D 1

Add the points in the boxes above

9

Rating of Site Potential If score is: 12-16 = H ☒ 6-11 = M 0-5 = L Record the rating on the first page

D 2.0. Does the landscape have the potential to support the water quality function of the site?

D 2.1. Does the wetland unit receive stormwater discharges? Yes = 1 No = 0

1

D 2.2. Is > 10% of the area within 150 ft of the wetland in land uses that generate pollutants? Yes = 1 No = 0

1

D 2.3. Are there septic systems within 250 ft of the wetland? Yes = 1 No = 0

0

D 2.4. Are there other sources of pollutants coming into the wetland that are not listed in questions D 2.1-D 2.3?

Source _____ Yes = 1 No = 0

0

Total for D 2

Add the points in the boxes above

2

Rating of Landscape Potential If score is: 3 or 4 = H ☒ 1 or 2 = M 0 = L Record the rating on the first page

D 3.0. Is the water quality improvement provided by the site valuable to society?

D 3.1. Does the wetland discharge directly (i.e., within 1 mi) to a stream, river, lake, or marine water that is on the 303(d) list? Yes = 1 No = 0

0

D 3.2. Is the wetland in a basin or sub-basin where an aquatic resource is on the 303(d) list? Yes = 1 No = 0

1

D 3.3. Has the site been identified in a watershed or local plan as important for maintaining water quality (answer YES if there is a TMDL for the basin in which the unit is found)? Yes = 2 No = 0

2

Total for D 3

Add the points in the boxes above

3

Rating of Value If score is: ☒ 2-4 = H 1 = M 0 = L Record the rating on the first page

Wetland name or number W4

DEPRESSIONAL AND FLATS WETLANDS

Hydrologic Functions - Indicators that the site functions to reduce flooding and stream degradation

D 4.0. Does the site have the potential to reduce flooding and erosion?

D 4.1. Characteristics of surface water outflows from the wetland:

- | | | |
|---|------------|---|
| Wetland is a depression or flat depression with no surface water leaving it (no outlet) | points = 4 | 2 |
| Wetland has an intermittently flowing stream or ditch, OR highly constricted permanently flowing outlet | points = 2 | |
| Wetland is a flat depression (QUESTION 7 on key), whose outlet is a permanently flowing ditch | points = 1 | |
| Wetland has an unconstricted, or slightly constricted, surface outlet that is permanently flowing | points = 0 | |

D 4.2. Depth of storage during wet periods: Estimate the height of ponding above the bottom of the outlet. For wetlands with no outlet, measure from the surface of permanent water or if dry, the deepest part.

- | | | |
|--|------------|---|
| Marks of ponding are 3 ft or more above the surface or bottom of outlet | points = 7 | 3 |
| Marks of ponding between 2 ft to < 3 ft from surface or bottom of outlet | points = 5 | |
| Marks are at least 0.5 ft to < 2 ft from surface or bottom of outlet | points = 3 | |
| The wetland is a "headwater" wetland | points = 3 | |
| Wetland is flat but has small depressions on the surface that trap water | points = 1 | |
| Marks of ponding less than 0.5 ft (6 in) | points = 0 | |

D 4.3. Contribution of the wetland to storage in the watershed: Estimate the ratio of the area of upstream basin contributing surface water to the wetland to the area of the wetland unit itself.

- | | | | |
|---|-------------|------------|---|
| The area of the basin is less than 10 times the area of the unit | w/c 2.28 | points = 5 | 3 |
| The area of the basin is 10 to 100 times the area of the unit | basin 80.92 | points = 3 | |
| The area of the basin is more than 100 times the area of the unit | | points = 0 | |
| Entire wetland is in the Flats class | | points = 5 | |

Total for D 4

Add the points in the boxes above

8

Rating of Site Potential If score is: 12-16 = H 6-11 = M 0-5 = L

Record the rating on the first page

D 5.0. Does the landscape have the potential to support hydrologic functions of the site?

D 5.1. Does the wetland receive stormwater discharges? Yes = 1 No = 0

1

D 5.2. Is >10% of the area within 150 ft of the wetland in land uses that generate excess runoff? Yes = 1 No = 0

1

D 5.3. Is more than 25% of the contributing basin of the wetland covered with intensive human land uses (residential at >1 residence/ac, urban, commercial, agriculture, etc.)? Yes = 1 No = 0

1

Total for D 5

Add the points in the boxes above

3

Rating of Landscape Potential If score is: 3 = H 1 or 2 = M 0 = L

Record the rating on the first page

D 6.0. Are the hydrologic functions provided by the site valuable to society?

D 6.1. The unit is in a landscape that has flooding problems. Choose the description that best matches conditions around the wetland unit being rated. Do not add points. Choose the highest score if more than one condition is met.

- | | | |
|---|------------|---|
| The wetland captures surface water that would otherwise flow down-gradient into areas where flooding has damaged human or natural resources (e.g., houses or salmon redds): | | |
| • Flooding occurs in a sub-basin that is immediately down-gradient of unit. | points = 2 | 1 |
| • Surface flooding problems are in a sub-basin farther down-gradient. | points = 1 | |
| Flooding from groundwater is an issue in the sub-basin. | points = 1 | |
| The existing or potential outflow from the wetland is so constrained by human or natural conditions that the water stored by the wetland cannot reach areas that flood. Explain why _____ | points = 0 | |
| There are no problems with flooding downstream of the wetland. | points = 0 | |

D 6.2. Has the site been identified as important for flood storage or flood conveyance in a regional flood control plan?

Yes = 2 No = 0

0

Total for D 6

Add the points in the boxes above

1

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

Record the rating on the first page

Wetland name or number W4

These questions apply to wetlands of all HGM classes.

HABITAT FUNCTIONS - Indicators that site functions to provide important habitat

H 1.0. Does the site have the potential to provide habitat?

H 1.1. Structure of plant community: *Indicators are Cowardin classes and strata within the Forested class. Check the Cowardin plant classes in the wetland. Up to 10 patches may be combined for each class to meet the threshold of ¼ ac or more than 10% of the unit if it is smaller than 2.5 ac. Add the number of structures checked.*

- | | |
|--|----------------------------------|
| <input type="checkbox"/> Aquatic bed | 4 structures or more: points = 4 |
| <input checked="" type="checkbox"/> Emergent | 3 structures: points = 2 |
| <input type="checkbox"/> Scrub-shrub (areas where shrubs have > 30% cover) | 2 structures: points = 1 |
| <input checked="" type="checkbox"/> Forested (areas where trees have > 30% cover) | 1 structure: points = 0 |
| <i>If the unit has a Forested class, check if:</i> | |
| <input checked="" type="checkbox"/> The Forested class has 3 out of 5 strata (canopy, sub-canopy, shrubs, herbaceous, moss/ground-cover) that each cover 20% within the Forested polygon | |

2

H 1.2. Hydroperiods

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

- | | |
|--|-------------------------------------|
| <input type="checkbox"/> Permanently flooded or inundated | 4 or more types present: points = 3 |
| <input checked="" type="checkbox"/> Seasonally flooded or inundated | 3 types present: points = 2 |
| <input type="checkbox"/> Occasionally flooded or inundated | 2 types present: points = 1 |
| <input checked="" type="checkbox"/> Saturated only | 1 type present: points = 0 |
| <input type="checkbox"/> Permanently flowing stream or river in, or adjacent to, the wetland | |
| <input type="checkbox"/> Seasonally flowing stream in, or adjacent to, the wetland | |
| <input type="checkbox"/> Lake Fringe wetland | 2 points |
| <input type="checkbox"/> Freshwater tidal wetland | 2 points |

1

H 1.3. Richness of plant species

Count the number of plant species in the wetland that cover at least 10 ft².

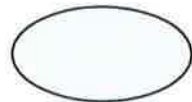
Different patches of the same species can be combined to meet the size threshold and you do not have to name the species. Do not include Eurasian milfoil, reed canarygrass, purple loosestrife, Canadian thistle

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

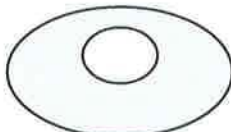
1

H 1.4. Interspersion of habitats

Decide from the diagrams below whether interspersions among Cowardin plants classes (described in H 1.1), or the classes and unvegetated areas (can include open water or mudflats) is high, moderate, low, or none. *If you have four or more plant classes or three classes and open water, the rating is always high.*



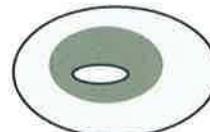
None = 0 points



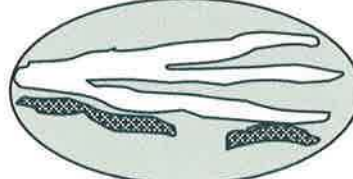
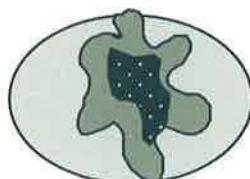
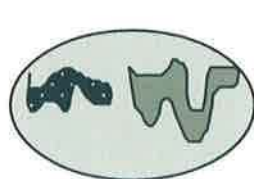
Low = 1 point



Moderate = 2 points



All three diagrams in this row are **HIGH** = 3points



2

Wetland name or number W4

<p>H 1.5. Special habitat features:</p> <p>Check the habitat features that are present in the wetland. <i>The number of checks is the number of points.</i></p> <p><input checked="" type="checkbox"/> Large, downed, woody debris within the wetland (> 4 in diameter and 6 ft long).</p> <p><input checked="" type="checkbox"/> Standing snags (dbh > 4 in) within the wetland</p> <p><input type="checkbox"/> Undercut banks are present for at least 6.6 ft (2 m) and/or overhanging plants extends at least 3.3 ft (1 m) over a stream (or ditch) in, or contiguous with the wetland, for at least 33 ft (10 m)</p> <p><input type="checkbox"/> Stable steep banks of fine material that might be used by beaver or muskrat for denning (> 30 degree slope) OR signs of recent beaver activity are present (<i>cut shrubs or trees that have not yet weathered where wood is exposed</i>)</p> <p><input checked="" type="checkbox"/> At least ¼ ac of thin-stemmed persistent plants or woody branches are present in areas that are permanently or seasonally inundated (<i>structures for egg-laying by amphibians</i>)</p> <p><input type="checkbox"/> Invasive plants cover less than 25% of the wetland area in every stratum of plants (<i>see H 1.1 for list of strata</i>)</p>		3
Total for H 1	Add the points in the boxes above	9

Rating of Site Potential If score is: 15-18 = H ☒ 7-14 = M 0-6 = L *Record the rating on the first page*

H 2.0. Does the landscape have the potential to support the habitat functions of the site?		
<p>H 2.1. Accessible habitat (include <i>only habitat that directly abuts wetland unit</i>).</p> <p>Calculate: % undisturbed habitat <u> </u> + [(% moderate and low intensity land uses)/2] <u> </u> = <u> </u>%</p> <p>If total accessible habitat is:</p> <p>> 1/3 (33.3%) of 1 km Polygon points = 3</p> <p>20-33% of 1 km Polygon points = 2</p> <p>10-19% of 1 km Polygon points = 1</p> <p>< 10% of 1 km Polygon points = 0</p>		0
<p>H 2.2. Undisturbed habitat in 1 km Polygon around the wetland.</p> <p>Calculate: % undisturbed habitat <u>14</u> + [(% moderate and low intensity land uses)/2] <u>1 1/2</u> = <u>19.5</u>%</p> <p>Undisturbed habitat > 50% of Polygon points = 3</p> <p>Undisturbed habitat 10-50% and in 1-3 patches points = 2</p> <p>Undisturbed habitat 10-50% and > 3 patches points = 1</p> <p>Undisturbed habitat < 10% of 1 km Polygon points = 0</p>		1
<p>H 2.3. Land use intensity in 1 km Polygon: If</p> <p>> 50% of 1 km Polygon is high intensity land use points = (- 2)</p> <p>≤ 50% of 1 km Polygon is high intensity points = 0</p>		-2
Total for H 2	Add the points in the boxes above	-1

Rating of Landscape Potential If score is: 4-6 = H 1-3 = M ☒ < 1 = L *Record the rating on the first page*

H 3.0. Is the habitat provided by the site valuable to society?		
<p>H 3.1. Does the site provide habitat for species valued in laws, regulations, or policies? <i>Choose only the highest score that applies to the wetland being rated.</i></p> <p>Site meets ANY of the following criteria: points = 2</p> <p>— It has 3 or more priority habitats within 100 m (see next page)</p> <p>— It provides habitat for Threatened or Endangered species (any plant or animal on the state or federal lists)</p> <p>— It is mapped as a location for an individual WDFW priority species</p> <p>— It is a Wetland of High Conservation Value as determined by the Department of Natural Resources</p> <p>— It has been categorized as an important habitat site in a local or regional comprehensive plan, in a Shoreline Master Plan, or in a watershed plan</p> <p>Site has 1 or 2 priority habitats (listed on next page) within 100 m points = 1</p> <p>Site does not meet any of the criteria above points = 0</p>		0

Rating of Value If score is: 2 = H 1 = M ☒ 0 = L *Record the rating on the first page*

Wetland name or number W4

WDFW Priority Habitats

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

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

- **Aspen Stands:** Pure or mixed stands of aspen greater than 1 ac (0.4 ha).
- **Biodiversity Areas and Corridors:** Areas of habitat that are relatively important to various species of native fish and wildlife (*full descriptions in WDFW PHS report*).
- **Herbaceous Balds:** Variable size patches of grass and forbs on shallow soils over bedrock.
- **Old-growth/Mature forests:** Old-growth west of Cascade crest – Stands of at least 2 tree species, forming a multi-layered canopy with occasional small openings; with at least 8 trees/ac (20 trees/ha) > 32 in (81 cm) dbh or > 200 years of age. Mature forests – Stands with average diameters exceeding 21 in (53 cm) dbh; crown cover may be less than 100%; decay, decadence, numbers of snags, and quantity of large downed material is generally less than that found in old-growth; 80-200 years old west of the Cascade crest.
- **Oregon White Oak:** Woodland stands of pure oak or oak/conifer associations where canopy coverage of the oak component is important (*full descriptions in WDFW PHS report p. 158 – see web link above*).
- **Riparian:** The area adjacent to aquatic systems with flowing water that contains elements of both aquatic and terrestrial ecosystems which mutually influence each other.
- **Westside Prairies:** Herbaceous, non-forested plant communities that can either take the form of a dry prairie or a wet prairie (*full descriptions in WDFW PHS report p. 161 – see web link above*).
- **Instream:** The combination of physical, biological, and chemical processes and conditions that interact to provide functional life history requirements for instream fish and wildlife resources.
- **Nearshore:** Relatively undisturbed nearshore habitats. These include Coastal Nearshore, Open Coast Nearshore, and Puget Sound Nearshore. (*full descriptions of habitats and the definition of relatively undisturbed are in WDFW report – see web link on previous page*).
- **Caves:** A naturally occurring cavity, recess, void, or system of interconnected passages under the earth in soils, rock, ice, or other geological formations and is large enough to contain a human.
- **Cliffs:** Greater than 25 ft (7.6 m) high and occurring below 5000 ft elevation.
- **Talus:** Homogenous areas of rock rubble ranging in average size 0.5 - 6.5 ft (0.15 - 2.0 m), composed of basalt, andesite, and/or sedimentary rock, including riprap slides and mine tailings. May be associated with cliffs.
- **Snags and Logs:** Trees are considered snags if they are dead or dying and exhibit sufficient decay characteristics to enable cavity excavation/use by wildlife. Priority snags have a diameter at breast height of > 20 in (51 cm) in western Washington and are > 6.5 ft (2 m) in height. Priority logs are > 12 in (30 cm) in diameter at the largest end, and > 20 ft (6 m) long.

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

Wetland name or number W4

CATEGORIZATION BASED ON SPECIAL CHARACTERISTICS

Wetland Type	Category
<i>Check off any criteria that apply to the wetland. Circle the category when the appropriate criteria are met.</i>	
SC 1.0. Estuarine wetlands Does the wetland meet the following criteria for Estuarine wetlands? — The dominant water regime is tidal, — Vegetated, and — With a salinity greater than 0.5 ppt <div style="text-align: right;"> Yes – Go to SC 1.1 No = Not an estuarine wetland </div>	
SC 1.1. Is the wetland within a National Wildlife Refuge, National Park, National Estuary Reserve, Natural Area Preserve, State Park or Educational, Environmental, or Scientific Reserve designated under WAC 332-30-151? <div style="text-align: right;"> Yes = Category I No - Go to SC 1.2 </div>	Cat. I
SC 1.2. Is the wetland unit at least 1 ac in size and meets at least two of the following three conditions? — The wetland is relatively undisturbed (has no diking, ditching, filling, cultivation, grazing, and has less than 10% cover of non-native plant species. (If non-native species are <i>Spartina</i> , see page 25) — At least ¾ of the landward edge of the wetland has a 100 ft buffer of shrub, forest, or un-grazed or unmowed grassland. — The wetland has at least two of the following features: tidal channels, depressions with open water, or contiguous freshwater wetlands. <div style="text-align: right;"> Yes = Category I No = Category II </div>	Cat. I Cat. II
SC 2.0. Wetlands of High Conservation Value (WHCV) SC 2.1. Has the WA Department of Natural Resources updated their website to include the list of Wetlands of High Conservation Value? <div style="text-align: right;"> Yes – Go to SC 2.2 No – Go to SC 2.3 </div> SC 2.2. Is the wetland listed on the WDNR database as a Wetland of High Conservation Value? <div style="text-align: right;"> Yes = Category I No = Not a WHCV </div> SC 2.3. Is the wetland in a Section/Township/Range that contains a Natural Heritage wetland? http://www1.dnr.wa.gov/nhp/refdesk/datasearch/wnhpwetlands.pdf <div style="text-align: right;"> Yes – Contact WNHP/WDNR and go to SC 2.4 No = Not a WHCV </div> SC 2.4. Has WDNR identified the wetland within the S/T/R as a Wetland of High Conservation Value and listed it on their website? <div style="text-align: right;"> Yes = Category I No = Not a WHCV </div>	Cat. I
SC 3.0. Bogs Does the wetland (or any part of the unit) meet both the criteria for soils and vegetation in bogs? <i>Use the key below. If you answer YES you will still need to rate the wetland based on its functions.</i> SC 3.1. Does an area within the wetland unit have organic soil horizons, either peats or mucks, that compose 16 in or more of the first 32 in of the soil profile? <div style="text-align: right;"> Yes – Go to SC 3.3 No – Go to SC 3.2 </div> SC 3.2. Does an area within the wetland unit have organic soils, either peats or mucks, that are less than 16 in deep over bedrock, or an impermeable hardpan such as clay or volcanic ash, or that are floating on top of a lake or pond? <div style="text-align: right;"> Yes – Go to SC 3.3 No = Is not a bog </div> SC 3.3. Does an area with peats or mucks have more than 70% cover of mosses at ground level, AND at least a 30% cover of plant species listed in Table 4? <div style="text-align: right;"> Yes = Is a Category I bog No – Go to SC 3.4 </div> NOTE: If you are uncertain about the extent of mosses in the understory, you may substitute that criterion by measuring the pH of the water that seeps into a hole dug at least 16 in deep. If the pH is less than 5.0 and the plant species in Table 4 are present, the wetland is a bog. SC 3.4. Is an area with peats or mucks forested (> 30% cover) with Sitka spruce, subalpine fir, western red cedar, western hemlock, lodgepole pine, quaking aspen, Engelmann spruce, or western white pine, AND any of the species (or combination of species) listed in Table 4 provide more than 30% of the cover under the canopy? <div style="text-align: right;"> Yes = Is a Category I bog No = Is not a bog </div>	Cat. I

Wetland name or number W4

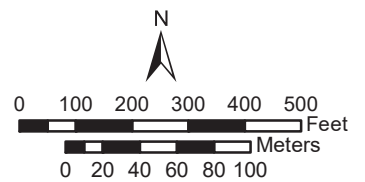
<p>SC 4.0. Forested Wetlands</p> <p>Does the wetland have at least <u>1 contiguous acre</u> of forest that meets one of these criteria for the WA Department of Fish and Wildlife's forests as priority habitats? <i>If you answer YES you will still need to rate the wetland based on its functions.</i></p> <ul style="list-style-type: none"> — Old-growth forests (west of Cascade crest): Stands of at least two tree species, forming a multi-layered canopy with occasional small openings; with at least 8 trees/ac (20 trees/ha) that are at least 200 years of age OR have a diameter at breast height (dbh) of 32 in (81 cm) or more. — Mature forests (west of the Cascade Crest): Stands where the largest trees are 80- 200 years old OR the species that make up the canopy have an average diameter (dbh) exceeding 21 in (53 cm). <p>Yes = Category I <u>No</u> = Not a forested wetland for this section</p>	<p>Cat. I</p>
<p>SC 5.0. Wetlands in Coastal Lagoons</p> <p>Does the wetland meet all of the following criteria of a wetland in a coastal lagoon?</p> <ul style="list-style-type: none"> — The wetland lies in a depression adjacent to marine waters that is wholly or partially separated from marine waters by sandbanks, gravel banks, shingle, or, less frequently, rocks — The lagoon in which the wetland is located contains ponded water that is saline or brackish (> 0.5 ppt) during most of the year in at least a portion of the lagoon (<i>needs to be measured near the bottom</i>) <p>Yes – Go to SC 5.1 <u>No</u> = Not a wetland in a coastal lagoon</p> <p>SC 5.1. Does the wetland meet all of the following three conditions?</p> <ul style="list-style-type: none"> — The wetland is relatively undisturbed (has no diking, ditching, filling, cultivation, grazing), and has less than 20% cover of aggressive, opportunistic plant species (see list of species on p. 100). — At least ¾ of the landward edge of the wetland has a 100 ft buffer of shrub, forest, or un-grazed or unmowed grassland. — The wetland is larger than 1/10 ac (4350 ft²) <p>Yes = Category I No = Category II</p>	<p>Cat. I</p> <p>Cat. II</p>
<p>SC 6.0. Interdunal Wetlands</p> <p>Is the wetland west of the 1889 line (also called the Western Boundary of Upland Ownership or WBUO)? <i>If you answer yes you will still need to rate the wetland based on its habitat functions.</i></p> <p>In practical terms that means the following geographic areas:</p> <ul style="list-style-type: none"> — Long Beach Peninsula: Lands west of SR 103 — Grayland-Westport: Lands west of SR 105 — Ocean Shores-Copalis: Lands west of SR 115 and SR 109 <p>Yes – Go to SC 6.1 <u>No</u> = not an interdunal wetland for rating</p> <p>SC 6.1. Is the wetland 1 ac or larger and scores an 8 or 9 for the habitat functions on the form (rates H,H,H or H,H,M for the three aspects of function)? Yes = Category I No – Go to SC 6.2</p> <p>SC 6.2. Is the wetland 1 ac or larger, or is it in a mosaic of wetlands that is 1 ac or larger? Yes = Category II No – Go to SC 6.3</p> <p>SC 6.3. Is the unit between 0.1 and 1 ac, or is it in a mosaic of wetlands that is between 0.1 and 1 ac? Yes = Category III No = Category IV</p>	<p>Cat I</p> <p>Cat. II</p> <p>Cat. III</p> <p>Cat. IV</p>
<p>Category of wetland based on Special Characteristics</p> <p>If you answered No for all types, enter "Not Applicable" on Summary Form</p>	<p><u>NA</u></p>

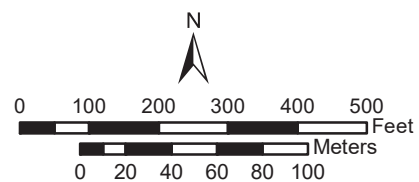
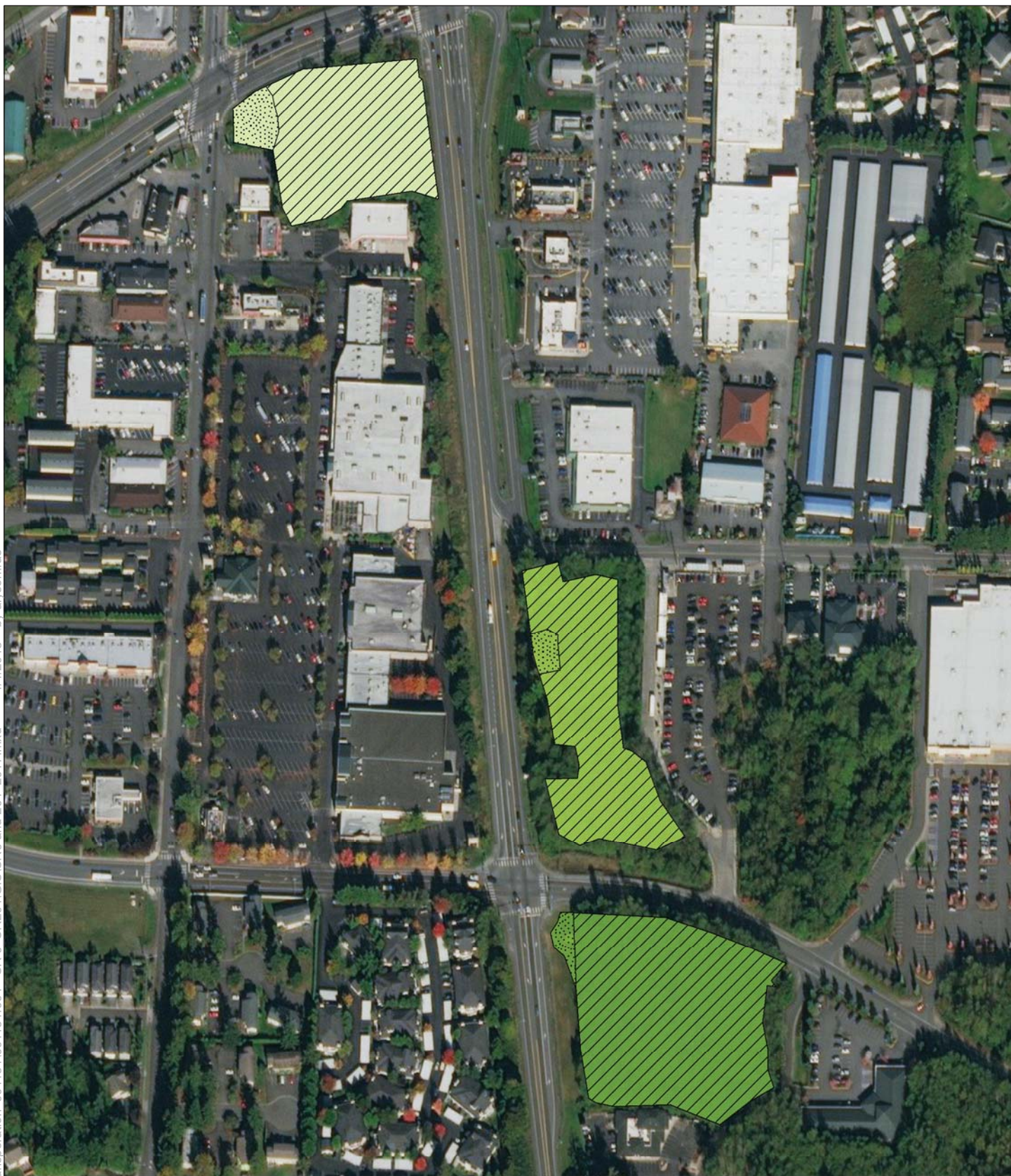
Wetland name or number W4

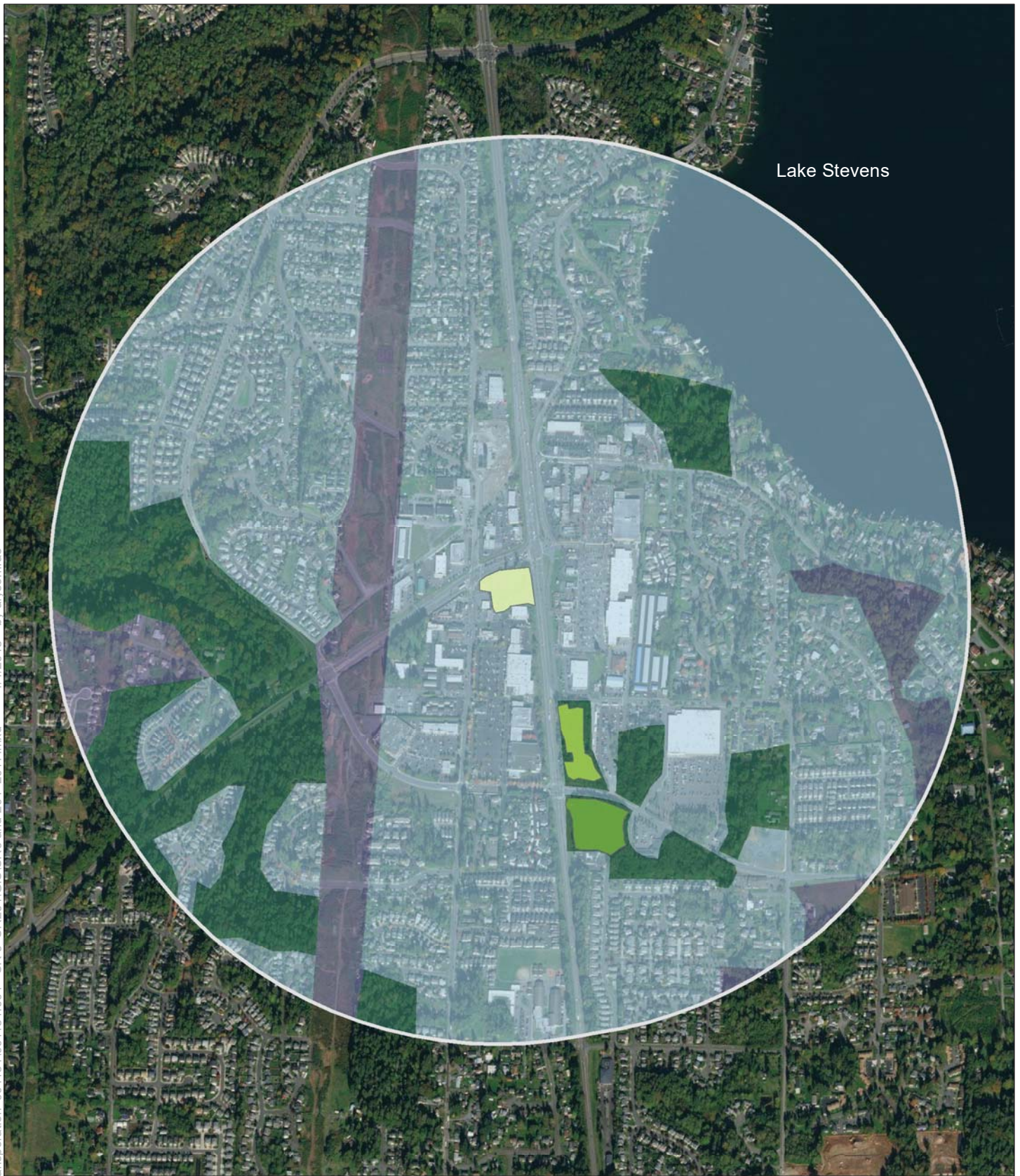
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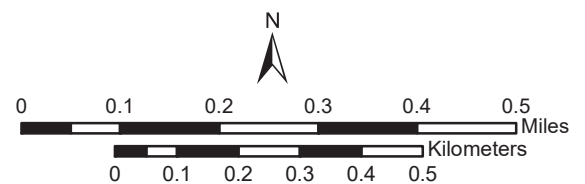
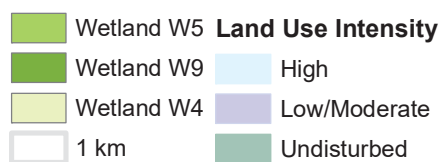
- | | |
|------------|--|
| Wetland W5 | 150 ft Buffer |
| Wetland W9 | 250 ft Buffer |
| Wetland W4 | 330 ft Buffer |
| Culvert | Hydroperiod - Saturated Only and Seasonally Flooded Mosaic |
| Ditch | Stormwater Facility |

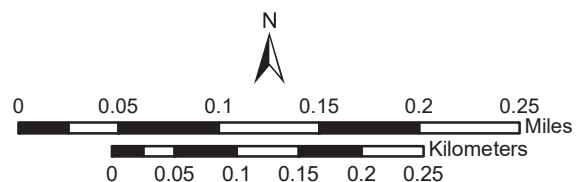
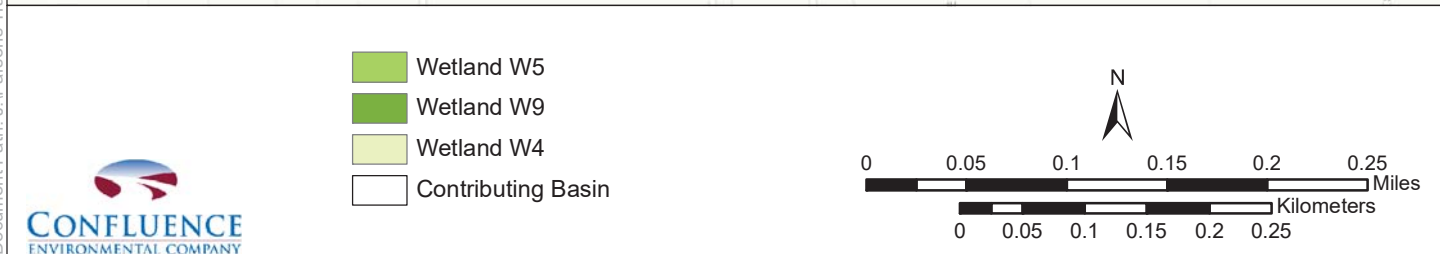






Lake Stevens





Wetland name or number W5

RATING SUMMARY – Western Washington

Name of wetland (or ID #): W5 Date of site visit: 12/14/17
Rated by Kerrie McArthur Trained by Ecology? ☒ Yes ☐ No Date of training 4/2014
HGM Class used for rating Depressional Wetland has multiple HGM classes? ☐ Y ☒ N

NOTE: Form is not complete without the figures requested (figures can be combined).

Source of base aerial photo/map ESRI

OVERALL WETLAND CATEGORY III (based on functions ☒ or special characteristics ☐)

1. Category of wetland based on FUNCTIONS

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

FUNCTION	Improving Water Quality	Hydrologic	Habitat	
Circle the appropriate ratings				
Site Potential	H <u>M</u> L	H <u>M</u> L	H <u>M</u> L	
Landscape Potential	H <u>M</u> L	<u>H</u> M L	H M <u>L</u>	
Value	<u>H</u> M L	H <u>M</u> L	H M <u>L</u>	TOTAL
Score Based on Ratings	7	7	4	18

Score for each
function based
on three
ratings
(order of ratings
is not
important)

9 = H,H,H
8 = H,H,M
7 = H,H,L
7 = H,M,M
6 = H,M,L
6 = M,M,M
5 = H,L,L
5 = M,M,L
4 = M,L,L
3 = L,L,L

2. Category based on SPECIAL CHARACTERISTICS of wetland

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

Wetland name or number W5

Maps and figures required to answer questions correctly for Western Washington

Depressional Wetlands

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

Riverine Wetlands

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

Lake Fringe Wetlands

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

Slope Wetlands

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

HGM Classification of Wetlands in Western Washington

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

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

1. Are the water levels in the entire unit usually controlled by tides except during floods?

☒ NO – go to 2

☐ YES – the wetland class is **Tidal Fringe** – go to 1.1

- 1.1 Is the salinity of the water during periods of annual low flow below 0.5 ppt (parts per thousand)?

☒ NO – **Saltwater Tidal Fringe (Estuarine)**

☐ YES – **Freshwater Tidal Fringe**

*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 an **Estuarine** wetland and is not scored. This method **cannot** be used to score functions for estuarine wetlands.*

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

☒ NO – go to 3

☐ YES – The wetland class is **Flats**

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

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

- ☐ The vegetated part of the wetland is on the shores of a body of permanent open water (without any plants on the surface at any time of the year) at least 20 ac (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**.

☒ NO – go to 5

☐ YES – The wetland class is **Slope**

NOTE: Surface water does not pond in these type of wetlands except occasionally in very small and shallow depressions or behind hummocks (depressions are usually <3 ft diameter and less than 1 ft deep).

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 2 years.

Wetland name or number کد

☒ NO – go to 6

☐ YES – The wetland class is **Riverine**

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

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

☐ NO – go to 7

☒ YES – The wetland class is **Depressional**

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

☒ NO – go to 8

☐ YES – The wetland class is **Depressional**

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

NOTE: Use this table only if the class that is recommended in the second column represents 10% or more of the total area of the wetland unit being rated. If the area of the HGM class listed in column 2 is less than 10% of the unit; classify the wetland using the class that represents more than 90% of the total area.

HGM classes within the wetland unit 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 of depression	Depressional
Depressional + Lake Fringe	Depressional
Riverine + Lake Fringe	Riverine
Salt Water Tidal Fringe and any other class of freshwater wetland	Treat as ESTUARINE

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

Wetland name or number 435

DEPRESSIONAL AND FLATS WETLANDS

Water Quality Functions - Indicators that the site functions to improve water quality

D 1.0. Does the site have the potential to improve water quality?

D 1.1. Characteristics of surface water outflows from the wetland:

- Wetland is a depression or flat depression (QUESTION 7 on key) with no surface water leaving it (no outlet).
points = 3
- Wetland has an intermittently flowing stream or ditch, OR highly constricted permanently flowing outlet.
points = 2
- Wetland has an unconstricted, or slightly constricted, surface outlet that is permanently flowing
points = 1
- Wetland is a flat depression (QUESTION 7 on key), whose outlet is a permanently flowing ditch.
points = 1

2

D 1.2. The soil 2 in below the surface (or duff layer) is true clay or true organic (use NRCS definitions). Yes = 4 No = 0

0

D 1.3. Characteristics and distribution of persistent plants (Emergent, Scrub-shrub, and/or Forested Cowardin classes):

- Wetland has persistent, ungrazed, plants > 95% of area
points = 5
- Wetland has persistent, ungrazed, plants > 1/2 of area
points = 3
- Wetland has persistent, ungrazed plants > 1/10 of area
points = 1
- Wetland has persistent, ungrazed plants < 1/10 of area
points = 0

5

D 1.4. Characteristics of seasonal ponding or inundation:

This is the area that is ponded for at least 2 months. See description in manual.

- Area seasonally ponded is > 1/2 total area of wetland
points = 4
- Area seasonally ponded is > 1/4 total area of wetland
points = 2
- Area seasonally ponded is < 1/4 total area of wetland
points = 0

2

Total for D 1

Add the points in the boxes above

9

Rating of Site Potential If score is: 12-16 = H ☒ 6-11 = M 0-5 = L Record the rating on the first page

D 2.0. Does the landscape have the potential to support the water quality function of the site?

D 2.1. Does the wetland unit receive stormwater discharges? Yes = 1 No = 0

1

D 2.2. Is > 10% of the area within 150 ft of the wetland in land uses that generate pollutants? Yes = 1 No = 0

1

D 2.3. Are there septic systems within 250 ft of the wetland? Yes = 1 No = 0

0

D 2.4. Are there other sources of pollutants coming into the wetland that are not listed in questions D 2.1-D 2.3?

Source _____ Yes = 1 No = 0

0

Total for D 2

Add the points in the boxes above

2

Rating of Landscape Potential If score is: 3 or 4 = H ☒ 1 or 2 = M 0 = L Record the rating on the first page

D 3.0. Is the water quality improvement provided by the site valuable to society?

D 3.1. Does the wetland discharge directly (i.e., within 1 mi) to a stream, river, lake, or marine water that is on the 303(d) list? Yes = 1 No = 0

0

D 3.2. Is the wetland in a basin or sub-basin where an aquatic resource is on the 303(d) list? Yes = 1 No = 0

1

D 3.3. Has the site been identified in a watershed or local plan as important for maintaining water quality (answer YES if there is a TMDL for the basin in which the unit is found)? Yes = 2 No = 0

2

Total for D 3

Add the points in the boxes above

3

Rating of Value If score is: ☒ 2-4 = H 1 = M 0 = L Record the rating on the first page

Wetland name or number W5

DEPRESSIONAL AND FLATS WETLANDS

Hydrologic Functions - Indicators that the site functions to reduce flooding and stream degradation

D 4.0. Does the site have the potential to reduce flooding and erosion?

D 4.1. Characteristics of surface water outflows from the wetland:

- | | | |
|---|------------|---|
| Wetland is a depression or flat depression with no surface water leaving it (no outlet) | points = 4 | 2 |
| Wetland has an intermittently flowing stream or ditch, OR highly constricted permanently flowing outlet | points = 2 | |
| Wetland is a flat depression (QUESTION 7 on key), whose outlet is a permanently flowing ditch | points = 1 | |
| Wetland has an unconstricted, or slightly constricted, surface outlet that is permanently flowing | points = 0 | |

D 4.2. Depth of storage during wet periods: Estimate the height of ponding above the bottom of the outlet. For wetlands with no outlet, measure from the surface of permanent water or if dry, the deepest part.

- | | | |
|--|------------|---|
| Marks of ponding are 3 ft or more above the surface or bottom of outlet | points = 7 | 3 |
| Marks of ponding between 2 ft to < 3 ft from surface or bottom of outlet | points = 5 | |
| Marks are at least 0.5 ft to < 2 ft from surface or bottom of outlet | points = 3 | |
| The wetland is a "headwater" wetland | points = 3 | |
| Wetland is flat but has small depressions on the surface that trap water | points = 1 | |
| Marks of ponding less than 0.5 ft (6 in) | points = 0 | |

D 4.3. Contribution of the wetland to storage in the watershed: Estimate the ratio of the area of upstream basin contributing surface water to the wetland to the area of the wetland unit itself.

- | | | |
|---|------------|---|
| The area of the basin is less than 10 times the area of the unit | points = 5 | 3 |
| 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 wetland is in the Flats class | points = 5 | |

Total for D 4

Add the points in the boxes above

8

Rating of Site Potential If score is: 12-16 = H ☒ 6-11 = M 0-5 = L

Record the rating on the first page

D 5.0. Does the landscape have the potential to support hydrologic functions of the site?

D 5.1. Does the wetland receive stormwater discharges? Yes = 1 No = 0

1

D 5.2. Is >10% of the area within 150 ft of the wetland in land uses that generate excess runoff? Yes = 1 No = 0

1

D 5.3. Is more than 25% of the contributing basin of the wetland covered with intensive human land uses (residential at >1 residence/ac, urban, commercial, agriculture, etc.)? Yes = 1 No = 0

1

Total for D 5

Add the points in the boxes above

3

Rating of Landscape Potential If score is: ☒ 3 = H 1 or 2 = M 0 = L

Record the rating on the first page

D 6.0. Are the hydrologic functions provided by the site valuable to society?

D 6.1. The unit is in a landscape that has flooding problems. Choose the description that best matches conditions around the wetland unit being rated. Do not add points. Choose the highest score if more than one condition is met.

- | | | |
|---|------------|---|
| The wetland captures surface water that would otherwise flow down-gradient into areas where flooding has damaged human or natural resources (e.g., houses or salmon redds): | | 1 |
| • Flooding occurs in a sub-basin that is immediately down-gradient of unit. | points = 2 | |
| • Surface flooding problems are in a sub-basin farther down-gradient. | points = 1 | |
| Flooding from groundwater is an issue in the sub-basin. | points = 1 | |
| The existing or potential outflow from the wetland is so constrained by human or natural conditions that the water stored by the wetland cannot reach areas that flood. Explain why _____ | points = 0 | |
| There are no problems with flooding downstream of the wetland. | points = 0 | |

D 6.2. Has the site been identified as important for flood storage or flood conveyance in a regional flood control plan?

Yes = 2 No = 0

0

Total for D 6

Add the points in the boxes above

1

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

Record the rating on the first page

Wetland name or number W5

These questions apply to wetlands of all HGM classes.

HABITAT FUNCTIONS - Indicators that site functions to provide important habitat

H 1.0. Does the site have the potential to provide habitat?

H 1.1. Structure of plant community: *Indicators are Cowardin classes and strata within the Forested class. Check the Cowardin plant classes in the wetland. Up to 10 patches may be combined for each class to meet the threshold of ¼ ac or more than 10% of the unit if it is smaller than 2.5 ac. Add the number of structures checked.*

- | | |
|---|----------------------------------|
| <input type="checkbox"/> Aquatic bed | 4 structures or more: points = 4 |
| <input checked="" type="checkbox"/> Emergent | 3 structures: points = 2 |
| <input type="checkbox"/> Scrub-shrub (areas where shrubs have > 30% cover) | 2 structures: points = 1 |
| <input checked="" type="checkbox"/> Forested (areas where trees have > 30% cover) | 1 structure: points = 0 |
- If the unit has a Forested class, check if:*
- ☒ The Forested class has 3 out of 5 strata (canopy, sub-canopy, shrubs, herbaceous, moss/ground-cover) that each cover 20% within the Forested polygon

2

H 1.2. Hydroperiods

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

- | | |
|---|-------------------------------------|
| <input type="checkbox"/> Permanently flooded or inundated | 4 or more types present: points = 3 |
| <input checked="" type="checkbox"/> Seasonally flooded or inundated | 3 types present: points = 2 |
| <input type="checkbox"/> Occasionally flooded or inundated | 2 types present: points = 1 |
| <input checked="" type="checkbox"/> Saturated only | 1 type present: points = 0 |
- ☐ Permanently flowing stream or river in, or adjacent to, the wetland
- ☐ Seasonally flowing stream in, or adjacent to, the wetland
- ☐ **Lake Fringe wetland** **2 points**
- ☐ **Freshwater tidal wetland** **2 points**

1

H 1.3. Richness of plant species

Count the number of plant species in the wetland that cover at least 10 ft².

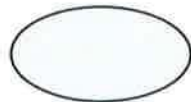
*Different patches of the same species can be combined to meet the size threshold and you do not have to name the species. **Do not include Eurasian milfoil, reed canarygrass, purple loosestrife, Canadian thistle***

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

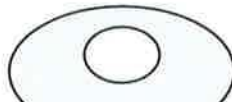
1

H 1.4. Interspersion of habitats

Decide from the diagrams below whether interspersions among Cowardin plants classes (described in H 1.1), or the classes and unvegetated areas (can include open water or mudflats) is high, moderate, low, or none. *If you have four or more plant classes or three classes and open water, the rating is always high.*



None = 0 points



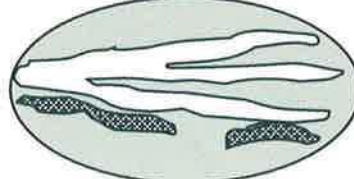
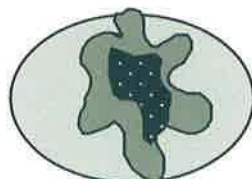
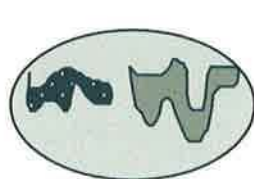
Low = 1 point



Moderate = 2 points



All three diagrams in this row are **HIGH = 3 points**



2

Wetland name or number W05

H 1.5. Special habitat features: Check the habitat features that are present in the wetland. <i>The number of checks is the number of points.</i> <input checked="" type="checkbox"/> Large, downed, woody debris within the wetland (> 4 in diameter and 6 ft long). <input checked="" type="checkbox"/> Standing snags (dbh > 4 in) within the wetland <input type="checkbox"/> Undercut banks are present for at least 6.6 ft (2 m) and/or overhanging plants extends at least 3.3 ft (1 m) over a stream (or ditch) in, or contiguous with the wetland, for at least 33 ft (10 m) <input type="checkbox"/> Stable steep banks of fine material that might be used by beaver or muskrat for denning (> 30 degree slope) OR signs of recent beaver activity are present (<i>cut shrubs or trees that have not yet weathered where wood is exposed</i>) <input checked="" type="checkbox"/> At least ¼ ac of thin-stemmed persistent plants or woody branches are present in areas that are permanently or seasonally inundated (<i>structures for egg-laying by amphibians</i>) <input type="checkbox"/> Invasive plants cover less than 25% of the wetland area in every stratum of plants (<i>see H 1.1 for list of strata</i>)		3
Total for H 1	Add the points in the boxes above	9

Rating of Site Potential If score is: 15-18 = H ☒ 7-14 = M 0-6 = L *Record the rating on the first page*

H 2.0. Does the landscape have the potential to support the habitat functions of the site?		
H 2.1. Accessible habitat (include <i>only habitat that directly abuts wetland unit</i>). <i>Calculate:</i> % undisturbed habitat <u> </u> + [(% moderate and low intensity land uses)/2] <u> </u> = <u> </u> % If total accessible habitat is: > 1/3 (33.3%) of 1 km Polygon points = 3 20-33% of 1 km Polygon points = 2 10-19% of 1 km Polygon points = 1 < 10% of 1 km Polygon points = 0		0
H 2.2. Undisturbed habitat in 1 km Polygon around the wetland. <i>Calculate:</i> % undisturbed habitat <u>11</u> + [(% moderate and low intensity land uses)/2] <u>17/2</u> = <u>19.5</u> % Undisturbed habitat > 50% of Polygon points = 3 Undisturbed habitat 10-50% and in 1-3 patches points = 2 Undisturbed habitat 10-50% and > 3 patches points = 1 Undisturbed habitat < 10% of 1 km Polygon points = 0		1
H 2.3. Land use intensity in 1 km Polygon: If > 50% of 1 km Polygon is high intensity land use points = (- 2) ≤ 50% of 1 km Polygon is high intensity points = 0		-2
Total for H 2	Add the points in the boxes above	-1

Rating of Landscape Potential If score is: 4-6 = H 1-3 = M ☒ < 1 = L *Record the rating on the first page*

H 3.0. Is the habitat provided by the site valuable to society?	
H 3.1. Does the site provide habitat for species valued in laws, regulations, or policies? Choose only the highest score that applies to the wetland being rated. Site meets ANY of the following criteria: points = 2 <input type="checkbox"/> It has 3 or more priority habitats within 100 m (see next page) <input type="checkbox"/> It provides habitat for Threatened or Endangered species (any plant or animal on the state or federal lists) <input type="checkbox"/> It is mapped as a location for an individual WDFW priority species <input type="checkbox"/> It is a Wetland of High Conservation Value as determined by the Department of Natural Resources <input type="checkbox"/> It has been categorized as an important habitat site in a local or regional comprehensive plan, in a Shoreline Master Plan, or in a watershed plan Site has 1 or 2 priority habitats (listed on next page) within 100 m points = 1 Site does not meet any of the criteria above points = 0	

Rating of Value If score is: 2 = H 1 = M ☒ 0 = L *Record the rating on the first page*

Wetland name or number W5

WDFW Priority Habitats

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

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

- **Aspen Stands:** Pure or mixed stands of aspen greater than 1 ac (0.4 ha).
- **Biodiversity Areas and Corridors:** Areas of habitat that are relatively important to various species of native fish and wildlife (*full descriptions in WDFW PHS report*).
- **Herbaceous Balds:** Variable size patches of grass and forbs on shallow soils over bedrock.
- **Old-growth/Mature forests:** Old-growth west of Cascade crest – Stands of at least 2 tree species, forming a multi-layered canopy with occasional small openings; with at least 8 trees/ac (20 trees/ha) > 32 in (81 cm) dbh or > 200 years of age. Mature forests – Stands with average diameters exceeding 21 in (53 cm) dbh; crown cover may be less than 100%; decay, decadence, numbers of snags, and quantity of large downed material is generally less than that found in old-growth; 80-200 years old west of the Cascade crest.
- **Oregon White Oak:** Woodland stands of pure oak or oak/conifer associations where canopy coverage of the oak component is important (*full descriptions in WDFW PHS report p. 158 – see web link above*).
- **Riparian:** The area adjacent to aquatic systems with flowing water that contains elements of both aquatic and terrestrial ecosystems which mutually influence each other.
- **Westside Prairies:** Herbaceous, non-forested plant communities that can either take the form of a dry prairie or a wet prairie (*full descriptions in WDFW PHS report p. 161 – see web link above*).
- **Instream:** The combination of physical, biological, and chemical processes and conditions that interact to provide functional life history requirements for instream fish and wildlife resources.
- **Nearshore:** Relatively undisturbed nearshore habitats. These include Coastal Nearshore, Open Coast Nearshore, and Puget Sound Nearshore. (*full descriptions of habitats and the definition of relatively undisturbed are in WDFW report – see web link on previous page*).
- **Caves:** A naturally occurring cavity, recess, void, or system of interconnected passages under the earth in soils, rock, ice, or other geological formations and is large enough to contain a human.
- **Cliffs:** Greater than 25 ft (7.6 m) high and occurring below 5000 ft elevation.
- **Talus:** Homogenous areas of rock rubble ranging in average size 0.5 - 6.5 ft (0.15 - 2.0 m), composed of basalt, andesite, and/or sedimentary rock, including riprap slides and mine tailings. May be associated with cliffs.
- **Snags and Logs:** Trees are considered snags if they are dead or dying and exhibit sufficient decay characteristics to enable cavity excavation/use by wildlife. Priority snags have a diameter at breast height of > 20 in (51 cm) in western Washington and are > 6.5 ft (2 m) in height. Priority logs are > 12 in (30 cm) in diameter at the largest end, and > 20 ft (6 m) long.

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

Wetland name or number 105

CATEGORIZATION BASED ON SPECIAL CHARACTERISTICS

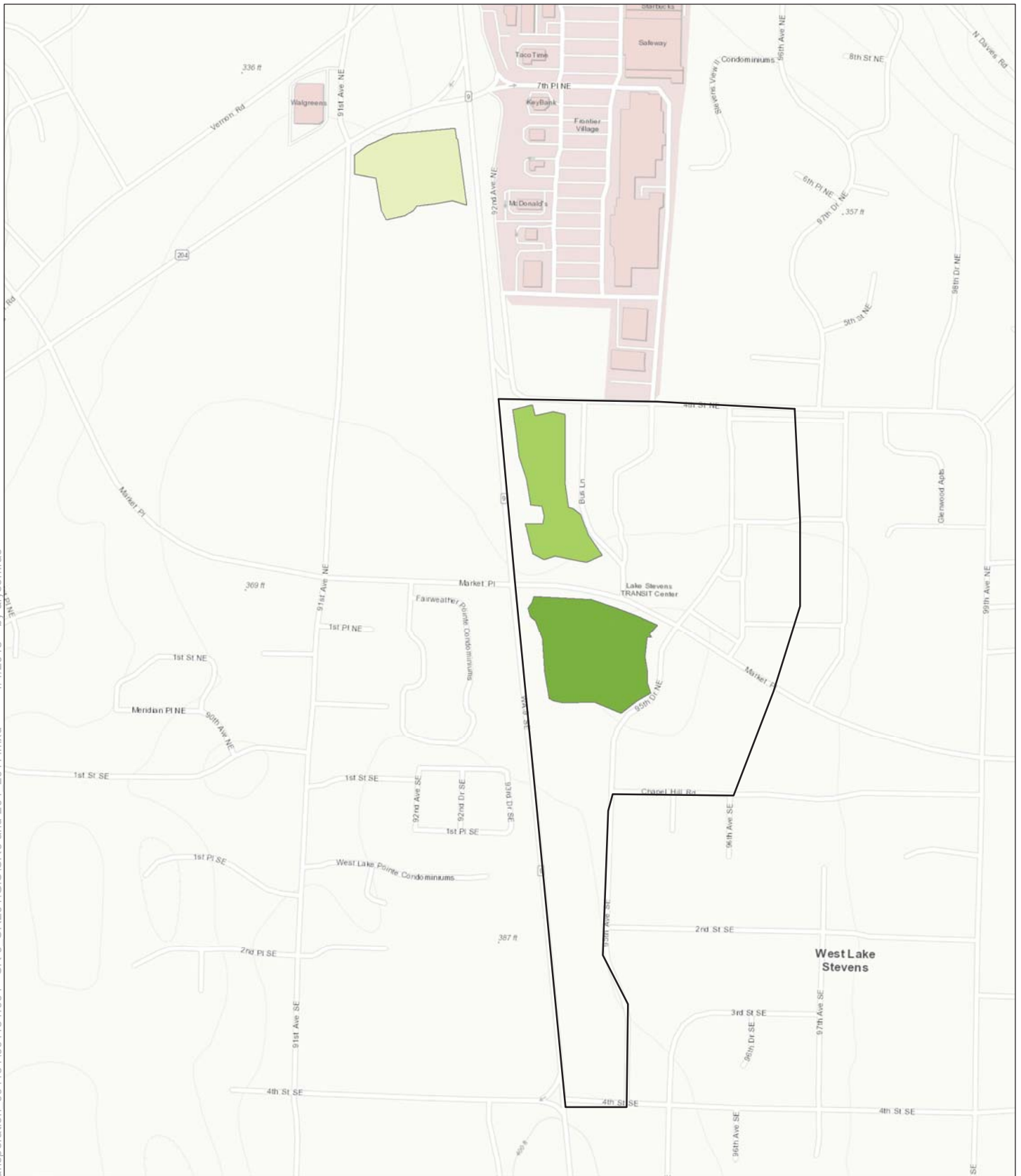
Wetland Type	Category
<i>Check off any criteria that apply to the wetland. Circle the category when the appropriate criteria are met.</i>	
SC 1.0. Estuarine wetlands Does the wetland meet the following criteria for Estuarine wetlands? — The dominant water regime is tidal, — Vegetated, and — With a salinity greater than 0.5 ppt <div style="text-align: right;"> Yes – Go to SC 1.1 No = Not an estuarine wetland </div>	
SC 1.1. Is the wetland within a National Wildlife Refuge, National Park, National Estuary Reserve, Natural Area Preserve, State Park or Educational, Environmental, or Scientific Reserve designated under WAC 332-30-151? <div style="text-align: right;"> Yes = Category I No - Go to SC 1.2 </div>	Cat. I
SC 1.2. Is the wetland unit at least 1 ac in size and meets at least two of the following three conditions? — The wetland is relatively undisturbed (has no diking, ditching, filling, cultivation, grazing, and has less than 10% cover of non-native plant species. (If non-native species are <i>Spartina</i> , see page 25) — At least ¾ of the landward edge of the wetland has a 100 ft buffer of shrub, forest, or un-grazed or unmowed grassland. — The wetland has at least two of the following features: tidal channels, depressions with open water, or contiguous freshwater wetlands. <div style="text-align: right;"> Yes = Category I No = Category II </div>	Cat. I Cat. II
SC 2.0. Wetlands of High Conservation Value (WHCV) SC 2.1. Has the WA Department of Natural Resources updated their website to include the list of Wetlands of High Conservation Value? <div style="text-align: right;"> Yes – Go to SC 2.2 No – Go to SC 2.3 </div> SC 2.2. Is the wetland listed on the WDNR database as a Wetland of High Conservation Value? <div style="text-align: right;"> Yes = Category I No = Not a WHCV </div> SC 2.3. Is the wetland in a Section/Township/Range that contains a Natural Heritage wetland? http://www1.dnr.wa.gov/nhp/refdesk/datasearch/wnhpwetlands.pdf <div style="text-align: right;"> Yes – Contact WNHP/WDNR and go to SC 2.4 No = Not a WHCV </div> SC 2.4. Has WDNR identified the wetland within the S/T/R as a Wetland of High Conservation Value and listed it on their website? <div style="text-align: right;"> Yes = Category I No = Not a WHCV </div>	Cat. I
SC 3.0. Bogs Does the wetland (or any part of the unit) meet both the criteria for soils and vegetation in bogs? <i>Use the key below. If you answer YES you will still need to rate the wetland based on its functions.</i> SC 3.1. Does an area within the wetland unit have organic soil horizons, either peats or mucks, that compose 16 in or more of the first 32 in of the soil profile? <div style="text-align: right;"> Yes – Go to SC 3.3 No – Go to SC 3.2 </div> SC 3.2. Does an area within the wetland unit have organic soils, either peats or mucks, that are less than 16 in deep over bedrock, or an impermeable hardpan such as clay or volcanic ash, or that are floating on top of a lake or pond? <div style="text-align: right;"> Yes – Go to SC 3.3 No = Is not a bog </div> SC 3.3. Does an area with peats or mucks have more than 70% cover of mosses at ground level, AND at least a 30% cover of plant species listed in Table 4? <div style="text-align: right;"> Yes = Is a Category I bog No – Go to SC 3.4 </div> NOTE: If you are uncertain about the extent of mosses in the understory, you may substitute that criterion by measuring the pH of the water that seeps into a hole dug at least 16 in deep. If the pH is less than 5.0 and the plant species in Table 4 are present, the wetland is a bog. SC 3.4. Is an area with peats or mucks forested (> 30% cover) with Sitka spruce, subalpine fir, western red cedar, western hemlock, lodgepole pine, quaking aspen, Engelmann spruce, or western white pine, AND any of the species (or combination of species) listed in Table 4 provide more than 30% of the cover under the canopy? <div style="text-align: right;"> Yes = Is a Category I bog No = Is not a bog </div>	Cat. I

Wetland name or number 12

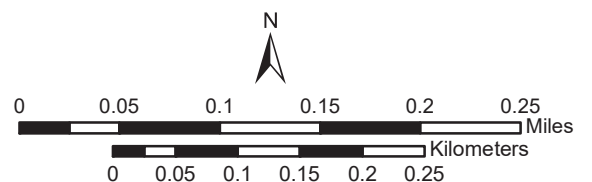
<p>SC 4.0. Forested Wetlands</p> <p>Does the wetland have at least <u>1 contiguous acre</u> of forest that meets one of these criteria for the WA Department of Fish and Wildlife's forests as priority habitats? <i>If you answer YES you will still need to rate the wetland based on its functions.</i></p> <ul style="list-style-type: none"> — Old-growth forests (west of Cascade crest): Stands of at least two tree species, forming a multi-layered canopy with occasional small openings; with at least 8 trees/ac (20 trees/ha) that are at least 200 years of age OR have a diameter at breast height (dbh) of 32 in (81 cm) or more. — Mature forests (west of the Cascade Crest): Stands where the largest trees are 80- 200 years old OR the species that make up the canopy have an average diameter (dbh) exceeding 21 in (53 cm). <p style="text-align: right;">Yes = Category I No = Not a forested wetland for this section</p>	<p style="text-align: center;">Cat. I</p>
<p>SC 5.0. Wetlands in Coastal Lagoons</p> <p>Does the wetland meet all of the following criteria of a wetland in a coastal lagoon?</p> <ul style="list-style-type: none"> — The wetland lies in a depression adjacent to marine waters that is wholly or partially separated from marine waters by sandbanks, gravel banks, shingle, or, less frequently, rocks — The lagoon in which the wetland is located contains ponded water that is saline or brackish (> 0.5 ppt) during most of the year in at least a portion of the lagoon (<i>needs to be measured near the bottom</i>) <p style="text-align: right;">Yes – Go to SC 5.1 No = Not a wetland in a coastal lagoon</p> <p>SC 5.1. Does the wetland meet all of the following three conditions?</p> <ul style="list-style-type: none"> — The wetland is relatively undisturbed (has no diking, ditching, filling, cultivation, grazing), and has less than 20% cover of aggressive, opportunistic plant species (see list of species on p. 100). — At least ¾ of the landward edge of the wetland has a 100 ft buffer of shrub, forest, or un-grazed or unmowed grassland. — The wetland is larger than 1/10 ac (4350 ft²) <p style="text-align: right;">Yes = Category I No = Category II</p>	<p style="text-align: center;">Cat. I</p> <p style="text-align: center;">Cat. II</p>
<p>SC 6.0. Interdunal Wetlands</p> <p>Is the wetland west of the 1889 line (also called the Western Boundary of Upland Ownership or WBUO)? <i>If you answer yes you will still need to rate the wetland based on its habitat functions.</i></p> <p>In practical terms that means the following geographic areas:</p> <ul style="list-style-type: none"> — Long Beach Peninsula: Lands west of SR 103 — Grayland-Westport: Lands west of SR 105 — Ocean Shores-Copalis: Lands west of SR 115 and SR 109 <p style="text-align: right;">Yes – Go to SC 6.1 No = not an interdunal wetland for rating</p> <p>SC 6.1. Is the wetland 1 ac or larger and scores an 8 or 9 for the habitat functions on the form (rates H,H,H or H,H,M for the three aspects of function)? Yes = Category I No – Go to SC 6.2</p> <p>SC 6.2. Is the wetland 1 ac or larger, or is it in a mosaic of wetlands that is 1 ac or larger? Yes = Category II No – Go to SC 6.3</p> <p>SC 6.3. Is the unit between 0.1 and 1 ac, or is it in a mosaic of wetlands that is between 0.1 and 1 ac? Yes = Category III No = Category IV</p>	<p style="text-align: center;">Cat I</p> <p style="text-align: center;">Cat. II</p> <p style="text-align: center;">Cat. III</p> <p style="text-align: center;">Cat. IV</p>
<p>Category of wetland based on Special Characteristics</p> <p>If you answered No for all types, enter "Not Applicable" on Summary Form</p>	<p style="text-align: center;">NA</p>

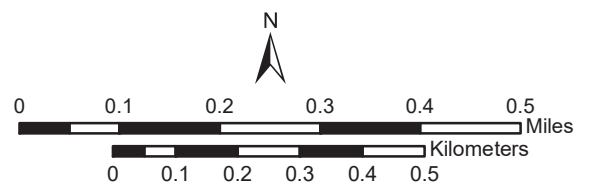
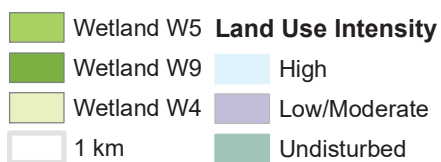
Wetland name or number wa

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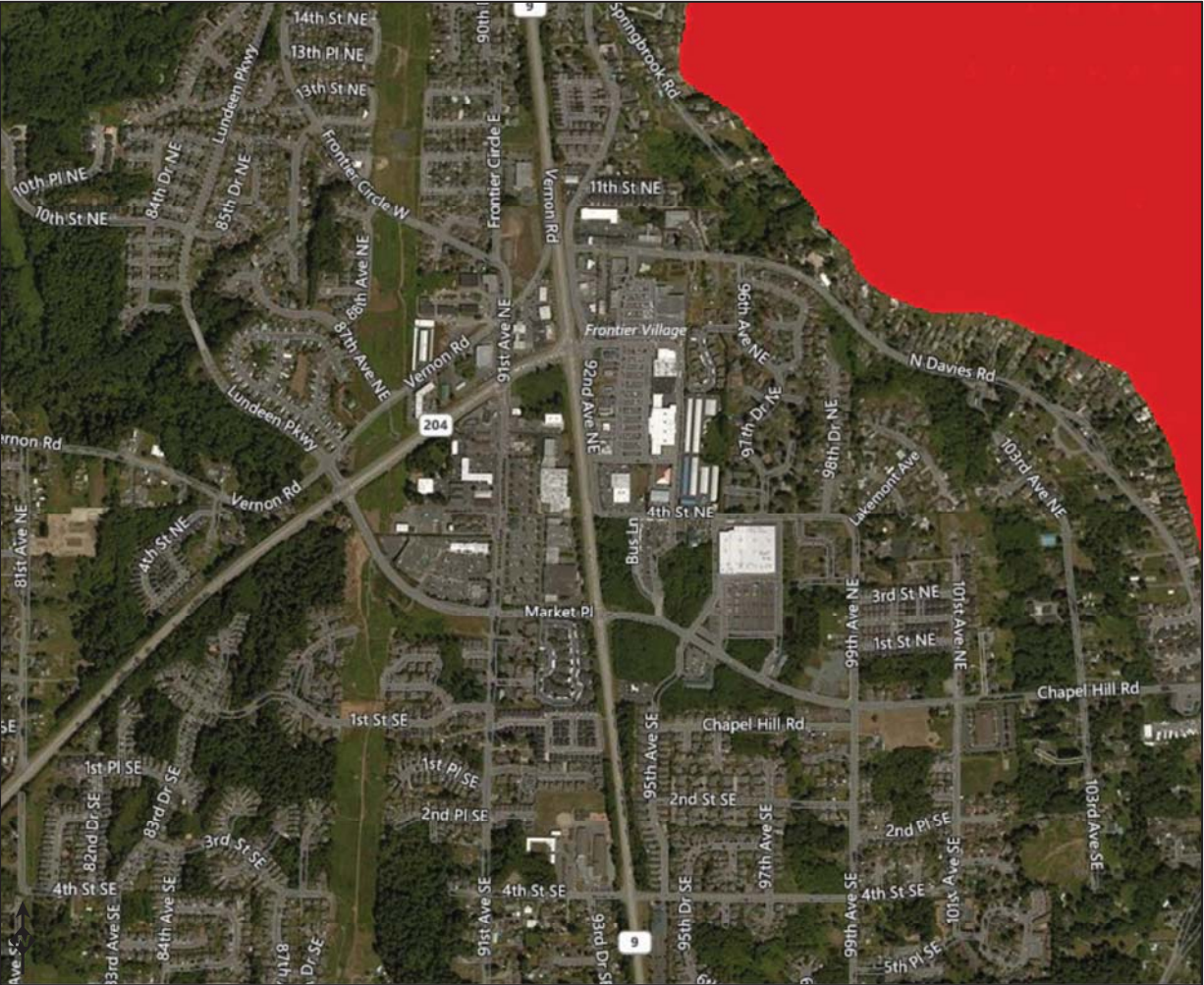


- Wetland W5
- Wetland W9
- Wetland W4
- Contributing Basin





Water Quality Atlas Map



Assessed Waters/Sediment

Water

- Category 5 - 303d
- Category 4C
- Category 4B
- Category 4A
- Category 2
- Category 1

Sediment

- Category 5 - 303d
- Category 4C
- Category 4B
- Category 4A
- Category 2
- Category 1

Miles 0 0.125 0.25 0.5

Water Quality Improvement Projects (TMDLs)

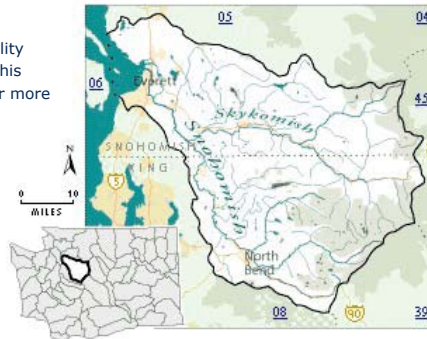
[Water Quality Improvement](#) > [Water Quality Improvement Projects by WRIA](#) > WRIA 7: Snohomish

WRIA 7: Snohomish

The following table lists overview information and links to specific water quality improvement projects (including total maximum daily loads, or TMDLs) for this water resource inventory area ([WRIA](#)). Please use links (where available) for more information on a project.

Counties

- [King](#)
- [Snohomish](#)



Waterbody Name	Pollutant(s)	Status**	TMDL Lead
Lake Loma	Total Phosphorus	Straight to implementation project under development	Tricia Shoblom 425-649-7288
Snohomish River	French Creek / Pilchuck River	Under development	Heather Khan 425-649-7003
	<ul style="list-style-type: none"> Dissolved Oxygen Temperature 		
	Dioxin	EPA approved	Ralph Svrcek 425-649-7165
	Estuary	EPA approved	Ralph Svrcek 425-649-7165
	<ul style="list-style-type: none"> Ammonia BOD 		
Tributaries	<ul style="list-style-type: none"> Fecal Coliform 	EPA approved	Ralph Svrcek 425-649-7165
	Tributaries: <ul style="list-style-type: none"> Allen Creek Quilceda Creek French Creek Woods Creek Pilchuck River Marshlands (Wood Creek) {2} 		
	Snoqualmie River	EPA approved	Ralph Svrcek 425-649-7165
	<ul style="list-style-type: none"> Ammonia-N BOD (5-day) Fecal Coliform 	EPA approved	
	Temperature	Has an implementation plan	

** Status will be listed as one of the following: Approved by EPA, Under Development or Implementation

For more information about WRIA 7:

- [Waterbodies in WRIA 7](#) - using the Water Quality Assessment Query Tool
- [Watershed Information for WRIA 7](#)

* The Department of Ecology and other state resource agencies frequently use a system of 62 "Water Resource Inventory Areas" or "WRIAs" to refer to the state's major watershed basins.

[Back to top of page](#)

Last updated September 2017

[Feedback?](#)





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Appendix B: Wetland Functions and Values for Linear Projects (BPJ) Forms

Wetland Functions & Values Form

Wetland I.D. W3/W3A Project: SR 204/9 Improvements (Stage 3) Assessed by: Jeff Gray

Cowardin Class: PEM Ecology Category: IV Local Rating: IV Wetland size: 0.07 Date: 8-31-21

Function/Value	Occurrence		Rationale	Principal Function(s)	Comments
	Y	N			
Flood Flow Alteration		X	doesn't receive floodwater		
Sediment Removal	X		vegetated ditches	X	
Nutrient & Toxicant Removal	X		vegetated ditches	X	
Erosion Control & Shoreline Stabilization		X	not along a shoreline		
Production of Organic Matter and its Export	X		potential to export herbaceous material		
General Habitat Suitability		X	poor wildlife habitat		
Habitat for Aquatic Invertebrates		X	low interspersions of habitats		
Habitat for Amphibians		X	no braces for egg-laying or seasonal ponding		
Habitat for Wetland-Associated Mammals		X	SR9 adjacent		
Habitat for Wetland-Associated Birds		X	SR9 adjacent		
General Fish Habitat		X	not associated with streams		
Native Plant Richness		X	low diversity		
Educational or Scientific Value		X	roadside ditch		
Uniqueness and Heritage		X	roadside ditch		

Wetland Functions & Values Form

Wetland I.D. W4 Project: SR 204/9 Improvements (Stage 3) Assessed by: Jeff Gray

Cowardin Class: PFO/PEM Ecology Category: III Local Rating: III Wetland size: 2.48 Date: 8-31-21

Function/Value	Occurrence		Rationale	Principal Function(s)	Comments
	Y	N			
Flood Flow Alteration	X		large wetland with available storage and intermittent outlet	X	
Sediment Removal	X		persistent plant cover	X	
Nutrient & Toxicant Removal	X		seasonal ponding and anaerobic processes	X	
Erosion Control & Shoreline Stabilization		X			
Production of Organic Matter and its Export	X		dense cover and hydrological connectivity to surface waters downstream	X	
General Habitat Suitability	X		habitat refugia in developed landscape	X	
Habitat for Aquatic Invertebrates	x		seasonal ponded areas		
Habitat for Amphibians	X		ponded areas with braces		
Habitat for Wetland-Associated Mammals		X			
Habitat for Wetland-Associated Birds		X			
General Fish Habitat		X	not associated with a stream		
Native Plant Richness	X		multi-strata PFO habitat		
Educational or Scientific Value		X			
Uniqueness and Heritage		X	No ESA species occurrences or local significance		

Wetland Functions & Values Form

Wetland I.D. W8 Project: SR 204/9 Improvements (Stage 3) Assessed by: Jeff Gray

Cowardin Class: PSS Ecology Category: III Local Rating: III Wetland size: 0.07 Date: 8-31-21

Function/Value	Occurrence		Rationale	Principal Function(s)	Comments
	Y	N			
Flood Flow Alteration	X		intermittently flowing outlet	X	
Sediment Removal	X		depressional wetland traps sediment	X	W8 receives stormwater discharges and primarily functions to maintain
Nutrient & Toxicant Removal	X		traps sediment	X	water quality and attenuate discharge from impervious surfaces
Erosion Control & Shoreline Stabilization		X	not on a shoreline		
Production of Organic Matter and its Export		X	dense woody vegetation		
General Habitat Suitability		X	small wetland in a developed landscape		
Habitat for Aquatic Invertebrates		X			
Habitat for Amphibians		X			
Habitat for Wetland-Associated Mammals		X			
Habitat for Wetland-Associated Birds		X			
General Fish Habitat		X	not proximal to fish habitat		
Native Plant Richness		X	low diversity		
Educational or Scientific Value		X			
Uniqueness and Heritage		X			

Appendix C: Snohomish Basin Mitigation Banking Services Credit Ledger

Snohomish Basin Mitigation Bank Credits Ledger																			
Contact: Victor Woodward (425) 785-8428							Date: August 24, 2021												
Date	Credits Received	Credits Debited	Credits Reserved	Permittee, Address, Phone	Permitting Agencies and Permit Numbers	Permit Issuance Date	Project Location	Brief Description of Impact(s) Compensated for by SBMB Credits	Comments										
March 25, 2021		0.0623		Novelty Hill Development LLC. Attn: Nathan Chapman PO Box 816 Redmond, WA 98073	King County: CAEX18-0005	To be issued	Located on King County Parcel #142506-9089	Impacts to Wetland and Aquatic Buffers and Wildlife Habitat Network totaling 13,563 sq.ft. of required mitigation.											
April 23, 2021			3.310	WSDOT Northwest Region-Environmental Attn: Ruth Park 15700 Dayton Ave N Shoreline, WA 98133	Permitting contacts and permit numbers to be furnished when permits issued for each project.	N/A	Future projects will be within WRIA-7 and the Mitigation Bank's Service Area.	Credits will be used for future permitting requirements within WRIA-7 and within the Bank's Service Area.	WSDOT reserved credit balance: 3.935 Credits										
April 23, 2021		0.2200	-0.220	WSDOT Northwest Region Environmental Attn: Ruth Park 15700 Dayton Ave N Shoreline, WA 98133	USACE: NWS-2020-427-DOT City of Lake Stevens: LUA2020-0002	10-21-2020 05-28-2020	The project is located on SR 9 between Milepost 15.05 and 15.73	CAT 3 wetland permanent impact: .06 acres, CAT 3 Wetland buffer impact: .80 acres	WSDOT reserved credit balance: 3.715 Credits										
May 12, 2021		0.0210		Keystone Land LLC. Attn: Paul Leavitt 13805 Smokey Pt. Blvd. Ste 102 Marysville, WA 98271	Ecology: AO # 19841 City of Marysville: PA20-064	4-16-2021 To be issued	The project is located at: 4205 71st Ave NE, Marysville, WA 98270	760 sf of direct wetland impact and 250 sf of indirect wetland impact for a total amount of 896 sf of wetland mitigation bank credits.											
June 9, 2021		0.0670		Rachel Cheng 7001 Seaview Ave NW Suite 160-680 Seattle, WA 98117	King County: CAEX18-0004	3/23/2020	Located on King County Parcel # 162308-9015.	14,564 square feet of impacts to Critical Area Buffers as a result of a SFR Project.											
July 28, 2021		3.0440		Costco Wholesale Attn: Peter Kahn 999 Lake Drive Issaquah, WA 98027	USACE: NWS-2019-175 Ecology: Order No. 18118 City of Lake Stevens: LUA2020-0029 City of Lake Stevens: LUA2020-0032	04-23-21 07-15-20 01-21-21 01-21-21	Located on: Parcels #00457000002102, 2201, 2304, 2401, 2501, 2502 & 2503, west of SR 9 in the City of Lake Stevens, Washington.	A total of 1.72 acres of Category II (46,592sf/1.07 ac) and Category III (28,311sf/0.65ac) will be impacted by the project. In addition, 2.23 acres of wetland will be impacted as "paper fill" to provide a 220' buffer as requested to mitigate for road construction impacts to Wetlands A & D											